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Research Publications Initiatives by the Institute

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Message



**Principal,
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It gives me immense pleasure to extend my warmest congratulations to all the researchers, scholars, and participants of our National Conference on Bridging Boundaries Multidisciplinary Research in Science Commerce and Humanities. The conference organized by our college's Internal Quality Assurance Cell and Research Development Cell has provided a platform for interdisciplinary dialogue, collaboration, and dissemination of knowledge.

I am delighted to see the high-quality research papers submitted for the conference, reflecting the innovative and groundbreaking research being conducted in various fields of science, commerce, and humanities. These papers showcase the dedication, hard work, and intellectual curiosity of our researchers, and their contributions are invaluable in advancing our understanding and knowledge in diverse disciplines.

I am pleased to announce that the research papers presented at the conference will be compiled and published in a conference proceeding, ensuring that the valuable insights, findings, and discoveries shared during the conference reach a wider audience and contribute to the scholarly discourse. This proceeding will serve as a testament to the collective efforts and achievements of our researchers and a valuable resource for academics, professionals, and students alike.

I would like to express my gratitude to the organizing committee, reviewers, authors, and all those involved in making this conference a success. Your dedication and commitment to advancing multidisciplinary research are truly commendable.

I am confident that the research papers published in this proceeding will inspire further research, promote collaboration across disciplines, and foster a culture of academic excellence and innovation. I encourage all researchers to continue pushing the boundaries of knowledge and exploring new frontiers in their respective fields.

I extend my best wishes to all the contributors to the proceeding and look forward to seeing the impact of your research in shaping the future of science, commerce, and humanities.

Best regards,



Convener

**Assistant Professor, Department of English, Padmabhushan
Vasantodada Patil Mahavidyalaya, Kavathe Mahankal**

Greetings to all the esteemed researchers, scholars, and participants of our National Conference on Bridging Boundaries Multidisciplinary Research in Science Commerce and Humanities. It is with great pleasure and pride that I address you all on this occasion.

The conference organized by our college's Internal Quality Assurance Cell and Research Development Cell has provided a unique platform for researchers from diverse backgrounds to come together, exchange ideas, and explore new horizons in multidisciplinary research. The insightful presentations, engaging discussions, and valuable interactions that took place during the conference have enriched our understanding of the complexities and nuances of interdisciplinary research.

I am thrilled to announce that the research papers submitted to the conference will be compiled and published in a proceeding, preserving the innovative research, ground-breaking discoveries, and thought-provoking insights shared by our participants. This proceeding will serve as a testament to the collective efforts and intellectual contributions of our researchers and will be a valuable resource for scholars, practitioners, and enthusiasts in various fields.

I would like to express my heartfelt gratitude to all the authors, reviewers, presenters, and attendees who have contributed to the success of this conference. Your dedication, passion for research, and commitment to excellence have been truly commendable, and I am confident that the research papers published in this proceeding will make a significant impact in advancing knowledge and fostering collaboration across disciplines.

I encourage all the contributors to continue pushing the boundaries of research, challenging conventional wisdom, and exploring new avenues of inquiry. Your research has the potential to shape the future of science, commerce, and humanities, and I look forward to witnessing the profound impact of your work in the academic community and beyond.

Thank you once again to everyone who has been a part of this journey. Your enthusiasm, intellect, and spirit of inquiry have been a source of inspiration to us all.

Warm regards,

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THE PARADOX OF TECHNOLOGY IN RAY BRADBURY'S *FAHRENHEIT 451*: A CRITICAL EXAMINATION

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ABSTRACT

Ray Bradbury's *Fahrenheit 451* depicts a dystopian society where technology, particularly in the form of mass media and censorship, plays a central role in controlling and manipulating the populace. However, the novel also explores the paradoxical relationship between technology and human connection, highlighting both its potential for liberation and its capacity for oppression. This research paper aims to analyze the multifaceted portrayal of technology in *Fahrenheit 451*, examining its role in fostering isolation and conformity while also exploring its subversive potential as a tool for resistance and introspection. Through a close reading of the novel's themes, characters, and narrative structure, this paper elucidates Bradbury's nuanced commentary on the complex interplay between technology, knowledge, and freedom.

KEYWORDS: Technology, Dystopia, Censorship, Mass Media, Isolation.

INTRODUCTION

Ray Bradbury's *Fahrenheit 451* stands as a seminal work of dystopian literature, offering a cautionary tale of a future society dominated by technology and mass media. Set in a world where books are banned and critical thought is suppressed, the novel explores the consequences of technological advancement on individual autonomy, intellectual freedom, and human connection. This research paper seeks to critically examine the portrayal of technology in *Fahrenheit 451*, analyzing its role in fostering conformity, isolation, and control, while also exploring its potential as a catalyst for resistance and self-discovery. Through a comprehensive analysis of the novel's themes, characters, and socio-political context, this paper aims to elucidate Bradbury's nuanced commentary on the complexities of technological progress and its impact on the human condition.

Technology and Control: The Mechanization of Society

In *Fahrenheit 451*, technology serves as a mechanism of social control, facilitating the government's efforts to suppress dissent and maintain conformity. Mass media and entertainment, such as the ubiquitous presence of television screens and the seashell radio earbuds, serve as tools for distraction and manipulation, keeping the populace docile and complacent. This is evident when Captain Beatty explains to Montag how the current role of the fireman started: "The fact is we didn't get along well until photography came into its own. Then – motion pictures in the early twentieth century. Radio. Television. Things began to have *mass*" (Bradbury 54). Moreover, censorship and information manipulation, exemplified by the burning of books and the rewriting of history, reinforce the authoritarian regime's monopoly on knowledge and truth. Surveillance technologies further exacerbate the erosion of privacy and individual autonomy, creating a panoptic society where dissent is swiftly quashed.

Alienation and Isolation in the Digital Age

Despite the proliferation of technological devices, *Fahrenheit 451* portrays a society characterized by profound alienation and social isolation. The decline of human connection is evident in the superficial relationships depicted in the novel, where meaningful interaction is supplanted by shallow exchanges and passive consumption which is evident in the words of

Montag who is disinterested towards his wife "I can't talk to my wife; she listens to the walls. I just want someone to hear what I have to say ... And I want you to teach me to understand what I read" (Bradbury 107).

Technology, instead of fostering genuine connection, becomes a barrier to intimacy and empathy, perpetuating a culture of loneliness and disconnection. Moreover, the pervasive use of technology as a means of distraction serves to numb individuals to the existential emptiness of their lives, further exacerbating their sense of alienation from themselves and others.

Resistance and Subversion: The Power of Knowledge

Central to the narrative of *Fahrenheit 451* is the subversive potential of knowledge and critical thinking in challenging oppressive systems of control. Books, as symbols of intellectual freedom and resistance, become catalysts for individual rebellion and collective awakening. Through the character of Guy Montag, readers witness the transformative power of intellectual curiosity and the courage to defy societal norms. Clarisse McClellan, with her unconventional worldview and probing questions, embodies the subversive potential of curiosity and critical engagement. Even Captain Beatty, the embodiment of the authoritarian regime, grapples with the contradictions of technological control and the human desire for intellectual liberation which is evident in the words of Captain Beatty's justification of burning the books, "Coloured people don't like Little Black Sambo. Burn it. White people don't feel good about Uncle Tom's Cabin. Burn it. Someone's written a book on tobacco and cancer of the lungs? The cigarette people are weeping? Bum the book. Serenity, Montag. Peace, Montag. Take your fight outside. Better yet, into the incinerator." (Bradbury 60)

Characters as Agents of Technological Commentary

In "*Fahrenheit 451*," characters serve as conduits for Bradbury's commentary on the complex relationship between technology and humanity. Guy Montag's journey from conformity to rebellion highlights the transformative power of knowledge and the quest for individual agency in the face of technological determinism. Clarisse McClellan, with her outsider perspective and insatiable curiosity, challenges societal norms and encourages Montag to question his reality. Conversely, Captain Beatty embodies the contradictions of technological control, simultaneously upholding the regime's authority while grappling with the existential emptiness of a society devoid of intellectual freedom.

The Dystopian Landscape: Reflections on Contemporary Society

Bradbury's dystopian vision in *Fahrenheit 451* offers poignant reflections on contemporary society's relationship with technology and mass media. Parallels can be drawn between the novel's themes and real-world technological trends, such as the rise of digital media and the proliferation of surveillance technologies. The novel critiques the shallow consumer culture and information overload that characterize modern life, warning of the dangers of sacrificing critical thinking and human connection at the altar of technological progress. Moreover, *Fahrenheit 451* underscores the importance of preserving intellectual freedom and resisting the encroachments of authoritarianism in an increasingly digitized world.

The Ambiguity of Technological Progress

Ultimately, *Fahrenheit 451* presents a nuanced exploration of the ambiguity inherent in technological progress. While technology offers the promise of innovation and convenience, it also poses profound ethical and existential questions about its impact on human society and the natural world. The novel challenges readers to consider the balance between technological advancement and human flourishing, urging critical engagement with the social, political, and ethical implications of technological innovation. Moreover, *Fahrenheit 451* underscores the importance of safeguarding individual autonomy and intellectual freedom in the face of technological determinism and societal conformity.

CONCLUSION

In conclusion, Ray Bradbury's *Fahrenheit 451* offers a profound meditation on the complexities of technology and its impact on human society. Through its portrayal of a dystopian world dominated by mass media, censorship, and surveillance, the novel explores the paradoxical relationship between technology and human connection, highlighting both its potential for liberation and its capacity for oppression. As we navigate an increasingly digitized world, *Fahrenheit 451* serves as a timely reminder of the importance of preserving intellectual freedom, fostering genuine human connection, and critically engaging with the social and ethical implications of technological progress.

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TRADITION IN GIRISH KARNAD'S HAYAVADANA: A NATIVISTIC STUDY

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ABSTRACT

Tradition is one of most invaluable values and important insignias of Indian culture and civilization. Indeed, tradition is a group of customs, beliefs, skills or sayings handed down from generation to generation or age to age. Surely, tradition means to get knowledge of the past writers, literature, beliefs, customs, religion etc.

Girish Karnad's folk-tale play Hayavadana shows his interest in tradition native elements and the Indigenous Indian dramatic tradition. It also throws light on various elements of Indian culture and civilization. But the main purpose of Karnad is to interpret social, religious, cultural and political situations, to define Indianness, to create contemporary consciousness and to revise all external issues of traditional Indian thought and literature.

Tradition in Girish Karnad's Hayavadana: A Nativistic Study

In the present paper, '*Tradition in Hayavadana*', I have tried to examine Girish Karnad's Folk-tale play Hayavadana through nativistic point of view. Indeed, tradition is one of the most invaluable values and important insignias of Indian culture and civilization. It is a group of customs, beliefs, skills or sayings handed down from generation to generation or age to age. Vashishta Anita (2002) in her article "In-between: Locating Tradition and Modernity in the Works of Maitreyi Pushpa" defines tradition as a set of values and customs derived from everyday social practices and oral renditions of philosophical and religious texts, myths and narratives. The set of beliefs that constitute 'tradition'. To be honest tradition is neither the maintenance of certain dogmatic beliefs nor a blind adherence to the ways of previous generations but it is the presentness of past order which is not inherited but obtained with great labour. It means that tradition is a means to get knowledge of the past writers, literature, beliefs, customs, religion etc. It is nothing but a living continuation of the past.

Bhalchandra Nemade is the first critic who introduced the concept of nativism in Indian literary scene. He refers two different traditions viz. Vedic and Non-vedic within one culture and prefers discontinuous historical tradition of Buddha, Charvak, Mahaveer, Basaveshwara, Chakradhara, Dnyandev, Namdev, Tukaram, Bahinabai, Phule, Shahu, Gandhi, Ambedkar etc; not only for the merit of ideas and insights it can offer but also for its place of acquiring Indian sensibility. All these personalities gave bold stroke to Vedic religion, culture, varna-system and rigid caste-system.

There was a great tradition of oral literature in India. It was extended and modified by each generation. Nativism gives importance to oral tradition. It promotes non-Vedic tradition. This morality is a chief means of manifest. Indeed this tradition played a pivotal role in the development of Indian literature. It is because oral literature reflects native spirit. All the provincial manners, geographical details and dialectal features of language get reflected in it. For example. *Warkari* cult has evolved several oral styles of expression in which traditional as well as folk-forms have been utilized very effectively. However, Nativism has its relation with various folk-lores like *Gondhal* (गोंधळ), *Kirtan* (कीर्तन), *Bhajan* (भजन), *Abhanga* (अभंग), *Satyashodhak*

(सत्यशोधक) and *Ambedkari jalasa* (अंबेडकरी जलसा) etc. Its purpose is to modernize native elements by establishing relation with the oral tradition. No doubt all Indian literature was cultivated by oral tradition up to 12th century. But the literature belonging to farmer, artisan, women and Dalits moved on to periphery after the arrival of Britishers.

Jnanpeeth Awardee, Girish Karnad is the twinkling star on the horizon of post-colonial Indian drama in English. He has enriched Indian art, drama and culture, like his contemporary playwrights namely Badal Sircar (Bengal), Mohan Rakesh (Hindi) and Vijay Tendulkar (Marathi). Indeed, all the plays of Karnad expresses Odyssey of culture of India, though they are based on events of history, legends, folk-tales and myths of India. His plays are the best expression of cultured condition of nation. Therefore, Karnad has got an unflinching place in the annals of new Indian drama.

Girish Karnad's best folk-tale play '*Hayavadana* (1971)' shows his great interest in tradition, native elements and the Indigenous Indian dramatic tradition. However, his purpose is to define Indianness, to create contemporary consciousness and to revise all external issues of traditional Indian thought and literature. Girish Karnad has skillfully employed ancient tales, myths, folk-tales and conventions in his plays in order to interpret social, religious, cultural and political situations. Let us discuss how '*tradition*', a value of Nativism, is reflected in the play '*Hayavadana*'.

Tradition in Hayavadana

Indian English drama has a rich and glorious tradition. Its journey begins with the Sanskrit plays but later on it showed little development as compared to novel. But many dramatists tried to write their dramas in their regional languages in order to give new meaning and identity to Indian drama, particularly after post-independence period. Girish Karnad is one of them. His imagination is deeply rooted in Indian soil. Never-the-less, he wants some evolution in Indian theatre and desires to follow technical experiment in indigenous dramatic form because it was based on different footings. It means that Karnad wants to Indianize the form by using some of the conventions of Indian classical drama and folk theatre. So, he returns to the past mythical, historical and oral tales for his themes, characters and situations. And his return to ancient Sanskrit and Indian folk drama for subject matter is a tradition. "Karnad delves deep into the traditional myth to spell out modern man's anguish and dilemmas that are created in his mind." (Bala, Suman:2005:127). It means that Karnad wants to define Indianness, to recreate a contemporary consciousness and revise all external issues of traditional Indian thought and literature. "However, some dramatists of today like Girish Karnad have skillfully employed ancient tales, myths, folk-tales and conventions in their plays in order to interpret contemporary social and political, religious and cultural situations.

The play *Hayavadana* is based on folk-tale. Karnad uses all constituents of folk-story in it. It shows his great interest in tradition. However, his main plot comes from *Vetalpanchavisati* and later development comes from Thoman Mann's 'The Transposed Heads' and 'the sub-plot of Hayavadana, the horse-man, is Karnad's own invention' (Bala, Suman:2005:128). It means that his two plots are encased in folk form tradition. However, entire play follows the traditional Indian folk drama tradition which includes several features of ancient Sanskrit drama. While renewing the indigenous dramatic tradition, Karnad has used myths, legends, half-curtain, chorus, masks, music, dance, mime, parable, dolls and many other devices of Indian traditional drama theatre, particularly for the construction of the play *Hayavadana*. Kirtinath Kurtkoti in his 'Introduction' of *Hayavadana* observes, "Karnad uses the conventions and motifs of folk-tales and folk-theatre-masks, curtains, dolls, the story-within-a-story-to create a bizaree world. It is a world of incomplete individuals, indifferent gods, dolls that speak and children who cannot, a world indifferent to the desires and frustrations, joys and sorrows of human beings. What is real is only the tremendous, irrational energy of the horse and its rider who round the stage symbolizing the powerful but monotonous rhythm of life" (1998(1975):VI-VII). In short, Karnad

very heavily uses the rich resources of native folk-theatre-Yakshagana conventions and techniques and other forms. It shows his honest attempt to revive the old forms like Yakshagana, Bayalatta, Tamasha and Koothu. Thus, he renews the indigenous Indian dramatic traditions alongwith giving preference to folk and classical forms. Karnad's use of native folk theatre strategies in *Hayavadana* shows his interest in tradition and love for native elements.

The play opens with 'Ganesh Pooja' like *Nandi* in classical Sanskrit play for the success of performance. Infact, all theatrical performances in India begin with the worship of God Ganesha. It is tradition of India. Bhagavata, the controller, interpreter and narrator of the play makes ritualistic invocation of Lord Ganesha with music, singing and dancing. While singing hymns or verses in praise of Ganesha, Bhagavata informs that the Ganesha "an elephant's head on a human body, a broken tusk and a cracked belly" and "he seems the embodiment of imperfection, of incompleteness". He further says that this Vakratunda-Mahakaya, the image of Purity and Holiness, "intends to signify by his very appearance that the completeness of God is something no poor mortal can comprehend? It is not for us to understand this Mystery or try to unravel it. Nor is it within our powers to do so. Our duty is merely to pay homage to the Elephant-headed god and get on with our play" (P.1). The invocation to the supernatural & divine power like God Ganesha is an Indian belief which is deeply rooted in Indian minds. Indian people have staunch faith in Ganesha like Bhagavata who is imperfect and incomplete but he is "the destroyer of obstacles and remover of all hurdles" (P.1). Even God Ganesha is "Lord and Master of Success and Perfection" (P.1). In this regard, Nand Kukar says, "Out of staunch faith in Ganesha the Bhagavata thinks that it is not easy to understand the mystery of the divine beings. How their incomplete existence brings perfection to others is not known" (2003:127). It means that God Ganesha is remover of all obstacles and gives success to us, despite of his incompleteness and imperfectness. And it is not Indian tradition to fathom the mystery of any divine beings. On the contrary, we Indian people accept and worship the divine beings as they are. Thus Lord Ganesha, particularly, occupies central place in our lives. And He is worshipped first, before we commence any auspicious ceremony. Such an Indian tradition, belief and culture are reflected through the introductory prayer of Ganesha, the first God to be worshipped in India.

Religion, Karma, rebirth and fate has significant place in Indian culture. Majority Indian people are the staunch followers of these aspects. And these Indian features are clearly reflected in lives of Hayavadana, Kapila and Devadatta. First of all, Hayavadana who is a hybrid product of celestial being and an earthly woman. While narrating his life story, Hayavadana says that his mother was a beautiful princess of Karnataka, falls in love with the white stallion of the Prince of Araby at the time of her swayambar. She chooses a horse as her husband instead of other princes came from China, Persia, Africa and Araby. The *Swayambar* marriage system shows that in ancient period a woman has choice to choose her spouse. However, Hayavadana's mother lives for fifteen years with horse. The fifteen years' human love turns the horse into a celestial being – a Gandharva who was made a horse by the curse of Kubera for his misbehavior. When horse becomes a Gandharva, he asks her to accompany him to the heavenly abode. But she refuses. So, he curses her to be a horse. Thus, Hayavadana's mother becomes a horse and runs away happily. His father returns to heaven. And their marriage-product-Hayavadana is left behind. This is a moving tale of Hayavadana. This sad tale of Hayavadana compels Bhagavata to remark, "What brought you to this? Was it a curse of some rishi? Or was it some holy place of pilgrimage, a punyastan, which you desecrated? Or could it be that you insulted a pativrata, dedicated to the service of her husband? Or did you Oho! Poor man! But Hayavadana, what can anyone do about a head one's born with? Who knows what error committed in the last birth is response..... (P.7). This comment of Bhagavata is fatalistic and traditionalistic one. But his voice is the voice of common Indian people who believes that what is written on our foreheads, cannot be altered. He further asks Hayavadana whether he has desecrated any whole place of pilgrimage or insulted a pativrata. He thinks that Hayavadana might have committed some error in his last birth. Therefore, his equine head is the fruit of his last's birth's mistake. This is

Bhagavata's fatalistic and conservative attitude towards life, which indirectly represents common people's attitude. Indeed, it is a belief in India that nobody should use a sacred thing or place in an unworthy way or insult any pativrata. To desecrate holy place or insult pativrata is always considered as a sin in Indian social life. Even it is said that pativrata's tears cannot be wasted when it drops. Hence, we must respect and honour the most sacred places and women. This is tradition and culture and each generation of every epoch must follow it.

At the same time, Indian people are religious minded who believes on their fates instead of their honest work or deeds. If something happens wrong or bad with them, they think that it is the fruit of their last birth's deeds. This fatalistic approach compels them to accept all things and events as inevitable and outcome of pre-destination. Therefore, we may say that submission to fate and belief in previous birth is an important but typical aspect of Indian life, culture and tradition. And this 'Karma belief system' is deeply rooted in Indian minds which is highly impossible to wipe out.

So far as the major characters of this play are concerned, they often use word fate. Bhagavata considers it as a given thing, Hayavadana raises questions about fate continuously until he loses his power of speech, Devadatta and Kapila too accept their fate; Kapila resists on rishi's verdict regarding Padmini's husband and finally accept it and says, "I'm Kapila, Padmini. I didn't accept it that day. But I accept it now. I'm Kapila" (P.54), and Padmini's desire for completeness is too compels her to accept her fate and wishes to get the same husband in the next birth. Even Devadatta considers Kapila as a rare friend and says "One has to collect merit in seven lives to get a friend like him" (P.21). Kapila's error in this life is to love his friend's wife and it results in losing his friend-Devadatta. Then he begs his friend to accept him in the next life. These references clearly suggest the cyclical process of birth and rebirth, merits and demerits and belief system of Karma, birth, death and rebirth, which is essential characteristic of Indian culture and tradition. (Dhanavel, P:2000:114-115).

Marriage is a socio-religious ceremony in India. So, it creates basic relationship between man and woman. Infact, marriage is a miniature social system and it is considered as social duty towards the family and community. As a sacred trust and thread of union between man and woman, marriage gives preference to mutual fidelity and devotion to partner. So long marriage is no performed for sex-gratification alone but for 'living together' and 'begetting children'. On the whole, marriage is observed as a sacrament in India. So, it's purity is remained upto this date. (Ahuja, Ram:193(1997):117121).

The text mentions two types of marriage. One is *Anuloam* and second is *Uncanny*. The marriage between Devadatta and Padmini is *Anuloam* i.e. hypergamy type whereas Hayavadana's mother's marriage with white horse is uncanny and unnatural. Regarding the first marriage, Bhagavata informs us that the wealthy and beautiful Padmini marries Devadatta, the scholar of Dharmapura. Indeed, this marriage is *Anuloam* type because Devadatta belongs to Brahmin caste and Padmini to Vaishya. Despite of social distance between them, the marriage takes place. It indicates the liberal attitude towards marriage system in ancient period. And society has no objection to such and other types of marriages. On the other hand, the marriage between Devadatta and Padmini is 'choice and beauty' based one in which elders plays very little role and social and cultural norms have little place in it.

The reality of Indian marriage system is completely forgotten and neglected by Devadatta, Kapila and Padmini. It is social and cultural norm that a woman should accept man as her deity and wear marriage thread in his name after marriage. This tradition is followed by Padmini. But later on, she attracts towards Kapila's fabulous body and forgets fidelity and devotion. Later on, she forgets all traditional and cultural norms of an ideal 'pativrata' when she spends five days with Kapila in the forest and makes him seduce her.

On the other hand, Hayavadana's mother's marriage with white stallion of Prince Araby is fine example of uncanny and unequal marriage. Hayavadana's mother, beautiful Karnataka Princess, chooses her husband who is white horse instead of other princes of various kingdoms in the world at her swayamvara. This marriage and swayamvara system show that a woman had

freedom to choose her husband in ancient period. However, unequal and unnatural marriages are described in Puranas, folk tales and legends. But it is unbelievable from practical point of view. If we consider this marriage as folk tale, then Hayavadana's mother's love transforms her husband, who is a horse, into celestial being. But her disobedience of husband to come with him at heavenly abode punishes her as becoming a horse. To disobey husband is not considered good value in Indian tradition. So, she faces punishment. And her love for husband is praiseworthy, which is an important aspect of tradition.

Generally, there are certain codes of conduct for married women in Indian society. These norms, rules and codes must be followed by married women in patriarchal society. Social disobedience is not allowed to them. In this regard Padmini and Hayavadana's mother crosses traditional and social norms. Infact, Padmini's attraction for Kapila, getting Kapila's body after the transformation of heads and finally living with Kapila for four or five days and establishing sexual relationship with him, all these references shows that Padmini defies the traditional code of conducts which are made for women. It is her bohemian nature which crosses all social, cultural, religious and moral codes. It means that to remain faithful with husband by mind and heart is an ideal tradition which is polluted by Padmini on psychological and moral level. On the contrary, Hayavadana's mother marries with white stallion against the wishes of her father and gives disrespect to the persuasion of others. However, it is Indian tradition to obey our parents and consider respect to other's feelings. But Hayavadana's mother is completely failed in his respect and forsook the tradition.

Indian people are very emotional and sensitive. They take oaths without thinking rationally about the consequences of their swearings. This is typical Indian characteristic, which is always observed by people in order to please God and Goddesses. Devadatta is a knowledgeable person represents such category of people. When he sees the exceptional and ethereal beauty of Padmini, Devadatta falls in love with her and feels that he is incomplete and helpless without her. No doubt, Padmini is really beautiful. Kapila and Devadatta describes her thus "Her forelocks rival the bees; her face is a white lotus. Her beauty is as the magic lake. Her arms the lotus creepers. Her breasts are golden urns and her waist...." (P.13). This exceptional beauty of Padmini corrupts the mind and soul of Devadatta. And he becomes impatient to get her as his wife and swears to sacrifice his arms and head. He says to Kapila, "I swear, Kapila, with you as my witness I swear, if I ever get her as my wife, I'll sacrifice my two arms to the goddess Kali, I'll sacrifice my head to Lord Rudra...." (P.14). After he succeeds in marrying Padmini, he forgets his promise or pledge. He gets lost in the joy of marriage. It is reality that all men are selfish in their happiness as they forget their promises after the completion of their wishes. It is typical Indian characteristic. Later on, when he sees the change in Padmini and her attraction for Kapila, he feels desperation, particularly on Ujjain tour. Even he thinks that he cannot win the heart of Padmini. This is his psychological defeat which gives him frustration, desperation and disappointment. At these emotional crises, Devadatta remembers God and his promise, and wants His help. Then he walks to Kali temple. In Kali's temple he completes his promise rather wrongly, by offering his head to Goddess Kali instead of arms. Infact "he has exhausted every hope from human being; both human sources have betrayed his faith. In this moment of emotional crises, he remembers the promised sacrifice to the god" (Gill, L.S.:2005:93). Thus, Devadatta is a typical Indian person, who represents Indian habit of taking vows for the gratification of desire.

Karnad mentions wrestling in this play. Wrestling is a glorious tradition of India. It is a thrilling game. Indian people have chief attraction for it. Kapila is a good wrestler. A Gandhara wrestler appreciates Kapila's wrestling strategies and his crocodile-hold around Nanda (P.11). Another reference of wrestling comes when Devadatta (Kapila's body) is returning from Ujjain fair with dolls. He finds that a Gandhara wrestler was challenging people to fight him. This is a challenge to the bravery, honour and soil by the stranger. Devadatta cannot bear it, particularly by his body. He jumps into the pit and pinned him to the ground (P.42). Infact, it is Indian tradition that the challenge is always accepted by the sons of India, whatever is form maybe,

either in wrestling or dice-playing without caring its consequences.

Padmini sings a lullaby. It is a traditional song always sung by every mother for her crying child in order to sleep the child. Padmini's lullaby (P.47-48) follows Indian tradition, though its meaning is different.

It is Indian tradition that not to keep the turned dolls or broken mirror at home. It is considered unlucky. Padmini too, follows this tradition. She wants new dolls for her baby as the old ones are in tatters. So, she asks Devadatta, "We must get new dolls for our baby. These are in tatters. The Ujjian fair is to be held in another four days. Why don't you go and get new dolls there? If you start today, you'll be there in time for it. It's unlucky to keep torn dolls at home...." (P.51). This conversation throws light on the impact of tradition on Indian minds. Tradition and belief system are inseparable parts of Indian culture which Indian people never forgets to follow.

Hayavadana sings national songs like a true patriot unlike Indian people who run away when they hear it. Infact, Hayavadana i.e. horse has respect and honour for National Anthem. So, he asks Actor II, "Friend, I'm going to sing the National Anthem. So please to stand up to attention!" (P.65). It is our tradition to salute and give honour and respect to national Anthem because it is an emblem of India's honour and pride. And when it is going on, we must stand up to attention. This is our culture and tradition. Unfortunately, it is vanishing from Indian hears.

The varna and caste problem is perennial in Indian culture. Infact caste and varna are two separate concepts. They are not identical. In the beginning two different classes came together and formed a society, but in course of time they became four classes and lost their original meaning as race though the word varna still remained in use. It means that there were two varnas viz. Arya Varna and Pre-Aryas (Dasa varna) in the beginning. Manu, the Hindu law-giver, describes the origin of four classes in purush-sukta which are born from four parts i.e. the mouth, arms, thighs and feet respectively. In Bhagavat Gita, it is stated "I have created the four-class system dividing them according to guna and karma". Hence varna means colour or facial formation and it denotes a race (Pruthi, Rajkumar and Devi Rameshwari Vol.I:2002:107-111).

So far as Hayavadana is concerned, the Indian Varna system is polarized between head and body. It affects the lives of the major characters in this play. Devadatta is a Brahmin by caste. He is scholar and poet and occupies the first place among the four classes. So, he represents head. Kapila is an iron-smith i.e. shudra. He is illiterate and rough person. And he represents body. Then comes Padmini who is the vaishy girl. Infact the play presents Devadatta and Kapila as bosom friends but there is a social distance between them. Consequently, real friendship between the two is highly impossible. While presenting the social distance or practice of varna system between the two, M. Sarat Babu says, "since his mind is considered superior to the body in human society, the caste of Brahmins occupies a higher rung than all other castes in our hierarchical society. That is why Devadatta sits on a chair while Kapila squats on the floor. Since real love is not possible between two unequal persons, their friendship is not real" (1999:228). It means that there is master-slave relationship between Devadatta and Kapila. Padmini-Vaishy girl, too, follows varna system in choosing the body of Kapila instead of his head. She loves his fabulous body for the sake of carnal desire which is devoid of real love. "U.R. Ananthamurthy holds that may be, she did not like the face of a shudra (Kapila) that's why she selects his body and the face of a Brahmin (Devadatta)" (Gill, L.S.:2005:109). When Kapila proposes that they (Devadatta, Kapila and Padmini) should live like Pandavas and Droupadi, Padmini remains salient. Her silence suggests that she does not like this idea because society cannot permit her to live with two husbands; particularly one of them is shudra (Kapila). Thus, her caste-consciousness feeling leads the two friends to kill each-other in a duel and she performs a sati. It shows the caste dominance or varna system affect the lives and destinies of the major characters. Finally, we may say that the caste-system or varna system plays very crucial role in the lives of Indian people, which is considered, rather wrongly, an important feature of Indian tradition and culture.

Visit to sacred religious places is a passion for Indians. The major character like

Devadatta, Kapila and Padmini goes on Ujjian tour. Their visit or journey to this sacred place is nothing but to visit a heavenly and spiritual abode in traditional thinking. Then Hayavadana also undertakes journey to all religious sacred places, holy people, god and goddesses in order to get completion or to get rid of horse head. He visits many religious people, saints and sadhus also. In this regard he says, "Banaras, Rameshwar, Gokarn, Haridwar, Gaya, Kedarnath – not only those but the Dargah of Khwaja Yusuf Baba, the Grotto of Our Virgin mary – I've tried them all. Magicians, mendicants, maharishis, fakirs, saints and sadhus – sadhus with short hair, sadhus with beards – sadhus in saffron, sadhus in the altogether – hanging, singing, rotating, gyrating – in the spikes, in the air, under water, under the ground I've covered them all " (P.9). Unfortunately, all his visits to religious places and holy people results in vain. However, Hayavadana here represents common Indian people's belief, faith, loyalty and devotion in religion and religious people. It is Indian belief that our wishes, hopes and ambitions can be fulfilled if we visit to holy religious places. And if any problem or tension arises in Indian people's lives, their mind turns towards religion and religious consultants in order to get remedy. And they accept their words as the words of God. This is Indian belief system which is part of our tradition.

Indian habits and beliefs are the parts of our tradition. When Hayavadana sees Actor-I sitting on the roadside to "relieve himself" But Hayavadana stops him by committing nuisance on the main road. It is horse talking to him. When Bhagavata hears it, he thinks that Actor I have taken drink that morning. The comment of Bhagavata reveals the habit of drunken life of the lower classes, though Actor I who swears that he has been near a toddy-shop for a whole week (P.4).

All the characters are hypocritical in their behaviour. After marriage, Devadatta does not like his friend's visit to his house. He feels jealous about Kapila when Padmini asks Devadatta about it, he does not confess it. Padmini pretends to be in love with Devadatta but she is not. She loves Kapila but she takes care that her feelings cannot understand by her husband. Finally, she speaks a lie and sends her husband to Ujjian fair and she herself goes to the forest to meet Kapila. Kapila, too, is hypocrite. He desires Padmini but hides his feeling. And finally, he is caught with Padmini by Devadatta in the forest. Even before the transposition of heads, Kapila commits suicide for the sake of friendship as he has said to Gooddess Kali. But he is very prentensive that he commits suicide in order to save himself from disgrace. Thus, all the characters hide their true feelings from each-other and show inconsistency in their behaviour. This is the Indian habits reflects through the major characters.

The custom of sati is mentioned by Karnad in this play. When Devadatta and Kapila fights and die like lion and cobra for Padmini, she prepares for sati. padmini asks Bhagavata to make a large funeral pyre for them and she jumps into it.

The system of sati means the immolation of the woman on the funeral pyre of her dead husband. It shows wife's affection and attachment for her dead husband. The pre-Aran society follows this custom. Infact this custom is followed by Rajput women very proudly and willingly.

Padmini's act of sati is ridiculed because she was wife of two husbands. It is Indian belief system that a woman who is 'pativrata' dies for her dead husband in order to get him in the next birth. But Padmini's case is different. So, she regretfully says to Goddess Kali, "Kali, Mother of all Nature, you must have your joke even now. Other women can die praying that they should get the same husband in all the lives to come. You haven't left me even that little consolation" (P.63). Then Bhagavata informs us Padmini's act of sati and criticizes the false aggrandizement of sati in India. He says, "India is known for its pativratas – wives who dedicated their whole existence to the service of their husband – but it would not be an exaggeration to say that no pativrata went in the way Padmini die" (P.63). This comment clearly indicates that Padmini follows the path of sati wrongly as she was wife of two husbands. And her jumping into funeral pyre is an evident of her infidelity. It is Hindu custom that a widow should follow this path, not Padmini, the wife of two husbands.

In sum, Nativism located non-vedic and oral tradition as the most significant creative

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upsurge of Indian mind. Indeed, each nation has its unique culture and civilization, which may be called its soul; hence should cultivate the habit of looking within and be proud of our Indian culture and institutions in the right spirit. Girish Karnad's play Hayavadana follows glorious tradition of Indian drama. He wants to Indianize the form by using some of the conventions of Indian Classical in tradition and love for native elements. Indian features like Ganesh-pooja, belief in religion, karma, rebirth and fate, varna and caste problem, visit to religious places, marriage, custom of sati etc. are clearly reflected in this play, particularly through the central characters, with their emotional and sensitive nature.

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ASSESSMENT OF FARMERS FERTILIZER PRACTICES AND PERCEPTIONS IN KAVATHE MAHANKAL TEHSIL OF SANGLI DISTRICT

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ABSTRACT:

Kavathe mahankal is a tehsil in Miraj subdivision of Sangli district in the state of Maharashtra. Agriculture is source of livelihood for thousands of farmers in tehsil. Agriculture have also been the main source for availing all basic commodities for survival of thousands of peoples in tehsil. It is observed that farmers are directly engaged in socio-economic development of tehsil and all over the India. The income of farmers is mainly depending on production and expenditure of farmers, expenditure mainly involves fertilizers and irrigation. Irrigation and fertilization are vital to increasing crop yield, but their application often exceeds crop requirements. Awareness about practice of fertilization is basic for farmers. To overcome this problem, a field survey was carried out using a participatory approach, and field monitoring was conducted on a representative farm. We found that farmers are generally not satisfied with their fertilization practices, although they result in low application efficiency and distribution uniformity. In principle, the lack of knowledge about how to implement fertigation technology, the small-scale farming conditions, and the high cost of developing advanced fertigation systems are the main obstacles for fertigation adoption. We further conclude that to improve the on-farm performance of fertilizers practice of farmers, evidence-based guidelines, training programs are required to help farmers for effective implementation; for effective adoption of new technologies, consideration of farmers' situation and perspectives is critical. In short fertilizers practice has impact on the social and economic life of large number of farmers in Kavathe Mahankal tehsil. This paper is that attempt to understand the role of fertilization practice of farmers. Present study is based on primary data which is collected by intensive field work. The 200 farmers from tehsil were selected by random sampling method. The questionnaire technique has been also used for collection of data from farmers. Microsoft excel software is used for data tabulation and calculation.

KEY WORDS: socio-economic study, fertilizers, farmers .

INTRODUCTION:

India is a nation where more than 70 per cent of the population relies on agriculture for a living. It is the world's largest producer of spices, pulses, milk, tea, cashew, and jute and ranks second in the production of wheat, rice, fruits and vegetables, sugarcane, cotton, and oilseeds. Agriculture is the backbone of the Indian economy. About 60–70 per cent of the population in

India works in agriculture, which contributes 20 per cent to the country's GDP. Fertilizers are generally defined as "Any substance, whether natural or synthetic, organic or inorganic, that provides one or more of the chemical components needed for plant growth". The three essential plant nutrients nitrogen, phosphorus, and potassium are present in the majority of fertilizers that are frequently applied to agricultural fields. Some fertilizers also contain certain "micronutrients," such as zinc, sulphur and other metals necessary for plant growth. Fertilizers are important agricultural inputs that are necessary for growing crops that feed people worldwide. Irrigation and fertilization significantly affect crop yield and are vital to grain production and food security. In addition to water supply, a reliable nitrogen supply is another essential factor that has allowed farmers to significantly increase crop yields over the past decades. Thus, it is essential to improve on-farm fertilizers practices and techniques. Pressurized fertigation methods, such as drip fertigation and sprinkler fertigation, are highly recommended for enhancing resource use efficiency and mitigating the pollution of surface water and groundwater. Fertigation is an agronomic technique by which water and fertilizer are supplied simultaneously. It is intended to be a way for growing crops using less fertilizer, better water and nutrient use efficiency, and labor savings. The use of fertigation can lower production costs while bringing opportunities for improved crop yields. Many efforts have been made to promote pressurized irrigation in the fields.

OBJECTIVE

- To study factors affecting farmers socio- economic development.
- To study awareness & knowledge of farmers about use of fertilizers.
- To study farmer satisfaction toward fertilizers.

METHODOLOGY

Present study is based on primary data which is collected by researcher by intensive field work. The 200 farmers from tehsil were selected by random sampling method and interviews of farmers are analyzed and concluded. The questionnaire technique also used for collection of data from farmers. Microsoft excel software is used for data tabulation and calculation and create the chart for graphical presentation of data

DISCUSSION

Researcher concentrates on study of awareness of farmers which involves Awareness about soil analysis, meaning of N: P: K on the label of sack, information about micronutrient for plants, knowledge of fertilizer manufacturing companies. The farmers are important part of society and their socio- economic life affected by their practices. So, there is need to understand the awareness about use of fertilizers.

Awareness about soil analysis: Soil testing is the base for management decisions about fertilizer requirements. It involves the estimation and evaluation of the available nutrient status and acidic reaction of a sample of soil. After testing, a fertility map is prepared where the available nitrogen, phosphorous and potassium is calculated. Areas of sufficient and insufficient nutrients are marked out and nutritional requirements are determined. Fertilizers such as NPK, lime or gypsum are recommended to improve soil fertility. Fertilizer addition, which is based on soil testing, usually leads to an increase in yields and profits by providing the correct amounts of needed nutrients. It also leads to uniform application of nutrients in a field. As nutrient availability becomes less variable, the crop growth is more uniform. Regular soil testing also contributes to environmental sustainability as the use of excess fertilizers can be avoided. Due high charges of soil testing labs most of the farmers skip the process of soil analysis. In present study we have found only 2% of farmers prefers soil analysis who were growing cash crops.

Information about meaning of N: P: K: of fertilizer: The letters "NPK" on a fertilizer label

stand for nitrogen, phosphorus, and potassium, the three primary nutrients plants need to grow. The numbers on the label indicate the ratio (by percentage) of nitrogen, phosphorus, and potassium in the fertilizer container. In present study 35% of farmers are able to give at least some correct information about these parameters.

Information about micronutrient for plants: Micronutrients are important for plant growth, as plants require a proper balance of all the essential nutrients for normal growth and optimum yield. They are boron (B), chloride (Cl), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), nickel (Ni) and zinc (Zn). In present study 13% of farmers are able to give information about micronutrients.

Knowledge of chemical Composition of fertilizer: Chemical composition of fertilizer gives information about elemental content in fertilizers as well as fillers associated with it. By knowing the chemical composition farmers can use fertilizers more efficiently. In present study we found that only 2% of farmers are aware about chemical composition of fertilizers. All these farmers are growing cash crop (grapes).

Knowledge of fertilizer manufacturing companies: The fertilizer industry in India is extremely vital as it manufactures some of the most important raw materials required for crop production. The primary objective of these industries is to ensure the inflow of both primary and secondary elements required for crop production in the desirable quantities. The quality and cost are assured by knowledge of fertilizer manufacturing companies. In present study 76% of farmers are able to give name of at least 2 names of Indian companies.

Satisfaction of results obtained by fertilizers: As yield of crop is depends on many factors therefore 54% farmers have neutral opinion on results, 24% farmers are not satisfied, while 22% of farmers are satisfied with the results.

Satisfaction with cost of fertilizers used: Looking at natural calamities, inflation and annual income of farmers, and increasing, it is very difficult to farmers to afford fertilizers. 95% of farmers are not satisfied with the cost of fertilizers

Experts advice: Advice given by someone who has studied a subject thoroughly or who is very skilled at a particular job is essential condition in any business. For use of fertilizer farmers must take experts advice. In present study 88% of farmers did not used to take experts advice, as it is expensive.

CONCLUSION:

Assessment of farmers fertilizer practices and perceptions focused by the researcher and concluded that:

- The educational status of farmers is low therefore they are not aware about the importance of soil analysis, chemical composition, micronutrient for plants, meaning of N: P: K.
- Farmers who are growing cash crop (Grapes) are alert they used to do soil analysis and have knowledge about micronutrients, chemical composition of fertilizers.
- The annual income of farmers is low, that they cannot afford soil analysis, experts' advice.

SUGGESTIONS:

The social as well as economic condition of farmers is progressive but there is need to convert the view of farmers from traditional to professional. Here some suggestions are given from researcher's view.

- There is need to organized farming to reduce the problems of farmers.
- Financial support is important for farmers because income of farmer is totally depending on climate which is uncontrollable.
- There is need to create storage as well as cooling facility for goods in each village place which will improve economic status of farmers.
- It is necessary to have awareness programs on fertilizer practice by NGOs, or government agencies.

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A GEOGRAPHICAL STUDY OF CHANGING CROP PATTERN IN MAHARASHTRA, INDIA

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ABSTRACT:

One of the primary sources of national income in India and a key component of the country's economy is agriculture. The pattern of land usage reveals how well farmers used the resources available to them. The gross cropped area, cropping intensity, and area available for cultivation are also shown by the land utilization pattern.

The main purpose of this research paper is to analyze the cropping pattern and production of different crops in Maharashtra state since last one decade (2011-12 to 2021-22). The research is based on secondary data which gathered from different Government sources and the data has analyzed and interpreted by using tables and graphs. During the span of ten years periods, the cropping pattern in Maharashtra is changed on large scale. During these periods the area under cereals and total food grain crops is decreased by 18.71% and 9.36% respectively and other hand during same period's area under pulses (8.21%), oil seeds (41.96%), cotton (5.83%) and Sugarcane (45.67%) is increased. It means area under traditional crops is replaced by commercial crops. The major cause for the change in cropping pattern is development of irrigation facilities, use of new agricultural techniques and Good quality of agricultural inputs.

KEY WORDS: *Cropping Pattern, Agriculture Production, food grains, oil seeds and cash crops.*

1. INTRODUCTION:

Agriculture and allied activities, one of the prime sectors of the economy, accounts for on an average 12.1 per cent share in the Gross State Value Added. More than half of the rural Population in the State is dependent on agriculture and allied activities sector for their livelihood (Economic survey of Maharashtra) one third of the state is covered by rain-shadow regions, which have few and irregular precipitation. The net sown area makes up roughly 54% of the State's out of total land area. The agriculture Sector is constantly susceptible to problems brought on by shifting climate patterns and the degradation of arable land. The State's agriculture sector's primary concerns are unpredictable weather patterns, exorbitant input costs, unpredictable markets, and unpredictable precipitation. Comparing last decadal crop pattern in kharif season it is anticipated that the area planted in oilseeds, pulses, sugarcane and cotton would rise, while the area planted in cereals is predicted to fall. There are many reasons for changing cropping pattern of Maharashtra during these periods. It includes development in irrigation facilities, change in rainfall, irrigation problems, labors and mechanization problems etc.

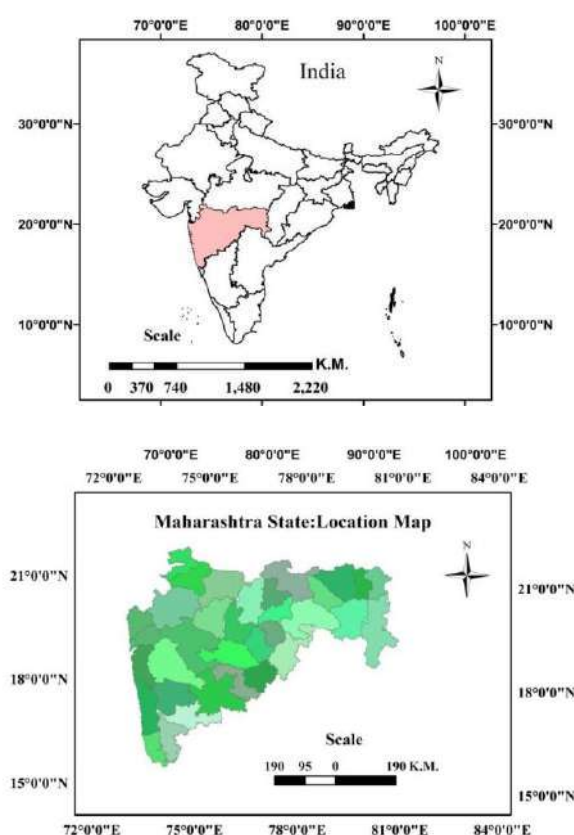
2. OBJECTIVE:

The main objectives of the present research paper are as follows

1. To study the cropping and production patterns of selected crops in the Maharashtra state.
2. To identify the changes of agricultural land use in Maharashtra State during 10 year periods from 2012 to 2022 year.

3. STUDY AREA:

Maharashtra state has geographical extends between 15° 33'46" N to 22° 02'13" N latitudes and 72° 38'45" E to 80° 53'17" E Longitudes and Maharashtra state has a long coastline stretching nearly 720 km along the Arabian Sea. Maharashtra ranks third in terms of land area (3.08 lakh sq. km.) and second in terms of population in India. There are 11.24 crore people living in the state as of the 2011 census. Seventy percent of the state of Maharashtra is employed in agriculture. According to the 2011 census, 52.7 percent of all jobs in the state are in the agriculture and related sectors. In addition to providing raw materials for the industrial sector, export-oriented commodities, and food for the growing population, agriculture also helps generate foreign exchange. Topography, soil, and weather conditions all have a significant impact on crop yield and cropping patterns. Other inputs that affect crop development include irrigation, fertilizers, seeds, and pesticides.



Map.1 Location map of study area

4. DATA BASE AND METHODOLOGY:

Secondary source of data has been used for present research work. This Secondary data is taken from Economic Survey of Maharashtra state from last 10 years (2011-2012 to 2021-2022). Total area under particular crop and total production of respective crop has been taken as a unit for the analysis of the changes in cropping pattern in the study region. Data is processed and represented with the Tables, graphs, Choropleth map by using different GIS and computer tools.

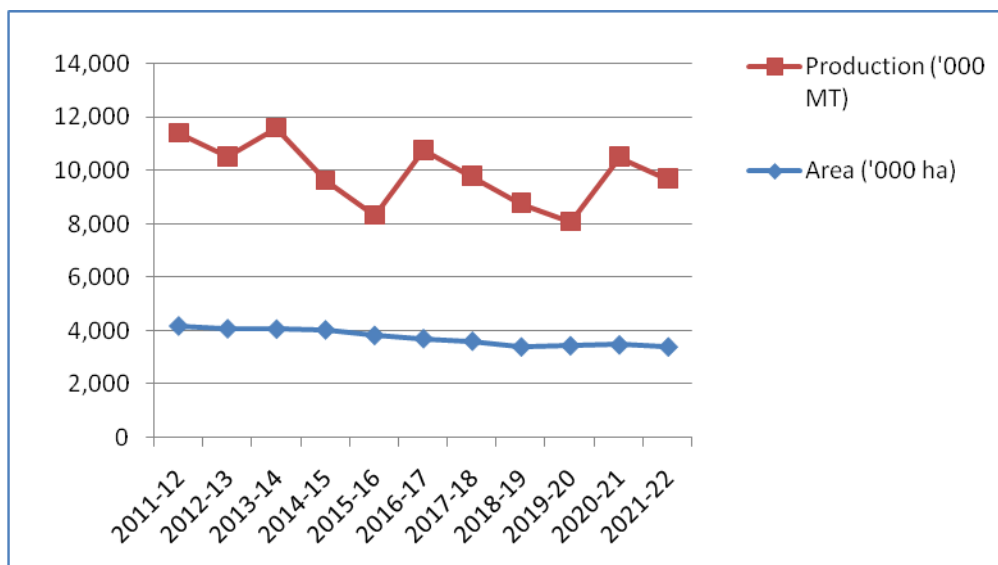
5.

Year	Area ('000 ha)	Production ('000 MT)
2011-12	4,174	7,245
2012-13	4,073	6,445
2013-14	4,058	7,544
2014-15	4,030	5,597
2015-16	3,822	4,487
2016-17	3,702	7,065
2017-18	3,608	6,177
2018-19	3,392	5,386
2019-20	3,436	4,648
2020-21	3,467	7,050
2021-22	3,393	6,301

RESULTS & DISCUSSION:

Table No. 1 Cropping Pattern of Cereals in Kharif season in Maharashtra

Source: Economic survey of Maharashtra (2012-13 to 2022-23)



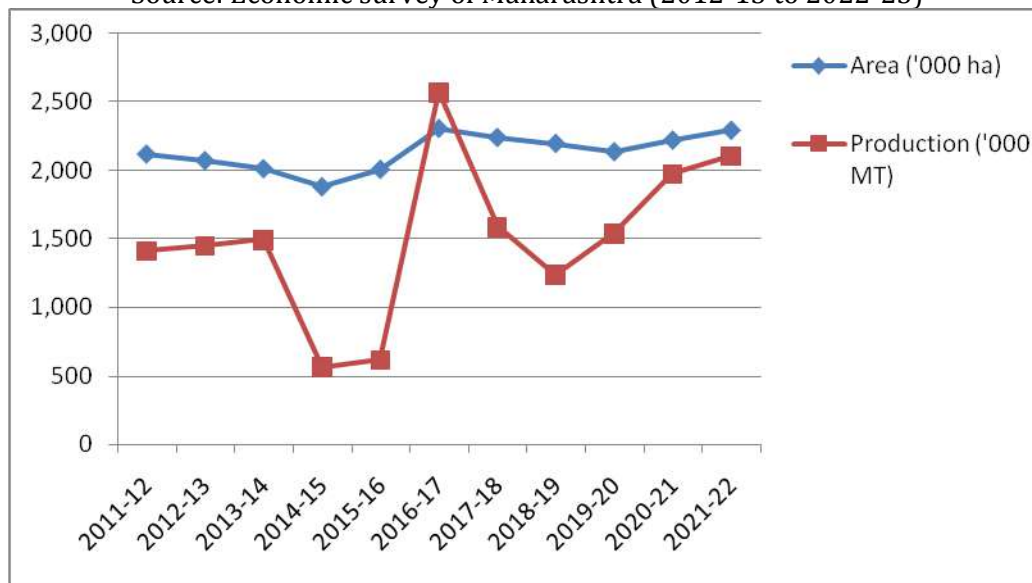
Graph No 1. Cropping Pattern of Cereals in Kharif season in Maharashtra

Table no 1 show that the sowing area of cereals crops has been decreasing in Maharashtra since last decade. Total 18.71 percent area has been decreased under cereals crops in 2021-22 as compared to 2011-12. The production of cereals crops has also seems irregular pattern but it has decreased from 2011-12 to 2021-22 by 13.02 percent. There are many reasons for changing cropping pattern of Maharashtra during these periods. It includes development in irrigation facilities, change in rainfall, irrigation problems, labors supply and mechanization problems etc.

Table No. 2 Cropping Pattern of Pulses in Kharif season in Maharashtra

Year	Area ('000 ha)	Production ('000 MT)
2011-12	2,118	1,410
2012-13	2,070	1,449
2013-14	2,011	1,492
2014-15	1,879	558
2015-16	2,006	611
2016-17	2,305	2,572
2017-18	2,239	1,584
2018-19	2,196	1,234
2019-20	2,135	1,537
2020-21	2,220	1,974
2021-22	2,292	2,106

Source: Economic survey of Maharashtra (2012-13 to 2022-23)



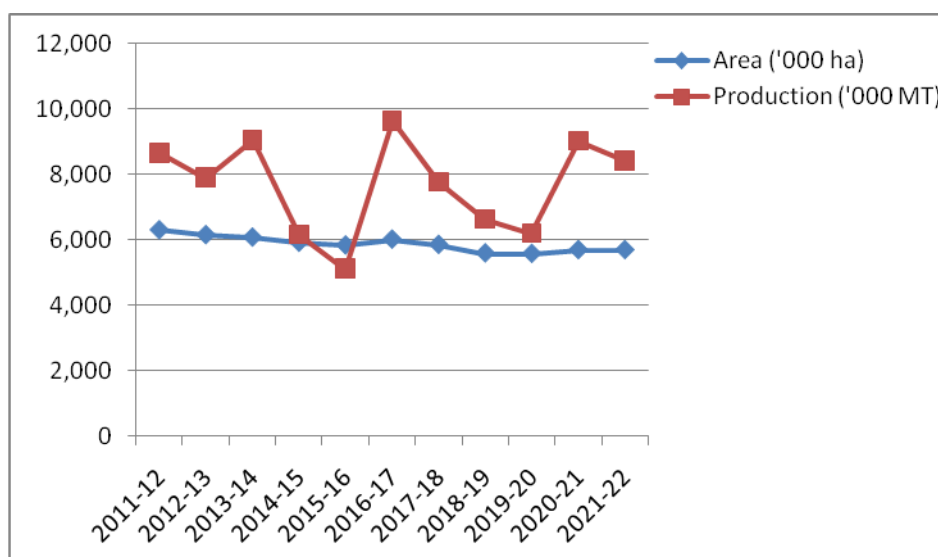
Graph No 2. Cropping Pattern of Pulses in Kharif season in Maharashtra

Table no 2 shows that the sowing area of Pulses crops has increasing in Maharashtra since last decade. Total 8.21 percent area has been increased under Pulses crops in 2021-22 as compared to 2011-12. The production of Pulses crops has also seems irregular pattern but it has highly increased from 2011-12 to 2021-22 by 49.36 percent. Pattern has changing due development in irrigation facilities, MSP of Government and increasing demand of Pulses crop.

Table No 3 Cropping Pattern of Total food grains in Maharashtra

Year	Area ('000 ha)	Production ('000 MT)
2011-12	6,292	8,655
2012-13	6,143	7,894
2013-14	6,069	9,036
2014-15	5,909	6,155
2015-16	5,828	5,098
2016-17	6,007	9,637
2017-18	5,847	7,761
2018-19	5,588	6,620
2019-20	5,571	6,185
2020-21	5,688	9,024
2021-22	5,686	8,407

Source: Economic survey report Maharashtra (2012-13 to 2022-23)



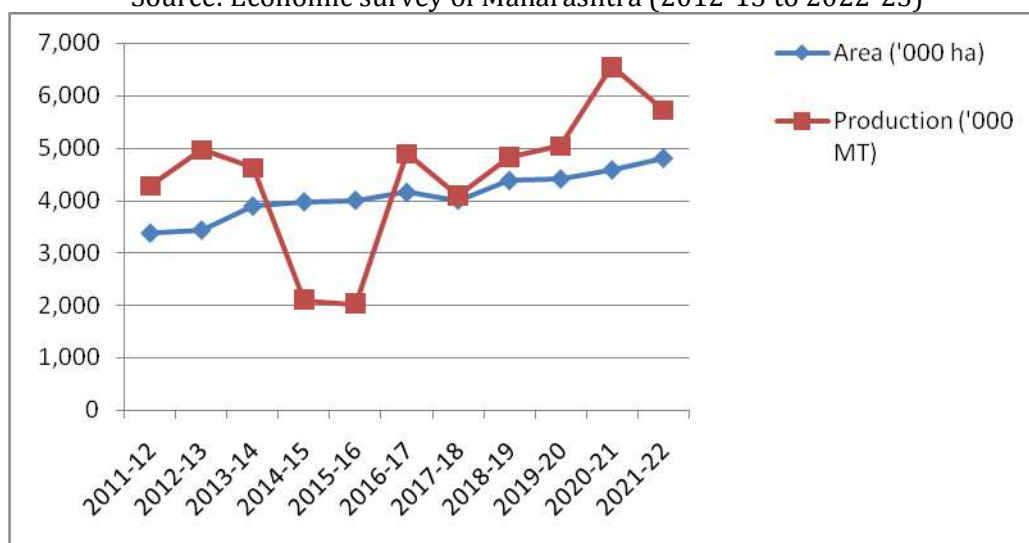
Graph No 3. Cropping Pattern of Total food grains in Maharashtra

Table no 3 show that the sowing area of food grains has been decreasing in Maharashtra since last decade. Total 9.63 percent area has been decreased under food grain crops in 2021-22 as compared to 2011-12. The production of food grain crops has also seems irregular pattern but it has decreased from 2011-12 to 2021-22 by 02.86 percent. The reasons for decrease of food grain include change in rainfall, changing cropping pattern, increase in demand, labors and mechanization problems etc.

Year	Area ('000 ha)	Production ('000 MT)
2011-12	3,377	4,278
2012-13	3,434	4,968
2013-14	3,890	4,617
2014-15	3,969	2,095
2015-16	3,996	2,021
2016-17	4,147	4,891
2017-18	3,996	4,096
2018-19	4,374	4,830
2019-20	4,403	5,032
2020-21	4,573	6,554
2021-22	4,794	5,725

Table No. 4 Cropping Pattern of Oilseeds in Kharif season in Maharashtra

Source: Economic survey of Maharashtra (2012-13 to 2022-23)



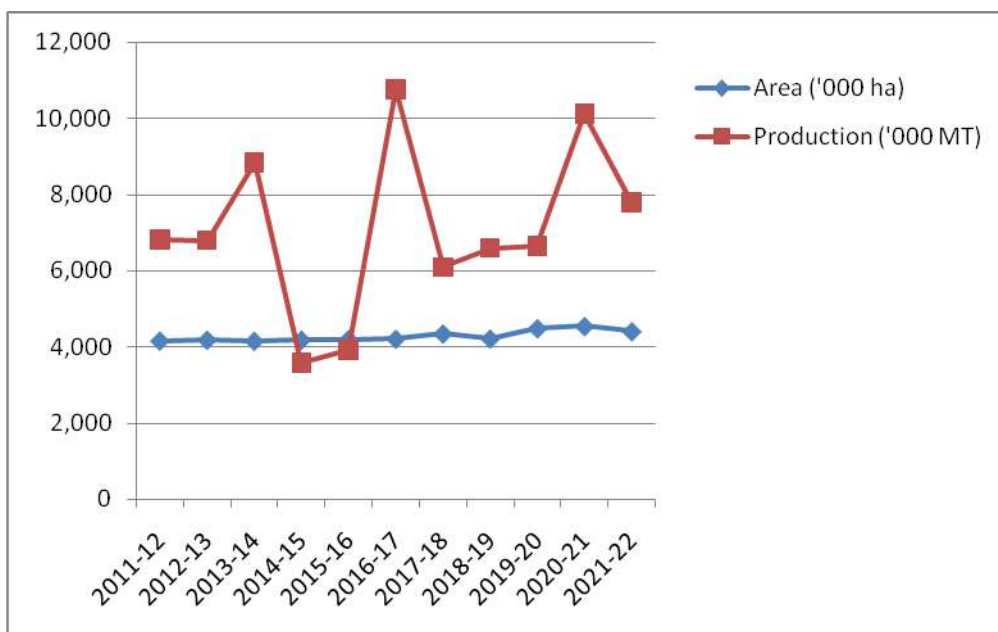
Graph No 4. Cropping Pattern of Oilseeds in Kharif season in Maharashtra

Table no. 4 shows that the sowing area of Oilseeds crops has increasing in Maharashtra since last decade. Total 41.96 percent area has been increased under Oilseeds crops in 2021-22 as compared to 2011-12. The production of Oilseeds crops has also seems irregular pattern but it has highly increased from 2011-12 to 2021-22 by 33.82 percent. Pattern has changing due to development in type of irrigation, uses of HYV Seeds, increase in MSP of Government and increasing demand etc.

Table No. 5. Cropping Pattern of Cotton in Kharif season in Maharashtra

Year	Area ('000 ha)	Production ('000 MT)
2011-12	4,167	6,820
2012-13	4,187	6,793
2013-14	4,160	8,834
2014-15	4,190	3,577
2015-16	4,207	3,914
2016-17	4,212	10,755
2017-18	4,351	6,094
2018-19	4,219	6,593
2019-20	4,491	6,639
2020-21	4,545	10,110
2021-22	4,410	7,791

Source: Economic survey report Maharashtra (2012-13 to 2022-23)



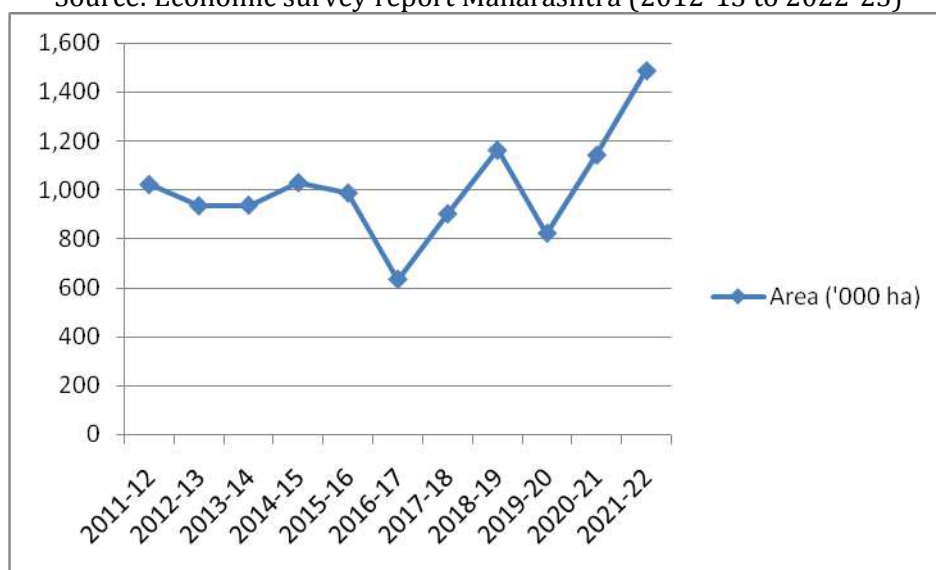
Graph No. 5. Cropping Pattern of Cotton in Kharif season in Maharashtra

Table no. 5 shows that the sowing area of Cotton crop has increasing in Maharashtra since last decade. Total 05.83 percent area has been increased under Cotton crop in 2021-22 as compared to 2011-12. The production of Cotton crop has also seems irregular pattern but it has highly increased from 2011-12 to 2021-22 by 14.23 percent. Reasons for rise in cotton due to development in irrigation facilities, labor supply and mechanization problems of food grain crops Availability of HYV Seeds and continuously increase in demand.

Table No. 6. Cropping Pattern of Sugarcane in Kharif season in Maharashtra

Year	Area ('000 ha)	Production ('000 MT)
2011-12	1,022	89,456
2012-13	935	77,592
2013-14	937	76,901
2014-15	1,030	91,538
2015-16	987	69,235
2016-17	633	54,237
2017-18	902	83,138
2018-19	1,163	89,770
2019-20	822	69,313
2020-21	1,143	1,11,642
2021-22	1,489	1,39,159

Source: Economic survey report Maharashtra (2012-13 to 2022-23)



Graph No. 6. Cropping Pattern of Sugarcane in Kharif season in Maharashtra

Table no. 6 shows that the sowing area of Sugarcane crop has increasing in Maharashtra since last decade. Total 45.67 percent area has been increased under Sugarcane crop in 2021-22 as compared to 2011-12. The production of Sugarcane crop has also seems irregular pattern but it has highly increased from 2011-12 to 2021-22 by 55.56 percent. Pattern has changing due to development in types of irrigation facilities like drip irrigation, change in rainfall, increasing demand for cash crops, and unavailability of agricultural labor.

CONCLUSION:

During the span of last ten years periods in study area, the cropping pattern is changed on large scale. It was found that the area under cereals and food grain crops is decreased and other hand during same period's area under pulses, oil seeds, is increased moderately. Cotton and Sugarcane crops found highly rise in terms of area under cultivation as well as total production in Maharashtra state. It means area under traditional crops is replaced by commercial crops.

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COVID-19'S IMPACT ON HEALTHCARE SYSTEMS

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ABSTRACT

The COVID-19 pandemic has posed unparalleled challenges to healthcare systems

worldwide, with profound implications for healthcare workers' mental health and the industry's operational capacity. This research paper delves into the elaborate dynamics of COVID-19's impact on healthcare workers and the industry in India, with a specific focus on mental health. Utilizing secondary data collected in June 2020, this study examines various attributes of healthcare workers, including demographic factors and mental health indicators. Through systematic analysis, it uncovers the vulnerability of healthcare workers' mental well-being during the pandemic, compounded by factors such as fear of infection, workload, and societal stigma. Graphical representations elucidate the sharp impact of COVID-19 on mental health, particularly among younger and middle-aged workers. Moreover, the study highlights disparities between COVID-19 cases and available healthcare resources, underscoring challenges posed by resource shortages. By shedding light on these critical issues, this research aims to inform policymakers and healthcare stakeholders to enhance preparation and support systems for healthcare workers, ensuring their well-being and supporting the toughness of the healthcare industry in the face of future crises.

KEY WORDS: - COVID-19 pandemic, Healthcare workers, Psychological effects, Mental health assessment, Bed shortage, Frontline workers, Healthcare infrastructure.

INTRODUCTION

The emergence of the novel coronavirus (COVID-19) was first observed in late December 2019 in Wuhan, Hubei Province, leading to its recognition by the World Health Organization (WHO) as an infectious disease of global concern. Declared an international public health emergency due to its rapid global spread, COVID-19 has prompted one of the most significant public health crises of the 21st century, resulting in unprecedented measures such as widespread lockdowns affecting billions of people worldwide.

COVID-19 presents with a spectrum of symptoms ranging from mild to severe respiratory illness, including coughing, fever, and shortness of breath. Its gestation period typically spans from 1 to 14 days, with the most common duration being approximately five days. In severe cases, COVID-19 can progress to pneumonia, acute respiratory distress syndrome, kidney failure, and even death. Addressing the impact of COVID-19 on healthcare systems, particularly on the mental health of healthcare workers, has become necessary. Studies conducted by organizations such as the World Innovation Summit for Health (WISH) in collaboration with the WHO have revealed alarming rates of anxiety, depression, and burnout among healthcare workers during the pandemic. Of particular concern are the disproportionate effects on vulnerable groups such as women, young professionals, and those with dependent children.

Health and social care workers (HSCWs) have played a pivotal role in the pandemic response, despite facing pre-existing mental health challenges that can compromise patient care quality. Several factors unique to the COVID-19 pandemic, including the scale of the crisis, interruptions to usual practice, and uncertainties surrounding personal protective equipment (PPE), have heightened the risk of adverse mental health outcomes among HSCWs. As the healthcare infrastructure faces the challenges posed by COVID-19, it becomes essential to assess the provision of healthcare systems and develop predictive models to anticipate and minimize the impact of future outbreaks. This research attempts to investigate the impact of COVID-19 on the healthcare sector and aims to develop predictive models to aid in future pandemic preparedness, ensuring the flexibility and efficacy of healthcare services in the face of remarkable challenges.

DATA COLLECTION AND METHODOLOGY

A secondary data collection approach was adopted for this study, gathering data from publicly available datasets acquired during June 2020. The primary focus of the dataset was on healthcare workers, encompassing doctors, staff, and management across various age groups.

The dataset included information such as marital status, education, COVID-19 infection status, and occupation of healthcare workers. Additionally, it incorporated responses to specific questions aimed at analyzing the mental health of these workers.

The questionnaire included inquiries such as whether the respondents had ever been diagnosed with an anxiety disorder, their perception of their financial situation during the COVID-19 pandemic, and their concerns regarding physical conflict from patients or their families. Other questions addressed symptoms like dizziness, light-headedness, or burnout, feelings of nervousness or stomach problems associated with the coronavirus, and the extent to which the respondent's thoughts were preoccupied with COVID-19. Furthermore, respondents were asked to express their views on their profession or work. Based on the responses to these questions, individuals were categorized as mentally depressed if they answered affirmatively (yes) and not depressed if they answered negatively (no).

Another dataset sourced for this study pertained to the number of doctors per 1000 people across different countries, accessible through the World Health Organization's website. Additionally, data related to government expenditure on the health sector in India as a proportion of the GDP was collected from the years 2000 to 2019. Furthermore, COVID-19 case data spanning from January 2020 to October 2021 was obtained, detailing the total number of confirmed cases in different states. Concurrently, data regarding the availability of beds across various healthcare facilities during the same timeframe, from January 2020 to October 2021, was also compiled.

DATA ANALYSIS

1. Impact on mental health

During the COVID-19 pandemic, healthcare workers have faced significant challenges, with their mental health particularly vulnerable. Graphical analysis suggests a pronounced impact on both young and middle-aged professionals, while older workers exhibit lower rates of depression. Continuous exposure to severely ill patients has led to heightened stress and overthinking among healthcare workers. Data indicates that approximately 79% of healthcare workers have experienced symptoms of depression.

The of graphical representation (Appx. fig.1 and 2) analysis reveals higher rates of depression among Doctors and Staff compared to Management, attributed to the overwhelming patient load. Approximately 81% of doctors and 82% of staff exhibit signs of depression, while 72% of management workers are affected. Furthermore, female healthcare workers appear more susceptible, with 88% experiencing depression compared to 74% of males. These findings underscore the urgent need for targeted support initiatives within healthcare settings.

2. Impact on the healthcare industry

With just 5.2 beds for every 10,000 people (Appx. Fig. 3), our hospitals are already stretched thin, with 69,265 hospitals and 1,899,228 beds nationwide, according to the Human Development Report. The comparison of COVID-19 cases and available beds in each state shows a concerning shortage in healthcare facilities (Appx. Fig.4). To adapt to the pandemic, trains, and university hostels were repurposed as COVID-19 centers due to the lack of beds. However, this strategy, along with the overall lack of preparation, has strained our healthcare system to its breaking point. The second wave has exacerbated these issues, with hospitals struggling to provide essential resources like oxygen-supported beds and ventilators. Comparing the total number of COVID-19 cases per state with the number of healthcare units from January 2020 to October 2021 highlights the severity of the situation (Appx. Fig.5).

3. Test for association

	Depressed	Not Depressed	Total
Male	105	37	142

Female	81	11	92
Total	186	48	234

In the chi-square test of association, it is clear that gender stands out as a significant attribute, with ample evidence suggesting a correlation between gender and mental health.

	Depressed	Not Depressed	Total
Yes	138	46	184
No	48	2	50
Total	186	48	234

Based on the attribute of experiencing dizziness and burnout, it is evident that feelings of dizziness and light-headedness are prevalent symptoms linked to the mental health of workers.

RESULT AND CONCLUSION

Our comprehensive analysis delved into the myriad factors influencing the mental well-being of healthcare workers amidst the COVID-19 crisis. The pandemic has taken a toll on frontline workers, especially staff interacting directly with infected patients, heightening their struggles. Notably, gender-wise classification indicates a higher prevalence of depression among female workers. Furthermore, social dynamics added to the burden, with communities and families expressing concerns about potential virus transmission by healthcare workers. Families dependent on a single income source faced heightened economic hardships, compounding the challenges.

Inadequate provision of personal protective equipment and overwhelming workloads further strained hospital staff, leading to heightened anxiety. Graphical representations highlighted disparities between COVID-19 cases and available beds, necessitating governmental intervention to manage resources effectively.

Overall, these findings underscore the urgent need for comprehensive support systems to address the mental health challenges faced by healthcare workers and ensure their well-being amid the ongoing crisis.

KEY FINDINGS

<i>Challenges in role</i>	<i>High increase in workload</i>
	<i>Change in the role of doctors</i>
	<i>Shortage of supplies (PPE)</i>
	<i>Disruption from routine work</i>
	<i>The newness of the disease and lack of guidelines initially</i>
	<i>A distress call from patients/ family members all the time</i>
	<i>Aggressive patients/ families</i>

<i>Mental Health Impact</i>	<i>Most instances of stress, mental fatigue, fear and anxiety</i>
	<i>Emotional state in the second wave due to high mortality rate</i>
	<i>Frustration and irritation noted</i>
	<i>Immense pressure of leadership</i>
	<i>Traumatizing- feeling low, helplessness</i>
	<i>Isolating experience, leading to feelings of loneliness</i>
	<i>Reasons include – Increased workload, fear of infection, newness, and less knowledge of COVID-19 patients/ colleagues suffering.</i>

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6. *Fundamentals of mathematical statistics by S. C. Gupta and V. K. Kapoor.*

APPENDIX

Fig: 1

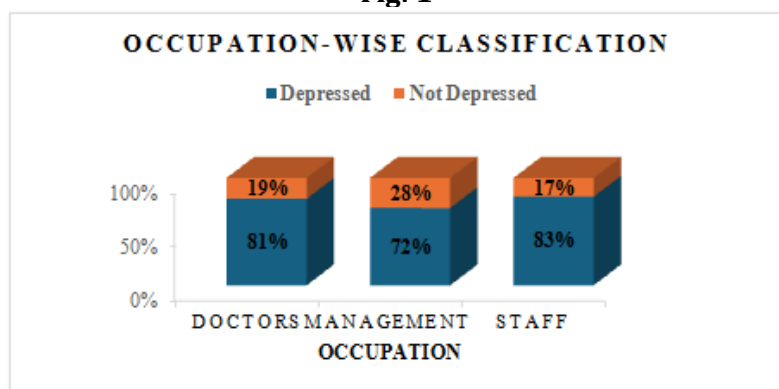
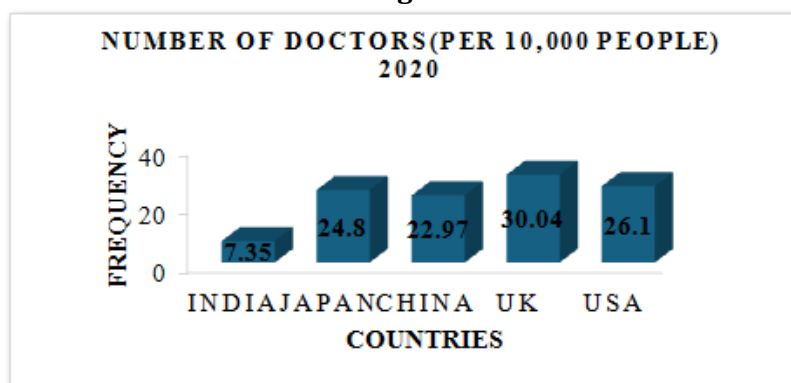


Fig: 2



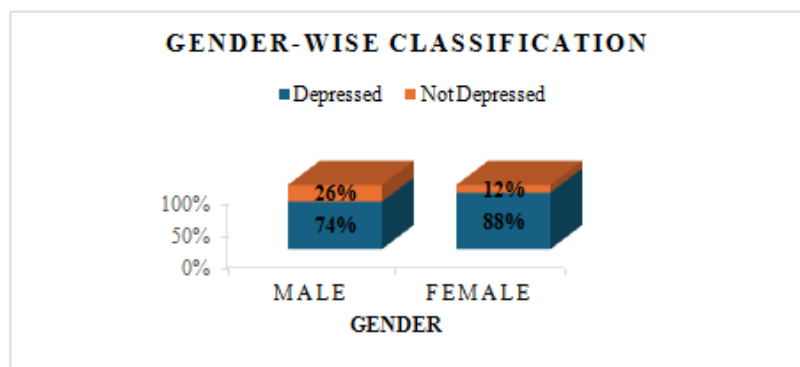


Fig. 3

Fig. 4 State-wise availability of beds per HCU

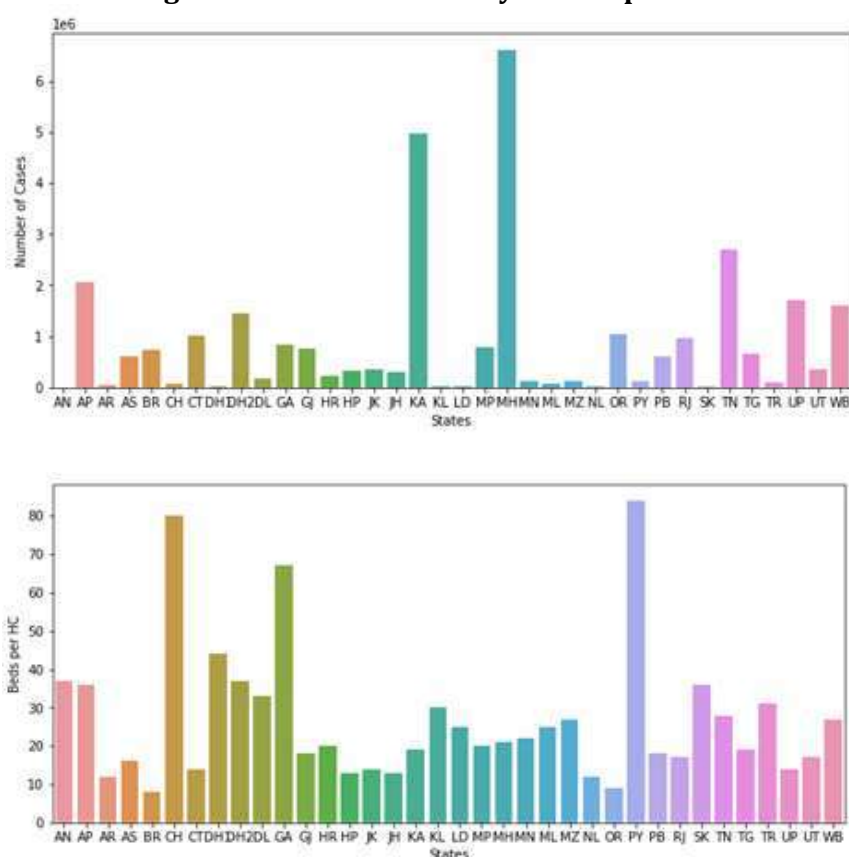


Fig. 5 State-wise number of COVID-19 cases (In Lakhs)

“A REFLECTION OF PARTITION LITERATURE ON INDIAN SUBCONTINENT: AN INTERDISCIPLINARY STUDY”

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ABSTRACT:

This research paper delves into the extensive body of Partition literature originating from the Indian subcontinent and written in English. It examines the multifaceted reflections, narratives, and themes encapsulated within this genre, shedding light on the historical, cultural, and sociopolitical dimensions of the Partition experience. Through a comprehensive analysis of selected literary works, the paper aims to illuminate the diverse perspectives, identities, and memories portrayed by authors from different regions and communities affected by the Partition. Furthermore, it explores the role of literature as a medium for understanding, healing, and reconciling the traumatic legacy of Partition, while also acknowledging its significance in shaping contemporary discourses on identity, belonging, and nationalism in the region.

KEYWORDS: Reflections, narratives, themes, historical, cultural, sociopolitical, perspectives, identities, memories, trauma, reconciliation, nationalism.

INTRODUCTION:

The partition of India in 1947 remains a pivotal moment in the history of the Indian subcontinent, leaving a lasting impact on the social, cultural, and political landscape of the region. The partition not only divided the land but also shattered communities, uprooting millions of people and giving rise to a wave of displacement, violence, and trauma. In the aftermath of this traumatic event, a rich and diverse body of literature emerged, reflecting the experiences, memories, and emotions of those affected by partition.

The academic study of partition literature has gained prominence in recent years, as scholars across various disciplines have recognized the significance of these literary works in understanding the complexities of partition and its aftermath. This research paper delves into the realm of partition literature on the Indian subcontinent, focusing on the interdisciplinary aspects that make it a compelling area of study.

By exploring partition literature through an interdisciplinary lens, this research paper aims to unravel the multifaceted dimensions of the human experience during and after partition. Drawing on insights from literature, history, sociology, psychology, and cultural studies, this study seeks to analyse the ways in which partition literature resonates with, challenges, and expands our understanding of this seminal event in South Asian history.

Through a nuanced analysis of a diverse range of literary texts, we will investigate how partition literature captures the complexities of identity, belonging, displacement, trauma, memory, and reconciliation. By examining the narrative strategies, themes, motifs, and representations in these literary works, we will probe the ways in which partition literature serves as a mirror to the collective consciousness of the Indian subcontinent, reflecting the enduring legacy of partition on individuals and societies.

Ultimately, this research paper aims to contribute to the growing body of scholarship on partition literature by offering a comprehensive and interdisciplinary study of how these literary texts illuminate the human experience amidst the tumultuous backdrop of partition on the Indian subcontinent. By shedding light on the power of literature to serve as a medium of reflection, remembrance, and reconciliation, this study seeks to underscore the enduring relevance and significance of partition literature in shaping our understanding of the past and the present.

In conclusion, the choice of reasoning for undertaking this interdisciplinary study lies in the belief that partition literature offers a unique and invaluable window into the lived experiences of individuals and communities impacted by partition, inviting us to engage with the complexities, contradictions, and nuances of this watershed moment in the history of the Indian subcontinent.

STATEMENT OF THE PROBLEM:

The partition of India in 1947 continues to resonate as a traumatic and divisive event in

the collective memory of the Indian subcontinent. The resulting displacement, violence, and communal tensions left an indelible mark on the social, cultural, and political fabric of the region. In the aftermath of partition, a wealth of literature emerged, capturing the experiences, emotions, and struggles of individuals affected by this monumental event. However, the interdisciplinary study of partition literature on the Indian subcontinent remains a relatively underexplored area of research. This research paper seeks to address this gap by examining the significance and implications of partition literature through an interdisciplinary lens.

OBJECTIVE:

- The objective of this research paper is to conduct an interdisciplinary study of partition literature on the Indian subcontinent, with a focus on analyzing the multifaceted dimensions of the human experience during and after partition. Specifically, this study aims to:

HYPOTHESIS:

- We hypothesize that partition literature serves as a potent tool for examining the enduring impact of partition on individual and collective identities, memories, and narratives

RESEARCH METHODOLOGY:

The research methodology employed for the present study is textual analysis, which involves the systematic examination and interpretation of written texts to uncover underlying themes, patterns, and meanings. By applying a critical lens to these texts, the researcher can gain insights into the ways in which partition has been represented, remembered, and reimagined in literature, and how these narratives contribute to a deeper understanding of the historical, cultural, and social dynamics of the region.

ANALYSIS:

The research paper "A Reflection of Partition Literature on the Indian Subcontinent: An Interdisciplinary Study" explores the diverse range of perspectives and insights offered by renowned authors such as Sadat Hasan Munto, Khushwant Singh, Bapsi Sidhwa, Manik Bandopadhyay, and Laithambika Antharanjan. Through their literary works, these authors illuminate the complex and multifaceted impact of the partition of India in 1947 on individual lives, communities, and national identities.

Sadat Hasan Munto, one of the most prominent Urdu writers of the 20th century, is known for his poignant portrayals of the human cost of partition. His short stories such as "Toba Tek Singh" and "Khol Do" vividly capture the pain, confusion, and dislocation experienced by individuals caught in the midst of communal violence and mass displacement. Munto's works delve into the psychological and emotional turmoil faced by characters grappling with the loss of home, identity, and loved ones in the wake of partition.

Khushwant Singh, a prolific Indian author and journalist, offers a nuanced perspective on partition through his novel *"Train to Pakistan."* Set against the backdrop of a village on the border between India and Pakistan, Singh's novel explores the themes of communal tension, violence, and betrayal during the tumultuous period of partition. Through his vivid storytelling and compelling characters, Singh provides a gripping portrayal of the impact of partition on ordinary people and communities, highlighting the complexities of human nature and the blurred lines between perpetrator and victim.

Bapsi Sidhwa, a Pakistani novelist of Parsi descent, has also made significant contributions to the literature of partition through works such as *"Ice-Candy Man"* and *"Cracking India."* Sidhwa's novels offer a feminist perspective on partition, exploring the experiences of women and children who are often marginalized in historical accounts of the event. Through her powerful narratives and sensitive characterizations, Sidhwa sheds light on the resilience, courage, and agency of women in the face of violence, upheaval, and loss.

Manik Bandopadhyay, a Bengali writer and social reformer, provides a unique regional perspective on partition through his novel "Padma Nadir Majhi." Set in the rural landscape of East Bengal (now Bangladesh), Bandopadhyay's novel delves into the lives of fishermen and peasants whose world is upended by the partition. By focusing on the everyday struggles and aspirations of marginalized communities, Bandopadhyay's work underscores the human dimensions of partition and the enduring impact of social and economic dislocation.

Laithambika Antharanjan, a Tamil writer and activist, offers a distinct voice in the literature of partition through her poetry and essays on the experience of Tamils in Sri Lanka. Antharanjan's work explores the themes of displacement, identity, and resistance in the context of the Sri Lankan civil war and the partition of the island nation. Through her lyrical and incisive writings, Antharanjan highlights the enduring trauma and resilience of individuals and communities affected by ethnic conflict and political violence.

By analyzing the works of Sadat Hasan Munto, Khushwant Singh, Bapsi Sidhwa, Manik Bandopadhyay, and Laithambika Antharanjan, this interdisciplinary study offers a comprehensive and nuanced understanding of the diverse literary representations of partition on the Indian subcontinent. Through a comparative analysis of these authors' works, the research paper explores the intersecting themes of loss, trauma, resilience, and hope that emerge from their narratives, shedding light on the enduring impact of partition on individual and collective memories, identities, and histories.

SCOPE AND LIMITATION OF THE STUDY:

The scope of this research is focused on a selection of key literary works on partition literature from the Indian subcontinent, spanning multiple languages, genres, and regions. By examining a diverse range of texts, this study seeks to capture the breadth and depth of perspectives on partition and its aftermath, while also highlighting the common themes and motifs that emerge across different cultural and linguistic contexts.

There are several limitations to this research, including the potential biases of the researcher in selecting and interpreting literary texts, as well as the inherent subjectivity and complexity of analysing and comparing written narratives. Additionally, the scope of the study is limited to a specific time period and geographical region, which may not fully capture the diverse and multifaceted nature of partition literature on the Indian subcontinent.

CONCLUSION:

In conclusion, the research paper "A Reflection of Partition Literature on the Indian Subcontinent: An Interdisciplinary Study" has delved into the rich and diverse tapestry of voices and perspectives offered by renowned authors such as Sadat Hasan Munto, Khushwant Singh, Bapsi Sidhwa, Manik Bandopadhyay, and Laithambika Antharanjan. Through their compelling literary works, these writers have illuminated the complexity, pain, and resilience inherent in the aftermath of the partition of India in 1947. By exploring the human dimensions of this historical event through the lens of different linguistic, cultural, and regional contexts, this interdisciplinary study has highlighted the enduring impact of partition on individual lives, communities, and national identities. Moving forward, further research and scholarship on partition literature can continue to shed light on the lasting legacies of this pivotal moment in South Asian history, and the ongoing relevance of these narratives in shaping our understanding of the past and present on the subcontinent.

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A STUDY OF GENERAL LAND USE PATTERN: A CASE STUDY OF VILLAGE TISANGI, SANGLI DISTRICT (MAHARASHTRA) : A GEOGRAPHICAL ANALYSIS

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INTRODUCTION

Agriculture is a main occupation in India. Indian agriculture is a fully depend upon on Indian monsoon. The degradation of soil resources is a significant part of environmental degradation. The present investigation has an attempt to make deep study of micro level study of Tisangi as sample village in Sangli district of Maharashtra with views to solve the problems of the farmers and to help for better planning and agricultural development of rural area.

KEY WORDS:- Analyse, Cropping pattern, Land use, Degradation.

STUDY AREA

Tisangi lies in Kavathe Mahankel tehsil of Sangli district in Maharashtra. It is located at 17° 09' north latitude and 74° 51' east longitude having an altitude of 680 metres above the mean sea level. It is 55 km from the Sangli town and is connected by road. The village is surrounded by Ghatnandre to the north, Dongarsoni to the west, Kundlapur to the south, and Raiwadi to the east. The total geographical area of the village is 1675 hectares having 1874 population according to 2001 Census.

The general slope of the village is from the west to the east. About 90 per cent part of the village is plain. The village experiences typical hot and dry climate. The highest temperature (41°C) is observed in May. The annual average rainfall is 378 mm. The village receives the rainfall from the South - West monsoon. It starts in the month of June and ends in the month of October. Soil in the village is coarse shallow soil. The soil is less fertile

RESEARCH METHODOLOGY

The entire study is based on primary as well as secondary data. The primary data is collected by conducting field work through questionnaire method, Personal interviews of farmers, talathi and gramsevak are taken. The period selected for study is 20 years. The data for general land use and agricultural land use is collected from village and tehsil revenue departments. The data of agricultural land degradation is obtained from Sangli district soil testing laboratory and agricultural department. Few secondary data are taken from socio-economic review and district statistical abstract of Sangli district. Collected data is tabulated and shown by bar graphs. The period selected for study is 20 years.

OBJECTIVES

Main objectives of present research paper are as under:

1. To analyze change in general land use for the period of twenty years i.e.1990-91 to 2009-10
2. To find out the causes of general land degradation.

Temporal Variation in General Land Use (1990-91 To 2009-10)

In general, the net sown area shows increasing trend. Area not available for cultivation, fallow land, and cultivable waste also shows increasing trend and small change is observed in other uncultivated land. The net sown area was 49.21 per cent in 1990-91 and 54.78 per cent in 2009-10, in these twenty years 5.57 per cent net sown area was increased. The land not available for cultivation was 12.48 per cent in 1990-91 and 12.29 per cent in 2009-10. In these twenty years land not available for cultivation was decreased by 0.19 per cent. Other uncultivated land was 34.20 per cent in 1990-91 and 28.14 per cent in 2009-10. In these twenty years it was decreased by -6.06 per cent. The fallow land was increased by 0.68 per cent. No area under forest was found in both years (Table 1 and Fig. 1).

Table 1
General Land Use in Tisangi Village

Sr. No.	Land use type	Year			Changes in % 1990-91 To 2009-10
		1990-91	2000-01	2009-10	
1	Net Sown Area	49.21	51.35	54.78	+5.57
2	Land Not Available For Cultivation	12.48	13.26	12.29	-0.19
3	Other Uncultivated Land	34.20	33.10	28.14	-6.06
4	Fallow Land	4.11	2.29	4.79	+0.68
5	Forest	0.00	0.00	0.00	0.00

Source- Village revenue record. **Note-**Area in percentage

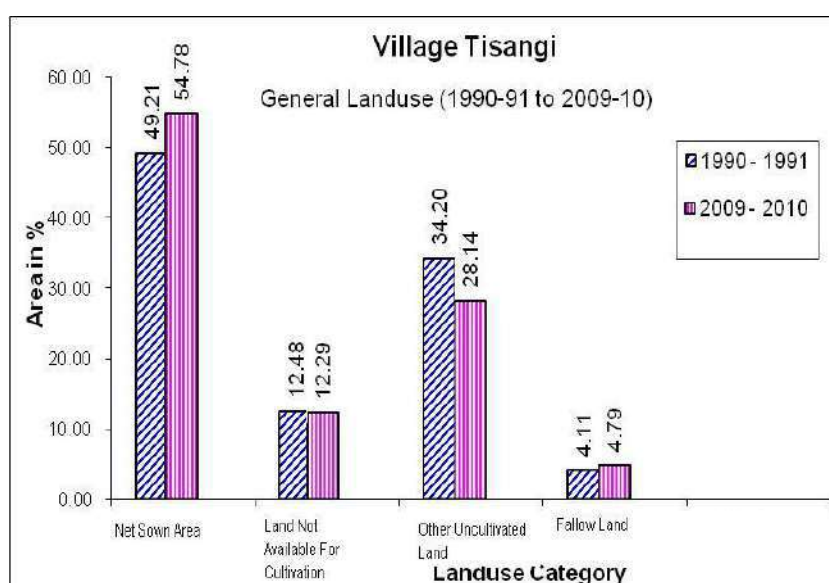


Fig.1 1

Land Degradation

Village Tisangi is located on the Khanapur plateau reason and of 680 meters (MSL). The main cause of land degradation is due to slope gully erosion. The electrical conductivity of soil is remaining same in the study period. The cultivation methods are mostly unfavorable for soil conservation. It is observed that the farmers are ploughing the land parallel to the slope that causes soil transportation. Animal grazing is also the cause observed on the eastern and southern part of the village. It helps to increase the intensity of soil erosion.

The farmers are unknown to the conservative techniques of the farming. It clearly shows the gully erosion, running water channels, and the damaged soil of the farm land. Survey No. 483, 484, 499 to 508, 527 are affected. The cutting of the forest surrounding to the village also leads to the soil erosion in the village.

Concluding Remarks

Study reveals that general land use pattern in the Tisangi village is a reflection of physiographic, soil type, slope, irrigation and other socio economics factors. Study also reveals that unsuitable agricultural practices, flooding, erosion, deforestation, over cutting of vegetation, over grazing, improper crop rotation, imbalanced fertilizer use, mismanaged irrigation, over pumping of ground water, poverty, population increase, economic pressure, attitude of farmer and artificial soil loss are the major forms of problem of soil degradation.

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**AGRO-TOURISM DEVELOPMENT IN SOLAPUR DISTRICT, MAHARASHTRA: A
GEOGRAPHICAL ANALYSIS**

Mrs. Vaishali. P. Ghatage

ISBN- 978-1-304-46114-8

37 | Page

ABSTRACT

The concept of Agro-tourism is well accepted all over the world. Agro-tourism is a latest concept and trend of tourism in India. It is related to agricultural activity and also helpful to the both farmers and urban peoples. It gives people the chance to experience the rural life. Agro-tourism study has key role in socio - economic development of rural area. Solapur district has significant tourist potential. The present study attempts to focus on agro-tourism development in Solapur district. It included primary and secondary data both methods -primary tools of data collection were the observation and questionnaire. Agro tourism industry plays key role for the sustainable development. Few successful agro tourism centers with different business ideas are referred in this study. The survey was conducted among 12 operational agrotourism centers in the Solapur district of Maharashtra state.

KEY WORDS: Agro-tourism, Socio economic, Development, Sector,Sustainable.

INTRODUCTION:

Agro-tourism is considered as growth industry, which include agri-tainment and socio-economic activity. It helps to promote 'Farm direct marketing' value added products, people integration and understanding among them. Agro-tourism integrates farming activities with enjoy and gives the profit of agriculture. It offers different activities to the tourists like bullock cart riding, tractor riding, U-pick method, hand crafts, tasting of butter, local food, cheese making during the visit. It also helps local economy and regional development but today agriculture is facing many problems due to irregular monsoon, climate change situation and its effect on agriculture sector. In this scenario agro tourism is important sector to support agriculture field. Agro tourism includes agricultural activities. Urban population has attraction about rural life. Agro tourism is simply diverting the people to rural areas and play key role for sustainable development. The development of agrotourism in rural region is not simply a matter of matching people demands with farm product supply but a matter of local acceptability and suitability.

STUDY AREA

Solapur district is situated in south-east part in Maharashtra. It is located between 17° 10' North to 18° 32' North latitudes and 74°42' East to 76°15' East longitudes. The area under study lies entirely in Bhima basin. It covers 14844 sq.km area with population of 4317756 persons (census,2011). The adjoining districts are Satara to its west, Sangli to its south west, Ahmednagar to its north, Pune to its north west and Osmanabad to its east and Bijapur district in Karnataka to the south. The district has an undulating terrain mostly covered by black cotton soil. The land slopes towards west to east. The monsoon climate dominates the region. The region receives rainfall 400-500 mm. The region comes under rain shadow zone. The area served by the rivers Bhims, Sina etc. In Solapur district cropping pattern has been diversly found. Jawar, bajra, maize, tur, sugar cane, pomegranate etc is major crops.

OBJECTIVE:

The main objective of this paper is to study the development of agro- tourism centres in the Solapur district.

DATA COLLECTION AND METHODOLOGY:

The paper focuses on the agro tourism centres of Solapur district. This study is based on primary and secondary data both. Primary data were obtained through field survey and

secondary data were obtained from the governmental and non-governmental sources (ATDC, MTDC, MART). These were administered through the use of purposive sampling method to collect important data.

DEVELOPMENT OF AGRO TOURISM IN SOLAPUR DISTRICT:

In Solapur district most of agro tourism centres are concentrated in eastern side of the district. Tuljapur and akkalkot are the religious places, these are major attractions for the tourists. Agro tourism centres are established in Solapur district namely Chinchban agro tourism centre, Lokapur mala of Akkalkot tehsil, Abhishek mala agro tourism centre Pakni from North Solapur tehsil, Dalit mitra agro tourism centre Ambe-chincholi in Pandharpur tehsil, Kalyanam Krushi Paryatan Kendra Tandulwadi from South Solapur tehsil, Gawade Farm Krushi Paryatan Kendra and party lawns Sawaleshwar of Mohol tehsil, Lokmangal Agro Tourism centre Vadala of North Solapur tehsil, Picnic Point and Agro Tourism center Chincholi Kethi of Mohol tehsil, Rajvan Agro tourism centre Tolnur from Akkalkot tehsil, Sinai Agro Tourism and Resort Kamti Khurd from Mohol tehsil, Tillus Agro Tourism Hotgi of South Solapur tehsil, Vanprasta Agro Tourism centre Degaon from North Solapur tehsil.

Table1. Agro-Tourism Centers in Solapur District (2023)

Sr. No.	Centre Name	Village	Tehsil	Affiliation
1	Abhishek Mala Agri Tourism Center	Pakni	North Solapur	MART
2	Chinchban Agri Tourism Center	Lakapure Mala	Akkalkot	ATDC
3	Dalitmitra Agri Tourism Center	Ambe Chincholi	Pandharpur	ATDC
4	Gawade Farm Krushi Paryatan Kendra	Sawaleshwar	Mohol	MART ATDC
5	Kalyanam Krushi Paryatan Kendra	Tandulwadi	South Solapur	ATDC
6	Lokmangal Agri Tourism Center	Vadala	North Solapur	ATDC
7	Picnic Point An Agri Tourism Center	Chincholi-Kathi	Mohol	ATDC
8	Rajvan Agri Tourism Center	Tolnur	Akkalkot	ATDC
9	Sinai agro tourism and resort	Kamti Khurd	Mohol	MTDC
10	Tillus Agro Tourism	Hotgi	South Solapur	ATDC
11	Vanprastha Agri Tourism Center	Degaon	North Solapur	MART
12	Vishalsagar Krushi Paryatan Kendra	Solapur	North Solapur	ATDC

Source: Agri-Tourism Development Corporation, (ATDC) Maharashtra, MTDC, Field survey.

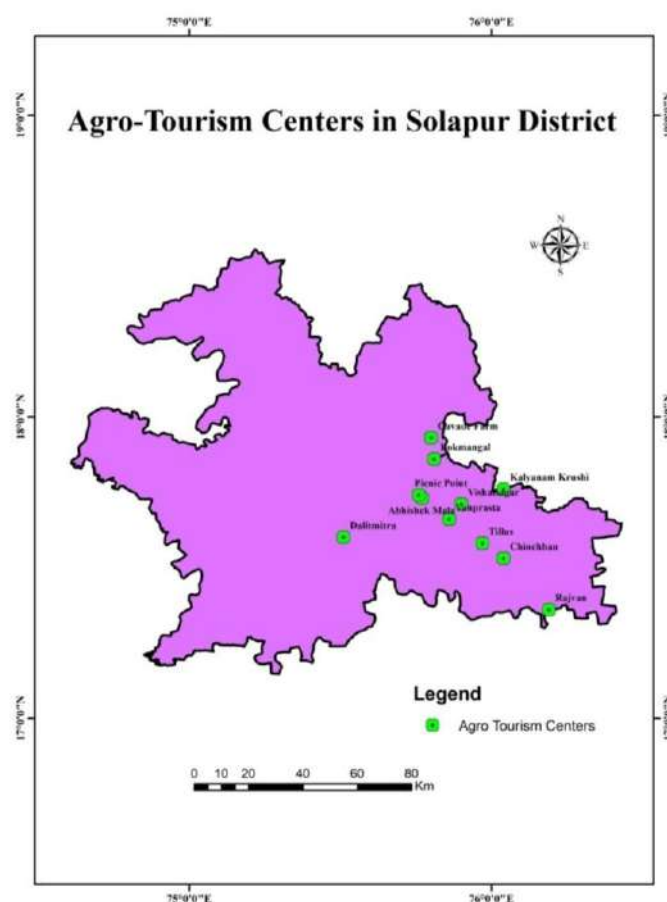


Fig.1 Agro Tourism Centers in Solapur District

CONCLUSION:

Solapur district has a huge potential to the development of agro-tourism because of some of the religious places scattered all around the area and different types of agro products as well as variety of rural customs, festivals. It is a major attraction for tourists. In the eastern side of Solapur district mostly agro tourism centres are concentrated. The development of agrotourism in rural areas of Solapur district is still in its initial stage. The promotion of agro tourism requires support of agri culture department. Bank should provide financial help for the agro tourism sector in the Solapur district.

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AMBIENT NOISE MONITORING DURING GANESH FESTIVAL IN SELECTED METROPOLITAN CITIES OF MAHARASHTRA

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ABSTRACT:

The scenario of noise pollution varies across different regions of the world due factors like population growth, urbanization, and technological advancement, drawing attention to its association with numerous health ailments and societal disruptions. its adverse effects of noise pollution on human health, such as cardiovascular disturbances, sleep disturbances, and interference with communication, as well as its impact on urban environments and economic losses. The secondary data adopted from Maharashtra Pollution Control Board (MPCB) and the Central Pollution Control Board (CPCB) to investigate noise levels during the Ganesh festival in six metropolitan cities of Maharashtra. Noise level data was processed, tabulated in Microsoft Excel and presented through graph. It reveals that the Ambient Air qualities standard in respect of noise pollution in residential area (55 / 45 dB (A), commercial are 65 /55 dB (A) and Industrial area 75 /70 dB (A) in day and night time is overwhelm.

1) INTRODUCTION:

Noise pollution, or environmental noise, is displeasing sound created by humans, animals, or machines, that disrupts the activity or balance of domestic and animal life. The most common source of the pollution is brought on worldwide by transportation systems that include motor vehicle noise, aircraft noise and rail noise. Other sources that cause the pollution, both indoor and outdoor, are: car alarms, emergency service sirens, office equipment factory, barking dogs, appliances, fireworks, compressed air horns, construction work, grounds keeping equipment, audio entertainment systems, and even noisy people. (MPCB, 2014). According to a WHO study, noise pollution was found to be associated with greater risk of heart diseases..... more stress-related mental health risks and slower child cognitive development. Noise can be perceived either physiologically or psychologically. When noise is perceived physiologically, human subconsciously sense the vibrations of the noise (sound) waves in our physical body whereas psychological perception of noise refers to the event when conscious awareness of a person shifts attention to that noise rather than letting it filter through intuitive where it goes ignored (Barthes, R. 1985).

More than 20 cities in India have populations of over one million, and some of them including New Delhi, Mumbai, Chennai and Kolkata are among the world's most polluted (Tenzin Norzom & Urvi Jacob 2019). Assuming economic liberalization and increased urbanization, the damage to environment and health could be enormous. It adversely affects future generations by degrading residential, social, and learning environments with corresponding economic losses (Lisa Goines, RN; Louis Hagler, MD, 2007). The noise pollution is increased day by day, due to population growth, urbanization, and technological development. The World Health Organization (WHO) recognized noise as one of the major pollutants affecting the health of the human population (WHO, 2011). Noise pollution; an urban territorial phenomenon is assuming serious proportions in every city. The frequency and intensity of

pollution has been increasing day by day (Passchier, W., Passchier, W., 2000). Due to exposure of noise people are suffering from different kinds of diseases like hearing impairment, interference with spoken communication, sleep disturbances, cardiovascular disturbances, annoyance etc. (Basner, M., Babisch, W., Davis, 2014).

Maharashtra has a tradition to celebrate Ganesh festival every year. The Ganesh festival starts with Ganesh chaturthi and continues 11 days up to Anantchaturthi. The days to be followed are marked with every day morning and evening ceremonies and special events of singing religious songs, traditional dances and chanting prayers. Indian festivals are traditionally celebrated with song and dance in large groups, using musical instruments, drums etc. Bursting of fire crackers during celebrations produce intermittent and high frequency 'impulse noise'. Every Ganesh Mandals are used musical and electric instrument for making merry in their festival (MPCB, 2018).

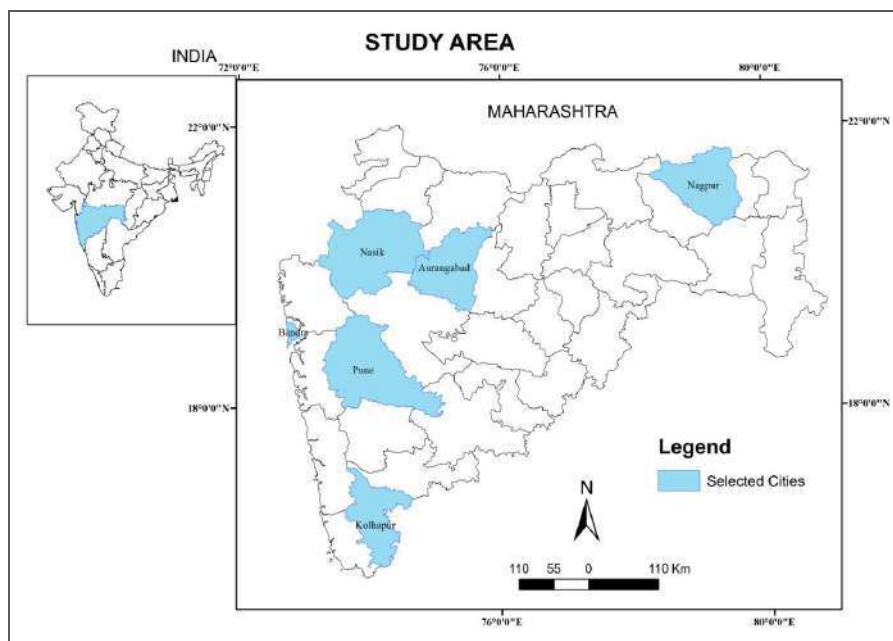
The present work is an extension of the previous report of Maharashtra Pollution Control Board (MPCB) and Central Pollution Control Board (CPCB) during 2017 to 2018. Six metropolitan cities of the Maharashtra state were selected to study the noise levels during Ganesh festival.

II) STUDY AREA:

The geographical situation of Maharashtra State indicates that, it is located on the Western coast of India. It enjoys the coastal length of 720 kms. of the Arabian Sea. The boundaries of the State are delimited by Gujarat in the North-West, Madhya Pradesh in the North, and Chhattisgarh in the east Andhra Pradesh in the South East and Karnataka and Goa in the South. The state Maharashtra lies between 16° 4' to 22° 1' North latitude and 72° 6' to 80° 9' East longitude. The state extends about 800 km. from west to east and 750 km. in north to south orientation (Map 1).

A metropolitan area combines an urban agglomeration (the contiguous, built-up area) with zones not necessarily urban in character, but closely bound to the center employment or other commerce. These outlying zones are sometimes known as a commuter belt, and may extend well beyond the urban zone, to other political entities. An area having a population of 10 Lakh or 1 Million or more, comprised in one or more districts and consisting of two or more Municipalities or Panchayats or other contiguous areas, specified by the Governor by public notification to be a Metropolitan area.

The metropolitan regions which had been taken under consideration for research, these are as: i) Mumbai ii) Pune iii) Nashik iv) Kolhapur v) Aurangabad vi) Nagpur



Map:1.

III) OBJECTIVES OF RESEARCH:

The prime objective of the study is to study the noise levels during Ganesh festival of six metropolitan cities in Maharashtra for the year 2017-18.

IV) DATA & RESEARCH METHODOLOGY:

Present research work is based on secondary data source from the Maharashtra pollution control board (MPCB). Total six metropolitan cities from Maharashtra were considered to study noise level during Ganesh festival. Noise level data was processed, tabulated in Microsoft Excel and presented through graph.

V) SIGNIFICANCE OF THE RESEARCH:

By studying the noise pollution we get to know its impact on the life of human beings as well as animals and trees (surrounding and nature) and how it is greatly affecting their livelihood. Present study tries to explore different facets of noise pollution in different cities in Maharashtra and gives us the idea that how we can help the environment and other factors of life from getting damaged or face any problem due to the act of humans, because excessive noise pollution and cause affect on humans specially (the elderly ones and patients with mental illness) also other living beings such as animals and birds. After assessing noise level data of various locations of selected cities, we come to know that there are health hazards in that city that can be minimize the problems through making awareness in society and remedial measures by local government and NGO's in future.

VI) DISCUSSION:

1) Types of Noise Pollution

There are four types of noise

i) Continuous noise:

Continuous noise is exactly what it says on the tin: its noise that is produced continuously, for example, by machinery that keeps running without interruption. This could come from factory equipment, engine noise, or heating and ventilation systems.

We can measure continuous noise for just a few minutes with a sound level meter to get a sufficient representation of the noise level. If you want to analyze the noise further, you need

to look for a sound level meter with octave band analysis. Octave bands allow you to break the noise down into its separate frequencies. This information will tell you exactly what frequency is causing the noise.

ii) Intermittent noise:

Intermittent noise is a noise level that increases and decreases rapidly. This might be caused by a train passing by, factory equipment that operates in cycles, or aircraft flying above your house.

We measure intermittent noise in a similar way to continuous noise, with a sound level meter. However, you also need to know the duration of each occurrence and the time between each one. To gain a more reliable estimate of the noise level, you should measure over multiple occurrences to calculate an average. If you're using an integrating-averaging sound level meter, this will make the calculation for you and present this in terms of an LAeq.

iii) Impulsive noise:

Impulsive noise is most commonly associated with the construction and demolition industry. These sudden bursts of noise can startle you by their fast and surprising nature. Impulsive noises are commonly created by explosions or construction equipment, such as pile drivers, or your nextdoor neighbour doing some DIY on a Sunday morning.

To measure impulsive noise, you will need a sound level meter or a personal noise dosimeter that can calculate Peak values.

Don't forget that even in an environment that is usually quiet, a single very loud noise can cause hearing damage, which is why it's important to measure Peak levels alongside the average or Leq value. In most applications, Peak will be measured using the C-weighting, so you should make sure that your sound level meter provides this.

iv) Low-frequency noise:

Low-frequency noise makes up part of the fabric of our daily soundscape. Whether it's the low background hum of a nearby power station or the roaring of large diesel engines, we're exposed to low-frequency noise constantly. It also happens to be the hardest type of noise to reduce at source, so it can easily spread for miles around.

2) Ganesh Festival and Bidding of Lower Air Quality:

According to the study of Maharashtra pollution control board (MPCB) Ganesh Chaturthi is one of the most celebrated festivals in India. People wait for this festival eagerly. It is celebrated in various states of the country however in Maharashtra it is celebrated in a grand way. It is a most important festival of Hindus which devotees celebrate every year with great preparations and enthusiasm. According to the Hindu Mythology, Ganesh Chaturthi is celebrated annually on the birthday of the Lord Ganesh.

Lord Ganesha is known as Vighana Hart's means remover of all obstacles for devotees and Vighana Karta means creator of problems for devil. Ganesh Chaturthi is 11 days long Hindu festival which starts on the Chaturthi with statue installation in the home or temple and ends on Anant Chaturdashi with Ganesha Visarjan. Devotees of Lord Ganesha offer prayer, offerings (especially Modak), sing devotional songs, recite mantra, do aarti and seek his blessings of wisdom and prosperity. It is celebrated separately by the families or group of people in the Pandals or temples or community. Ganesh Visarjan (means idol immersion into water) is a special and most important part of the puja. Ganesh idol are mostly made of Plaster of Paris (PoP) which takes several months to totally dissolve Ganesh Idols in water and creates pollution.

While celebrating Ganesh Festival people generally ignore environmental impact of pollution on Air, Water, Noise, solid Waste, etc caused by various activities performed in puja. During this festival, fireworks and crackers are used in abundance by the devotees for

expressing their happiness. This leads to Air pollution, as harmful gases and toxic substances like Barium, Cadmium, Sodium, Mercury, Nitrate and Nitrite are released into atmosphere and repairable suspended particulate matter (RSPM) level goes high in this season as small particles are released into the environment by these fire crackers. Traffic congestion also takes place due to the crowds of Ganesh visarjan which in turn increases air pollutants, which are released into the atmosphere by vehicles. Colors used in decoration of idols contain harmful chemicals containing mercury, lead which leaks into water as idol dissolves. It increases acid content, Total Dissolved solids (TDS) and Heavy metals in water. It kills aquatic plants and marine life, damaging ecosystem under water.

Along with Ganesh idols people dump other accessories like thermocol, plastics, etc. as well adding to the level of water pollution. Devotees celebrate the prestigious festival with all possible means of loud music like listening to bhajjans, kirtans and songs using massive speakers. During Anant Chaturdashi, which is the final day of the auspicious Ganesh festival, we witness heavy traffic on the roads, which leads to an increase in Air (particles from vehicles) and Noise (excessive honking) Maharashtra Pollution Control Board has been carrying out study of the ambient noise levels in the state of Maharashtra during the period of Ganesh Festival for more than 10 years as a continuous process.

3) Noise Level Measurement and Noise Pollution standard:

A decibel is the standard for the measurement of noise. The zero on a decibel scale is at the threshold of hearing, the lowest sound pressure that can be heard. According to D.B. Smith, 20 dB is whisper, 40 dB is quiet office, 60 dB is normal conversation and 80 dB is the level at which sound become physically painful. Noise is measured in decibel (dB).

Sound is usually made up of a wide range of different frequencies. The spread of sound energy across the audible frequency "spectrum" (about 20Hz – 20kHz) is one factor that helps to make it identifiable to the human ear. The human ear is a very sensitive system with an extensive dynamic range. To accommodate this very large range, sound levels are measured using the decibel (dB) scale.

A sound level meter theoretically has a flat response, in other words it responds exactly the same at different frequencies. Unlike a sound level meter, the human ear responds differently at different frequencies, so a weighting, or filter, can be used so that the meter responds more like the human ear. The most commonly used weighting is referred to as the 'A' weighting and readings are usually measured in dBA. The "sound pressure level" (SPL) is twenty times the logarithm to the base 10 of the ratio of the effective pressure (p) of a sound to the reference pressure (Pr) of 20 μ Pa. Thus the sound pressure level in dB = 20 log₁₀ P/Pr.

In most cases, the sound and noise we hear are not steady. Apart from variation in tones, the magnitude or the sound pressure level of a sound or noise changes with time. The equivalent continuous noise level (Leq) is the sound pressure level of a steady sound that has, over a given period, the same energy as a fluctuating sound in question.

Noise has been recognized as ambient air pollutant. Standards in this regard are laid down under The Environment (Protection) Act, 1986 and under the Model Rules of the Factories Act, 1948 for occupational health and safety purposes. The Central Pollution Control Board constituted a National Committee of Experts on Noise Pollution Control. The Committee recommended noise standards for ambient air and for automobiles, domestic appliances and constructions equipment, which were later notified under The Environment (Protection) Act, 1986 as given below in Table 1.

Table 1: Standards of Noise Levels under EPA (1986) Noise Pollution (Regulation & Control) Rules, 2000

Table:1 Ambient Air qualities standard in respect of noise pollution

Area Code	Category of Area	Limits in dB(A) Leq	
		Day time	Night time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

1. Day time is reckoned from 6 A.M. To 10 P.M.

2. Night time is reckoned in from 10 P.M. and 6 A.M.

Source: MPCB 2017.

3) Noise Pollution in Selected Metropolitan Cities:

1. Mumbai:

Table 2: Equivalent Continuous (Leq) dB (A), Minimum (Lmin) and Maximum (Lmax) Noise Levels on 25th August, 2017 in Mumbai

Sr.No.	Location	Lmax	Lmin	Leg
1	Andheri	77.3	69.3	73.9
2	Bandra	73.6	58.3	71.3
3	Bhandup	79.7	59.5	78
4	Borivali	73.6	68.4	71.3
5	Byculla	76.5	67.1	73.8
6	Chembur (East)	76.8	70.5	77
7	Chembur (West)	72	69.2	70.9
8	Chinchpokali (E)	62.4	59.1	61.4
9	Chinchpokali W)	68.6	64.2	75.3
10	Dadar (East)	74.2	60.3	69.1
11	Dadar (West)	69.9	59.8	65.6
12	Elphinstone	74.3	66.1	76
13	Ghatkopar	89.4	67.7	82.3
14	Girgaon Chowpati	79.3	60.7	73
15	Grant Road	72.2	63.4	75.8
16	Juhu Chowpati	78.5	65.5	74.5
17	Kandivali (East)	73.2	64.4	69
18	Kandivali (W)	69.3	60	75.4
19	Khar	75	67.8	71.1
20	Mulund	79	67	74.4

21	Mumbai Central	72.9	63.9	75.7
22	Parel	83.2	69.3	79.2
23	Santacruz (East)	78.7	69.9	77.3
24	Vikhroli	65.8	62.7	75.1
25	Wadala	79	67.4	74.1

Source: MPCB 2017.

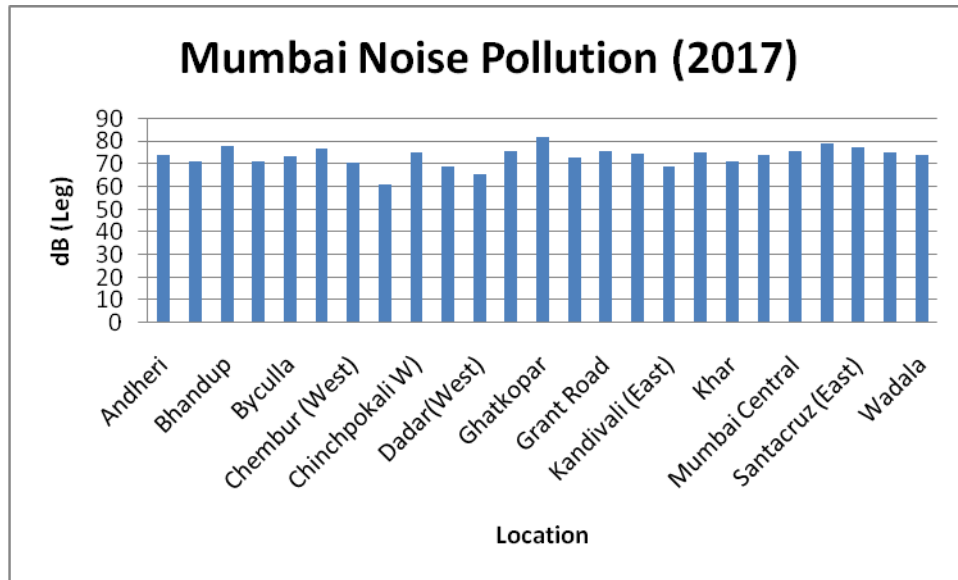


Fig. 1

Table 2 and fig.1 reveals that in Mumbai a total of 25 location where monitored. The highest noise level was observed at Ghatkopar with 82.3 dB (A). The noise level was moderate on the first day at all locations as there was no visarjan on the same day. The increase in noise level was mainly due to the prayers and other programmes taken place at various pandals, apartments etc.

3. Pune:

Table 3 Equivalent Continuous (Leq)dB(A), Minimum (Lmin) and Maximum (Lmax) Noise Levels on 25th August, 2017 in Pune

Sr.No.	Location	Lmax	Lmin	Leg
1	Shivaji Nagar	86.4	58.1	79.1
2	Karve Road	91	65	84.7
3	Swar Gate	80.6	71.6	76.6
4	Satara Road	81.3	68.1	77.1
5	Shanivar Peth	84.7	73.2	80.5
6	Yerawada	83.5	74.3	81.1
7	Laxmi Road	86	72.5	82.9
8	Kothurud	91.3	67.9	86.3
9	Mahatma Phule Mandal	93.1	71.5	85.8
10	Saras Baug	70.4	64.6	68.7
11	Hadapsar	91.4	78.5	86.9
12	Parvati	82.6	70.6	78.6

13	Koregaon Park	96.8	68.7	90.9
14	Khadaki	77.2	69.5	77.2
15	M G Road	87.3	62.7	82.1
16	University road Chowk	62.3	56.6	59.9
17	Anundh Parihar Chowk	74.3	61.8	75.9
18	Thergaon	83.7	73.6	79.6
19	Navi Sangavi	75.5	56.8	70.3
20	Vishrant Wadi	66.4	59.5	75.1

Source: MPCB 2017.

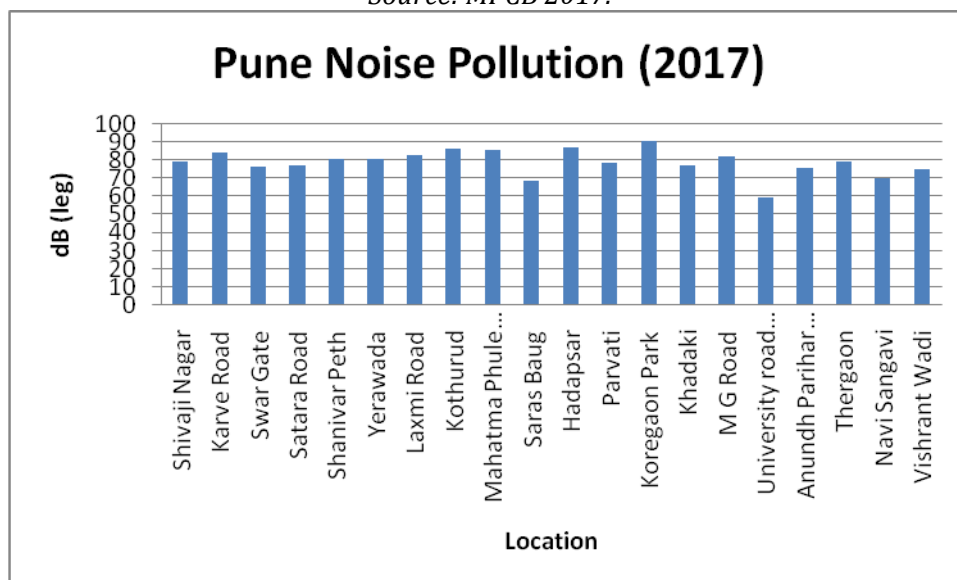


Fig.2

Table 3 and fig. 2 reveals that Karve road, Laxmi road, Kothurud Matma Phule Mandal, Hadapsar and Koregaon park has observed more than dB (Leg).

3. Nashik:

Five locations were monitored for Nashik region and the highest noise level was observed.

Table 4: Equivalent Continuous (Leq) dB (A), Minimum (Lmin) and Maximum (Lmax)

Sr.No.	Location	Lmax	Lmin	Leg
1	Nashik Road	78.9	69.7	74.6
2	Panchavati	79.1	50.5	74.9
3	Civil Hospital	80.5	73.5	79
4	Trimurti Chowk	80.6	72.2	78.9
5	Satpur Bus Stand	79.6	75.1	77.9

Source: MPCB 2017.

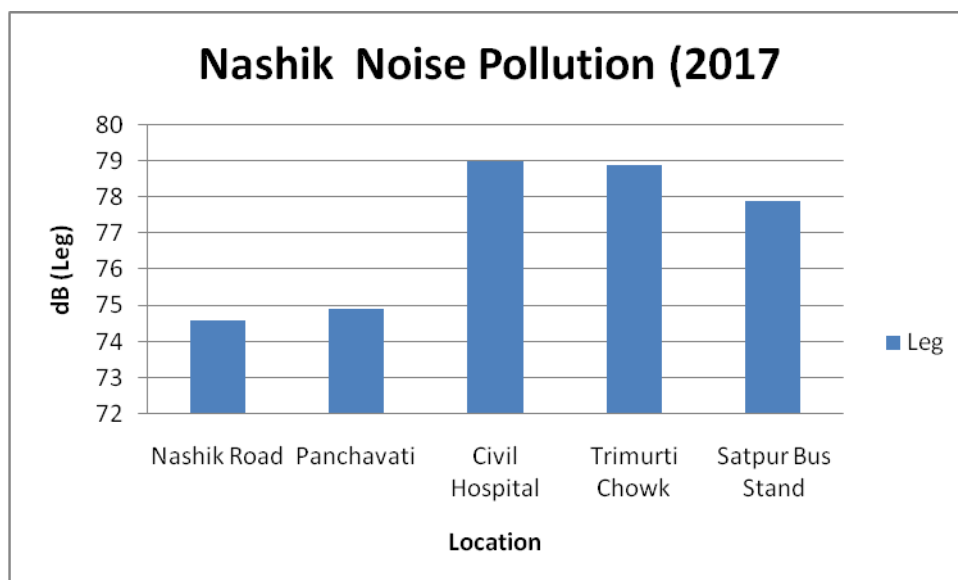


Fig. 3

Table 4 and Figure 3 reveals that the Civil hospital which is considered to be a silent zone with 79 dB (A). Civil Hospital and Trimurti chowk has observed more than 75 dB (Leg).

4) Kolhapur:

Table 5: Equivalent Continuous (Leq)dB (A), Minimum (Lmin) and Maximum (Lmax) Noise Levels on 25th August, 2017 in Kolhapur

Sr.No.	Location	Lmax	Lmin	Leg
1	Rajaram Puri	85.2	58.8	80.9
2	Mahalaxmi Mandir	74.7	55.7	70
3	Khas Baug Maidan	75.7	52.9	76.6

Source: MPCB 2017.

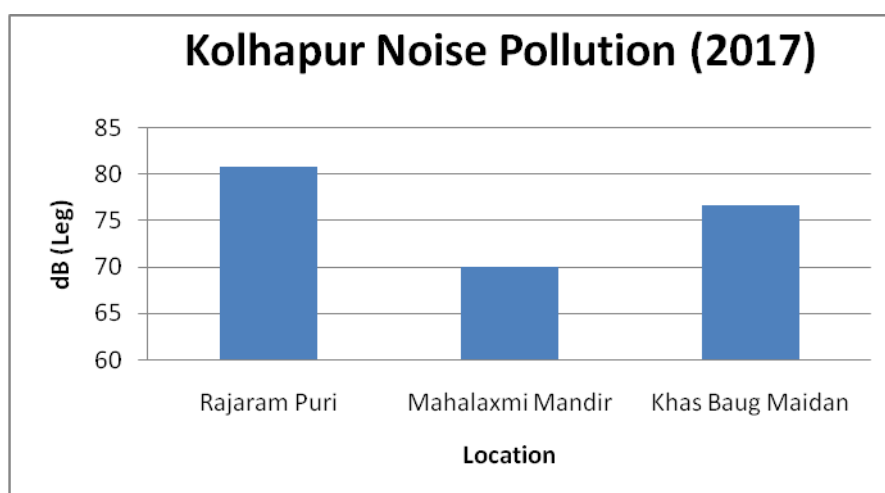


Fig. 4

Table 5 and fig. 4 reveals that the Rajaram Pure and Khas Baug Maidan are observed more than 75 dB (Leg) in Kolhapur during Ganapati Visargan.

5. Aurangabad:

Table 6 Equivalent Continuous (Leq)dB(A), Minimum (Lmin) and Maximum (Lmax) Noise Levels on 25th August, 2017 in Aurangabad

Sr.No.	Location	Lmax	Lmin	Leg
1	Gulmandi	86.4	70.7	82.2
2	City Chowk	80.3	68.5	77.4
3	Kranti Chowk	83.1	67.1	79.8
4	CIDCCO Residential	81	68.4	77.6
5	Usmanpura	78.4	62.8	74

Source: MPCB

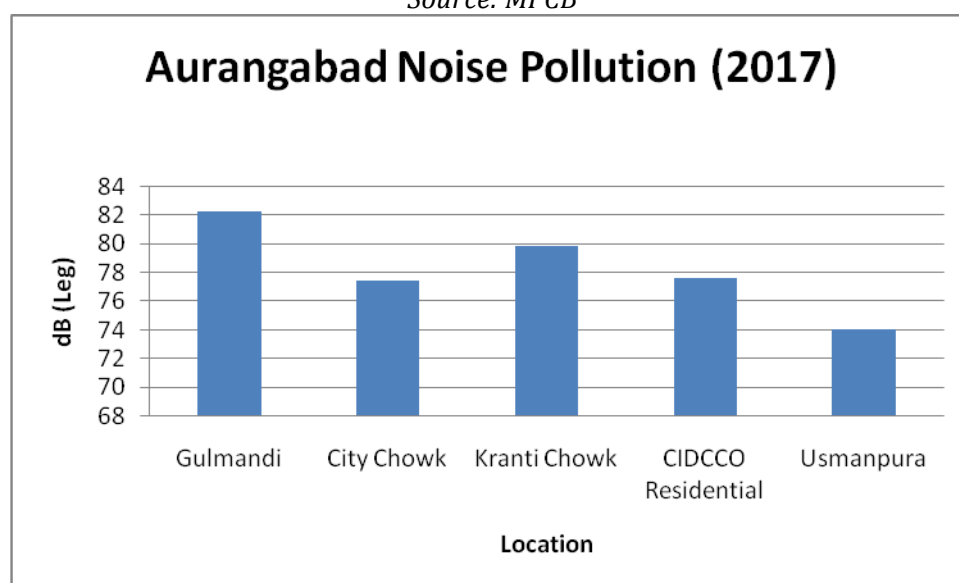


Table 6 and fig. 5 reveals that Out of the five locations monitored at Aurangabad region, Gulmandi was found to have the highest noise level with 82.2 dB(A). Near

6. Nagpur:

Table: 7 Equivalent Continuous (Leq) dB, Minimum (Lmin) and Maximum (Lmax) Noise Levels on 25th August, 2017 in Nagpur

Sr. No.	Location	Lmax	Lmin	Leg
1	Ramdas Peth	75.5	61.8	71.9
2	Cotton market	70	61.9	67.9
3	Golibar Chauk	84.9	71.5	81.4
4	Reshimbag	74.1	61.2	70.3
5	Gandhiputla	91.7	71.6	89.5

Source: MPCB 2017.

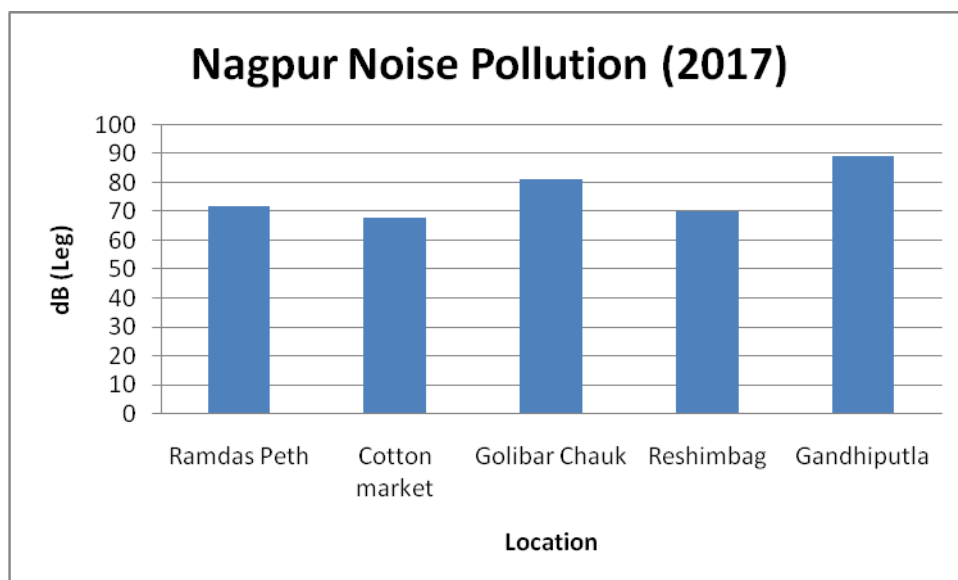


Fig. 6

As the above table 7 and fig. 6 we come to know that n Nagpur region 5 locations was monitored. Gandhiputala was found to have the highest noise level with 89.5 dB (A).

VII) CONCLUSION:

The noise level (dB) during the Ganesh festival (2017) in selected metropolitan cities in Maharashtra i.e. i) Mumbai, ii) Pune iii) Nashik iv) Kolhapur v) Aurangabad and vi) Nagpur has carried out, its reveals that there are Lmin (dB) ranges from 50.5 to 78.5 and Lmax (dB) range from 65.8 to 93.1 observed. The Equivalent Continuous (Leq) dB in different city as follows:

i) Out of total 25 monitoring station from Mumbai city, five stations are observed more than 75 (Leq) dB i.e. Bhandup (78), Chembur –East (77), Ghatkopar (82.3), Santacruz- East 77.3, Parel 79.2.

ii) In Pune city, twelve sites from total 20 noise level monitoring stations are falls more than 75 (Leq) dB i.e. Shivaji Nagar (79.1), Karve Road (84.7), Swarget (76.6) Satara Road (77.1), Yerwasa (81.1), Laxmi Road (82.9), Kothrud (86.3), Mahatma Phule Mandal (85.8), Hadpsar (86.9), Koregaon (90.9), MG Road (82.1) Thergaon (79.6)

iii) Three places in the Nashik city are observed more than 75 (Leq) dB i.e. Civil Hospital (79), Trimurti Chowk (87.9) and Satpur bus stand (77.9).

iv) Only two places from three sampling station in Kolhapur city has been observed 75 (Leq) dB i.e. Rajampuri (80.9), Khas Bag Maidan (76.6).

v) Sambhaji Nagar (old name Aurangabad) has falls four places more than 75 (Leq) dB i.e. Gulmandi (82.2), City Chowk (77.4), Kranti Chowk (79.8) and CIDCO Residential (77.6).

vi) Napur city has observed two places where more than 75 (Leq) dB i.e. Golobar Chowk (81.4) and Gandhiputla (89.5).

vii) The above result shows that the Ambient Air qualities standard in respect of noise pollution in residential area (55 / 45 dB (A), commercial are 65 /55 dB (A) and Industrial area 75 /70 dB (A) in day and night time is overwhelm.

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**AN INTERDISCIPLINARY STUDY OF THE IMPACT OF WAR ON
LITERATURE AND CULTURE**

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ABSTRACT:

This interdisciplinary research paper explores the impact of war on literature and culture, with a focus on American literature as a lens through which to examine the complex interplay between conflict, creativity, and cultural identity. Drawing on a diverse range of literary works, including novels, poetry, and contemporary fiction, the study investigates how war shapes individual experiences, societal narratives, and cultural memory. Through close readings of texts by authors such as Ernest Hemingway, Walt Whitman, Emily Dickinson, Phil Klay, and Viet Thanh Nguyen, the paper delves into themes of love, loss, trauma, and resilience in the face of conflict. By adopting an interdisciplinary approach that combines insights from literary studies, history, psychology, and cultural studies, this research contributes to a deeper understanding of the enduring effects of war on literature and culture, shedding light on the ways in which war influences and reflects the human experience.

KEY WORDS: War, Culture, Conflict, Trauma, Resilience.

INTRODUCTION:

The impact of war on literature is a compelling exploration of how human experiences, emotions, and societal changes during times of conflict find expression in written works. It delves into the profound influence of war on the creative process, shaping narratives that reflect the horrors, heroism, trauma, and moral dilemmas associated with warfare. Through literature, authors and poets have served witnesses, story tellers, and critics, providing readers with a deeper understanding of the consequences of war on both individual lives and broader societies. This topic allows us to trace the evolution of literary responses to war across different time periods and regions, shedding light on the resilience of human creativity in the face of adversity.

War has long been a central and recurring theme in literature and culture, serving as a powerful and evocative backdrop for exploring the complexities of human conflict, trauma, and resilience. The impact of war on literature and culture is profound, shaping not only individual narratives and artistic expressions, but also collective memories, identities, and societal values. In recent decades, scholars and researchers from diverse disciplines have increasingly turned their attention to the interdisciplinary study of how war influences and is reflected in literature and culture, recognizing the interconnectedness of artistic, historical, psychological, and sociopolitical dimensions.

The research paper titled "An Interdisciplinary Study of the Impact of War on Literature and Culture" seeks to explore the multifaceted ways in which war has been represented, interpreted, and engaged with in literary and cultural productions. Drawing on insights from fields such as literature, history, cultural studies, psychology, and sociology, this study aims to illuminate the complex and often contested relationships between war, literature, and culture, and how these interactions shape our understanding of conflict, violence, memory, and human experience.

By adopting an interdisciplinary approach, this research paper seeks to bridge the gap between academic disciplines and intellectual traditions, fostering a dialogue that transcends boundaries and fosters a more holistic understanding of the role of war in shaping artistic expressions, cultural formations, and social dynamics. Through a comparative analysis of literary texts, visual artworks, films, music, and other cultural artifacts, this study will delve into the ways in which war narratives are constructed, contested, and transformed across different historical contexts, genres, and cultural traditions.

In exploring the impact of war on literature and culture through an interdisciplinary lens, this research paper not only aims to deepen our understanding of the complexities and nuances of war-related narratives, but also to shed light on how these narratives intersect with larger historical, political, and ethical debates. By examining the ways in which literature and

culture serve as sites of memory, resistance, and healing in the aftermath of war, this study seeks to underscore the enduring and transformative power of artistic expression in illuminating the human experience of conflict and its aftermath.

OBJECTIVE:

This research paper aims to explore the impact of war on literature and culture, analyzing how war narratives are constructed, contested, and transformed across different contexts. By examining various cultural artifacts, this study seeks to deepen our understanding of the relationships between war, literature, and culture and contribute to a more nuanced understanding of conflict, memory, and human experience.

HYPOTHESES:

Literature is a wide view of emotion war literature does all of these things. It also warns against pursuing armed conflict, exposes for peace. It records the acts of war with as much accuracy as possible, and it memorizes the dead.

ANALYSIS:

One of the most heavily impacted culture arenas to be touched by the war was Literature. Literature during the great war of ten reflects upon and bitinglly criticizes the changes society was undergoing and provides a drastic transition between pre and post war work. By exploring the impact of war on American literature, we can gain valuable insights into the broader interdisciplinary study of the relationship between war, literature, and culture. American literature has been deeply influenced by periods of conflict, from the Civil War to World War II and beyond. These literary works serve as powerful reflections of the cultural, social, and psychological impacts of war on individuals and society.

For example, novels such as "The Red Badge of Courage" by Stephen Crane and "Slaughterhouse-Five" by Kurt Vonnegut provide intimate and raw portrayals of the brutality and trauma experienced by soldiers in war. These works not only explore the physical and psychological toll of combat but also examine larger themes such as heroism, survival, and the moral complexities of warfare.

Additionally, American literature often grapples with the aftermath of war, depicting how conflicts shape national identity, memory, and relationships. For instance, works like "The Things They Carried" by Tim O'Brien and "The Yellow Birds" by Kevin Powers delve into the lasting impact of war on soldiers and civilians alike, highlighting the struggles of readjustment, guilt, and loss.

Through an analysis of American literature, we can uncover how war narratives are constructed, challenged, and reshaped over time, shedding light on the multifaceted ways in which literature engages with and reflects cultural attitudes towards war. By integrating insights from literary studies with other disciplines such as history, psychology, and cultural studies, we can gain a more comprehensive understanding of the complex and enduring impact of war on literature and culture.

REVIEW OF RELEVANT LITERATURE:

War has long been a prevalent theme in American literature, serving as a lens through which authors explore the profound effects of conflict on individuals, societies, and cultures. A review of relevant literature on the impact of war on American literature reveals a rich and diverse body of work that sheds light on the complex interplay between war, literature, and culture.

One prominent example of the intersection of war and literature in American literature is Ernest Hemingway's novel "A Farewell to Arms," which vividly captures the harsh realities of World War I and its lasting impact on the human psyche. Through the character of protagonist Frederic Henry, Hemingway delves into themes of love, loss, and disillusionment in the face of

war, highlighting the profound emotional toll that conflict can exact on individuals.

Similarly, the poetry of Walt Whitman and Emily Dickinson during the Civil War era provides a poignant reflection on the human cost of war and the struggle for meaning and solace amidst chaos and suffering. Whitman's "Drum-Taps" and Dickinson's war-themed poems offer powerful insights into the ways in which war shapes personal identity and cultural memory.

Contemporary American literature also continues to grapple with the aftermath of war, as seen in works like Phil Klay's "Redeployment" and Viet Thanh Nguyen's "The Sympathizer," which confront the complexities of war, trauma, and memory in the context of modern conflicts. These novels offer critical perspectives on the ways in which warfare impacts individuals and societies long after the guns have fallen silent.

Through an interdisciplinary approach that draws on insights from literary studies, history, psychology, and cultural studies, scholars can deepen their understanding of how war shapes and is shaped by literature and culture. By engaging with a diverse range of American literary works that interrogate the impact of war, researchers can uncover the nuances and complexities of the human experience in times of conflict, ultimately contributing to a more nuanced and holistic understanding of the enduring effects of war on literature and culture.

CONCLUSIONS:

Literature has long provided a powerful platform for authors to convey the consequences of war, encompassing both the personal and societal dimensions. Its services as a medium for authors to explore the human experience during and after conflicts, shedding light on the multifaceted effects of war. Here are some key reflections on how literature accomplishes this.

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ANALYSIS OF USE OF MOBILE AND ITS IMPACT ON CHILDREN'S HEALTH IN KAVATHE MAHANKAL TEHSIL.

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ABSTRACT

This research explores the digital habits of children, focusing on mobile device usage and YouTube consumption, and evaluates the impact of parental behavior on children's screen time. Surveying 250 children, we found a concerning trend of excessive mobile usage, with a majority exceeding 3 hours daily, primarily engaging with YouTube content. Parental usage patterns mirrored this behavior, with most spending around 2 hours on mobile or laptop devices. The study also identified behavioral repercussions, as 76 children displayed signs of irritable temper issues. YouTube shorts emerged as the preferred mobile activity, and the platform ranked highest for social networking among both genders. Unexpectedly, language development was found to be unaffected by mobile usage. However, children's screen time correlated with parental engagement. While this research provides valuable insights, its limitations underscore the need for further investigation and interventions to promote healthier digital habits among children.

KEYWORDS: Mobile, internet, children health, bar charts, pie charts, hypothesis testing.

INTRODUCTION

In recent decades, the proliferation of mobile devices and internet connectivity has revolutionized how individuals interact with information and each other. Children, in particular, have become avid users of Smartphone, tablets, computers, and the internet for various purposes, ranging from entertainment and social networking to educational pursuits. While these technologies offer numerous benefits in terms of access to information and connectivity, concerns have emerged regarding their potential adverse effects on children's health.

The impact of mobile devices and the internet on children's health is a multifaceted issue encompassing physical, mental, and social dimensions. Excessive screen time has been linked to sedentary behavior, obesity, and sleep disturbances among children. Moreover, unrestricted access to online content may expose children to inappropriate material or cyber bullying, contributing to psychological distress and social isolation. Conversely, digital platforms also offer opportunities for educational enrichment, social engagement, and skill development. Amidst these conflicting perspectives, empirical research is essential to discern the true nature of the relationship between technology usage and children's health. By employing rigorous statistical analysis techniques, this study seeks to elucidate whether and to what extent the use of mobile devices and the internet impacts various aspects of children's well-being. Such insights are indispensable for policymakers, educators, parents, and healthcare professionals in formulating evidence-based strategies to mitigate potential harms and maximize the benefits of digital technology for children's health and development.

OBJECTIVES OF THE STUDY

- To find the amount of screen time by children.
- To study which social media platform more used by children.
- To study how much time parents use mobile or laptop.
- To analyze the different diseases due to mobile.
- To check why children use mobile phones.
- To check whether social networking sites are popular in the girls and boys.
- To analyze use of mobile affects children's language.
- To check whether the children's screen time and parents spend time with children are independence or not.

DATA COLLECTION

The data is collected by interviewing 250 parents in Kavathe Mahankal Tehsil. The primary data consists of the amount of screen time of them and their kids, the health problems facing by their kids, the things done by them to reduce their screen-time etc. The questionnaire was set to cover all the perspectives of the study.

METHODOLOGY

The graphs and various statistical tools were used to explore all the data collected. Pie chart, bar chart, Pareto charts were used to explore various types of variables. If the variable is the categorical or qualitative, then bar chart or the pie charts were used. The Pareto chart was used to describe the cumulative percentage of the use of the purposes of the mobile. The bar charts were used to describe the children's screen time, different diseases facing due to use of the mobile and the gender-wise popularity of the social media in the children. Pie charts were used to explore the variables such as most used social media platforms and parents' screen time.

Chi square test of independence of attributes is used to check the association between the variables. In the study, the test was used to check the independence between the use of mobile and the improvement of the language among children. Also Chi square test is also used to check the dependency between the screen time of parents and children.

RESULTS AND DISCUSSIONS

The findings from this research shed light on several important aspects of children's digital behavior and its implications. The revelation that most children spend more than 3 hours on mobile devices raises concerns about the potential negative effects on their physical health, mental well-being, and academic performance. Prolonged screen time has been associated with issues such as sleep disturbances, decreased physical activity, and impaired cognitive development. The dominance of YouTube as the primary digital platform for children underscores the need for careful monitoring of the content they consume. While YouTube offers a vast array of educational and entertaining content, it also exposes children to potential risks such as inappropriate material and excessive advertising. The study's findings regarding parental usage patterns suggest that parents play a significant role in shaping their children's screen time habits. Parents who spend excessive time on mobile or laptop devices may inadvertently model unhealthy digital behaviors for their children, contributing to increased screen time among younger generations.

The correlation between irritable temper issues and screen time highlights a potential link between excessive digital exposure and negative behavioral outcomes in children. Further research is needed to explore the underlying mechanisms and identify effective strategies for mitigating these effects. The popularity of YouTube shorts as the preferred mobile activity among children underscores the influence of short-form video content in shaping digital consumption habits. Content creators and platforms must consider the impact of this format on children's attention spans, cognitive development, and overall well-being. The finding that YouTube is the most popular social networking site among both male and female children challenges traditional notions of gender-specific online preferences. Understanding these trends is crucial for addressing potential disparities in online experiences and opportunities for children of different genders.

The study's conclusion that language improvement is independent of mobile device usage suggests that factors beyond digital exposure may influence language development in children. This highlights the importance of considering diverse environmental and social factors when examining the impact of technology on developmental outcomes. The finding that children's screen time is influenced by parental interaction underscores the importance of parental involvement in managing children's digital habits.

interactions and setting healthy screen time boundaries can help promote balanced digital lifestyles among children.

CONCLUSIONS

In conclusion, this research highlights the prevalence of excessive mobile and YouTube usage among children, influenced by parental behaviors. The correlation between screen time and irritable temper issues underscores potential negative impacts on children's well-being. While YouTube shorts emerge as a favored activity, the study suggests that language development remains unaffected by mobile usage. Parental involvement appears crucial in shaping children's screen time habits. However, the study's limitations call for further research, emphasizing the need for interventions promoting balanced digital lifestyles among children.

LIMITATIONS AND FUTURE SCOPE:

The study's limitations include a relatively small sample size, which may not fully represent the diversity of children's digital behaviors. Additionally, reliance on self-reported data introduces the potential for bias and inaccuracies, particularly regarding sensitive topics like screen time. The cross-sectional design hinders the establishment of causal relationships between variables, and the lack of exploration into parental involvement limits understanding of how parental guidance influences children's screen time habits. Furthermore, social desirability bias may have influenced participant responses, leading to skewed data.

Future research could address these limitations by employing larger, more diverse samples and incorporating both quantitative and qualitative methods to gain a comprehensive understanding of children's digital behaviors. Longitudinal studies would provide insights into the long-term effects of digital media exposure on children's development. Intervention studies could explore effective strategies for promoting healthy digital habits, including the development of technological tools to monitor and regulate screen time. Comparative analysis across socio-cultural contexts would shed light on culturally specific factors influencing children's digital behaviors, while further investigation into parental involvement could inform targeted interventions aimed at supporting parents in managing their children's screen time effectively.

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ANTHROPOCENTRIC ANALYSIS OF INDIVIDUAL MEMORY: MATERIALITY OF A NO LONGER EXISTING PAST.

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ABSTRACT:

Recent Covid-19 pandemic has had given us tremendous distress, death, and turmoil, societal collapse and even darker fear of death. However, Covid-19 wasn't the first and would, definitely, not be the last pandemic to hit ignorant humanity. Pandemics such as the plague, Spanish Flu, HIV, and Ebola caused deaths, destruction of political regimes, as well as financial and psychosocial burdens.

Disease and illnesses have visited humanity since the earliest days of our existence on this planet. However, it was not until we shifted from nomadic life to agrarian communities that the scale and spread of these diseases increased dramatically. *Time Shelter* (2020) by Georgie Gospodinov focuses on apparently bygone. His "The Past Clinic" provides his patients to inhabit their temporal safe spaces. His *Time Shelter* safeguards his patients from real time like a bomb shelter but at the same time it shelters within time. Change or die... these are the only options available for the survivors in Kim Stanley Robinson's *The Years of Rice and Salt* (2002) which focuses on the world in the 14th century AD when the Black Plague decimates Europe. The Muslim, Indian and Chinese civilizations are the ones that will drive world history, through hardships and wars, discoveries and revolutions.

KEY-WORDS: - Pandemic, Trauma, Death, Time & Human Existence.

1. Pandemic and its Psychological Impacts.

The pandemic and associated measures pose a serious threat not only to physical but also to mental health. Current research suggests that in the aftermath of any pandemic and associated measures, one in five people could develop clinically relevant psychological distress - specifically, depression, anxiety disorders, and post-traumatic stress disorder and other still unknown symptoms that lead to several types of anxieties and traumas. According to some early trauma studies, an event-based theory of trauma, it stems from the traumatic "event [that] is not assimilated or experienced fully at the time, but only belatedly, in its repeated possession of the one who experiences it" (Caruth 4). On December 31, 2019, the WHO was notified of cases of pneumonia with unknown cause in the Chinese city of Wuhan. This is the most recent occurrence of a deadly pandemic and there have been 281,808,270 confirmed cases of COVID-19 infection worldwide, with at least 5,411,759 deaths, since the beginning of the pandemic through 2022 (WHO, 2021). Kim Stanley Robinson in his novel *The Years of Rice and Salt* (2002), which is a thoughtful, magisterial alternate history from one of science fiction's most important writers, rewrites modern history with a sweeping dash across the centuries, developing a rich view of a relation between history and human nature. His novel is presciently written well before the war on terrorism, war on pandemic and also, war on our own materialistic present. Robinson depicts the 14th century and one of the most apocalyptic events in human history which is set to occur - the coming of the 'Black Death'. History teaches us that a third of Europe's population was destroyed in the pandemic. But what if the plague had killed 99% of the world's population instead? How would the world have changed? In his 'that could have been' look at the history, Robinson shows centuries, dynasties and nations rise and crumble, and spans horrible famine.

Through the eyes of a soldier and kings, explorers, philosophers, slaves and scholars, Robinson navigates a world where Buddhism and Islam are the most influential and practiced

religions, while Christianity is merely a historical footnote. He goes on probing the most profound questions regarding pandemics, religion, and human nature and so on. In doing so, he shines his extraordinary light on the place of religion, culture, power and even love in this bold new world. Whereas, Georgi Gospodinov in his 2022 novel *Time Shelter* explores the materiality of no longer existing past. In *Time Shelter*, Gospodinov skillfully combines his Bulgarian experiences with their pan-European travels. There are two protagonists in his novel. The first one is eccentric Gaustin and the second is a third-person omniscient narrator, a young Bulgarian author who knows Europe from his tours and seems to be Gospodinov himself. They, together start a clinic for people with Alzheimer's disease in Zurich. They create each floor of the clinic recreates a decade in intricate detail, aiming to transport patients back in time to revisit their memories. For doing so, the unnamed narrator travels across the centuries. This helps the patients with Alzheimer and more. Soon healthy people also start visiting the clinic to flee and forget, though for a short period of time, their unbearable present. This starts a new war between European states who fail to decide which decade is the best for their people.

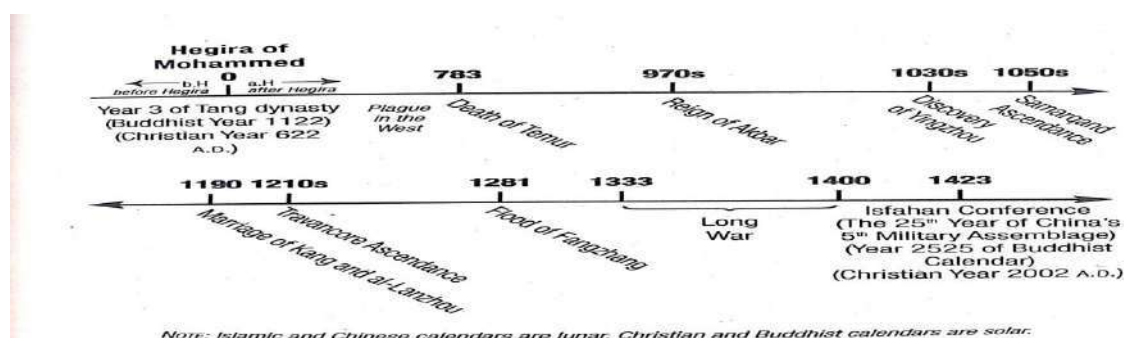
2. De-traumatizing Pandemics: Past vs. Future

The conversation between Tripitaka and Wu-kong reveals the relation between past and present when the earlier is harsh and the later resolute.

Tripitaka: *Monkey, how far is it to the Western Heaven, the abode of Buddha?*

Wu-kong: *You can walk from the time of your youth till the time you grow old, and after that, till you become young again; and even after going through such a cycle a thousand times, you may still find it difficult to reach the place where you want to go. But when you perceive, by the resoluteness of your will, the Buddha nature in all things, and when every one of your thoughts goes back to that fountain in your memory, that will be the time you arrive at the spirit mountain.*

One crucial aspect of the novel is Robinson's incorporation of fantasy elements, such as reincarnation to connect the ten sections of the story. It intrigues some critics that they have disregarded or overlooked these fantasy elements focusing solely on how the novel speculates about the development of culture, in the absence of Christianity. The main protagonists are entangled in the ending cycle of birth, death and rebirth. Robinson demonstrates an understanding of the metaphysics found in religions and skillfully weaves these beliefs into an extraordinary and captivating fantasy world that is, unlike anything I've encountered previously. It's important to note that this book is not intended to promote any agenda; Robinson excels in storytelling rather than trying to convert readers. He has ingeniously borrowed concepts, from Eastern religions to enhance the realm of fantasy.



Source: *The Years of Rice and Salt*. By Kim Stanley Robinson, Bantam Books, March 2002, ISBN: 978-0-553-58007-5.

The novel which is divided in ten books that cover more than twelve hundred years, from the 7th century to the 21st century, to be precise, depicts Wu-cong as a progenitor. It describes his long and fictional pilgrimage in a post-modern and quasi-historical story telling manner, which he undertakes from China to India in search of a Buddhist text to propagate in

the east when he returns home. Robinson plunges into the core action right at the beginning when he begins the Book 1 with the following words.

"Monkey never dies. He keeps coming back to help us in times of trouble, just as he helped Tripitika through the dangers of the first journey to the west, to bring Buddhism back from India to China. Now he had taken on the form of a small Mongol named Bold Bardash, horseman in the army of Temur, the Lame." (Page no. 3)

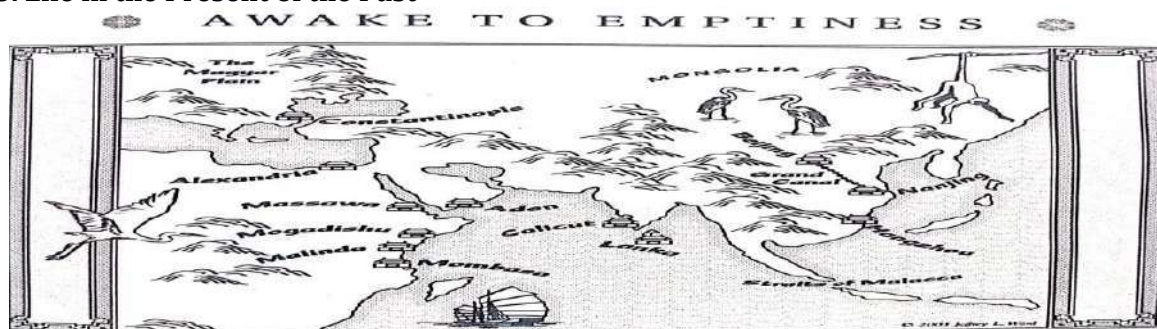
Bold, also known as Monkey, in the book "The Years of Rice and Salt" is a revitalized version of Monkey from the tale "Journey to the West." The name Bold Bardash holds significance in Monkey's narrative. I'll let you interpret it when you read the novel. Now I want to draw attention to the aspect of Robinson's science fiction. The actual monk Xuanzang, who embarked on a pilgrimage from China to India and back served as inspiration for "Journey to the West." He brought back texts from India and dedicated decades in translating them from Sanskrit into Chinese. While out on a reconnaissance mission to the west, Bold and his troop come across "a black silent city. No lights, no voices; only the wind." The Monkey narrates the scene in following words.

"It was different to come on a town where there had been no battle, and find everyone there already dead. Long dead; bodies dried; in the dusk and moonlight they could see the gleam of exposed bones, scattered by wolves and crows. Bold repeated the Heart Sūtra to himself. "Form is emptiness, emptiness form. Gone, gone, gone beyond, gone altogether beyond. O, what an Awakening! All hail!" (Page No. 37)

This marks his traumatic relation with his own past and with the future of the whole eastern community. His understanding and knowledge of pandemics makes him a wholesome narrator. When he faces the emptiness caused by the plague and the destruction of the civilization, death of over 90% of the population, he understands and accepts that his journey in search of enlightenment is lethal. He observes...

"Plague had struck in India a few years before. Mongols rarely caught it, only a baby now and then. Turks and Indians were more susceptible, and of course Temur had all kinds in his army, Persians, Turks, Mongols, Tibetans, Indians, Tajiks, Arabs, and Georgians. Plague could kill them, any of them, or all of them." (Page No. 47)

3. Life in the Present of the Past



Source: *The Years of Rice and Salt*. By Kim Stanley Robinson, Bantam Books, March 2002, ISBN: 978-0-553-58007-5.

In *Time Shelter* (2020), the protagonist invites his countrymen and, eventually Europeans, to live in past, forgetting all the pangs and, in doing so, he frees "those who already are living solely in the present of their past." As the hospital grows in popularity he creates floors which are dedicated to different decades of the 20th century and tries to treat 'time' in the manner of time treated by Thomas Mann, W. H. Auden, and Homer in their time. With time, the novel evolves into a satire that depicts both nostalgia and patriotism in the people of Europe when they create more and more such hospitals in order to live in the time chosen by them. The underlying theme of Time-Dependence is that our memories of the past, literally." or if we have thought about it, it can protect us from the mundane violence outside our everyday lives in real

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life, memory may not protect us from that violence, but in Gospodinov's view, anything is possible.

Gospodinov's focus on the past and its ramifications in our present makes his novel masterpiece. In Gaustine's words...

"The time is coming when more and more people will want to hide in the cave of the past, to turn back. And not for happy reasons, by the way. We need to be ready with the bomb shelter of the past." (Page No. 37)

The narrator wanted to experiment on time to create a retained past. He wanted to open a window in time and allow patients and loved ones to stay together. To give elderly couples the opportunity to live illness free. According to Gospodinov the first thing that leads to the loss of memory is the memory of the future. When the experiment becomes a success, all the nations in Europe decide to create their own version of the clinic where they'd provide their population with an option to choose from the decade they like the most and where they'd live with a nostalgic return to the stability and happiness of the past. Gospodinov portrays a race in different European countries to hold a referendum to decide what time it will return to. He knows what's going to be. When Europe is split into different times and territorial nationalism, which is almost sacred for every European, will be replaced by temporal nationalism, what will happen? Will Europe accept it? Gospodinov tackles with the idea of hospitals, time and with the concept of nationalism but he doesn't make this just a simple new-world-building sci-fi novel. The author knows that one can wander in the nostalgic idea of past but cannot escape the present. In recognition with Auden's poem 1st September 1939, and later radical shifts like the collapse of the Soviet Union, Gospodinov bluntly suggests that Europe's future lies, not with the calmer, safer days in the probable future, but, hopelessly, with this inescapable past. This gets even scarier when we read this while Putin is bombing Ukraine in an attempt to fulfill his desire to unite his mother Russia, like in the Soviet era.

4. CONCLUSION.

Both the novels, *The Years of Rice and Salt* (2002) by Kim Stanley Robinson and *Time Shelter* (2020) by Georgi Gospodinov are interesting variations on the kind of novel. It is very clear that both the writers are nostalgic about everything they have depicted in the novels. But the move beyond that and make the protagonists, all the characters, even nations and continents that struggle with pull of the past continue to exert. In depicting the trauma that the characters face, both novels take up the scenario of victims of trauma who has become perpetrators. In portraying this phenomenon, both the novels take the major characters that are the victims of the trauma as the perpetrators of it.

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AVAILABILITY, CONSUMPTION AND QUALITY OF THE DOMESTIC WATER IN KAVATHE MAHANKAL TEHSIL

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ABSTRACT:

This research paper presents a comprehensive study on the availability, consumption patterns, and quality of domestic water in Kavathe Mahankal Tehsil. Access to clean and reliable water is essential for the well-being of communities, yet many regions face challenges related to water scarcity, inefficient consumption practices, and deteriorating water quality. Through a combination of field surveys, data analysis and water quality testing this study aims to provide insights into the current state of domestic water resources in Kavathe Mahankal Tehsil. By understanding the dynamics of water availability, consumption patterns and quality, the research seeks to identify areas for improvement and propose sustainable solutions to ensure access to safe and sufficient water for all residents.

KEYWORDS: Domestic water, availability, consumption, water quality, hypotheses testing.

INTRODUCTION:

Access to clean and reliable water is essential for human health, environmental sustainability, and socioeconomic development. However, many regions around the world face significant challenges related to the availability, consumption patterns, and quality of domestic water. The availability of clean and reliable water sources is essential for meeting the basic needs of residents, supporting agricultural production, sustaining ecosystems, and facilitating industrial activities. However, factors such as population growth, urbanization, and climate change have placed increasing pressure on water resources in Kavathe Mahankal Tehsil, leading to concerns about water security and sustainability.

In addition to challenges related to water availability, consumption patterns also play a significant role in shaping the demand for water in the locality. Furthermore, ensuring the quality of domestic water sources is crucial for protecting public health and environmental integrity.

This research paper seeks to address this need by providing a thorough analysis of the current state of domestic water resources and identifying strategies for enhancing water access and quality for residents.

OBJECTIVES OF THE STUDY:

- To determine the water source distribution in Kavathe Mahankal Tehsil.
- To determine consumption patterns in domestic water usage and influencing factors.
- To determine the per capita consumption rate
- To determine the quality of domestic water based on
 - 1) TDS in the water.
 - 2) Impact on health.
- To test awareness and activism about consumption and quality of water.
- To check whether the TDS level in the water is good or not.
- To check whether the use of RO water and the health conditions are independent or not.

Data Collection and Methodology:

We utilized a questionnaire-based survey to collect data on domestic water consumption and availability from the sampled families. Due to logistical constraints, a

convenient sampling method was employed to gather information from different villages. Additionally, secondary data on water quality from various water resources in Kavathe Mahankal Tehsil were obtained from hydro-geological records.

Water Source Distribution in Kavathe Mahankal Tehsil:

The distribution of water sources in Kavathe Mahankal Tehsil was investigated to assess the primary sources of domestic water for residents. Through field surveys and data analysis, the following distribution of water sources was observed:

Water Tank: The study revealed that a significant proportion of households in Kavathe Mahankal Tehsil rely on water tanks as their primary source of domestic water. Water tanks, often supplied by communal systems, serve as a convenient and accessible source of water for many residents.

Wells: Wells emerged as another prominent source of domestic water in the Tehsil. These groundwater sources, typically accessed through hand pumps or motorized pumps, play a vital role in meeting the water needs of rural.

Groundwater: Groundwater extraction, either through boreholes or tube wells, was identified as a prevalent practice in Kavathe Mahankal Tehsil. Many households depend on groundwater as a reliable and self-sustaining source of water, especially in areas where surface water availability is limited.

Consumption Patterns in Domestic Water Usage and Influencing Factors

The analysis of consumption patterns in domestic water usage aimed to understand the preferences and behaviors of residents in Kavathe Mahankal Tehsil regarding water consumption. Through surveys and data analysis, the following patterns emerged:

Preference for Taste Over Water Quality: Interestingly, a noteworthy trend observed among residents was a preference for the taste of water over its quality. Despite potential concerns about water contamination or impurities, many respondents indicated a willingness to prioritize taste when choosing their drinking water source.

Influence of Cultural and Social Factors: Cultural and social factors were found to significantly influence consumption patterns in domestic water usage. Traditional beliefs, customs, and social norms played a role in shaping perceptions of water quality and consumption practices among residents.

Analysis of Health Problems Related to Water Consumption:

The analysis of health problems related to water consumption aimed to identify the prevalence and types of health issues experienced by residents in Kavathe Mahankal Tehsil. The following interpretations were drawn from the data:

Prevalence of Health Issues: According to the findings, a significant proportion of families in the locality are experiencing health-related problems attributable to water consumption. Specifically, out of the 370 surveyed families, approximately 53% reported encountering health issues associated with water consumption.

Common Health Problems: Among the health issues reported by residents, kidney stones and fever/cold emerged as the most prevalent concerns. These findings suggest that water quality may be a contributing factor to the incidence of these health conditions among the population.

Implications for Public Health: The high prevalence of health problems underscores the importance of ensuring access to safe and potable water for residents. Waterborne contaminants or impurities may pose significant health risks, leading to various ailments and illnesses within the community.

Need for Remedial Measures: Addressing the health problems related to water consumption requires targeted interventions and remedial measures. Strategies such as water quality monitoring, treatment facilities and public health awareness campaigns are essential for mitigating health risks and safeguarding the well-being of residents.

Awareness of Water Quality and Activism Among Residents

The assessment of awareness regarding water quality and activism towards it aimed to gauge the level of understanding and engagement among residents in Kavathe Mahankal Tehsil regarding water-related issues. The following interpretation was derived from the data:

Level of Awareness: The findings reveal that a considerable proportion of families in the locality, specifically 212 out of the 370 surveyed families, demonstrate awareness about the quality of water. This suggests that a significant segment of the population is cognizant of the importance of water quality and its potential implications for health.

Preference for Water Filters and RO Systems: Among the families with awareness about water quality, filters and Reverse Osmosis (RO) water purification systems emerged as the preferred methods for ensuring access to clean and safe drinking water. This preference reflects a proactive approach towards addressing concerns about water quality and mitigating potential health risks.

Implications for Activism: The presence of awareness among residents signifies a potential for activism and community engagement in advocating for improved water quality standards and access to safe drinking water. Residents who are informed about water quality are more likely to actively participate in initiatives aimed at promoting water safety and advocating for necessary interventions.

Independence Test of RO Water Usage and Health Conditions:

The research employed a quantitative approach to investigate the relationship between the use of RO water and health conditions among residents in Kavathe Mahankal Tehsil. Data on the use of RO water and the presence or absence of health problems were collected through household surveys conducted in the locality. Based on the survey responses, a contingency table was constructed to organize the data into categories of RO water usage and health conditions. A chi-square test of independence was chosen as the statistical method to analyze the relationship between RO water usage and health conditions. The chi-square test assesses whether the observed frequencies in the contingency table deviate significantly from the expected frequencies under the assumption of independence between the two variables.

	<i>Uses RO water</i>	<i>Doesn't use RO Water</i>	<i>Total</i>
<i>Having health problem</i>	63	134	197
<i>Not having health problem</i>	49	123	172
	112	257	369

The null hypothesis (H_0) stated that the use of RO water is independent of health conditions. The alternative hypothesis (H_A) proposed that there is dependence between RO water usage and health conditions. The chi-square test statistic (χ^2) was calculated using the observed frequencies in the contingency table and the expected frequencies under the null hypothesis.

The chi-square test statistic (χ^2) was computed using the formula:

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i} = 58.696$$

The degree of freedom for the test statistic is 1.

The calculated chi-square test statistic was compared to the critical value ($\chi^2_{1, 0.05} = 3.841$) from the chi-square distribution at a given significance level ($\alpha = 0.05$).

The calculated test statistic exceeded the critical value; it indicated a significant association between RO water usage and health conditions.

Analysis of Total Dissolved Solids (TDS) Levels in Water

Data on TDS levels in water from different water resources across various villages in Kavathe Mahankal were collected and compiled. TDS measurements were obtained using standard water quality testing methods and equipment. The research aimed to test the null hypothesis (H_0) that the mean TDS level (μ) in the water is less than or equal to 900, indicating good water quality. The alternative hypothesis (H_A) proposed that the mean TDS level is greater than 900, suggesting poor water quality.

A significance level of $\alpha = 0.05$ was chosen to evaluate the hypothesis test results. The test statistic is,

$$t = \frac{(\bar{X} - \mu)}{s/\sqrt{n}} = 2.007 \text{ and P-value} = 0.02532$$

Therefore we reject the null hypothesis at 5% level of significance. Data provides that the mean TDS level in Kavathe Mahankal is significantly greater than 900. Therefore the quality of water is too poor.

Calculation of Domestic Water Consumption per Capita

Drinking water refers to water suitable for human consumption, typically obtained from treated sources such as taps, wells, or bottled water. Non-drinking water includes water used for various household purposes such as bathing, washing dishes, laundry, and cleaning. The average consumption of drinking water per person was quantified as 4 liters per day based on available data and industry standards. Similarly, the average consumption of non-drinking water per person was quantified as 80 liters per day, accounting for typical household activities and water usage patterns.

RESULTS:

The primary sources of domestic water in Kavathe Mahankal Tehsil were identified as water tanks, wells, and groundwater sources. Water tanks were found to be a significant source of water for many households, followed by wells and groundwater.

Residents exhibited diverse consumption patterns in domestic water usage, with a notable preference for taste over water quality. Cultural, social, and convenience factors influenced consumption behaviors, shaping perceptions of water quality and consumption practices. A significant proportion of households reported health problems associated with water consumption, with kidney stones and fever/cold being the most prevalent issues. These findings underscored the potential health risks posed by waterborne contaminants and the need for improved water quality management.

Statistical analysis revealed a significant association between the use of RO water and the prevalence of health problems among residents. The rejection of the null hypothesis indicated that health conditions were dependent on the use of RO water, highlighting potential health risks associated with RO water usage.

The mean TDS level in water samples from various villages in Kavathe Mahankal exceeded the recommended threshold of 900, indicating poor water quality. This finding raised concerns about water safety and the need for measures to address water contamination.

The average domestic water consumption per capita was calculated to be 84 liters per day, comprising 4 liters of drinking water and 80 liters of non-drinking water. These findings provide insights into household water usage patterns and inform water management strategies.

CONCLUSIONS:

Water tanks, wells and bore wells are the main resources of the domestic water. Most of the people still prefer taste of the water instead of quality. But the trend is changing now. 53% of the families have some health problems related with the water. Many of them are suffering from kidney stones and frequent fever and cold. The consumption rate of drinking water per capita is about 4 liters. The consumption rate of non-drinking water per capita is about 80 liters. People have awareness about the quality of the water and they are using water treatment devices. The health conditions are highly dependent upon use of RO water. That is health conditions are highly dependent upon quality of the water. The water quality in Kavathe Mahankal is not good.

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CONNECTING ARTS AND SCIENCE IN EDUCATION: IMPROVING LEARNING THROUGH INTERDISCIPLINARY APPROACHES

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ABSTRACT:

This research paper explores how mixing arts and science in education can help students learn better. This research paper delves into the intersection of art and science within educational settings, aiming to uncover how integrating these disciplines can elevate learning outcomes. By examining the synergy between art and science education, we seek to identify effective pedagogical strategies that foster holistic learning experiences. Drawing on a synthesis of literature, case studies, and expert insights, this paper provides valuable recommendations for educators and policymakers to promote interdisciplinary collaboration and innovation in education.

KEYWORDS: Interdisciplinary education, Arts integration, Science education, Holistic learning, Pedagogical strategies.

1.INTRODUCTION:

Learning about both art and science is important because they help us understand the world in different ways. Art teaches us to be creative and express ourselves, while science helps us understand how things work in nature and technology. By learning both, students can develop a well-rounded understanding of the world and become better problem solvers. Combining art and science can make learning more engaging and enjoyable for students, sparking their curiosity and fostering a love for learning.

It's really important for students to learn both art and science because they help us see the world in different ways. Art lets us be creative and express ourselves, while science helps us understand how things work in nature and technology. When we learn both, it's like having two superpowers that help us solve problems and understand the world better.

2.THEORETICAL FRAMEWORK:

Interdisciplinary Education Models: Reviewing theoretical frameworks such as STEAM (Science, Technology, Engineering, Arts, and Mathematics)

Cognitive Benefits: Exploring cognitive theories supporting the integration of arts and science in education, including constructivism and multiple intelligences.

3.Benefits of Interdisciplinary Approaches:

a). Enhancing Creativity and Innovation: Integrating art and science encourages students to think creatively and generate new ideas. Artistic exploration nurtures self-expression and imaginative thinking, while scientific inquiry develops observation and problem-solving skills.

Combining these disciplines enables students to apply creative thinking to real-world challenges, fostering innovation.

b) Improving Engagement and Motivation: Examining interdisciplinary projects and experiential learning activities that increase student engagement and motivation.

c) Developing Critical Thinking Skills: Art and science instruction promotes critical thinking by encouraging students to approach problems from multiple perspectives. Art teaches students to observe, analyse, and interpret, while science emphasizes experimentation and analysis. Integrating these disciplines enhances students' analytical and creative thinking abilities, enabling them to tackle complex issues effectively.

4.Challenges and Considerations:

a) Curriculum Integration: Schools face challenges in planning interdisciplinary instruction due to competing subject requirements and resource limitations. Balancing art and science within the curriculum while covering essential content can be challenging, compounded by constraints on time, space, and funding.

b) Teacher Professional Development: Educators may require support and training to effectively integrate art and science into their teaching. Providing professional development opportunities, resources, and mentorship can enhance teacher confidence and competence in interdisciplinary instruction.

c) Institutional Barriers: School policies and resource constraints may hinder interdisciplinary instruction. Rigid schedules, standardized testing, and limited resources can impede creative and hands-on learning experiences. Addressing these barriers may require advocating for policy changes and resource allocation to support interdisciplinary initiatives.

5.Case Studies and Best Practices:

a) Successful Interdisciplinary Programs: Examining schools and institutions that have effectively integrated arts and science education to enhance learning outcomes.

b) Innovative Pedagogical Strategies: Identifying best practices, including project-based learning, STEAM labs, and arts-infused science instruction.

6.Recommendations for Practice and Policy:

Educator Training and Support: Providing professional development opportunities and resources to support educators in implementing interdisciplinary approaches effectively.

Policy Implications: Offering suggestions for policymakers to promote interdisciplinary collaboration, allocate funding for STEAM initiatives, and revise educational standards to prioritize holistic learning.

7.CONCLUSION:

Through integrating art and science in education, students develop creative thinking skills and gain deeper insights into complex concepts. Interdisciplinary education fosters innovation, critical thinking, and problem-solving abilities, preparing students for success in an ever-evolving world. Continued exploration and refinement of interdisciplinary teaching practices are essential to optimize student learning experiences. Collaboration between educators, researchers, and policymakers is crucial to develop comprehensive frameworks for seamless integration of art and science into the curriculum.

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DECODING 'HARVEST': EXPLORING SURROGACY, EXPLOITATION, AND GENDER DYNAMICS FROM VARIOUS DISCIPLINARY ANGLES

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ABSTRACT:

Manjula Padmanabhan's play "Harvest" offers a profound exploration of surrogacy, exploitation, and gender dynamics within a dystopian future. This comprehensive research paper examines the intricate themes of the play from various disciplinary perspectives, including sociology, gender studies, economics, postcolonialism, postmodernism, feminist theory, and bioethics. By synthesizing insights from these diverse fields, this paper provides a nuanced analysis of the socio-cultural, political, and ethical dimensions embedded within the narrative. Through interdisciplinary inquiry, this research illuminates the broader implications of "Harvest" for contemporary discourse on issues of power, technology, and human rights.

KEYWORDS: harvest, surrogacy, exploitation, gender dynamics, postcolonialism, postmodernism, feminist theory, bioethics.

INTRODUCTION:

"Harvest" by Manjula Padmanabhan presents a chilling vision of a future society where the commodification of human life has reached alarming heights. Set in a dystopian Bombay, the play explores the consequences of a world where surrogacy has become a lucrative business, driven by economic desperation and technological advancements. This research paper aims to decode the underlying complexities of "Harvest" by examining its thematic concerns from various disciplinary perspectives. By integrating insights from sociology, gender studies, economics, postcolonialism, postmodernism, feminist theory, and bioethics, we seek to unravel the nuanced layers of the play and elucidate its relevance to contemporary discourse.

Surrogacy and Exploitation: "Harvest" serves as a poignant critique of the commodification of human life and the exploitation of marginalized individuals, particularly through the character of Om Prakash. Om, a lower-class protagonist, is coerced into selling his organs and participating in surrogacy due to economic desperation. This reflects real-world scenarios where vulnerable populations are exploited for their labor and bodies, perpetuating cycles of

inequality and oppression. Furthermore, the hierarchical power dynamics depicted in the play, exemplified by the affluent Interplanta Services and the marginalized surrogate families, reflect broader societal inequities and class struggles, thereby highlighting the systemic exploitation ingrained within capitalist structures.

Gender Dynamics and Bodily Autonomy: Through a gender studies lens, "Harvest" exposes the complex interplay between gender roles, power dynamics, and bodily autonomy. Female characters like Jaya and Ginni embody the exploitation of women's bodies in a patriarchal society, where reproductive labor is commodified and controlled. Jaya's lack of agency underscores broader issues of gender inequality and the patriarchal regulation of women's reproductive rights. The character Ginni, manipulated by malevolent forces as a virtual projection, symbolizes the objectification of women's bodies and the erasure of their subjectivity. By foregrounding these gendered experiences, "Harvest" challenges traditional notions of womanhood and agency, prompting critical reflection on the intersections of gender, power, and bodily autonomy.

Economic Perspectives: Economically, "Harvest" raises important questions about the ethics and consequences of commercializing reproductive processes. The surrogacy industry depicted in the play exemplifies the monetization of intimate aspects of human life, where individuals are treated as commodities for financial gain. Om's decision to engage in surrogacy underscores the dehumanizing effects of poverty and economic desperation, prompting reflection on the morality of profiting from the exploitation of vulnerable individuals. Additionally, the play invites scrutiny of the broader economic systems that perpetuate inequalities and incentivize the exploitation of marginalized communities for profit.

Postcolonial Perspectives: At its core, "Harvest" can be situated within the broader framework of postcolonialism, which examines the enduring legacies of colonialism and imperialism. The play exposes the power differentials between the Global North and the Global South, where the wealthy exploit the bodies of the poor for their own gain. Through the character of Om Prakash and the multinational corporation InterPlanta Services Inc., Padmanabhan highlights the neocolonial dynamics at play, where Third World bodies are commodified to serve the interests of the First World. By interrogating these power structures, "Harvest" invites us to critically reflect on the enduring injustices perpetuated by global capitalism.

Postmodernist Interpretations: From a postmodernist perspective, "Harvest" challenges traditional notions of identity, reality, and truth. The play blurs the boundaries between the real and the virtual, highlighting the ways in which technology mediates human experiences. Through the character of Ginni and the contact module, Padmanabhan creates a surreal and disorienting world where human bodies are surveilled and controlled by external forces. By interrogating the nature of reality and representation, "Harvest" compels us to question the validity of dominant narratives and to consider the fragmented nature of subjective experience in a technologically mediated society.

Feminist Analyses: Feminist theory provides valuable insights into the gendered dimensions of exploitation depicted in "Harvest". The play explores the ways in which women's bodies are objectified, commodified, and controlled by patriarchal structures. Characters like Jaya and Ma navigate oppressive gender norms and societal expectations surrounding motherhood and femininity, highlighting the intersecting forms of oppression faced by women in a patriarchal society. Jaya's refusal to submit to Virgil's advances symbolizes a reclaiming of agency and bodily autonomy in the face of exploitation. By centering women's experiences and voices, "Harvest" challenges traditional notions of gender roles and power dynamics, inviting critical reflection on the ways in which women navigate and resist patriarchal oppression.

Bioethical Considerations: From a bioethical perspective, "Harvest" raises important questions about the ethical implications of organ selling and reproductive technologies. The play forces us to confront the moral dilemmas inherent in the commodification of human bodies and the exploitation of vulnerable populations. Om's decision to sell his organs for economic gain prompts reflection on the limits of autonomy and the ethics of consent. Additionally, the use of advanced reproductive technologies and the manipulation of human embryos raise questions about the boundaries of bioethical practice and the implications for human dignity and rights. By grappling with these ethical quandaries, "Harvest" prompts us to consider the broader implications of technological advancements in medicine and the ways in which they intersect with issues of social justice and human rights.

Interdisciplinary Insights and Synthesis: By synthesizing insights from sociology, gender studies, economics, postcolonialism, postmodernism, feminist theory, and bioethics, we gain a holistic understanding of "Harvest" and its implications for contemporary discourse. The interdisciplinary approach allows us to appreciate the interconnectedness of various social phenomena depicted in the play, offering new insights and perspectives on issues such as exploitation, gender inequality, and economic disparity. Furthermore, interdisciplinary perspective provides a valuable framework for addressing multifaceted societal challenges and fostering meaningful dialogue on issues of equity and empowerment. Viewing the play through a postcolonial lens situates it within the broader context of neocolonialism and economic globalization, wherein the Global North exploits the resources and labor of the Global South. Similarly, a postmodern lens allows for an exploration of identity fragmentation and the blurring of boundaries between the real and the virtual. Feminist theory sheds light on the ways in which patriarchal structures perpetuate the commodification of women's bodies, while bioethical considerations raise questions about the ethical implications of technological advancements in reproductive medicine.

Implications for Contemporary Society: The themes addressed in "Harvest" resonate deeply with contemporary societal issues surrounding reproductive rights, economic justice, and gender equality. The play serves as a cautionary tale about the potential consequences of unchecked commodification and exploitation in a technologically advanced world, prompting critical reflection on the ethical and moral implications of emerging reproductive technologies and capitalist systems. As we continue to grapple with the ethical and moral implications of technological advancements, "Harvest" remains a timely and provocative reflection on the commodification of the human body and the erosion of human dignity.

CONCLUSION:

In conclusion, "Harvest" by Manjula Padmanabhan offers a thought-provoking exploration of surrogacy, exploitation, and gender dynamics in a dystopian future. By examining the play through interdisciplinary lenses such as sociology, gender studies, economics, postcolonialism, postmodernism, feminist theory, and bioethics, we gain a deeper understanding of its socio-cultural, political, and ethical implications. Through its nuanced portrayal of power relations, technological advancements, and bodily autonomy, "Harvest" invites us to critically reflect on the complexities of contemporary society and the enduring legacies of colonialism and capitalism. As we continue to grapple with the ethical and moral implications of technological advancements, "Harvest" remains a timely and provocative reflection on the commodification of the human body and the erosion of human dignity.

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DIGITIZATION & HISTORIOGRAPHY

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ABSTRACT:

Digitization is one of the most important phenomenon of recent times. It has impacted the world in its core. So consequently it had its tremendous impact on various disciplines. History as a discipline is also not an exception to it. Historiography is the most crucial factor of history discipline. Digitization has its impact on the process in which historical research is carried out. This paper tries to understand the linkage between digitization & historiography.

KEYWORDS- *Digitization, Historiography.*

INTRODUCTION:

Pre - Digital Era saw massive difficulty in the access of primary sources for historians. Whatever primary sources were available in the traditional Archival Libraries, historians had to rely on it. The technological progress of the past decades has had a transformative effect on the historiographic process. It is generally accepted that mass digitization projects led by museums, libraries and archives have allowed historians to widen their collection of primary sources. While the emergence of digital libraries & other types of digital resources has opened up new opportunities for research scholars in the historical field, in terms of accessing diverse types of information from the various sources.

OBJECTIVES:

1. To study the linkage between digitization & historiography.
2. To evaluate the impact of digitization on historiography.

RESEARCH METHODOLOGY:

Researcher has used descriptive-analytical research design to conduct this research paper.

CONCEPT OF HISTORIOGRAPHY:

“Historiography, the writing of history, especially the writing of history on the critical examination of sources, the selection of particular details from the authentic materials in those sources, and the synthesis of those details into a narrative that stands the test of critical examination.” This definition of historiography by Britannica provides a holistic approach in the process of historical writing. It underlies the significance of ‘sources’ in the process of writing history.

RELEVANCE OF SOURCES IN HISTORIOGRAPHY:

Sources, generally considered in the historical field, as a fundamental instrument that provides a significant information about particular things. These sources acts as a building blocks in the historiographic process. Collection of sources & their critical analysis plays foundational role in it. So, consequently the availability of sources become the crucial factor in the process of historiography.

CONCEPT OF DIGITIZATION:

Digitization is the process of converting information into a digital that is computer readable format. In the context of libraries, archives and museums, digitization is a means of creating digital substitutes of analog materials such as book, newspapers, microfilm, & videotapes offers an increased access & collection development, ultimately enhancing the potential for research in the historical field.

LINKAGE BETWEEN DIGITIZATION & HISTORIOGRAPHY:

The phenomenon of digitization has a tremendous impact on historical scholarship. The way in which historians research, write & publish their work, has dramatically changed. The historiographic process in the Pre – Digital Era was slow & laborious. Historians of that era had to heavily depend on intensive ground work that includes arrangement of interviews with subject specialists & archivist, finding & getting access to the primary sources through traditional means. Digitization did not totally changed the process in which historiography was done, historians still identify problems, explore the secondary literature, find primary sources, study them & publish. But the detailed ground work of a historian has undergone a digital revolution.

Historical research in the digital age has its own distinctive features. Historical information is mediated through digital media, so tremendous transformation has unfolded over the span of three decades. These transformation forces are reshaping the way in which modern historical scholarship is carrying itself out. This transformation is neither wholly positive nor negative. In terms of finding the problems, generally historians still chose the research topic from the area of his specialty, which then can be classified in the terms of eras, events, personalities or the combination of some of these elements. Digitization has just widen the spectrum of these elements.

IMPACT OF DIGITIZATION ON HISTORIOGRAPHY:

In terms of exploring the secondary literature, now digitization has opened a chest of premium secondary sources on its various platforms such as digital archives & digital libraries. But the process of verifying the secondary sources according to the subject’s need, is still more or less the same. But access to primary sources has definitely widened, so the research scholarship is going through a fundamental change. Now the area of historical research is broadened due the availability of primary sources. But this also has created a trend of

oversimplifying the subject which ultimately leads to the unprofessionalism in the subject field.

Digitization has impacted on the process in which historian reads his sources. Digital platforms have undoubtedly simplified the process of reading historical material, but at the same time it had also given the platform to unverified and untrustworthy documents. So the process of selecting the trusted material for the research work is hardened. In terms of publishing the research work, due to the vast digital horizon and also in the age of interdisciplinary research scholarship, the historian now had an array of platforms on which this research work can be published.

Now, last but not the least, the heavy financial burden on the research scholar to publish his work has definitely reduced due to the digitization. Online journals have given access to thousands of historians to publish their work in an affordable cost, so the historical scholarship is undergoing a tremendous way in terms of the amount of historical research work has been published in recent times.

CONCLUSION:

Digitization has a fundamental impact on the process in which modern historiography is being carrying out. It has altered the way in which historical sources could be accessed, at the same time it did not completely changed the methodology of historiography. It is now up to a discretion of a historian, on how to utilize this modern phenomenon of digitization to extract the truth from the past in an impartial way.

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EXPLORING THE EFFICACY OF INTERDISCIPLINARY PROJECT-BASED LEARNING IN BLENDING STEM AND HUMANITIES SUBJECTS

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ABSTRACT-

This paper provides a comprehensive examination of Project-Based Learning (PBL) approaches that integrate STEM and humanities subjects, highlighting their relevance, effectiveness, and implications for education. It begins with an overview of PBL, emphasizing its student-centered, inquiry-driven nature and its significance in addressing the needs of 21st-century learners. The paper explores the concept of blending STEM and humanities within PBL frameworks and showcases the effectiveness of interdisciplinary PBL in enhancing student engagement, critical thinking, and interdisciplinary skills. Challenges in implementing interdisciplinary PBL initiatives are identified, along with the critical role of educators, curriculum design, and institutional support. Future directions for research in interdisciplinary PBL are outlined, emphasizing the need for ongoing exploration and innovation to advance educational practices and outcomes. Overall, interdisciplinary PBL represents a promising approach to fostering holistic student development and preparing learners for success in a rapidly changing world.

KEYWORDS- NEP, Project based learning, Interdisciplinary, STEM.

INTRODUCTION:

Project-Based Learning (PBL) has gained significant attention in contemporary education as a pedagogical approach that emphasizes student-centered, inquiry-driven learning experiences. This section provides an overview of PBL, elucidating its fundamental principles, key characteristics, and relevance in addressing the evolving needs of 21st-century learners.

DEFINITION AND CONCEPTUAL FRAMEWORK:

Project-Based Learning is an instructional methodology centered on the creation of authentic, real-world projects that engage students in exploring complex questions, solving problems, and constructing meaningful artifacts. Rooted in constructivist theories of learning,

PBL encourages active participation, collaboration, and critical thinking as students work towards achieving project goals. There are some key characteristics of the projects based learning: Projects are designed to mirror real-world challenges and contexts, fostering relevance and motivation among students. PBL encourages inquiry-based learning, prompting students to ask questions, conduct research, and seek solutions independently. Projects often require collaboration among students, promoting teamwork, communication, and interpersonal skills. PBL emphasizes reflection on the learning process, allowing students to evaluate their progress, revise their approaches, and refine their work. Projects often cut across multiple subject areas, promoting interdisciplinary learning and connections between academic concepts and real-world applications.

It is also important to know ‘what’s the relevance of project based learning in contemporary education.’ PBL cultivates essential 21st century skills such as critical thinking, problem-solving, creativity, communication, and collaboration, which are increasingly valued in the modern workforce. By providing opportunities for hands-on, experiential learning, PBL enhances student motivation, curiosity, and ownership of the learning process. PBL accommodates diverse learning styles and preferences, allowing students to engage with content in ways that resonate with their interests and abilities. PBL equips students with practical, transferable skills and competencies that are applicable in a wide range of professional settings, preparing them for success in college, career, and civic life. PBL fosters a mindset of inquiry, curiosity, and lifelong learning, instilling in students the capacity to adapt, innovate, and thrive in an ever-changing world. These all skills are also mentioned in NEP 2020 India. So to understand these approaches is very important.

In response to the increasingly interconnected and complex challenges of the 21st century, there is a growing recognition of the need for education to bridge disciplinary boundaries and foster interdisciplinary understanding. This has led to the emergence of innovative pedagogical approaches that integrate Science, Technology, Engineering, and Mathematics (STEM) subjects with humanities disciplines within Project-Based Learning (PBL) frameworks. In this section, we explore the concept of blending STEM and humanities subjects in PBL approaches, highlighting its rationale and potential implications for education.

Traditionally, STEM and humanities subjects have been viewed as distinct domains with separate methodologies and objectives. However, blending these disciplines in PBL offers compelling advantages in addressing real-world issues comprehensively. By incorporating diverse perspectives and methodologies, this interdisciplinary approach promotes a more holistic understanding of complex problems. For instance, tackling environmental challenges may require not only scientific knowledge but also an understanding of ethical considerations, historical context, and cultural implications. Moreover, integrating STEM and humanities subjects in PBL fosters the development of essential skills such as critical thinking, creativity, communication, and collaboration. Through interdisciplinary projects, students are encouraged to draw upon knowledge from multiple disciplines, enabling them to deepen their understanding of complex issues and devise innovative solutions. Furthermore, this interdisciplinary approach aligns with the goals of education for sustainability and global citizenship. By engaging students in projects that address pressing social, environmental, and technological issues, PBL promotes active citizenship and empowers students to become informed, responsible, and engaged members of society.

Literary Review-

Fitri Wijayanti and Avilanofa Bagus Budi (2024) present a concise yet comprehensive exploration of Project-Based Learning (PBL) in English as a Foreign Language (EFL) classrooms. Their article addresses the challenge of integrating PBL in ELT settings, offering detailed activities tailored for Junior High School level. By emphasizing the practical relevance of PBL in developing 21st-century skills, the authors highlight its transformative potential in empowering

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students to become active, engaged, and lifelong learners. Overall, the article provides valuable insights and strategies for successfully implementing PBL in the EFL classroom, contributing to the discourse on innovative pedagogical approaches in language education. In her article, "Project-Based Learning (PjBL) Learning Model with STEM Approach in Natural Science Learning for the 21st Century,"

Ika Rahmania explores the integration of Project-Based Learning (PjBL) with the Science, Technology, Engineering, and Mathematics (STEM) approach to enhance critical skills among students in science education. Rahmania argues that this integration offers opportunities for contextual learning through collaborative projects, fostering critical thinking and problem-solving skills essential for navigating contemporary challenges. Rahmania's study employs a comprehensive methodology, including a literature review and analysis of curriculum competencies, to advocate for the adoption of PjBL infused with STEM methodologies in junior secondary education. By identifying areas conducive to integration with the STEM approach, the research emphasizes the importance of cultivating proficient human resources capable of addressing 21st-century challenges. One strength of Rahmania's article lies in its pragmatic approach to educational innovation, grounded in empirical evidence and educational frameworks. However, the article could benefit from concrete examples or case studies illustrating successful implementation in real-world educational settings and a deeper exploration of potential challenges in adopting this approach. In conclusion, Rahmania's article contributes valuable insights to the discourse on innovative pedagogical approaches in science education. By advocating for the fusion of PjBL and STEM methodologies, the research highlights the transformative potential of experiential learning paradigms in preparing students to become adept problem solvers in an increasingly complex global landscape.

Opeyemi A. Oyewo, Sam Ramaila, and Lydia Mavuru's article, "Harnessing Project-Based Learning to Enhance STEM Students' Critical Thinking Skills Using Water Treatment Activity," offers a comprehensive exploration of the integration between project-based learning (PBL) and STEM education, focusing specifically on water treatment. The study underscores the imperative for STEM students to cultivate critical thinking skills essential for addressing socio-hydrological challenges in water management. The authors contextualize the significance of water treatment processes in mitigating environmental pollution and emphasize the societal implications of water-related issues, advocating for the integration of societal understanding into STEM education. Through an action research design involving third-year Bachelor of Science students majoring in Chemistry, the study demonstrates the effectiveness of PBL in fostering critical thinking skills among STEM students. By utilizing agricultural wastes like orange and banana peels to develop water treatment products, the researchers showcase an innovative approach to addressing real-world challenges. Central to the study is the interdisciplinary integration of knowledge encompassing Earth Science, Physics, Chemistry, and Technology, guided by the Five Steps of Project-Based Learning framework. This structured approach ensures a comprehensive exploration of water treatment challenges. The empirical findings derived from laboratory experiments validate the efficacy of processed banana and orange peels in reducing water turbidity, meeting the South African National Standard for drinking water quality. The discussion on the chemistry of processed peels highlights the importance of understanding underlying mechanisms for effective water treatment. In conclusion, Oyewo, Ramaila, and Mavuru's article significantly contributes to the academic discourse on STEM education and project-based learning. By demonstrating the potential of experiential learning methodologies in nurturing critical thinking skills, the study underscores the importance of interdisciplinary collaboration and real-world application in STEM education, particularly in addressing pressing environmental challenges like water treatment.

DeLisi, Liu, and Fields (2023) provide a comprehensive examination of the efficacy of project-based learning (PBL) within urban high schools, particularly focusing on STEM career pathways. Their article emphasizes PBL's potential to offer personalized, engaging, and relevant educational experiences, equipping students with essential skills for post-secondary pathways.

The research explores PBL implementation in an urban STEM high school environment catering to historically under-resourced communities. Through an exploratory study, the authors aim to elucidate the essential features of successful PBL initiatives and offer insights into effective implementation within urban high schools. The findings highlight PBL's transformative impact on student engagement and preparation for future career opportunities. By aligning classroom experiences with real-world industry practices, PBL facilitates experiential learning that resonates with urban students' interests and aspirations. Importantly, the article underscores the need to adapt PBL methodologies to suit the unique needs and challenges prevalent in urban high schools. Practical recommendations are provided for educators and administrators seeking to integrate PBL into curricula, enhancing educational outcomes and promoting equity in STEM education. DeLisi, Liu, and Fields' research contributes significantly to the discourse on urban education and STEM pedagogy by advocating for innovative instructional approaches. By showcasing PBL's potential to empower urban students and promote meaningful career pathways, the study advocates for a holistic approach to STEM education that prioritizes experiential learning and real-world application. In conclusion, "Implementing Project-Based Learning in Urban High School STEM Career Pathways" presents a compelling case for the adoption of PBL to enhance student engagement, relevance, and success in urban STEM education. The article underscores the importance of equitable access to high-quality educational experiences and offers actionable insights for creating inclusive learning environments that foster student achievement and empowerment.

Some Studies highlight various methodologies for integrating STEM and humanities subjects within PBL, including thematic units, interdisciplinary projects, and integrated curriculum design (Nadelson, 2020). Researchers emphasize the importance of aligning project topics and tasks with learning objectives from both STEM and humanities disciplines to ensure meaningful integration (Barron, 2019). Literature suggests that PBL approaches integrating STEM and humanities subjects promote deeper engagement, higher motivation, and increased academic achievement among students (Rocard, 2007). Interdisciplinary PBL enhances students' ability to make connections between different fields of knowledge, fostering a more holistic understanding of complex issues (Hakkarainen, 2018). Challenges associated with integrating STEM and humanities subjects in PBL include curriculum alignment, faculty collaboration, resource constraints, and assessment practices (Froyd & Minderhout, 2018). Researchers emphasize the need for professional development opportunities and support structures to help educators effectively implement interdisciplinary PBL initiatives (Krajcik, 2014). Scholars call for further research to explore best practices, innovative strategies, and successful models for integrating STEM and humanities subjects within PBL frameworks (Follman, 2021). Future studies should also examine the long-term impact of interdisciplinary PBL on student learning outcomes, career readiness, and lifelong learning skills (Bell, 2020).

In summary, existing literature highlights the potential of PBL approaches that blend STEM and humanities subjects to enhance student learning experiences, promote interdisciplinary understanding, and prepare students for success in a complex and interconnected world. While challenges exist, ongoing research and innovation in this area offer promising opportunities for advancing interdisciplinary education and fostering holistic student development.

In examining theoretical frameworks and models supporting interdisciplinary learning, it becomes apparent that project-based learning (PBL) emerges as a particularly effective pedagogical approach. PBL, rooted in constructivist theories of learning, offers a holistic framework for integrating diverse subject areas and fostering interdisciplinary understanding among students. By engaging learners in authentic, real-world projects, PBL promotes inquiry-based exploration and collaboration across disciplines, aligning with the goals of interdisciplinary education. The Five Steps of Project-Based Learning framework provides a structured approach to guiding interdisciplinary projects, facilitating the integration of theoretical concepts and practical applications. Additionally, PBL aligns with contemporary

educational paradigms emphasizing student-centered, experiential learning, making it well-suited to support interdisciplinary learning initiatives. Through its emphasis on authenticity, inquiry, collaboration, and reflection, PBL serves as a foundational model for implementing interdisciplinary learning experiences that promote deeper engagement and meaningful connections across subject areas.

AIM AND OBJECTIVE-

To investigate the effectiveness of project-based learning approaches that integrate STEM and humanities subjects in fostering interdisciplinary skills and knowledge among students.

Methodology- The said article is qualitative analysis of project based learning. Researcher here tried to analyse different approaches that blend STEM and humanities subjects,

Finding- An overview of empirical evidence and case studies demonstrates the effectiveness of interdisciplinary Project-Based Learning (PBL) approaches in fostering meaningful learning outcomes. Research findings consistently highlight the positive impact of interdisciplinary PBL on student engagement, critical thinking, and content mastery across multiple subject areas. For instance, studies have documented increased student motivation and enthusiasm for learning when engaged in interdisciplinary projects that integrate STEM and humanities subjects. Furthermore, empirical evidence suggests that interdisciplinary PBL promotes deeper conceptual understanding and knowledge retention compared to traditional disciplinary approaches. Case studies from various educational settings provide concrete examples of successful interdisciplinary PBL initiatives, showcasing how collaborative projects spanning multiple disciplines can enhance student learning experiences. These case studies often highlight the development of 21st-century skills such as communication, collaboration, creativity, and problem-solving through interdisciplinary PBL. Overall, the empirical evidence and case studies underscore the effectiveness of interdisciplinary PBL in promoting holistic learning and preparing students for success in an interconnected world.

An analysis of the impact of blended STEM (Science, Technology, Engineering, and Mathematics) and humanities Project-Based Learning (PBL) on student engagement, critical thinking, and interdisciplinary skills development reveals significant positive outcomes. Research studies consistently indicate that incorporating both STEM and humanities subjects in PBL initiatives leads to increased student engagement and motivation. By presenting real-world problems that require interdisciplinary approaches to solve, blended PBL stimulates students' curiosity and encourages active participation in the learning process. Moreover, blended STEM and humanities PBL nurtures critical thinking skills by challenging students to analyze complex issues from multiple perspectives. Through collaborative inquiry and problem-solving activities, students learn to evaluate evidence, synthesize information, and make informed decisions. This interdisciplinary approach encourages students to think critically about the connections between different disciplines and apply diverse problem-solving strategies to address multifaceted challenges. Furthermore, blended PBL fosters the development of interdisciplinary skills essential for success in the modern workforce. By working collaboratively on projects that integrate STEM concepts with humanities perspectives, students learn to communicate effectively, collaborate with peers from diverse backgrounds, and adapt their thinking to different contexts. These interdisciplinary skills are increasingly valued in today's globalized society, where complex problems often require interdisciplinary solutions. Overall, the analysis underscores the transformative impact of blended STEM and humanities PBL on student engagement, critical thinking, and interdisciplinary skills development. By providing authentic learning experiences that bridge disciplinary boundaries, blended PBL prepares students to navigate the complexities of the 21st century and become innovative, adaptable, and socially responsible global citizens.

Identification of challenges and limitations encountered in implementing interdisciplinary Project-Based Learning (PBL) initiatives reveals several key issues that

educators may face. One challenge involves aligning curriculum standards and learning objectives across multiple disciplines. Integrating STEM and humanities subjects in PBL requires careful coordination to ensure that project activities address the requirements of each discipline while maintaining coherence and depth of learning. Interdisciplinary PBL often necessitates collaboration among educators from different disciplines. However, coordinating interdisciplinary projects can be challenging due to differences in pedagogical approaches, schedules, and priorities among faculty members. Another limitation is the availability of resources, including time, funding, and materials, to support interdisciplinary PBL initiatives. Developing interdisciplinary projects may require additional time for planning and implementation, as well as access to specialized equipment or technology. Assessing student learning and achievement in interdisciplinary PBL can be complex. Traditional assessment methods may not adequately capture the interdisciplinary nature of student work, leading to challenges in evaluating learning outcomes and providing meaningful feedback. Some students may struggle with the interdisciplinary nature of PBL, especially if they are accustomed to more traditional, discipline-specific approaches to learning. Supporting students' transition to interdisciplinary thinking and collaboration requires scaffolding and support from educators. Finally, implementing interdisciplinary PBL initiatives may require institutional support and buy-in from administrators, policymakers, and other stakeholders. Building consensus and securing resources to support interdisciplinary education initiatives can be a significant challenge in some educational contexts. Addressing these challenges and limitations requires thoughtful planning, collaboration, and ongoing support from all stakeholders involved in interdisciplinary PBL initiatives. By identifying and addressing these barriers, educators can work towards creating more inclusive, engaging, and effective learning experiences for students across diverse disciplines.

DISCUSSION:

An examination of the role of educators, curriculum design, and institutional support reveals their critical importance in fostering successful interdisciplinary Project-Based Learning (PBL) initiatives.

Educators play a pivotal role as facilitators of learning in interdisciplinary PBL. They guide students through the inquiry process, provide support and feedback, and facilitate meaningful discussions that promote interdisciplinary understanding. Educators design and structure interdisciplinary PBL experiences, selecting relevant topics, creating authentic project tasks, and integrating diverse subject areas to promote holistic learning. Educators foster collaboration among students by establishing norms, facilitating group work, and providing opportunities for peer feedback and reflection.

Effective curriculum design is essential for integrating STEM and humanities subjects within PBL frameworks. Curriculum designers must identify connections between different disciplines, align learning objectives, and design interdisciplinary projects that promote deep learning and critical thinking. Curriculum designers should create authentic, real-world project tasks that resonate with students' interests and experiences, fostering engagement and motivation. Authentic tasks encourage students to apply their knowledge and skills in meaningful ways, promoting interdisciplinary understanding. Curriculum design should accommodate the diverse needs and interests of students, allowing for differentiation and flexibility in project design and implementation. This ensures that all students have opportunities to succeed and thrive in interdisciplinary PBL experiences.

Institutions must allocate resources, including time, funding, and professional development opportunities, to support interdisciplinary PBL initiatives. This may involve providing access to training and support for educators, investing in technology and materials, and creating dedicated time for collaboration and planning. Institutional policies and leadership support are essential for fostering a culture of interdisciplinary collaboration and innovation. Administrators can promote interdisciplinary PBL by advocating for its value, providing

incentives for participation, and creating structures to support implementation. Institutions can enhance interdisciplinary PBL by forging partnerships with community organizations, businesses, and universities. These partnerships provide students with opportunities for real-world engagement, mentorship, and collaboration, enriching their learning experiences and promoting community connections.

In conclusion, educators, curriculum designers, and institutional leaders play crucial roles in fostering successful interdisciplinary PBL initiatives. By recognizing the importance of collaboration, authentic learning experiences, and institutional support, stakeholders can work together to create meaningful interdisciplinary PBL experiences that prepare students for success in an interconnected and rapidly changing world.

Future Directions and Areas for Further Research-

Considering future directions and areas for further research in Project-Based Learning (PBL) aligns with the overarching goal of continuously enhancing educational practices and outcomes. Building upon the foundational insights provided earlier, several key avenues warrant exploration: Future research could delve deeper into advanced interdisciplinary approaches within PBL, exploring innovative ways to integrate STEM and humanities subjects. This may involve investigating cross-disciplinary connections, refining interdisciplinary project design strategies, and exploring new models for curriculum integration. With the rapid advancement of technology, there is a need to examine how digital tools and platforms can enhance PBL experiences. Research could explore the integration of virtual reality, augmented reality, and online collaboration tools to facilitate authentic, immersive learning experiences in interdisciplinary PBL contexts. Further research is needed to develop and validate assessment strategies that effectively measure interdisciplinary learning outcomes in PBL. This includes exploring alternative assessment methods, such as performance-based assessments, peer evaluations, and portfolio assessments, that capture the multifaceted nature of student learning in interdisciplinary projects. Future research should prioritize investigating strategies to promote equity and inclusion in interdisciplinary PBL initiatives. This may involve examining how PBL can be adapted to meet the diverse needs of students from varying backgrounds, cultures, and learning styles, as well as exploring ways to address systemic barriers to access and participation. Research on professional development for educators is essential to support the successful implementation of interdisciplinary PBL. Future studies could explore effective training models, resources, and support structures to enhance educators' knowledge, skills, and confidence in facilitating interdisciplinary learning experiences.

By advancing research in these areas, educators, policymakers, and researchers can further enhance the effectiveness and impact of interdisciplinary PBL initiatives. By building upon the foundational insights and addressing emerging challenges, the field of PBL can continue to evolve, providing students with meaningful, relevant, and transformative learning experiences.

CONCLUSION –

In conclusion, Project-Based Learning (PBL) integrating STEM and humanities subjects offers significant insights into its efficacy, implications, and future directions in education. PBL emerges as a student-centered approach fostering active learning, collaboration, and critical thinking. It cultivates essential competencies and a mindset of inquiry and lifelong learning. Interdisciplinary PBL provides a holistic approach to addressing real-world challenges, promoting deeper understanding and essential 21st-century skills among students. Empirical evidence supports its effectiveness in enhancing student engagement, motivation, and academic achievement. However, challenges such as curriculum alignment and resource constraints exist. Future research should explore advanced interdisciplinary approaches, technology integration,

assessment strategies, and equity promotion. In summary, interdisciplinary PBL holds promise for holistic student development and readiness for a changing world, necessitating continued innovation and collaboration among educators, policymakers, and researchers.

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EXPLORING THE EXTENSIVE IMPACT OF LINGUISTIC VARIETY ON COMMUNICATION INTERACTIONS

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ABSTRACT:

Language is a dynamic force shaping human interactions, cultures, and social structures worldwide. This research paper explores the multifaceted impact of linguistic diversity on communication interactions. It studies into key objectives, reviews relevant theories and models related to linguistic variety and communication, analyzes the intricate dynamics of linguistic diversity and communication processes, examines the role of cultural sensitivity in fostering effective communication, explores inclusive communication practices, provides actionable recommendations for promoting inclusivity and cultural sensitivity, and concludes with a summary of key findings and future research directions. The paper highlights the importance of understanding linguistic diversity's complex interplay with culture, history, and power dynamics in creating inclusive and effective communication environments.

KEYWORDS: *Linguistic diversity, Communication interactions, Cultural sensitivity, Inclusive communication, Language and culture, Power dynamics, Multifaceted language, Interpersonal communication, Cross-cultural communication, Language diversity's impact*

A. INTRODUCTION

Language is not merely a tool for communication; it is a dynamic and multifaceted aspect of human interaction that shapes cultures, identities, and social structures. The diversity of languages spoken worldwide reflects the rich tapestry of human experience, with thousands of languages coexisting and evolving in various communities. This diversity is not just a matter of linguistic variation but encompasses complex interactions between language, culture, history, and power dynamics.

The research paper utilizes a multidisciplinary approach, integrating insights from linguistics, anthropology, sociology, psychology, education, and communication studies to understand the impact of linguistic variety actively. It synthesizes theoretical foundations, empirical research findings, and practical strategies to illuminate the complex interplay between linguistic diversity and communication interactions.

To grasp the impact of linguistic variety, we adopt a multidisciplinary approach that blends perspectives from linguistics, anthropology, sociology, psychology, education, and communication studies. This paper synthesizes theoretical frameworks, empirical research results, and actionable strategies to shed light on the intricate relationship between linguistic diversity and communication interactions in a dynamic manner.

Theoretical frameworks concerning language diversity underscore its impact on shaping cultural identities, social hierarchies, and power dynamics within and among communities. Noteworthy scholars such as David Crystal, Claire Kramsch, and Alastair Pennycook have made significant contributions by delving into how languages evolve, adapt, and confront challenges

like endangerment or extinction, often influenced by various sociopolitical factors. Empirical studies offer valuable insights into the real-world implications of linguistic diversity on communication processes. Research on cross-linguistic communication challenges, language policy impacts, globalization effects, and the role of technology in mediating linguistic interactions provides a nuanced understanding of how language diversity influences communication dynamics in diverse contexts.

Practical strategies for navigating linguistic diversity in communication settings are essential for promoting inclusivity, understanding, and effective communication. Initiatives such as language learning programs, intercultural communication training, digital linguistic activism, and inclusive language policies play pivotal roles in fostering meaningful dialogue and bridging linguistic divides.

The study examines linguistic variety's impact on communication, highlighting the importance of diverse languages, cultural sensitivity, and inclusive practices in a globalized world. It provides actionable recommendations for educators, policymakers, and practitioners to raise awareness and improve communication across diverse linguistic environments.

B. Objectives:

- i) To gain a comprehensive understanding of how linguistic variety influences communication interactions.
- ii) To provide actionable recommendations for promoting linguistic inclusivity and fostering effective communication in multilingual environments.

C. Review of Relevant Theories and Models Related to Linguistic Variety and Communication

1. Sapir-Whorf Hypothesis: The Sapir-Whorf hypothesis, also known as linguistic relativity, posits that language shapes thought and perception. This theory suggests that the structure and vocabulary of a language influence how speakers conceptualize the world around them. For example, languages with distinct grammatical categories for colours may lead speakers to perceive and categorize colours differently compared to speakers of languages with fewer colour distinctions.

2. Language Socialization Theory: Language socialization theory emphasizes the role of social interactions and cultural contexts in shaping language acquisition and use. It highlights how individuals learn language not just as a set of grammatical rules but also as a means of expressing social identities, norms, and values within their communities. This theory is particularly relevant for understanding how linguistic diversity reflects and reinforces cultural diversity.

3. Communication Accommodation Theory: Communication accommodation theory explores how individuals adjust their language, speech patterns, and nonverbal behaviors to either converge with or diverge from the communication styles of others. This theory is relevant in multilingual and multicultural contexts, where speakers may adapt their communication strategies to enhance understanding, build rapport, or assert their cultural identities.

4. Critical Language Awareness: Critical language awareness emphasizes the critical examination of language ideologies, power structures, and inequalities embedded within linguistic practices. It focuses on uncovering hidden biases, stereotypes, and marginalization that may result from language use, language policies, or language hierarchies. This perspective is crucial for addressing issues of linguistic imperialism, discrimination, and linguistic diversity advocacy.

5. Acculturation Theory: Acculturation theory explores the processes through which individuals or groups adapt to new cultural environments, including language acquisition and cultural integration. It considers how linguistic and cultural changes occur as a result of contact between different cultural groups, leading to hybrid identities, language mixing, and code-switching phenomena.

6. Politeness Theory: Politeness theory examines how speakers manage interpersonal relationships and social hierarchies through language strategies such as politeness markers, speech acts, and face-saving manoeuvres. In diverse communication contexts, understanding politeness norms and cultural variations in communicative styles is crucial for maintaining positive interactions and avoiding misunderstandings.

7. Speech Accommodation Theory: Speech accommodation theory, also known as convergence-divergence theory, explores the ways in which speakers adjust their speech patterns, accents, and language choices to align with or differentiate from the linguistic norms of their interlocutors. This theory is relevant for studying language variation, dialectal differences, and communication dynamics in multicultural settings.

8. Ethnography of Communication: The ethnography of communication approach involves studying language use in its cultural context, focusing on communicative practices, speech communities, and communicative events. This approach helps uncover the intricate relationships between language, culture, social norms, and power structures, providing insights into how linguistic diversity shapes communication interactions.

Researchers and practitioners can gain a comprehensive understanding of how language diversity influences communication dynamics, intercultural interactions, and identity negotiations in diverse linguistic landscapes by integrating insights from these valuable frameworks provided by theories and models.

D. Linguistic Diversity and Communication Communication Processes:

Linguistic diversity encompasses a wide range of languages, dialects, accents, and communication styles present in diverse linguistic communities worldwide. This diversity profoundly influences communication processes, presenting both challenges and opportunities for individuals and societies.

1. Challenges in Communication:

a. Language Barriers: One of the primary challenges of linguistic diversity is the presence of language barriers that hinder effective communication between speakers of different languages. These barriers can lead to misunderstandings, misinterpretations, and communication breakdowns, especially in contexts where speakers do not share a common language.

b. Cultural Misunderstandings: Linguistic diversity often reflects underlying cultural differences, leading to potential misunderstandings or conflicts arising from differing cultural norms, values, and communication styles. For example, direct vs. indirect communication styles or varying concepts of politeness can impact interactions.

c. Interpretation and Translation Issues: The need for interpretation and translation services in multilingual settings introduces challenges related to accuracy, cultural nuances, and the availability of qualified interpreters/translators. Inaccurate translations can lead to distortions in meaning and communication errors.

2. Opportunities in Communication:

a. Cognitive Flexibility: Exposure to linguistic diversity can enhance cognitive flexibility, allowing individuals to adapt their communication styles, linguistic strategies, and problem-solving approaches in diverse contexts. This cognitive adaptability fosters creativity, empathy, and cross-cultural understanding.

b. Cultural Exchange and Learning: Linguistic diversity promotes cultural exchange and learning opportunities, enabling individuals to gain insights into different worldviews, traditions, and perspectives through language interactions. This exposure contributes to cultural awareness, tolerance, and appreciation of diversity.

c. Innovation and Collaboration: Multilingual environments often stimulate innovation and collaboration by bringing together diverse perspectives, knowledge systems, and skills.

Collaborative problem-solving, creativity, and cross-disciplinary approaches thrive in settings where linguistic diversity is embraced.

3. Strategies for Addressing Challenges and Maximizing Opportunities:

a. Language Access and Training: Providing language access through interpretation services, language learning programs, and multilingual resources can help bridge language gaps and facilitate communication across linguistic barriers.

b. Cultural Sensitivity and Competence: Promoting cultural sensitivity and competence among communicators is essential for navigating cultural differences, avoiding stereotypes, and fostering inclusive communication environments.

c. Technology-Mediated Communication: Leveraging technology, such as machine translation tools, digital platforms for language learning, and video conferencing with real-time interpretation, can enhance communication efficiency and accessibility in multilingual contexts.

d. Cross-Cultural Communication Training: Offering cross-cultural communication training to individuals and organizations equips them with skills for effective intercultural interactions, conflict resolution, and building meaningful relationships across linguistic and cultural divides.

In conclusion, while linguistic diversity presents challenges such as language barriers and cultural misunderstandings, it also offers opportunities for cognitive growth, cultural exchange, innovation, and collaboration. Strategic initiatives focused on language access, cultural competence, and technology integration can help mitigate communication challenges and harness the benefits of linguistic diversity in fostering inclusive and effective communication processes.

E. Cultural Sensitivity in Communication:

Cultural sensitivity plays a crucial role in fostering effective communication across linguistic boundaries, especially in diverse and multicultural settings. It involves awareness, respect, and understanding of cultural differences, norms, values, and communication styles that influence interpersonal interactions. This section examines the significance of cultural sensitivity and its impact on communication effectiveness.

1. Understanding Cultural Diversity:

a. Cultural Norms and Values: Cultural sensitivity requires recognizing and respecting diverse cultural norms, values, and belief systems that shape individuals' behaviours, attitudes, and communication preferences. For example, concepts of time, personal space, hierarchy, and nonverbal communication cues vary across cultures and influence communication dynamics.

b. Communication Styles: Different cultures have distinct communication styles, such as direct vs. indirect communication, high-context vs. low-context communication, and verbal vs. nonverbal emphasis. Understanding these variations helps navigate communication challenges and avoid misunderstandings.

c. Cultural Identity: Cultural sensitivity involves acknowledging and validating individuals' cultural identities, including their language, heritage, traditions, and customs. Embracing diversity and inclusivity in communication enhances trust, rapport, and mutual respect among diverse cultural groups.

2. Impact on Communication Across Linguistic Boundaries:

a. Enhanced Understanding: Cultural sensitivity fosters a deeper understanding of others' perspectives, worldviews, and experiences, leading to more empathetic and inclusive communication. This understanding is particularly crucial when communicating across linguistic boundaries, where cultural nuances significantly influence interpretation and meaning.

b. Conflict Resolution: Cultural sensitivity contributes to effective conflict resolution by promoting open dialogue, active listening, and consideration of diverse viewpoints. It helps

avoid cultural misunderstandings, stereotypes, and biases that can escalate conflicts in intercultural communication contexts.

c. Building Trust and Relationships: Culturally sensitive communication builds trust, strengthens relationships, and promotes collaboration across linguistic and cultural divides. When individuals feel understood, respected, and valued for their cultural backgrounds, they are more likely to engage positively and cooperatively in communication interactions.

3. Strategies for Culturally Sensitive Communication:

a. Cultural Awareness Training: Providing cultural awareness training and education to individuals and organizations enhances their understanding of cultural diversity, communication styles, and cultural competence skills.

b. Active Listening and Empathy: Practicing active listening, empathy, and nonjudgmental communication fosters mutual understanding and empathy across linguistic boundaries.

c. Adaptation and Flexibility: Being adaptable and flexible in communication approaches allows individuals to adjust their communication styles, language use, and behaviours to accommodate cultural differences and promote effective communication.

d. Respectful Language Use: Using respectful language, avoiding stereotypes, and being mindful of cultural sensitivities contribute to creating inclusive and respectful communication environments.

In summary, cultural sensitivity plays a pivotal role in bridging linguistic boundaries and promoting effective communication in diverse cultural contexts. Actively cultivating cultural awareness, embracing diversity, and practicing respectful communication strategies enables individuals and organizations to foster inclusivity, forge meaningful relationships, and effectively navigate communication challenges across linguistic and cultural divides.

F. Inclusive Communication Practices:

Inclusive communication practices are essential for promoting linguistic awareness and enhancing communication effectiveness in diverse and multicultural environments. These practices aim to create inclusive, accessible, and respectful communication spaces where individuals from different linguistic backgrounds can interact effectively. This section delves into strategies and approaches to foster linguistic awareness and promote inclusive communication.

1. Language Access and Equity:

a. Multilingual Resources: Providing multilingual resources, such as translated materials, multilingual websites, and signage in multiple languages, promotes language access and inclusivity for diverse linguistic communities.

b. Interpretation Services: Offering professional interpretation services, both in-person and remote, facilitates communication between speakers of different languages and ensures everyone can participate fully in conversations and events.

c. Captioning and Subtitling: Incorporating captions and subtitles in videos, presentations, and digital content enhances accessibility for individuals with hearing impairments and non-native speakers of the language.

2. Cultural Competence and Sensitivity:

a. Cultural Awareness Training: Providing training on cultural competence, diversity awareness, and cross-cultural communication equips individuals with the knowledge and skills to navigate cultural differences respectfully and effectively.

b. Promoting Cultural Sensitivity: Encouraging cultural sensitivity in communication involves recognizing and respecting diverse cultural norms, values, and communication styles to foster inclusive dialogue and understanding.

c. Avoiding Stereotypes and Biases: Being mindful of stereotypes, biases, and

microaggressions in communication helps create a welcoming and inclusive environment where individuals feel valued and respected regardless of their cultural or linguistic background.

3. Accessible Communication Platforms:

a. Technology Integration: Leveraging technology, such as language translation tools, real-time captioning software, and inclusive design principles in digital platforms, enhances accessibility and inclusivity in communication.

b. Clear and Concise Communication: Using clear and concise language, avoiding jargon, and providing context, when necessary, improves communication comprehension for diverse audiences, including those with limited proficiency in the primary language.

c. Feedback Mechanisms: Establishing feedback mechanisms, such as surveys, focus groups, and open forums, allows individuals to provide input on communication practices and suggest improvements to enhance inclusivity and effectiveness.

4. Promoting Collaboration and Engagement:

a. Collaborative Communication: Encouraging collaborative communication practices, such as active listening, open dialogue, and participatory decision-making processes, fosters engagement and mutual respect among diverse stakeholders.

b. Inclusive Meetings and Events: Designing meetings, workshops, and events with inclusive formats, diverse representation, and language accommodations promotes active participation and inclusivity for all attendees.

c. Celebrating Diversity: Recognizing and celebrating linguistic and cultural diversity through inclusive language, cultural celebrations, and diversity-focused initiatives fosters a sense of belonging and community among diverse groups.

5. Continuous Learning and Improvement:

a. Training and Development: Providing ongoing training and development opportunities on inclusive communication, diversity awareness, and linguistic diversity fosters a culture of continuous learning and improvement within organizations and communities.

b. Feedback and Evaluation: Soliciting feedback, conducting evaluations, and incorporating lessons learned from communication experiences help identify areas for improvement and refine inclusive communication practices over time.

In conclusion, inclusive communication practices involve a range of strategies and approaches aimed at promoting linguistic awareness, cultural competence, accessibility, and engagement in communication interactions. By implementing these practices, individuals, organizations, and communities can create inclusive communication environments that value diversity, foster understanding, and enhance communication effectiveness across linguistic and cultural boundaries.

G. Actionable Recommendations:

Implementing inclusive communication practices requires a proactive approach and collaborative efforts from educators, policymakers, practitioners, and stakeholders across various sectors. The following are practical suggestions and actionable recommendations to promote inclusive communication in diverse settings:

1. Educators:

a. Integrate Cultural and Linguistic Diversity in Curricula: Include modules, case studies, and discussions on cultural and linguistic diversity in educational curricula across disciplines to promote awareness and understanding among students.

b. Offer Language Learning Opportunities: Provide language learning programs, workshops,

and resources that support students in acquiring proficiency in multiple languages, fostering linguistic awareness and inclusivity.

c. Promote Intercultural Competence: Incorporate intercultural communication training, diversity workshops, and cross-cultural collaboration projects to develop students' intercultural competence and sensitivity.

2. Policymakers:

a. Develop Inclusive Language Policies: Formulate language policies that prioritize linguistic diversity, provide language access, and support multilingualism in public services, education, healthcare, and government communications.

b. Invest in Language Access Services: Allocate resources for interpretation services, translation assistance, and multilingual communication materials to ensure equitable access to information and services for linguistically diverse communities.

c. Support Diversity Initiatives: Fund initiatives that promote cultural competence, diversity awareness, and inclusive communication practices in educational institutions, workplaces, and community organizations.

3. Practitioners:

a. Use Inclusive Language: Use inclusive language that respects diverse identities, avoids stereotypes, and promotes a sense of belonging among diverse audiences in written and verbal communication.

b. Provide Language Accommodations: Offer language accommodations, such as interpretation, translation, captioning, and accessible formats, to facilitate communication for individuals with limited proficiency in the primary language.

c. Engage in Cultural Sensitivity Training: Participate in cultural sensitivity training, diversity workshops, and professional development opportunities to enhance cultural competence and inclusive communication skills.

4. Organizations and Institutions:

a. Create Inclusive Communication Policies: Establish policies and guidelines that promote inclusive communication practices, cultural sensitivity, and language accessibility in organizational communications, meetings, and events.

b. Facilitate Cross-Cultural Collaboration: Foster collaborative projects, cross-functional teams, and inclusive decision-making processes that embrace diversity, encourage diverse perspectives, and promote effective communication across cultural and linguistic boundaries.

c. Evaluate and Adjust Practices: Regularly evaluate communication practices, gather feedback from stakeholders, and make adjustments to enhance inclusivity, accessibility, and effectiveness in communication strategies and initiatives.

5. Community Engagement:

a. Engage Diverse Stakeholders: Involve diverse stakeholders, including community members, language experts, cultural advocates, and representatives from marginalized groups, in co-designing inclusive communication initiatives and policies.

b. Promote Dialogue and Understanding: Facilitate open dialogue, cultural exchange events, and forums for constructive discussions on cultural and linguistic diversity to promote mutual understanding, respect, and collaboration.

c. Celebrate Diversity: Organize cultural celebrations, heritage months, and diversity-themed activities that highlight the richness of linguistic and cultural diversity, fostering a sense of pride and unity within the community.

Educators, policymakers, practitioners, organizations, and communities can cultivate inclusive communication environments that celebrate diversity, foster mutual understanding, and

improve communication effectiveness across linguistic and cultural barriers by implementing these actionable recommendations.

H. Conclusion:

The research paper has delved into the profound influence of linguistic diversity on communication processes, highlighting both challenges and opportunities. The key findings and future research directions can be summarized as follows:

Key Findings:

1. Linguistic Diversity's Influence on Communication:

- a. Linguistic diversity significantly affects communication processes, leading to language barriers, cultural misunderstandings, and interpretation challenges in diverse settings.
- b. Cultural sensitivity and competence play a crucial role in fostering effective communication across linguistic boundaries by promoting understanding, respect, and inclusivity.

2. Challenges and Opportunities:

- a. Challenges such as language barriers, cultural misunderstandings, and interpretation issues require strategic approaches and inclusive communication practices to mitigate their impact.
- b. Linguistic diversity also presents opportunities for cognitive growth, cultural exchange, innovation, and collaboration, enhancing communication effectiveness and cross-cultural understanding.

3. Inclusive Communication Practices:

Inclusive communication practices, including language access, cultural competence, technology integration, and collaboration strategies, are essential for promoting linguistic awareness and enhancing communication effectiveness in diverse environments.

Future Research Directions:

1. Impact of Digital Communication Technologies: Investigate the impact of digital communication technologies, such as machine translation, digital platforms, and virtual reality, on bridging linguistic divides and fostering inclusive communication.

2. Role of Education and Training: Explore the effectiveness of language learning programs, intercultural communication training, and diversity workshops in promoting cultural sensitivity, language access, and inclusive communication practices.

3. Cross-Cultural Communication Dynamics: Study the dynamics of cross-cultural communication, including speech accommodation, language adaptation, and cultural negotiation strategies, in diverse linguistic contexts.

4. Communication in Globalized Contexts: Examine the role of language policies, globalization effects, and transnational communication dynamics in shaping linguistic diversity's impact on global communication interactions.

5. Digital Linguistic Activism: Investigate the role of digital linguistic activism, language revitalization efforts, and community-driven initiatives in preserving linguistic diversity and promoting inclusive communication spaces.

6. Long-Term Impact of Inclusive Communication Practices: Assess the long-term impact of inclusive communication practices on social cohesion, intergroup relations, and cultural sustainability in diverse communities.

Addressing these future research directions will further advance our understanding of how linguistic variety shapes communication interactions and enable scholars, practitioners, and policymakers to develop innovative strategies to promote inclusivity, cultural sensitivity, and effective communication across linguistic boundaries.

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ABSTRACT

The present paper focused on the floristic diversity of Dandoba Hills from Sangli district of Maharashtra State. The present area selected for study because it has been given little attention of its vegetation. The whole work conducted during the year of 2022-2023. The vegetation was arid and dry deciduous type. The work presented 264 species belong to 78 families. Among these families Fabaceae, Caesalpiniaceae and Poaceae are the most dominant family. Most plant species are endemic and some are introduced. The data was original and first time explored.

KEY WORDS –*Floristic, Diversity, Dandoba,*

INTRODUCTION

Floristic study plays an important role in the distribution & economic development within a particular area. Plant communities play a vital role in sustainable management by maintaining the environment. Floristic study and diversity assessments are necessary to understand the present diversity status and conserve the biodiversity. It is necessary for fundamental research like species diversity or species distribution.

In recent years the floristic studies acquire great importance because there is a need of assess the plant wealth of different countries in the world. Therefore, many floristic studies have been conducted by researchers in India and all over the world. The present study area Dandoba Hills from Sangli district is selected for study because it has been given little attention of its vegetation. The Dandoba Hills belong to arid region of Western Maharashtra. In this area the arid to semiarid and dry deciduous vegetation are present. The vegetation area is hilly with slope and plateaus. The present data in this work are original and first hand.

MATERIAL AND METHOD

Study Area – Dandoba Hills is located on the boundaries of Tehsil Miraj and Tehsil Kavathe Mahankal, having moderate rainfall of average 450mm. The area belongs to arid region and climate is hot. Maximum temperature reaches upto 40°C to 42°C in summer, while minimum goes down upto 20°C. Dandoba Hills spread over about 1150 hectares in the limits of five-gram panchayat.

Analysis – The detailed survey that involved multiple visits to different sites of area which are selected for study during January 2022 to December 2023. The data were collected through interviews and discussions among the local peoples are made to observe and collect the plant species. On visit we captured the photographs of plant in flowering and fruiting condition on digital camera. The identification of genus and species is a most important part of the all over work. The identification was done by using standard floras i.e. Flora of The Presidency of

Bombay (T. Cook, 1903) and Flora of Maharashtra State (Singh & Karthikyan, 2000) published by Botanical Survey of India (BSI).

RESULT AND DISCUSSION

The investigation was carried out to explore the floristic diversity in Dandoba Hills. In this study there are some important herbs, shrub and trees are observed. In the present study a total 264 species belonging to 213 genera and 78 families were identified from selected area. Out of 264 plants the genus like *Cassia* and *Acacia* are dominant. Of these dicotyledons represented by 226 species and 180 genera under 67 families whereas monocotyledons represent 38 species and 33 genera under 11 families.

Here it is clearly seen that dicotyledons are dominant over monocotyledons. Here above 85.60 % species are dicotyledons and remaining 14.40 % species are monocotyledons. In dicotyledons, Fabaceae family was dominated which represents 21 species in 17 genera. In monocotyledons the Poaceae family was dominated which represents 21 species in 17 genera. In this work during observation, we have seen some rare species in this area like *Sida acuta*, *Wattakaka volubilis*, *Hemidesmus indicus*, *Vallisneria spiralis* etc.

CONCLUSION

The present work revealed that 264 species belonging to 78 families in which most of the species are endemic and some species are introduced and some are RET listed. In this work we have seen that the vegetation was affected by local activities like cutting, grazing and other human activities. There is need of conserve the plant species to preventing loss of ecological balance in this area. There is urgent need for whole area under conservation and protection by Government as well as to aware peoples about the floristic diversity. It is hoped that the present work will be helpful to future generation for collection, identification and floristic study. The work will also contribute to make the Flora of Sangli District.

Table – Floristic Diversity of Dandoba Hills

Sr. No.	Botanical Name	Vernacular Name	Family
1	<i>Clematis heynei</i> L.	Ranjai	Ranunculaceae
2	<i>Annona reticulate</i> L.	Ramphal	Annonaceae
3	<i>Annona squamosa</i> L.	Sitaphal	Annonaceae
4	<i>Artabotrys hexapetalus</i> Bhandari	Hirava Chapha	Annonaceae
5	<i>Polyalthia longifolia</i> Sonn.	Khota Ashok	Annonaceae
6	<i>Coccculus hirsutus</i> (L.) Diels	Jaljamni	Menispermaceae
7	<i>Tinospora cordifolia</i> (Thunb.) Miers	Gulvel	Menispermaceae
8	<i>Argemone Mexicana</i> L.	Pivala Dhotara	Papaveraceae

9	<i>Cleome felina L.</i>	<i>Gulabi Tilwan</i>	<i>Cleomaceae</i>
10	<i>Cleome gynandra L.</i>	<i>Pandhari Tilwan</i>	<i>Cleomaceae</i>
11	<i>Cleome simplicifolia Camb</i>	<i>Gavati Tilwan</i>	<i>Cleomaceae</i>
12	<i>Cleome viscosa L.</i>	<i>Pivali Tilwan</i>	<i>Cleomaceae</i>
13	<i>Cadaba fruticosa L.</i>	<i>Kalitaka</i>	<i>Capparaceae</i>
14	<i>Capparis decidua Foressk.</i>	<i>Nepati</i>	<i>Capparaceae</i>
15	<i>Capparis divaricate Lam.</i>	<i>Pachunda</i>	<i>Capparaceae</i>
16	<i>Capparis grandis L.</i>	<i>Pachara</i>	<i>Capparaceae</i>
17	<i>Capparis sepiaria L.</i>	<i>Kanthara</i>	<i>Capparaceae</i>
18	<i>Capparis zeylanica L.</i>	<i>Wagati</i>	<i>Capparaceae</i>
19	<i>Polygala arvensis Wild</i>	<i>Mekhali</i>	<i>Polygalaceae</i>
20	<i>Polycarpaea corymbosa Lam.</i>	<i>Koyap</i>	<i>Caryophyllaceae</i>
21	<i>Portulaca olercea L.</i>	<i>Ghol</i>	<i>Portulacaceae</i>
22	<i>Portulaca quadrifida L.</i>	<i>Ranghol</i>	<i>Portulacaceae</i>
23	<i>Bergia ammannioides Roxb.</i>		<i>Elatinaceae</i>
24	<i>Abutilon indicum (L.) Sweet</i>	<i>Mudra</i>	<i>Malvaceae</i>
25	<i>Abutilon pannosum Schlecht.</i>	<i>Karindi</i>	<i>Malvaceae</i>
26	<i>Hibiscus lobatus O. Kuntze</i>		<i>Malvaceae</i>
27	<i>Malachra capitata L.</i>	<i>Ran Ambadi</i>	<i>Malvaceae</i>
28	<i>Marva parviflora L.</i>	<i>Gobi-sag</i>	<i>Malvaceae</i>
29	<i>Malvastrum coromandelianum L.</i>		<i>Malvaceae</i>
30	<i>Sida acuta Burm.</i>	<i>Chinkana</i>	<i>Malvaceae</i>

31	<i>Sida cordifolia L.</i>	Bala	Malvaceae
32	<i>Sida rhombifolia L.</i>	Atibala	Malvaceae
33	<i>Sida spinosa L.</i>		Malvaceae
34	<i>Thespesia populnea (L.) Sol.</i>	Gulbhendi	Malvaceae
35	<i>Urena lobata L.</i>		Malvaceae
36	<i>Bombax cieba L.</i>		Malvaceae
37	<i>Corchorus olitorius L.</i>	Banpat	Tiliaceae
38	<i>Grewia asiatica L.</i>	Phalsa	Tiliaceae
39	<i>Grewia hirsute Vahl</i>	Kirmid	Tiliaceae
40	<i>Triumfetta rhomboidea Jacq.</i>	Thinjira	Tiliaceae
41	<i>Linum mysorensense Benth.</i>	Undri	Linaceae
42	<i>Tribulus terrestris L.</i>	Gokharu	Zygophyllaceae
43	<i>Biophytum sensitivum DC.</i>	Lajari	Oxalidaceae
44	<i>Oxalis corniculata L.</i>	Ambushi	Oxalidaceae
45	<i>Impatiens balsamina L.</i>	Terda	Balsaminaceae
46	<i>Aegle marmelos (L.) Corr</i>	Bael	Rutaceae
47	<i>Limonia acidissima L.</i>	Kavath	Rutaceae
48	<i>Murraya koenigii Spreng.</i>	Kadhi Patta	Rutaceae
49	<i>Ailanthus excels Roxb.</i>	Maharukh	Simaroubaceae
50	<i>Balanites aegyptica L.</i>	Hinganbet	Balanitaceae
51	<i>Baswellia serrate Roxb.</i>	Salphali	Burseraceae
52	<i>Azadirachta indica Juss</i>	Neem	Meliaceae

53	<i>Melia azadarach L.</i>	<i>Limbara</i>	<i>Meliaceae</i>
54	<i>Maytenus senegalensis Excell</i>		<i>Celastraceae</i>
55	<i>Ziziphus jujuba (L.) Lam.</i>	<i>Bor</i>	<i>Rhamnaceae</i>
56	<i>Ziziphus nummilaria Wight & Arn</i>	<i>Gangra</i>	<i>Rhamnaceae</i>
57	<i>Ziziphus xylopyrus Wight & Arn</i>	<i>Ghatbor</i>	<i>Rhamnaceae</i>
58	<i>Cardiospermum halicacabum L.</i>	<i>Kapalphodi</i>	<i>Sapindaceae</i>
59	<i>Dadonaea angustifolia L.</i>	<i>Bandukicha pala</i>	<i>Sapindaceae</i>
60	<i>Buchanania cochinchinesis Almeida</i>	<i>Charoli</i>	<i>Anacardiaceae</i>
61	<i>Mangifera indica L.</i>	<i>Amba</i>	<i>Anacardiaceae</i>
62	<i>Rhus sinuata Thumb.</i>	<i>Amani</i>	<i>Anacardiaceae</i>
63	<i>Semicarpus anacardium L.</i>	<i>Bibba</i>	<i>Anacardiaceae</i>
64	<i>Moringa oleifera Lam.</i>	<i>Shevaga</i>	<i>Moringaceae</i>
65	<i>Abrus precatorius L.</i>	<i>Gunj</i>	<i>Fabaceae</i>
66	<i>Aeschynomene indica L.</i>		<i>Fabaceae</i>
67	<i>Alysicarpus bupleurifolius L.</i>		<i>Fabaceae</i>
68	<i>Alysicarpus gamblei Schindi</i>		<i>Fabaceae</i>
69	<i>Alysicarpus longifolius Wight & Arn</i>	<i>Shevara</i>	<i>Fabaceae</i>
70	<i>Butea monosperma Taub.</i>	<i>Palas</i>	<i>Fabaceae</i>
71	<i>Clitoria ternatea L.</i>	<i>Gokarn</i>	<i>Fabaceae</i>
72	<i>Crotolaria juncea L.</i>	<i>Tag</i>	<i>Fabaceae</i>
73	<i>Crotolaria nana Burm.</i>	<i>Khulkhula</i>	<i>Fabaceae</i>
74	<i>Heylandia latebroso DC.</i>	<i>Godhadi</i>	<i>Fabaceae</i>

75	<i>Cyllen corylifolium L.</i>	<i>Bavachi</i>	<i>Fabaceae</i>
76	<i>Dalbergia sissoo Roxb.</i>	<i>Shisav</i>	<i>Fabaceae</i>
77	<i>Erytrina suberosa Roxb.</i>	<i>Ran Pangara</i>	<i>Fabaceae</i>
78	<i>Gliricidia sepium Jacq.</i>	<i>Undirmari</i>	<i>Fabaceae</i>
79	<i>Indigofera cordifolia Roth</i>	<i>Bechka</i>	<i>Fabaceae</i>
80	<i>Indigofera linifolia Retz.</i>	<i>Pandharphali</i>	<i>Fabaceae</i>
81	<i>Pongamia pinnata (L.) Pierre</i>	<i>Karanji</i>	<i>Fabaceae</i>
82	<i>Tephrosia purpurea (L.) Pers</i>	<i>Unhali</i>	<i>Fabaceae</i>
83	<i>Vigna trilobata Verd.</i>	<i>Moogi</i>	<i>Fabaceae</i>
84	<i>Bauhinia recemosa Lam.</i>	<i>Aapta</i>	<i>Caesalpiniaceae</i>
85	<i>Caesalpinia bonduc Roxb.</i>	<i>Gajaga</i>	<i>Caesalpiniaceae</i>
86	<i>Caesalpinia decapetala (Roth) Alst.</i>	<i>Chilar</i>	<i>Caesalpiniaceae</i>
87	<i>Caesalpinia pulcherrima (L.) Sw.</i>	<i>Sankasur</i>	<i>Caesalpiniaceae</i>
88	<i>Cassia auriculata L.</i>	<i>Tarwad</i>	<i>Caesalpiniaceae</i>
89	<i>Cassia fistula L.</i>	<i>Bahava</i>	<i>Caesalpiniaceae</i>
90	<i>Cassia occidentalis L.</i>	<i>Rantakala</i>	<i>Caesalpiniaceae</i>
91	<i>Cassia siamea Lam.</i>	<i>Kashid</i>	<i>Caesalpiniaceae</i>
92	<i>Cassia sophera L.</i>	<i>Takala</i>	<i>Caesalpiniaceae</i>
93	<i>Delonix regia (Hook.) Raf.</i>	<i>Gulmohar</i>	<i>Caesalpiniaceae</i>
94	<i>Parkinsonia culeate L.</i>	<i>Vilayti Babhul</i>	<i>Caesalpiniaceae</i>
95	<i>Tamarindus indica L.</i>	<i>Chinch</i>	<i>Caesalpiniaceae</i>
96	<i>Acacia catechu Willd</i>	<i>Khair</i>	<i>Mimosaceae</i>

97	<i>Acacia concinna</i> DC.	<i>Shikekai</i>	<i>Mimosaceae</i>
98	<i>Acacia fornesiana</i> Willd.	<i>Dev Babhul</i>	<i>Mimosaceae</i>
99	<i>Acacia leucophloea</i> (Roxb.) Willd.	<i>Hivar</i>	<i>Mimosaceae</i>
100	<i>Acacia polyacantha</i> Willd.	<i>Sonkhair</i>	<i>Mimosaceae</i>
101	<i>Acacia torta</i> (Roxb.) Crab.	<i>Babhali Chilar</i>	<i>Mimosaceae</i>
102	<i>Albizia lebbeck</i> Willd.	<i>Shirish</i>	<i>Mimosaceae</i>
103	<i>Dichrostachys cinerea</i> Wight & Arn.	<i>Durangi</i>	<i>Mimosaceae</i>
104	<i>Leucaena latisiliqua</i> (L.) Gills.	<i>Subabhul</i>	<i>Mimosaceae</i>
105	<i>Mimosa pudica</i> L.	<i>Lajalu</i>	<i>Mimosaceae</i>
106	<i>Samanea saman</i> (Jacq.) Merr.	<i>Parjanyaavriksha</i>	<i>Mimosaceae</i>
107	<i>Terminalia tomentosa</i> Roth.	<i>Ain</i>	<i>Cmbretaceae</i>
108	<i>Anogeissus latifolia</i> Guill.	<i>Dhavada</i>	<i>Cmbretaceae</i>
109	<i>Syzygium cumini</i> (L.) Skeels	<i>Jambhul</i>	<i>Myrtaceae</i>
110	<i>Ammania baccifera</i> L.	<i>Dadmari</i>	<i>Lythraceae</i>
111	<i>Woodfordia fruticosa</i> (L.) Kurz.	<i>Dhayati</i>	<i>Lythraceae</i>
112	<i>Lawsonia inermis</i> L.	<i>Mehandi</i>	<i>Lythraceae</i>
113	<i>Ludwigia octovalvis</i> (Jacq.) Raven	<i>Panlavan</i>	<i>Onagraceae</i>
114	<i>Coccinea grandis</i> L.	<i>Tondali</i>	<i>Cucurbitaceae</i>
115	<i>Citrullus colocynthis</i> L.	<i>Kadu Indrayan</i>	<i>Cucurbitaceae</i>
116	<i>Diplocyclos palmatus</i> (L.) Jeffery	<i>Shivlingi</i>	<i>Cucurbitaceae</i>
117	<i>Cereus peruvianus</i> Mill.	<i>Tindhari Nivdung</i>	<i>Cactaceae</i>
118	<i>Opuntia elatior</i> Mill.	<i>Nivdung</i>	<i>Cactaceae</i>

119	<i>Trianthema portulacastrum L.</i>	<i>Pandhari Vasu</i>	<i>Aizoaceae</i>
120	<i>Trianthema triquetra Willd.</i>		<i>Aizoaceae</i>
121	<i>Molluga pentaphylla L.</i>	<i>Zarsi</i>	<i>Molluginaceae</i>
122	<i>Centella asiatica L.</i>	<i>Brahmi</i>	<i>Apiaceae</i>
123	<i>Canthium coromandelicum Alst.</i>	<i>Kara</i>	<i>Rubiaceae</i>
124	<i>Randia dumetorum (Retz.) Lam.</i>	<i>Gelphal</i>	<i>Rubiaceae</i>
125	<i>Morinda citrifolia L.</i>	<i>Bartondi</i>	<i>Rubiaceae</i>
126	<i>Spermacoce articularis L. F.</i>	<i>Madanghanti</i>	<i>Rubiaceae</i>
127	<i>Ageratum conyzoides L.</i>	<i>Sahdevi</i>	<i>Asteraceae</i>
128	<i>Bidens biternata Merr & Scherif</i>	<i>Chikta</i>	<i>Asteraceae</i>
129	<i>Echinops echinatus Roxb.</i>	<i>Kate chendu</i>	<i>Asteraceae</i>
130	<i>Eclipta prostrate L.</i>	<i>Maka</i>	<i>Asteraceae</i>
131	<i>Emilia sonchifolia (L.) DC.</i>	<i>Sadamandei</i>	<i>Asteraceae</i>
132	<i>Glossocardia boswellia DC.</i>	<i>Khadakshepu</i>	<i>Asteraceae</i>
133	<i>Grangea maderaspatana Poir.</i>	<i>Machipatra</i>	<i>Asteraceae</i>
134	<i>Lagascea mollis Cav.</i>	<i>Tharvad</i>	<i>Asteraceae</i>
135	<i>Launaea procumbens Cass.</i>	<i>Pathar</i>	<i>Asteraceae</i>
136	<i>Parthenium hysterophorusL.</i>	<i>Gajar gavat</i>	<i>Asteraceae</i>
137	<i>Senecio bombayensis Balokr</i>	<i>Sonaki</i>	<i>Asteraceae</i>
138	<i>Sonchus asper (L.) Hill</i>	<i>Mhatari</i>	<i>Asteraceae</i>
139	<i>Tridax procumbens L.</i>	<i>Dagadipala</i>	<i>Asteraceae</i>
140	<i>Vernonia cinerea (L.) Less.</i>	<i>Sahaderi</i>	<i>Asteraceae</i>

141	<i>Plumbago zeylanica L.</i>	<i>Chitrak</i>	<i>Plumbaginaceae</i>
142	<i>Anagallis arvensis L.</i>	<i>Jokmari</i>	<i>Primulaceae</i>
143	<i>Diospyros melanoxylon Roxb.</i>	<i>Tembhurni</i>	<i>Ebenaceae</i>
144	<i>Jasminum auriculatum Vahl</i>	<i>Jai</i>	<i>Oleaceae</i>
145	<i>Carrisa carandas L.</i>	<i>Karvand</i>	<i>Apocynaceae</i>
146	<i>Cascabella thevetia Lippold.</i>	<i>Pivali Kanher</i>	<i>Apocynaceae</i>
147	<i>Catharanthus pusillis (Murr.) G Don</i>	<i>Tiloni</i>	<i>Apocynaceae</i>
148	<i>Nerium indicum Mill.</i>	<i>Kanher</i>	<i>Apocynaceae</i>
149	<i>Vallaris solanacea (Roth.) O. Ktze</i>		<i>Apocynaceae</i>
150	<i>Wrightia tinctoria R. Br.</i>	<i>Kalakuda</i>	<i>Apocynaceae</i>
151	<i>Asclepias curassavica L.</i>	<i>Haladi kunku</i>	<i>Asclepiadaceae</i>
152	<i>Calotropis gigangtea (L.) Dryand</i>	<i>Aak</i>	<i>Asclepiadaceae</i>
153	<i>Calotropis procera W. T. Aiton</i>	<i>Rui</i>	<i>Asclepiadaceae</i>
154	<i>Pergularia daemia (Forssk) Chiov.</i>	<i>Utarni</i>	<i>Asclepiadaceae</i>
155	<i>Sarcostemma viminale (L.) Br.</i>	<i>Somvel</i>	<i>Asclepiadaceae</i>
156	<i>Wattakaka volubilis (L.F) Stapt.</i>	<i>Hirnadodi</i>	<i>Asclepiadaceae</i>
157	<i>Cryptolepis buehanani R. Br.</i>	<i>Kavali</i>	<i>Asclepiadaceae</i>
158	<i>Cryptostegia grandiflora R. Br.</i>	<i>Vakundi</i>	<i>Asclepiadaceae</i>
159	<i>Hemidesmus indicus (L.) Sch.</i>	<i>Anantmul</i>	<i>Asclepiadaceae</i>
160	<i>Canscora diffusa (Vabl) R. Br.</i>	<i>Kilwar</i>	<i>Gentianaceae</i>
161	<i>Coldenia procumbens L.</i>	<i>Tripkshi</i>	<i>Boraginaceae</i>
162	<i>Cordia dichotoma Forest.</i>	<i>Bhokar</i>	<i>Boraginaceae</i>

163	<i>Argyreia cuneata</i> (Willd) Ker-Gawl	Mahalungi	Convolvulaceae
164	<i>Argyreia nervosa</i> (Burm.f.) Bojer	Samudrashok	Convolvulaceae
165	<i>Convolvulus arvensis</i> L.	Chandvel	Convolvulaceae
166	<i>Evolvulus alsinoides</i> (Linn.) Linn.	Vishnukant	Convolvulaceae
167	<i>Ipomoea carnea</i> Jacq.	Besharam	Convolvulaceae
168	<i>Merremia gangetica</i> (L.) Cuford	Undirkani	Convolvulaceae
169	<i>Cuscuta reflexa</i> Roxb.	Amarvel	Convolvulaceae
170	<i>Datura innoxia</i> Mill.	Dhotara	Solanaceae
171	<i>Datura metal</i> L.	Kala dhotara	Solanaceae
172	<i>Physalis minima</i> L.	Papati	Solanaceae
173	<i>Withania somnifera</i> (L.) Dunal	Ashwagandha	Solanaceae
174	<i>Bacopa monnieri</i> (L.) Penn.	Neer-Brahmi	Plantaginacea
175	<i>Parasopubia delphinifolia</i> (L.) H.	Dudhali	Orobanchaceae
176	<i>Orobanchae cernua</i> Loefl.		Orobanchaceae
177	<i>Dolichandrone falcata</i> Seem.	Medshingi	Bignoniaceae
178	<i>Jacaranda acutifolia</i> Humb. & Bonpl	Nilmohar	Bignoniaceae
179	<i>Millingtonia hortensis</i> L. f.	Akashneem	Bignoniaceae
180	<i>Tecoma stans</i> (L.) H. B & K.	Phutani	Bignoniaceae
181	<i>Sesamum laciniatum</i> Klein ex Willd.	Peerel	Pedaliaceae
182	<i>Sesamum mulayanum</i> Nair	Raan Teel	Pedaliaceae
183	<i>Martynia annua</i> L.	Winchavi	Martyniaceae
184	<i>Andrographis paniculata</i> (Burm.f.) Nees	Kadechirayat	Acanthaceae

185	<i>Hygrophila auriculata</i> Schumach.	Koshinda	Acanthaceae
186	<i>Justicia adhatoda</i> L.	Adulsa	Acanthaceae
187	<i>Lepidagathis cristata</i> Willd	Bhuigend	Acanthaceae
188	<i>Volkameria inermis</i> L.	Koynel	Verbenaceae
189	<i>Clerodendrum phlomidis</i> L.f.	Bhauri	Verbenaceae
190	<i>Clerodendrum serratum</i> (L.) Moon	bharangi	Verbenaceae
191	<i>Gmelina arborea</i> Roxb.	Shivan	Verbenaceae
192	<i>Lantana camara</i> L.	Ghaneri	Verbenaceae
193	<i>Phyla nodiflora</i> (L.) Greene	Mundi	Verbenaceae
194	<i>Tectona grandis</i> L.f.	Saag	Verbenaceae
195	<i>Vitex negundo</i> L.	Nirgudi	Verbenaceae
196	<i>Hyptis suaveolens</i> (L.) Poit.	Darptulas	Lamiaceae
197	<i>Lavandula bipinnata</i> (Roth.) O.Ktze	Ghodegui	Lamiaceae
198	<i>Leucas aspera</i> (Willd) Link.	Shankroba	Lamiaceae
199	<i>Ocimum americanum</i> L.	Rantulasi	Lamiaceae
200	<i>Ocimum basilicum</i> L.	Sabja	Lamiaceae
201	<i>Ocimum tenuiflorum</i> L.	Tulasi	Lamiaceae
202	<i>Boerhavia erecta</i> L.	Punarnava	Nyctaginaceae
203	<i>Achyranthus aspera</i> L.	Aghada	Amaranthaceae
204	<i>Alternanthera sessilis</i> (L.) R. Br.	Reshim kata	Amaranthaceae
205	<i>Alternanthera pungens</i> Kunth	Khaki kata	Amaranthaceae
206	<i>Amaranthus roxburghianus</i> Nevski	Tandulja	Amaranthaceae

207	<i>Amaranthus spinosus L.</i>	<i>Katemath</i>	<i>Amaranthaceae</i>
208	<i>Celosia argentea L.</i>	<i>Kurdu</i>	<i>Amaranthaceae</i>
209	<i>Digera muricata (L.) Mart.</i>	<i>Kunjir</i>	<i>Amaranthaceae</i>
210	<i>Persicaria glabra (Willd) Gomez.</i>	<i>Sheral</i>	<i>Polygonaceae</i>
211	<i>Aristolochia bracteolata Lam.</i>	<i>Kidmar</i>	<i>Aristolochiaceae</i>
212	<i>Santalum album L.</i>	<i>Chandan</i>	<i>Santalaceae</i>
213	<i>Emblica officinalis Gaerth.</i>	<i>Awala</i>	<i>Euphorbiaceae</i>
214	<i>Euphorbia geniculata Orteg.</i>	<i>Mothi dudhani</i>	<i>Euphorbiaceae</i>
215	<i>Euphorbia hirta L.</i>	<i>Dudhani</i>	<i>Euphorbiaceae</i>
216	<i>Euphorbia tirucalli L.</i>	<i>Sher</i>	<i>Euphorbiaceae</i>
217	<i>Jatropha curcas L.</i>	<i>Mogali Erand</i>	<i>Euphorbiaceae</i>
218	<i>Phyllanthus niruri L.</i>	<i>Bhuiawala</i>	<i>Euphorbiaceae</i>
219	<i>Phyllanthus reticulatus Poir.</i>	<i>Kanguni</i>	<i>Euphorbiaceae</i>
220	<i>Flueggea leucopyrus L.</i>	<i>Pandharpali</i>	<i>Euphorbiaceae</i>
221	<i>Tragia plukenetii L.</i>	<i>Churchri</i>	<i>Euphorbiaceae</i>
222	<i>Ficus benghalensis L.</i>	<i>Vad</i>	<i>Moraceae</i>
223	<i>Ficus recemosa L.</i>	<i>Umber</i>	<i>Moraceae</i>
224	<i>Ficus religiosa L.</i>	<i>Pimpal</i>	<i>Moraceae</i>
225	<i>Morus alba L.</i>	<i>Tuti</i>	<i>Moraceae</i>
226	<i>Casuarina equisetifolia L.</i>	<i>Suru</i>	<i>Casuarinaceae</i>
227	<i>Ottelia alismoides (L.) Pers.</i>	<i>Olek</i>	<i>Hydrocharitaceae</i>
228	<i>Vallisneria spiralis L.</i>	<i>Seval</i>	<i>Hydrocharitaceae</i>

229	<i>Hydrilla verticillata (L.f.) Royle</i>	<i>Shakharisheval</i>	<i>Hydrocharitaceae</i>
230	<i>Canna indica L.</i>	<i>Kardal</i>	<i>Cannaceae</i>
231	<i>Curculigo orchioides Gaerth.</i>	<i>Kalimusali</i>	<i>Hypoxidaceae</i>
232	<i>Agave americana L.</i>	<i>Kektad</i>	<i>Agavaceae</i>
233	<i>Aloe vera (L.) Burm.f.</i>	<i>Korphad</i>	<i>Liliaceae</i>
234	<i>Asparagus racemosus Willd.</i>	<i>Shatavari</i>	<i>Liliaceae</i>
235	<i>Drimia polyantha Ans. & Ragh.</i>	<i>Rankanda</i>	<i>Liliaceae</i>
236	<i>Iphigenia indica (L.) A. Gray.</i>	<i>Bhuichakra</i>	<i>Liliaceae</i>
237	<i>Eichhornia crassipes (Mart.) Solms</i>		<i>Pontederiaceae</i>
238	<i>Commelina benghalensis L.</i>	<i>Kena</i>	<i>Commelinaceae</i>
239	<i>Commelina forskolii Vahl</i>	<i>Kanpet</i>	<i>Commelinaceae</i>
240	<i>Phoenix sylvestris (L.) Roxb.</i>	<i>Shindi</i>	<i>Areaceae</i>
241	<i>Typha angustifolia L.</i>	<i>Paankanis</i>	<i>Typhaceae</i>
242	<i>Cyperus castaneus Willd.</i>		<i>Cyperaceae</i>
243	<i>Cyperus rotundus L.</i>	<i>Nagarmotha</i>	<i>Cyperaceae</i>
244	<i>Andropogon pumilus Roxb.</i>	<i>Tambadgota</i>	<i>Poaceae</i>
245	<i>Apluda mutica L.</i>	<i>Tambat</i>	<i>Poaceae</i>
246	<i>Aristida adscensionis L.</i>	<i>Kusaligavat</i>	<i>Poaceae</i>
247	<i>Bambusa vulgaris Schrad.</i>	<i>Bamboo</i>	<i>Poaceae</i>
248	<i>Brachiaria eruciformis (J.E. Sm) Griseb</i>	<i>Shimpi</i>	<i>Poaceae</i>
249	<i>Brachiaria reptans (L.) Gard</i>	<i>Chimanchara</i>	<i>Poaceae</i>
250	<i>Chloris barbata Sw.</i>	<i>Gondvel</i>	<i>Poaceae</i>

251	<i>Chrysopogon fulvus</i> (Spreng) Chiov	Vaghnakhi	Poaceae
252	<i>Cynodon dactylon</i> (L.) Pers.	Durva	Poaceae
253	<i>Dichanthium annulatum</i> (Forssk) Stapf	Janjva	Poaceae
254	<i>Dichanthium pertusum</i> (L.) W. D. Clayton	Palva	Poaceae
255	<i>Dinebra retroflexa</i> (Vabl.) Panz.	Meshkathi	Poaceae
256	<i>Heteropogon contortus</i> (L.) P. Beauv.	Kusal	Poaceae
257	<i>Lophopogon tridentatus</i> (Roxb.) Hack.		Poaceae
258	<i>Phragmites vallatoria</i> Veldk.	Boru	Poaceae
259	<i>Rhynchelytrum repens</i> (Willd.) Hubb.		Poaceae
260	<i>Setaria intermedia</i> (Roth.) R. & S.	Chikta	Poaceae
261	<i>Setaria pumila</i> (Poir.) R. & S.		Poaceae
262	<i>Setaria verticillata</i> (L.) P. Beauv.		Poaceae
263	<i>Themeda quadrivalvis</i> (L.) O. Ktze.	Bhati	Poaceae
264	<i>Tripogon jacquemontii</i> Stapf		Poaceae

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IMPACT OF ORGANIC AND INORGANIC FERTILIZERS ON GRAPE PRODUCTION AND FARMER SATISFACTION IN KAVATHE MAHANKAL TEHSIL

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ABSTRACT:

This study investigates the effects of organic and inorganic fertilizers on grape production and farmer pleasure in Kavathe Mahankal Tehsil. Utilizing a mixed-strategies approach, statistics from grape farmers had been analyzed to compare fertilizer utilization, grape manufacturing, and farmer pleasure ranges. Results highlight the importance of each styles of fertilizers in grape manufacturing, emphasizing the need of balanced fertilizer for most efficient yields(1). The study reveals the impartial have an effect on of soil type and grape variety on manufacturing effects, (2) with found disparities among 2022 and 2023 harvests. Additionally, it identifies the profitability of the Supersonaka grape variety and establishes a high quality correlation among fertilizer costs and grape income. However, notwithstanding those advantageous findings, farmer dissatisfaction with grape quotes underscores existing marketplace challenges. Furthermore, the studies explores broader topics together with the environmental effect of fertilizer use, adoption rates of sustainable practices, and socio-financial implications for rural livelihoods. By A considering these interconnected elements, the have a look at pursuits to provide complete insights into grape manufacturing complexities in the vicinity. Ultimately, the findings intention to tell evidence-primarily based guidelines and interventions to sell sustainable agricultural improvement and enhance the properly-being of grape farmers in Kavathe Mahankal Tehsil.

KEYWORDS: Grape production, Fertilizer impact, farmer satisfaction, Supersonaka grape, market improvements, sustainable agriculture.

INTRODUCTION:

This observe delves into the tricky dynamics of grape production and farmer pride in Kavathe Mahankal Tehsil with the aid of investigating the effects of natural and inorganic fertilizers. Through a complete exam of fertilizer usage patterns, soil type and grape range independence, production variances between 2021 and 2022, farmer satisfaction stages with grape costs, identification of excessive-profits grape sorts primarily based on fertilizer utility, and correlation among fertilizer charges and grape earnings, this research objectives to provide precious insights into optimizing agricultural practices and improving farmer livelihoods. By elucidating those multifaceted relationships, we will make a contribution to the improvement of sustainable agricultural techniques tailored to the particular situations of the vicinity, in the end fostering monetary prosperity and environmental resilience in grape farming communities. The utilization of organic and inorganic fertilizers represents a critical aspect of grape cultivation, impacting soil fertility and crop productivity. By discerning the effects of these fertilizers on grape production, we can determine the most effective strategies for maximizing yields while minimizing environmental degradation. Furthermore, comparing fertilizer usage among farmers allows us to identify prevailing agricultural practices and potential areas for improvement. Understanding the relationship between soil type and grape variety independence is essential for optimizing cultivation practices and ensuring crop resilience to varying environmental conditions. Analyzing production variances between consecutive years provides insights into the influence of external factors such as climate variability and

management practices on grape yields, enabling farmers to make informed decisions to mitigate risks and enhance productivity. Additionally, assessing farmer satisfaction levels with grape rates offers valuable feedback on market dynamics and the economic viability of grape farming, informing policy interventions aimed at promoting fair market practices and improving farmer livelihoods. Identifying high-income grape varieties based on fertilizer application enables targeted recommendations to farmers, enhancing profitability and sustainability in grape cultivation. Finally, studying the correlation between fertilizer expenses and grape income provides insights into the economic implications of fertilizer investment, guiding farmers in optimizing resource allocation for maximum returns. Overall, this research aims to contribute to the advancement of grape farming practices and farmer well-being in Kavathe Mahankal Tehsil, ultimately fostering sustainable agricultural development in the region.

METHODOLOGY AND DATA COLLECTION

The methodology adopted in this study involved a multifaceted approach to investigate the impact of organic and inorganic fertilizers on grape production and farmer satisfaction in Kavathe Mahankal Tehsil. Primary data collection was conducted in agricultural villages within the Tehsil, with a total sample size of 275 respondents. Graphical representations were employed to illustrate the distribution of grape varieties and the application of fertilizers, providing a visual overview of farming practices in the region. Chi-square tests were utilized to assess the independence between soil type and grape variety, while t-tests were conducted to analyze production variances between 2022 and 2023. Additionally, a proportion test was employed to compare the usage of organic and inorganic fertilizers among farmers. This comprehensive methodology integrated graphical analysis with rigorous statistical tests to provide insights into optimizing agricultural practices and promoting sustainable grape farming in the region.

OBJECTIVES

The objectives of this study encompass a comprehensive exploration into various aspects of grape production and farming practices. Firstly, the investigation aims to delve into the impacts of organic and inorganic fertilizers on grape yield, seeking to discern any discernible differences in production outcomes resultant from different fertilization methods. Secondly, it seeks to conduct a comparative analysis of the utilization of organic versus inorganic fertilizers among grape farmers, aiming to highlight prevailing trends and preferences within the industry. Furthermore, the study endeavors to scrutinize the relationship between soil types and grape varieties in cultivation, elucidating whether certain combinations yield superior results. Additionally, it endeavors to analyze production disparities between the years 2022 and 2023, shedding light on any fluctuations or trends that may have emerged over time. Moreover, the research endeavors to gauge the levels of farmer contentment with grape prices, providing insights into satisfaction levels within the grape farming community. Furthermore, it aims to pinpoint grape varieties with heightened income potential based on fertilizer application strategies, aiming to offer practical guidance for optimizing profitability. Lastly, the study seeks to explore the correlation between fertilizer expenditures and income derived from grape farming, thereby elucidating the financial dynamics underlying grape production practices. Through these multifaceted objectives, the study aims to contribute valuable insights to the field of grape farming and cultivation practices.

RESULT

The results of this study are presented as follows:

Effect of Organic and Inorganic Fertilizers on Grape Production: analysis the independence between soil type and variety of grapes for that we use chi-square test the calculate value is 22.85 and table value is 21.03, hence we reject null hypothesis and conclude that the soil type and variety of grapes are dependent to each other. and Analysis revealed that both organic and

inorganic fertilizers significantly influenced grape production. However, the extent of their impact varied depending on factors such as soil type, grape variety, and application practices.

Comparison of Organic and Inorganic Fertilizer Usage: The study found notable differences in the usage patterns of organic and inorganic fertilizers among grape farmers.(1) While some farmers predominantly relied on organic fertilizers, others favored inorganic options, indicating diverse approaches to soil management in grape cultivation. And both of the fertilizers play important role in production of grapes as most of the farmers use both organic and inorganic fertilizer.

Independence between Soil Type and Grape Variety: Statistical analysis using Chi-square tests demonstrated a significant association between soil type and grape variety, highlighting the interdependence of these factors in grape cultivation practices (2). This suggests that soil characteristics play a crucial role in determining the suitability of grape varieties for optimal growth and yield.

Production Variances between 2022 and 2023: Examination of production data revealed noticeable variances between the two years, we found that production in 2022 is greater than 2023. Due to some factors, the major factor is climate change. attributable to factors such as climatic fluctuations, pest outbreaks, and agronomic practices. These findings underscore the importance of resilience and adaptive strategies in mitigating production risks in grape farming.

Farmer Satisfaction Levels with Grape Rates: Most of the farmers are not satisfied with the rates of grapes and only 30% farmers are satisfied. Survey results indicated varying levels of farmer satisfaction with grape rates, with a significant proportion expressing dissatisfaction. Factors contributing to dissatisfaction include market fluctuations, price volatility, and inadequate returns on investment.

Identification of High-Income Grape Varieties: in this study we found that the supersonaka variety is gives more income than other varieties of grapes. Analysis of income data in relation to fertilizer application practices identified specific grape varieties associated with higher income potential. This highlights the economic significance of variety selection and fertilizer management in maximizing profitability in grape farming.

Correlation between Fertilizer Expenses and Grape Income: From this Statistical analysis revealed a positive correlation between expenses incurred on fertilizers and income generated from grape farming. This suggests that strategic investment in fertilizers can contribute to increased grape yields and profitability, underscoring the importance of efficient resource allocation in agricultural management.

Overall, these results provide valuable insights into the complex dynamics of grape production, fertilizer usage, and farmer satisfaction in Kavathe Mahankal Tehsil. By elucidating these relationships, this research contributes to a deeper understanding of the factors influencing grape farming outcomes and informs evidence-based strategies for enhancing agricultural productivity and farmer livelihoods in the region.

DISCUSSION:

The results of this study shed light on several key aspects of grape farming in the region. Firstly, the widespread use of both organic and inorganic fertilizers underscores the importance of soil fertility management in grape cultivation. However, further research is needed to determine optimal fertilizer application rates and timing to maximize grape yields while minimizing environmental impacts. Additionally, the independence between soil type and grape variety challenges conventional wisdom and suggests that farmers have flexibility in grape variety selection regardless of soil characteristics. The decline in grape production in 2022 compared to 2023 highlights the vulnerability of grape farming to external factors such as weather variability and pest pressures. To mitigate production risks, farmers may need to adopt climate-resilient farming practices and diversify their risk management strategies. Furthermore, the identification of Supersonaka as the grape variety associated with higher income generation underscores the importance of variety selection in maximizing profitability for farmers.

However, market demand and consumer preferences should also be considered in variety selection decisions. The positive correlation between fertilizer expenses and grape income suggests that strategic investment in fertilizers can contribute to higher grape yields and income for farmers. Sustainable fertilizer management practices, such as precision agriculture and nutrient management planning, could help optimize fertilizer use efficiency and enhance economic returns while minimizing environmental risks. Additionally, addressing issues related to market access, price volatility, and market transparency is crucial for improving farmer satisfaction and promoting equity in the grape industry.

CONCLUSION:

In this research provides valuable insights into the complexities of grape production, fertilizer management, farmer satisfaction, and economic outcomes in Kavathe Mahankal Tehsil. By integrating these findings with existing knowledge and literature, this study contributes to a deeper understanding of the challenges and opportunities facing grape farmers in the region. Moving forward, policymakers, extension agents, and agricultural stakeholders should collaborate to develop evidence-based strategies aimed at enhancing agricultural sustainability, improving market access, and promoting farmer livelihoods in the region. Further research is warranted to explore the long-term impacts of climate change, technological innovations, and policy interventions on grape farming practices and outcomes in Kavathe Mahankal Tehsil.

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INDIAN WAR LITERATURE HORIZON OF RESEARCH OPPORTUNITIES UNDEREXPLORED

Shrikant B. Walwadkar

ABSTRACT:

Indian mythology and history are full of wars fought at various periods to win over evil. All the wars are described as righteous wars. This diverse and tumultuous history of conflicts in India provides a rich tapestry for literary exploration. However, the realm of war literature in the country remains underexplored and lacks the depth and width of participation compared to the participation seen in other literary domains, and genres.

This paper highlights the critical need for increased participation in academic and literary engagement with Indian war literature to foster a deeper understanding of the socio-political, cultural, and human dimensions of warfare in the Indian context. Through a comprehensive review of existing literature and an analysis of the gaps in scholarship and literary representation, this paper identifies the opportunities and challenges for enthusiasts and willing participants in this field and proposes strategies to overcome these challenges. It argues for the importance of integrating diverse narratives, including those of soldiers, their relatives (Read parents, close relations, spouses, and children) civilians, and the diaspora, to construct a more inclusive and nuanced understanding of war and its impact. Since the study of war involves various disciplines of study, the paper also discusses the potential of interdisciplinary approaches, combining history, literary criticism, and cultural studies, to enrich the understanding and appreciation of war literature in India. By appealing and advocating for increased participation and research in this genre, the study aims to contribute to the broader discourse on war and peace, memory and identity, and the power of literature to heal and bridge divides.

KEYWORDS: Indian War Literature, Literary exploration, Socio-Political impact, psychological factors, Cultural studies, Narrative diversity, Research scope.

1. INTRODUCTION.

The historical and cultural context of warfare in India is characterized by a rich collage of conflicts spanning thousands of years. It involves diverse cultures, religions, and political entities. To facilitate an understanding of Indian warfare it is divided into various periods as below:

- 1. Ancient Period.** Indian Warfare in this period is depicted in epics like Ramayana, and Mahabharat, where battles were fought between kingdoms often with divine intervention. These epics not only narrate the wars but also explore the ethical dilemmas and moral complexities of warⁱ.
- 2. Classical Period.** This period relates to the dynasties and empires such as the Guptas, Mauryas, and Cholas engaged in warfare to expand their territories and consolidate power. Military strategies, tactics, and innovations were developed during this time, contributing to the rich heritage of Indiaⁱⁱ.
- 3. Medieval Period.** This period witnessed invasions and conquests by foreign powers like the Mughals and later European colonial powers like the British East India Company. These

conflicts profoundly impacted Indian society, its culture, and governance, affecting socio-political changes significantlyⁱⁱⁱ.

4. **Colonial Rule:** The arrival of European merchants and mercantile companies during the end of the medieval period resulted in the colonization of India by European powers, particularly the British, resulting in major upheavals and resistance movements. The first known rebellion of 1857 marked a significant turning point in the struggle against colonial rule and inspired nationalist emotions^{iv}.
5. **Independence Struggle:** The 20th century saw India's struggle for independence from British colonial rule led by leaders like Gandhi, Nehru, Subhash Chandra Bose, Bhagat Singh, Rajguru, Tilak, etc. This struggle was fought on two prominent thought processes namely radicals and moderates. Radicals preferred armed rebellion against British rule Indian National Army led by Subhash Chandra Bose, and mutiny in combat forces like the Navy and Air Force are a few examples of struggle by radicals. In contrast, the moderates preferred non-violent resistance, civil disobedience movements are a few examples of efforts of moderates to gain freedom. These efforts finally culminated in India's independence in 1947^v.
6. **Post Independence Wars.** Post-1947, India has been involved in one war with China in 1962 and four wars with Pakistan in 1947, 1965, 1971, and 1999. Operation Pawan about IPKF Operations in Sri Lanka was a unique operation undertaken by Indian armed forces in a foreign country Sri Lanka to mediate between the two sides Sri Lankan Tamils and the Sri Lankan government involved in civil war and bring peace in the country. Additionally, the country's armed forces are also involved in internal conflicts such as insurgencies and communal violence. These wars and internal conflicts have left a lasting impact on Indian society and continue to shape contemporary geopolitical dynamics. The Indian Armed Forces have also been involved in the UN's peacekeeping missions in various disturbed parts of the world as and when requisitioned^{vi}.

War Literature can be defined as a literary work that explores and depicts the experiences, effects, and consequences of armed conflict on individuals and societies (nations). It includes a wide range of genres, including novels, poetry, memoirs, diaries, letters, essays, fiction, documentaries, biographies, autobiographies, and nonfiction. These are written by those who have directly experienced war or by observers and commentators.

War literature often serves as a mirror reflecting the values, beliefs, and norms of the societies from which it emerges. It also underlines different perceptions of different societies regarding war, honour, heroism, sacrifice, and patriotism. The portrayal of characters, events, and moral dilemmas, war literature reveals the complexities of societal attitudes towards violence, power, and authority.

Since going to war is a political decision for a country, War literature is deeply entangled with political narratives, as it often engages with the causes, justifications, and consequences of wars and conflicts. The independent literary works quite often challenge official narratives, question propaganda, and jingoism, and expose realities of war. By offering alternate perspectives and dissenting voices, war literature contributes to a more nuanced understanding of the political dimensions of warfare. It questions the holier-than-thou approach of the governmental narrative.

War literature, at its core, humanizes the war experience by capturing the individual stories, emotions, and struggles of those directly affected by conflict. War literature through effective use of its important features like vivid imagery, profound language, and realistic and intimate portrayal of characters, conveys the psychological, emotional, and existential dimensions of war. It confronts readers with the harsh realities of violence, loss, trauma, and resilience, and cultivates empathy and compassion for those who have endured the horrors of war.

However, it is ironic that despite having a wide scope for research in war literature, in

India there is minuscule interest shown by the literary students. Purpose of this paper is to fill this wide gap and acquaint and encourage the new generation of researchers to explore this genre fully and contribute efficiently to the wide ocean of literary research.

2. Historical Perspective: To understand the enviously rich tapestry of Indian war literature across all the previously mentioned periods from ancient epics to contemporary works, Indian literature has been profoundly influenced by the wars and conflicts that have shaped the nation's history. These conflicts have left an indelible mark on Indian society, culture, and literature. Indian literature depicts war through epic poems, ballads, plays, novels, and short stories. In addition to chronicling historical events, it also reflects societal values, political ideologies, and human experiences.

Ancient epics like Ramayana and Mahabharata with their epic battles between gods, demons, and mortals, laid the foundation for warfare depiction in Indian literature. These epics narrate not only the warfare but also delve into moral dilemmas, ethical codes, and the consequences of war.

The medieval period saw the rise of dynasties and empires engaged in territorial conquests and struggles for power. Literary works of this period like *Rajtarangini* by Kalhana, reflect the martial ethos of the time, glorifying the valour of kings and warriors. Medieval period war literature includes the wars undertaken by the great king Shivaji Maharaj against Mughal kings to establish *swaraj* (self-rule).

With colonial rule, there was a change in the pattern of warfare, and weaponry, and India found itself at loggerheads with different cultures. Colonial rule brought about a new wave of conflicts and resistance movements, that made inroads in literature. The sepoy mutiny of 1857, the Indian Rebellion, inspired nationalist sentiments and sparked a wave of patriotic literature advocating independence from British rule.

Post-independence Indian war literature is mainly from the veteran combatants who participated in those wars and their memoirs. The evolution of war narratives in Indian literature can be traced from the grandeur and heroism of ancient epics to the gritty realism and psychological depth of contemporary works. Some writers like Mulk Raj Anand, Khushwant Singh, and Mahashweta Devi, have explored the human cost of war, the veteran combatant writers like Brigadier John P. Dalvi in his nonfiction "Himalayan Blunder" or Veteran Lt Gen Sardeshpande in his "Assignment Jaffna", or the then Chief of Army Staff Veteran General V P Mallik in his nonfiction "Kargil: from Surprise to Victory" have addressed various issues of higher direction of war, Political, Bureaucratic involvement in decision making and modernisation of armed forces etc in addition to the describing the war. The exploration of historical wars and conflicts in India and its evolutionary presence, reporting in Indian war literature offers valuable insights into the nation's cultural heritage, collective memory, and literary traditions. Tracing this evolution of war narratives from epics to contemporary works, scholars can gain a deeper understanding of the enduring significance of Indian war literature in Indian society.

Throughout its history, warfare in India has been influenced by cultural, religious, and philosophical beliefs, shaping its literature, art, and collective memory. The legacy of these wars and conflicts continues to resonate in Indian society, highlighting the enduring significance of war narratives in Indian culture and literature. A specialty of Indian warfare can be described as wars in self-defence and in the interest of humanity and can be proudly stated as fair wars.

3. Themes and Motifs: One can observe while studying Indian war literature across various genres of literature that there are recurring themes and motifs depicted across a diverse range of genres like heroism, valour, sacrifice, patriotism, trauma and loss, moral and ethical dilemmas, the morality of war and hope and resilience, etc. Ancient epics like Mahabharata and Ramayana, describe heroism, valour, the victory of good over evil, and moral and ethical values for the society. The same is also described through folk songs, ballads, novels, fiction poems, and

songs, war is also humanized from memoirs and diaries, letters of the soldiers, and their families.

4.Representation and Diversity: It is observed that the post-independence major contribution to Indian war literature is from the veteran combatants who had participated in the conflict/war during their service period. He tries to bring out the details in a more objective way to chronicle the war to learn lessons and to avoid the repetition of such mistakes in the future. This also becomes an outlet for justifying their decisions and actions which from the clarity of hindsight prove to be wrong. One can find out difference in the expression when the outcome of war is different. It is necessary to study the maximum resources, if not all, available in a particular war/conflict to conclude without any bias. It is commonly said that Truth is the first casualty of war. Individuals, Governments, and media will try to create a particular narrative to suit their interests however a research student needs to research to come to a concrete conclusion about it. Various perspectives contribute to a more comprehensive understanding of war experiences in India.

5. Depiction of War in Other Media and Research Opportunities: In addition to the war literature, war is effectively depicted in films. Though the films are more of a fictional presentation, it is an effective and accessible medium to represent Wars. Under the directorial creativity angle, the Indian War movies have been depicting Indian culture and social norms effectively. This depiction also offers opportunities to research the Indian war literature in text and films across different media of communication. One can also use a comparative study of Indian war literature with international war literature to identify unique characteristics and commonalities. One can also explore cross-cultural influences and exchanges in the portrayal of war.

One also can undertake interdisciplinary approaches to study Indian war literature including historical analysis, literary criticism, cultural studies, psychology, Trauma, medicine, and sociology. Researchers can also research interdisciplinary perspectives. This will be an important perspective that can enrich the interpretation.

6. Challenges and Opportunities: The Indian war literature offers an ocean of opportunities for aspiring research students, but it is not immune from challenges. Challenges faced in researching and studying Indian War literature involve access to authentic archival materials, linguistic diversity, and socio-political sensitivities. There will also be challenges in terms of the availability of the right people to discuss potential research opportunities and avenues for future exploration in the field. session of potential research opportunities and avenues for future exploration in the field. The researchers will agree with me these are just a few of the possibilities of research and the ingenuity of individuals will provide much more opportunities in this genre to enrich Indian Literature in general and Indian War literature as a genre in particular.

7. CONCLUSION:

From the above deliberations it can be concluded that the exploration of Indian war literature across various periods mentioned above can provide a rich and varied scope for research. It could be comparative, analytical, or evolutionary, including different media, studies alongside the international war literature. The writer feels that in the beginning ten aspiring students get motivated and undertake research of this genre of Indian War Literature, and the purpose of writing this paper would have been achieved. With minimal involvement of researchers in this genre, there is enough gap to fulfill the ambitions of researchers to address it enrich the genre with new ideas, and concepts, and participate in its growth.

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INVESTIGATION OF A SIMPLE AND CHEAP SOURCE OF NATURAL INDICATORS IN ACID-BASE TITRATION

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ABSTRACT:

Acid base titrations carry synthetic indicators and qualitative analysis but due to their toxic effect in human being as well as in environment and the higher cost, the use of some plant flowers natural indicator started in the titrimetric analysis. The present investigation explores the use of extract of some plant flowers natural indicator in acid base titration. The natural indicator is simple to extract out, nontoxic and available easily. The investigation also shows that the natural indicators have great potential and shows promising results as compared to synthetic indicators. In the acid base titration natural indicators give sharp color change at equivalence point. According to all the evidence obtained after titrimetric analysis that natural indicator shows effective and accurate result in compare to synthetic indicators. The advantage to use natural indicator is they can be prepared freshly, economical as well as ecofriendly.

KEYWORDS: Acid-base titrations, Natural indicator, Synthetic indicator, Plant extract, Titration.

INTRODUCTION:

The commonly used indicators for acid-base titrations are synthetic, namely phenolphthalein/methyl orange. But there are some obstacles like environmental pollution, availability and higher cost which lead to utilization for herbal compounds as acid base indicators. Hence this work was aimed to identify the eco-friendly natural indicators using some flowers. The potential of the flowers is very promising as seen in acid-based titrimetric at room temperature. Flower extract indicators which were used in acid-base titrations show sharp color changes at the equivalence point. The result proved to be acceptable in introducing natural pigments as suitable acid-base indicators. These natural indicators are found to be a very helpful, inexpensive, simple, accurate and nature friendly.

Titration or titrimetric is a general laboratory method of quantitative chemical analysis which can be observed from the quantity of a liquid of standard solution, the titrant or the solution of known concentration, to convert the constituent into another form. A change of color or the formation is used to determine the concentration of an analyte, titrand or unknown solution.

Indicators are those substance employed to determine the end point of a volumetric titration. 'Indicators are either organic weak acid or weak bases having different colors in different medium'. Phenolphthalein, methyl orange, litmus solution, methyl red and etc. are acid - base indicators. An Indicator is also defined as a substance which indicates completion of acid-

base titration or end point by changing its color within limits with variation in PH of the solution to which it is added.

MATERIALS:

Hydrochloric acid, Sodium hydroxide, phenolphthalein

Flower petal materials: Fresh flowers (Red hibiscus, Meri gold, Pink mirabilia Jalapa) were collected from the nearby villages around Kavathe Mahankal District: Sangli, India. and were identified from the Botany department of P. V. P. Mahavidyalaya Kavathe Mahankal.

Glass wares: Standard flasks, burettes, pipettes, conical flasks, beakers, glass rods and funnel.

Experimental:

- a. **Preparation of flower petal extracts:** The flowers were thoroughly washed with distilled water, cut in small pieces placed in a mortar and then macerated using the pestle. It was then transferred into a 250 ml flask containing 100 ml distilled water was refluxed for an hour. After which the content was filtered and the clear filtrate was collected for the titration.
- b. **Determination of λ_{max} of acidic and basic solutions of flower extract:** Acidic and basic solutions of flower extract were prepared by adding few drops of flower extract in 0.1 n HCl and 0.1N NaOH solution respectively and their absorbance is measured on the digital colorimeter.



Prepared extracts for colorimetric analysis



Color change of Red hibiscus in acidic to basic medium

- c. Titrations: 1 ml of the extract of Red hibiscus, butterfly pea, banana flower, purple allamanda, African marigold and Chrysanthemum (taken separately in different conical flasks) was added as an indicator for all the type of titrations such as strong acid (HCl) against strong base (NaOH). The titrations were again carried out using the standard (synthetic) indicators phenolphthalein. The results obtained were compared with the results of titrations using the natural indicator. Titration results were depicted in the.

RESULTS AND DISCUSSION:

The titration results showed that the end point of the titration of strong acid against strong base (HCl vs. NaOH) using the natural indicator either coincide or almost reached close to the end point obtained by the standard indicator phenolphthalein give sharp color change at the end point.

Obs. No.	Wavelength	Red Hibiscus		Meri gold		Pink mirabilia	
		Acidic med	Basic med	Acidic med	Basic med	Acidic med	Basic med
1	400	0.23	0.19	0.12	0.23	0.07	0.18
2	420	0.31	0.27	0.13	0.34	0.11	0.29
3	470	0.08	0.15	0.41	0.47	0.21	0.18
4	500	1.05	0.19	0.27	1.06	0.28	0.15
5	530	0.63	0.16	0.21	0.37	0.18	0.13
6	620	0.13	0.15	0.16	0.29	0.17	0.12
7	660	0.16	0.14	0.14	0.23	0.12	0.12
8	700	0.04	0.01	0.10	0.21	0.01	0.10

Table 1: Absorbance study flower extract in acidic and basic medium

From above table λ_{max} of acidic and basic solutions of flower extract is different

Indicator	Volum e of acid (ml)	Burette reading (ml)			Volum e of titrant , mean	Colour change	Mean $\pm$ std. dev. of the titer
		Initial	Final	Difference			

					value (ml)		value (ml)
Phenolphthalein	10	0	7.7	7.7	7.833	Colourless to pink	7.8333 ±0.266
	10	0	7.9	7.9			
	10	0	7.9	7.9			
Red hibiscus	10	0	8.6	8.6	8.566	Red to green	8.5667 ±0.133
	10	0	8.6	8.6			
	10	0	8.5	8.5			
Meri gold	10	0	9.2	9.2	9.366	Yellow to orange	9.3333 ±0.266
	10	0	9.4	9.4			
	10	0	9.4	9.4			
Pink mirabilia Jalapa	10	0	7.7	7.7	7.766	Pink to yellow	7.7667 ±0.266
	10	0	7.7	7.7			
	10	0	7.9	7.9			

Table 2: Titration results of HCl vs. NaOH using extract of red hibiscus, Meri Gold, Pink mirabilia Jalapa.

CONCLUSION:

The natural indicators extracted from the flower petals were found to be a potential substitute for phenolphthalein for titrations strong acid versus strong base. Hence, the flower petal extract as a natural indicator is found to be a very useful, readily available, non-hazardous, economical, simple to prepare and accurate for the acid-base titrations.

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MAGNITUDE RANKING METHOD APPROACH FOR OPTIMIZING FUZZY ASSIGNMENT PROBLEM

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ABSTRACT:

In this paper proposes a method to solve fuzzy assignment problems by employing the Fourier elimination method, where all parameters are represented as triangular fuzzy numbers. The fuzzy numbers are converted into crisp numbers using ranking functions, particularly magnitude ranking methods. This approach aims to optimize the assignment of tasks to individuals, maximizing potential participant and minimizing total fuzzy assignment cost and time. The method is illustrated through a numerical example in the paper.

KEYWORDS: Triangular Fuzzy Number, Fourier Elimination Method, Fuzzy Assignment Problem, Ranking Functions, Magnitude Ranking Method

INTRODUCTION:

The fuzzy assignment problem involves assigning resources or tasks to agents or facilities while considering uncertain parameters. Unlike traditional assignment problems with precise values, fuzzy assignment problems deal with fuzzy or uncertain parameters, such as costs, time, or preferences.

An example of a fuzzy assignment problem could be the allocation of tasks (Shifts) to workers in a project management scenario (in maximizes productivity and minimizes the cost). Assigning Vehicles to delivery routes to minimize fuel costs, travel time. Suppose there are several tasks with uncertain durations and skill requirements, and a team of workers with varying levels of expertise and availability. Each task has fuzzy parameters representing its duration, complexity, and priority, while each worker has fuzzy parameters representing their skill level, availability, and preference for certain tasks.

The objective is to assign tasks to workers in a way that optimizes project completion time, minimizes costs, and maximizes overall team satisfaction. However, due to the uncertainty in task durations and worker capabilities, traditional assignment methods may not be suitable. The magnitude ranking method is a technique used to compare and rank fuzzy numbers based on their magnitudes or central tendencies. It involves comparing fuzzy numbers by their centroids or maximum values and assigning ranks accordingly. This method simplifies decision-making by converting fuzzy numbers into ordered sequences, making it easier to prioritize assignments and handle uncertainty effectively.

Discussing various algorithms and methods for solving linear programming problems, particularly in the context of fuzzy assignment problems. Khachian modified Shor's algorithm, known as the Ellipsoid method, which is a polynomial-time algorithm in (1979). Dantzig introduced the simplex method in 1963, which has since been widely used, including its revised versions, in industrial-scale problem-solving. Williams showed that Fourier's method for

manipulating linear inequalities, discovered in (1827), can also be applied to solve linear programming problems. Thorani et al. (2017) discuss the application of these methods in fuzzy assignment problems. R. Queen Mary and Selvi developed a model for solving fuzzy assignment problems as well. These methods and models contribute to addressing the challenges posed by uncertainty and variability in assignment problems using centroid ranking method. D. Selvi and G. Velammal, are discuss the method for solving fuzzy assignment problem using in (2017). V. Ramadas, P. Shanmugam, are discussed an effective fuzzy ranking method in convex triangular fuzzy soft numbers in (2018).

PRELIMINARIES

We see some basic definitions,

Definition: If X is a universe of discourse and x be any particular element of X . The fuzzy set $\tilde{b}$ defined on X is a collection of ordered pairs,

$$\tilde{b} = \{(x, \mu_{\tilde{b}}(x)) | x \in X\}$$

Where, $\mu_{\tilde{b}}(x): X \rightarrow [0,1]$ is called the membership function. i.e. $0 \leq \mu_{\tilde{b}}(x) \leq 1$

Definition: A triangular fuzzy number $\tilde{b} = (b_1, b_2, b_3)$ is defined by its membership function is given below,

$$\mu_{\tilde{b}}(x) = \begin{cases} \frac{x - b_1}{b_2 - b_1} & b_1 \leq x \leq b_2 \\ \frac{b_3 - x}{b_3 - b_2} & b_2 \leq x \leq b_3 \\ 0 & \text{otherwise} \end{cases}$$

Definition: A triangular fuzzy number $\tilde{b} = (b_1, b_2, b_3) \in F(R)$ can also be represented as a pair $\tilde{b} = (\underline{b}, \bar{b})$ of functions which satisfies the following requirements:

- $\underline{b}(r)$ is bounded monotonic increasing left continuous function.
- $\bar{b}(r)$ is a bounded monotonic decreasing left continuous function.
- $\underline{b}(r) \leq \bar{b}(r), 0 \leq r \leq 1$

Magnitude Ranking Method -

For an arbitrary triangular fuzzy number $\tilde{b} = (b_1, b_2, b_3)$ with parametric Form $\tilde{b} = (\underline{b}(r), \bar{b}(r))$ the magnitude of the triangular fuzzy number $\tilde{b}$ by

$$Mag(\tilde{b}) = \frac{1}{2} \int_0^1 (b_3 + 3b_1 - b_2) f(r) dr$$

Where the function $f(r)$ is a non-negative and increasing function on $(0,1)$. In the real life applications $f(r)$ can be chosen by the decision maker according to the situation.

MODEL FORMULATION:

Mathematical Model of Assignment Problem:

In classical assignment problem we use single objective. This method is used for minimizing cost and maximizing profit. In this problem we use objective function M .

$$\text{Min } M = \sum_{i=1}^n \sum_{j=1}^n C_{ij} x_{ij}$$

Subject to constraint,

$$\sum_{i=1}^n x_{ij} = 1 \quad \text{for } j = 1, 2, \dots, n$$

$$\sum_{j=1}^n x_{ij} = 1 \quad \text{for } i = 1, 2, \dots, n$$

$$x_{ij} = 0 \text{ or } 1$$

Where,
$$x_{ij} = \begin{cases} 1 & \text{if } i^{\text{th}} \text{ job is assigned to } j^{\text{th}} \text{ person} \\ 0 & \text{if } i^{\text{th}} \text{ job is not assigned } j^{\text{th}} \text{ person} \end{cases}$$

Mathematical Model of Fuzzy Assignment Problem (FAP):

In actual situation, assignment problem in objectives (any objective for example, cost, time and quality etc.) is not giving complete information; it is vague data of various objectives. Here, we assume assignment cost (c_{ij}). Assignment problem with fuzzy parameters is treated here as an FAP. The mathematical model of the FAP is given below:

$$\text{Min } \tilde{M} = \sum_{i=1}^n \sum_{j=1}^n \tilde{c}_{ij} x_{ij}$$

Subject to constraint,

$$\sum_{i=1}^n x_{ij} = 1 \quad \text{for } j = 1, 2, \dots, n$$

$$\sum_{j=1}^n x_{ij} = 1 \quad \text{for } i = 1, 2, \dots, n$$

$x_{ij} = 0 \text{ or } 1$ Where,
$$x_{ij} = \begin{cases} 1 & \text{if } i^{\text{th}} \text{ job is assigned to } j^{\text{th}} \text{ person} \\ 0 & \text{if } i^{\text{th}} \text{ job is not assigned } j^{\text{th}} \text{ person} \end{cases}$$

METHODS:

Solution procedure using Fourier elimination methods for solving fuzzy assignment problems:

Step 1: Transform fuzzy numbers to crisp ones. Using magnitude ranking method.

Step 2: Formulation as Linear Programming Problem. Convert crisp numbers into a linear programming problem.

Step 3: Apply Fourier elimination method

- i. Convert minimization problem to maximization.
- ii. Transform the objective function into linear inequalities.
- iii. Write the maximization problem with an inequality in equality constraint.
- iv. Formulate the equivalent pure integer problem.
- v. Select and eliminate variables using Fourier elimination.
- vi. Repeat steps until only the objective function variable remains.

Step 4: Using Hungarian method and find optimum value for the objective function.

Step 5: Compute remaining variable values.

Step 6: Attain optimal solution and assignment for the problem.

NUMERICAL EXAMPLE:

Assign each teaching faculty members A, B, C, D, E expertise and experience in the subjects (I, II, III, IV, V) based on their qualification, research interest, teaching experience, subject knowledge and communication skill.

	I	II	III	IV	V
A	(2,3,5)	(1,2,8)	(4,5,8)	(12,14,15)	(10,13,14)
B	(14,15,16)	(7,8,9)	(8,9,10)	(2,5,7)	(8,9,11)
C	(7,9,12)	(1,4,7)	(4,7,10)	(11,14,15)	(5,7,9)
D	(5,8,11)	(7,10,13)	(9,12,15)	(8,11,14)	(1,3,5)
E	(3,4,5)	(12,14,15)	(8,10,13)	(7,8,10)	(5,7,12)

We convert fuzzy number in crisp value using magnitude ranking method

	I	II	III	IV	V
A	2	2.25	3.75	9.25	7.75
B	10.75	5.5	6.25	2	0.5
C	6	1.5	3.75	8.5	6.5
D	4.5	6	7.5	6.75	6.25
E	2.5	9.25	6.75	5.75	5

RESULT:

After using Fourier elimination method optimal solution, each teacher assign one subject is given below,

$A \rightarrow III, \quad B \rightarrow V, \quad C \rightarrow II, \quad D \rightarrow IV, \quad E \rightarrow I$

Optimal cost is 15.

CONCLUSION:

The proposed method in this paper facilitates successful assignment and implementation of individuals to tasks (Teachers assign the subjects) on a one-to-one basis, aiming to minimize the total fuzzy assignment cost and total fuzzy time of the organization. It also aids in assessing future values even in uncertain scenarios. The total assignment fuzzy costs of a triangular fuzzy assignment problem are defuzzified into crisp values using the magnitude ranking method and solved using the Hungarian method. This approach is straight forward and fruitful, making it useful for studying real-world problems in the future.

LIMITATIONS-

Dealing with fuzzy or uncertain parameters poses challenges in formulating and solving assignment problems, requiring specialized optimization techniques.

Fuzzy assignment problems often involve multiple criteria, constraints, and conflicting objectives, adding complexity to the optimization process.

FUTURE SCOPE-

To develop efficient algorithms and expand its applicability across diverse domains

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MULTICULTURALISM IN SAADAT HASAN MANTO'S SHORT STORIES

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ABSTRACT:

Multiculturalism is not only related to the literary studies but also it includes Sociology, Anthropology and Politics etc. Multiculturalism in literature is to represent adequately the cultural contributions of races and groups that have been hitherto marginalized or ignored. Saadat Hasan Manto is a prominent Indian Urdu writer. Manto's stories covered many topics like it comments from the life of prostitute to the laws implemented by the Government. Manto is realistic in the description and depiction of the subjects in his stories.

KEY WORDS: Multiculturalism, Saadat Hasan Manto, Short Story , Hatak, Shanti, Fobha Bai.

Multiculturalism is an ideology that proposes the presentation of the cultural contributions of races and groups that have been hitherto marginalized or ignored. In Indian context multiculturalism is more important discipline of study as people in India belonging to different religions live together for centuries, and represents the variety of cultural traditions.

Multiculturalism is the view that cultures, races, and ethnicities, particularly those of minority groups, deserve special acknowledgment of their differences within a dominant political culture. (<https://www.britannica.com/topic/multiculturalism>)

As mentioned in the above statement multiculturalism is the view that the minority groups in cultures, races and ethnicities deserve special acknowledgment in political culture, the same thing is in the case of literature. Multiculturalism in literature seek to study the representation of the minority groups particularly the presentation of women, people of lower class and middle class, and people who are not the part of the classical literature. In Indian context particularly during the period of freedom struggle and the partition of India, the country witnessed the migration of millions of people between Pakistan and Hindustan. People lost their homes, their families, their relatives and friends due to the partition. Manto had witnessed the communal riots and its harsh reality which is presented in his stories. Manto's stories on partition and communal riots included him in the list of greatest writers of the century. In the present paper his stories are analyzed from the point of view of multiculturalism.

The present research paper aims to study and analyze the short stories of Saadat Hasan Manto under the light of multiculturalism. Manto has specifically dealt with the characters from middle and lower strata of the society. Socially, economically, physically and mentally exploited people are there in the stories of Saadat Hasan Manto. People living in rooms, muhallas and chawls, tonga drivers, prostitutes, young people in love, British officials, rustic peasants, shop owners in cities, patriotic activists, head of ashrams, activists, refugees, volunteers, doctors, lunatics, people related to cinema industry are in his stories. Manto has dealt with variety of women characters in his stories, he has dealt with many problems in women's life. Manto has dealt with the religious traditions and rituals of all the religions in India. He has tried to be realist in the description of the socio-political context in India. Though Manto has written many stories on women his stories on prostitutes' life are very important as he has depicted many aspects of their life. Generally prostitutes in the literature are the subject of sympathy but Manto

has presented them in the way that he forces readers to see them as women first. His stories “Kali Salawar”, “Hatak”, “Pehchan”, “Shanti”, “Fobha Bai” etc. deal with the theme of prostitutes’ life.

“Hatak” is a story that focuses on Sugandhi’s, a prostitute, sordid life and degeneration. The story moves around the life of Sugandhi. There are three important characters that help in the development of the story. First one is Ramlal, a man who brings customers to Sugandhi and warns her about her relationship with Madhoo. Madhoo is a Sugandhi’s lover, who comes from Pune once in a month and while leaving her takes the money from her. Every time he asks Sugandhi to stop the work of prostitution (dhanda) and he will send her money order as he reaches to Pune. But she had never received her money order. The third one is more important as he gives turn to the story. It was a past midnight, where Ramlal asks Sugandhi to be ready and come out as there is customer in the taxi. Though she was suffering from headache, she prepares herself and goes to the taxi on the corner of the road. As she came near the taxi a strong beam of light flashed against her face. The man in taxi rejects her saying “Huh!”. This “Huh!” by seth in a car caused a storm in the mind of Sugandhi. She was disappointed by such a humiliation. There was a question on her existence.

“Sugandhi, she said to herself, you are not ugly. While it was true that the bloom of her early youth was gone, nobody had ever said she was ugly. In fact, she was one of those women men always steal a second look at. She knew she had everything a man expects in a woman. She was young and she had a good body. She was nice to people. She couldn’t remember a single man in the last five years who hadn’t enjoyed himself with her” (Hasan, 2007. 62)

She feels very bad about it and thinks over it. When she returns to her room she notices that Madhoo has come. She quarrels with him, and threw him out of the room. When he asks her about the prostitution, she stops him by asking who are you to ask me that? She asks him that have you send any money order from Pune. When Madhoo goes out of the room, she picked up her mangy dog from the floor in her lap and lay down on the bed with the dog by her side. The story portrays the life of the prostitutes by different angles. Age and the time spend in the business makes a prostitute less demanded. Though she is a prostitute, she is a woman and she can’t tolerate such a humiliation. Sugandhi is representative of those women who want to live with their own conditions. The end of the story is very symbolic, Sugandhi prefers to live with animals than human. Manto has commented on the thing that men can have a prostitute’s body but they can’t reach the woman in prostitution. Though she is a prostitute she couldn’t bear the insult of her. Sugandhi is a representative character among Manto’s women characters who try to live their life with their own ways.

“Shanti” is a very emotional story written by Manto. Shanti is a prostitute who has come from Kashmir to Mumbai. In Kashmir her father is a doctor, and she used to be a nurse over there. She lost her virginity with some boy, and in frustration she ran away to Mumbai. In Mumbai she entered into prostitution. She is not like other prostitutes; she has made rules for herself. She is very careful about her health. She has fixed her rate fifty rupees. She used to live at hotel and regularly at five she comes there for the work. She was very strict about her rules she had made for herself. She never allows anyone to come with her in the hotel. One day she meets Maqbool who only offers to talk with her. She believes him and took him to her hotel room. She spends some time with him and enjoys talking with him. He teaches her to apply lipstick properly and wearing a sari orderly. Visits of Maqbool to her room increased. He became regular visitor at her, and gets the permission to sit on the cot instead of a chair. During the time she falls in love with him. The end of the story is again very touching. She says to Maqbool that she doesn’t want money now, she needs him. She shows him the money she has tore into pieces. Maqbool accepts her love and wipes her tears. She ends the story with her comment that in Kashmir one man has finished her, and now in Mumbai another man has given her a new life. The story makes a reader to see the woman in a prostitute. Though she is a prostitute, she has a mind; she needs love, company and sympathy too.

“Fobha Bai” is a story that focuses the maternal love of a prostitute for her son. Fobha

Bai is a Muslim woman hired by two friends. They take her to Dr. Khan, their friend working in military hospital and living in quarters allotted to him. In the discussion they come to know that she has a son in Jaipur and she sends two hundred rupees for him once in a month. She had a surgical operation on her stomach and since the operation she had been addicted to morphia. She was so good that she believes Dr. Khan and left her jewelry at him. After some days Dr. Khan returns her jewelry by going to her home. Then while going to Jaipur she keeps her motor at Dr. Khan. But she never returns as she lost her son in Jaipur there. In the end of the story she is seen at beach in Mumbai begging for five rupees to get morphia. When Dr. Khan's friend asks her about her motor and doctor she denied to recognise them and went away. The story portrays the different layers of the life of Fobha bai. She used to work here to feed her only son. But when she loses him, she left everything. Women from middle and lower strata like Sugandhi, Shanti and Fobha Bai are protagonists in Manto's stories.

The setting of the Manto's stories and the choice of his characters are Indian. He has drawn the characters from the real life situations. He has presented the people in India who are generally presented as minor characters in the literary works. But Manto has presented such people like Sugandhi, Shanti and Fobha Bai as the protagonists in his stories. From the point of multiculturalism not only the different cultures are depicted in the stories but the different people particularly women from middle and lower strata have been presented in the stories of Saadat Hasan Manto.

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MULTIDISCIPLINARY STUDY: EXPLORING NEW HORIZONS FOR SOCIOLOGY

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INTRODUCTION:

In the ever-evolving landscape of academia, multidisciplinary research stands at the forefront as a powerful catalyst for innovation and holistic understanding. Within the realm of sociology, the integration of diverse disciplines such as psychology, economics, politics and environment unveil new horizons of exploration and analysis. This synergistic approach acknowledges the intricate interconnectedness of human societies with their surrounding environments and underscores the need for comprehensive perspectives in addressing complex societal issues.

At its essence, multidisciplinary research in sociology transcends traditional boundaries, fostering a dynamic interchange of ideas, methodologies, and insights. By drawing upon the methodologies of psychology, researchers delve into the intricacies of human behavior, cognition, and emotions, illuminating the underlying mechanisms that shape social phenomena. Concurrently, the integration of economic principles offers valuable insights into the distribution of resources, wealth disparities, and the socioeconomic dynamics influencing societal structures.

Moreover, the political dimension of multidisciplinary research in sociology navigates the intricate webs of power, governance, and policy, elucidating the interplay between political systems and social structures. Environmental considerations further enrich this discourse, recognizing the profound impact of ecological factors on human behavior, cultural practices, and societal development. From climate change to environmental justice, interdisciplinary approaches provide nuanced perspectives on the complex interrelationships between society and the natural world.

The incorporation of scientific inquiry imbues multidisciplinary research in sociology with empirical rigor and analytical depth, facilitating evidence-based conclusions and theoretical advancements. Together, these interdisciplinary intersections forge new pathways for understanding, confronting, and potentially resolving the multifaceted challenges confronting contemporary societies. In essence, multidisciplinary research in sociology emerges as a vibrant tapestry of knowledge, weaving together diverse strands of inquiry to illuminate the intricacies of human social existence in all its complexity.

In sum, the incorporation of scientific inquiry imbues multidisciplinary research in sociology with empirical rigour and analytical depth, facilitating evidence-based conclusions and theoretical advancements. Together, these interdisciplinary intersections forge new pathways for understanding, confronting, and potentially resolving the multifaceted challenges confronting contemporary societies. In essence, multidisciplinary research in sociology emerges

as a vibrant tapestry of knowledge, weaving together diverse strands of inquiry to illuminate the intricacies of human social existence in all its complexity.

SOCIO-PSYCHOLOGICAL STUDY:

Multidisciplinary research in sociology and psychology converges with profound significance when examining critical societal issues such as suicide, conflicts, violence, and gender-related concerns. By integrating insights from both disciplines, researchers can adopt a comprehensive lens to comprehend the multifaceted dimensions of these pressing issues.

Suicide, a deeply complex phenomenon, necessitates a multidisciplinary approach to unravel its underlying causes and devise effective prevention strategies. Psychology contributes by exploring individual mental health factors such as depression, anxiety, and trauma, while sociology delves into the broader social determinants including societal pressures, stigma, and access to mental health services. Through this interdisciplinary collaboration, researchers gain a holistic understanding of the interplay between psychological vulnerabilities and social contexts, informing targeted interventions and support systems.

Similarly, conflicts and violence are phenomena deeply rooted in social and psychological dynamics. Sociological perspectives illuminate the structural inequalities, power dynamics, and historical legacies that fuel conflicts and perpetuate violence within societies. By synthesizing these perspectives, researchers can develop comprehensive strategies for conflict resolution, peacebuilding, and violence prevention that account for both individual and structural dynamics.

Gender issues represent yet another domain where multidisciplinary research in sociology and psychology is indispensable. Psychology examines the complexities of gender identity, stereotypes, and discrimination at the individual level, while sociology scrutinizes the institutionalized norms, power structures, and cultural dynamics that perpetuate gender inequalities. By integrating these perspectives, researchers can advance holistic approaches to address gender-based violence, promote gender equity, and foster inclusive social environments.

In sum, multidisciplinary research in sociology and psychology offers a powerful framework for comprehensively understanding and addressing critical societal issues such as suicide, agricultural challenges, conflicts, violence, and gender inequalities. By bridging the gap between individual experiences and broader social contexts, interdisciplinary approaches pave the way for more effective interventions, policies, and social change initiatives.

SOCIO-POLITICAL STUDY:

Multidisciplinary research in sociology and political science offers a nuanced exploration of critical issues surrounding elections, social factors like caste, and the intricate relationship between political systems and social structures. By integrating insights from both disciplines, researchers can gain a comprehensive understanding of the complexities inherent in democratic processes and governance.

Elections, as the cornerstone of democratic societies, are subject to multifaceted analysis when approached through a multidisciplinary lens. Political science delves into electoral systems, voting behaviour, and party dynamics, examining the formal mechanisms that shape electoral outcomes. Sociology complements this by scrutinizing the social factors influencing voting patterns, including class, ethnicity, religion, and, notably, caste in many contexts. By synthesizing these perspectives, researchers can unravel the interplay between political institutions, social identities, and electoral dynamics, shedding light on the complex mechanisms driving democratic participation and representation.

Social factors such as caste play a pivotal role in shaping political landscapes, particularly in societies characterized by deep-seated inequalities. As Caste is the most extreme form of social stratification based on ascribed status. Sociology offers valuable insights into the historical origins, cultural significance, and contemporary implications of caste systems,

illuminating how caste intersects with politics, governance, and social stratification. Political science, in turn, examines how caste-based identities are mobilized by political actors, influencing party politics, electoral strategies, and policy agendas. Through interdisciplinary collaboration, researchers can elucidate the multifaceted impacts of caste on political representation, social justice, and democratic governance, paving the way for more inclusive and equitable political systems.

Moreover, multidisciplinary research elucidates the intricate relationship between political systems and social structures, transcending simplistic dichotomies between the state and society. As prominent sociologist suggests that the state is nothing but the relation, or set of relationships between different classes. Sociology analyzes the broader social context within which political institutions operate, exploring power dynamics, social movements, and collective action. Political science, on the other hand, examines the formal mechanisms of governance, state institutions, and policy-making processes. By integrating these perspectives, researchers can unravel the complex interplay between political power, social inequality, and institutional change, advancing our understanding of the dynamics shaping modern societies.

In sum, multidisciplinary research in sociology and political science offers a holistic approach to understanding critical issues surrounding elections, social factors like caste, and the interface between political systems and social structures. By bridging the gap between formal institutions and social realities, interdisciplinary approaches enrich our insights into the complexities of democratic governance, social justice, and political transformation.

SOCIO - ECONOMIC STUDY:

Multidisciplinary research at the intersection of sociology and economics offers a rich understanding of critical issues such as population dynamics and migration. By integrating insights from both disciplines, researchers can unveil the intricate socio-economic mechanisms underlying these complex phenomena, thereby informing policy and interventions aimed at addressing societal challenges.

Population dynamics, a fundamental concern for policymakers worldwide, are subject to multifaceted analysis through a multidisciplinary lens. Economics provides tools for analyzing population growth, fertility rates, and demographic transitions, examining the economic drivers and consequences of population changes. Sociology complements this by exploring the social determinants of fertility, migration patterns, and family structures, shedding light on the cultural, institutional, and interpersonal factors shaping population dynamics. Through interdisciplinary collaboration, researchers can elucidate the interplay between economic forces, social norms, and demographic trends, informing policies related to family planning, labor markets, and social welfare.

Migration, another pressing issue in today's globalized world, benefits from a multidisciplinary approach that considers both economic and sociological dimensions. Economics offers insights into the drivers and consequences of migration, including labor market dynamics, remittances, and the impact on economic development. Sociology, meanwhile, delves into the social processes surrounding migration, exploring issues of identity, belonging, and social integration. By integrating these perspectives, researchers can provide a comprehensive understanding of migration patterns, the experiences of migrants, and the implications for both sending and receiving societies, informing policies related to immigration, labor mobility, and social cohesion.

In sum, multidisciplinary research in sociology and economics offers a holistic approach to understanding critical issues such as population dynamics, and migration. By bridging the gap between economic forces and social realities, interdisciplinary approaches enrich our insights into the complex socio-economic mechanisms shaping human societies, thereby informing more effective policies and interventions for addressing societal challenges.

SOCIO-ENVIRONMENT STUDY:

Multidisciplinary research at the intersection of sociology and environmental studies offers invaluable insights into critical issues such as global warming, climate change, and their profound impacts on social systems, norms, and values. By integrating perspectives from both disciplines, researchers can illuminate the intricate interplay between environmental changes and social dynamics, thereby informing policies and interventions aimed at fostering sustainable societies.

Global warming and climate change represent existential threats with far-reaching implications for human societies. Sociology contributes by examining how these environmental changes intersect with social systems, reshaping livelihoods, cultural practices, and community dynamics. By exploring the social dimensions of climate vulnerability, adaptation, and resilience, sociologists shed light on the unequal distribution of environmental risks and the differential capacities of communities to cope with and mitigate the impacts of climate change.

Moreover, sociologists analyze how global warming and climate change challenge existing social norms and values, prompting shifts in collective attitudes, behaviors, and identities. Environmental degradation may provoke reevaluations of societal priorities, fostering movements for environmental justice, sustainability, and ecological citizenship. By understanding the socio-cultural dimensions of environmental degradation, researchers can develop strategies for promoting pro-environmental behaviors, fostering environmental stewardship, and cultivating resilience in the face of environmental crises.

Conversely, environmental studies enrich sociological inquiries by providing insights into the ecological processes and biophysical dynamics driving global warming and climate change. By examining the ecological impacts of human activities, such as deforestation, carbon emissions, and resource extraction, environmental researchers elucidate the mechanisms through which human actions contribute to environmental degradation. This interdisciplinary collaboration enables a more comprehensive understanding of the complex socio-environmental systems within which global warming and climate change unfold, thereby informing policies and interventions aimed at fostering sustainability and resilience.

In Sum, multidisciplinary research in sociology and environmental studies offers a holistic approach to understanding critical issues such as global warming, climate change, and their impacts on social systems, norms, and values. By bridging the gap between human societies and the natural environment, interdisciplinary approaches enrich our insights into the complex interactions between human actions, environmental changes, and societal responses, thereby informing policies and interventions for building more sustainable and resilient communities.

CONCLUSION:

In conclusion, the exploration of multidisciplinary research across various domains presents a compelling framework for advancing our understanding of complex societal issues and phenomena. Through the integration of diverse disciplines such as psychology, economics, political science and environmental studies, researchers have unveiled new horizons for sociology, fostering innovation, and holistic comprehension.

In essence, multidisciplinary research in sociology offers a vibrant tapestry of knowledge, weaving together diverse strands of inquiry to illuminate the intricacies of human social existence and advance solutions to contemporary societal challenges. Through bridging the boundaries between disciplines and interdisciplinary collaboration, researchers can continue to explore new horizons, foster innovation, and contribute to the betterment of society.

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NATIONAL EDUCATION POLICY 2020 IN INCLUSIVE DEVELOPMENT SCENARIO: AN OVERVIEW

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ABSTRACT:

*“Education is the backbone of a society and no progress and development could be achieved without education,” NEP 2020 is an India centric education policy. The NEP aims to incorporate the teaching of vocational skills within the school curriculum to augment innovation, adaptability, and productivity would help in solving the problem of unemployment to a larger extent. Unemployment is a global issue that affects nations across the world. However, India faces a peculiar problem: educated unemployment. While it may seem paradoxical that a country with a vast pool of educated talent grapples with joblessness, it’s a reality that needs attention and understanding. This paradoxical situation, where individuals with higher education struggle to find suitable employment, stands out as a peculiarity in the country’s job market. Educated youth struggle for jobs in India. To gain a comprehensive understanding of its gravity, it is essential to delve deeply into various aspects such as unemployment trends, factors contributing to job scarcity, government policies and education policy. **Key factors:** Population growth vs. job creation, Quality of education, Skill gap, Job mismatch, Economic slowdown, Preference for government jobs.*

KAY WORDS: *Unemployment NEP 2020 Policy, Skill curriculum, Solution.*

INTRODUCTION:

Education system is the foundation to all the developments in a country. It is a guiding principle. Education and employment are critical aspects shaping individuals’ futures and contributing to a nation’s growth and development. In the Indian context, these domains hold immense significance due to the country’s large population and the aspirations of its youth. However, India faces unique challenges in ensuring that everyone is fully equipped with the necessary skills and knowledge to thrive in the job market. This article explores the current landscape of education and employment in India, discusses the challenges faced, and highlights opportunities for improvement.

The Government of India has initiated many steps to address the challenges in education

and employment. The Government has launched several schemes to improve education quality, such as the Sarva Shiksha Abhiyan (SSA) and the Mid-day Meal Scheme, national education policy 2020 etc. The Government is also working to create more jobs through the Make in India and Digital India initiatives. Despite the challenges, India has a large and growing workforce. The country has a young population, with over 60 percent under 35. This young population can potentially be a significant source of economic growth. However, addressing the educational and employment challenges is essential to realize this potential. Of course, in order to make adequate use of India's productive labor force, a change in education policy in India was expected in line with the conversion of labor into skilled labor force. In that sense, it is in order to review the National Education Policy 2020.

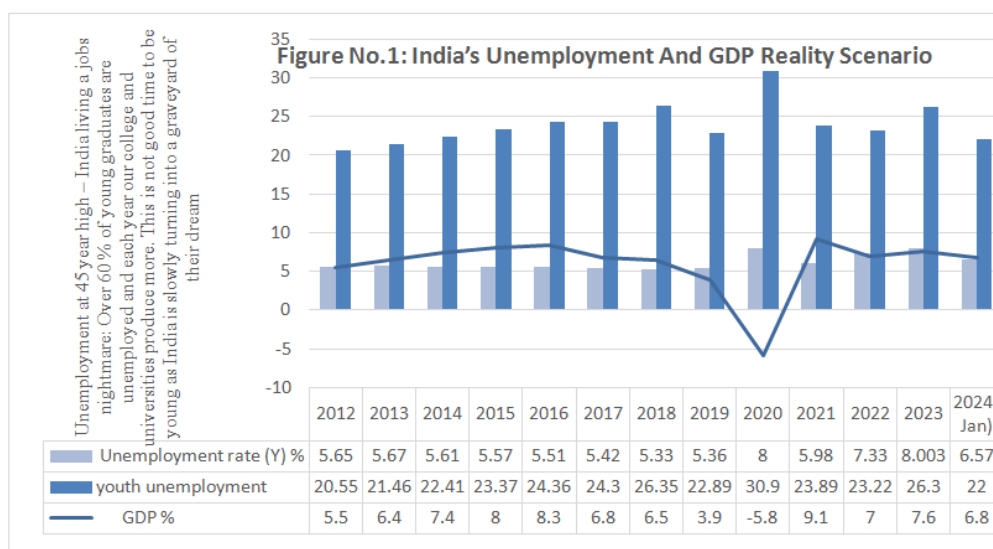
Objective of the study: The primary objective is to study the NEP 2020, as a solution for mitigating youth Unemployment in India.

Research Methodology: This research is a descriptive study. The necessary secondary data was collected from Various websites including those of Government of India, magazines, journals, other publications, etc. This data Was then analyzed and reviewed to arrive at the inferences and conclusions.

The Scenario of Labor Resources in a Labor-Intensive Economy:

India has one of the youngest populations in the world. India enjoys a demographic dividend where more than 50 per cent of its population is in the working age group of 15 To 59 and 28 per cent in age group 15-29. According to Confederation of Indian Industry (CII) report it is said That "If India does not create enough jobs and its workers are not adequately prepared for those jobs, its demographic dividend may turn into a liability. A education and skill development will be the biggest enablers for reaping this dividend," Hence, the present national education policy 2020 aimed at finding Solutions for the socio-economic problems of India. NEP 2020 is document that focusses on practical and holistic education based on our Ancient Indian Knowledge System mixing with modernity. It is a perfect blend of tradition and modernity.

Educated unemployment has become increasingly prevalent in India, with many young individuals holding qualifications ranging from matriculation to post-graduation degrees facing significant challenges in securing employment opportunities. In the most recent annual report published by the International Labor Organization, it was reported that the unemployment rate in India experienced a decrease, reaching 8% in the year 2023. The highest recorded unemployment rate during this period was 23.5%, while the lowest stood at 6.5%. Considering this situation in the overall employment, employment-oriented education system in the education sector seems to be necessary, accordingly, it has been decided to implement the new education policy 2020 at the national level. Because the economic growth rate of the country should be inclusive of the available population. Such economic growth rate contributes to the overall development of the country. Accordingly, while developing labor-intensive technology, education policy has to complement it. Therefore, since the new economic reforms in India, there is an urgent need to improve the level of education, a strategic change in education seems necessary. Youth unemployment crisis in India What's worse for India is that its economic growth is producing much fewer jobs than it used to, and the disheartened jobseekers instead take menial roles as tele callers, delivery boys, construction workers, or vendors of street food. Overall, India's unemployment and economic development reality scenario figure no. 1 will be visible from above.



Source: World Bank , Mo-SPI, CMIE, Indian Express Research

Accentuating the youth unemployment crisis in India is the fact that nearly two-thirds of its 1.43 billion people are under 35 years of age. “Post-Covid, the unemployment rate is lower than it was pre-Covid, for all education levels. But it remains above 15% for graduates, and more worryingly, it touches a huge 42% for graduates under 25 years,” said the State of Working India 2023 report, which was released last month by Azim Premji University. “Between 2017 and 2021, there was a slowdown in overall regular wage job creation, but formal jobs (with a written contract and welfare benefits) as a share of all regular wage work rose from 25% to 35%,” it said, adding that in 2020-21, which was the pandemic year, regular wage employment fell by 2.2 million. Demonetization and the pandemic had a profound adverse impact on the creation of overall wage employment in India. There was an increase in formal employment by 3 million jobs and a loss of about 5.2 million jobs in semi- and informal regular-wage employment during 2020–21. What’s worse for India is that its economic growth is producing much fewer jobs than it used to, and the disheartened jobseekers instead take menial roles as delivery boys, telecallers, construction workers, or vendors of street food. Critics say such hopelessness among India’s youth is one of the biggest failures of the Modi government. Accentuating the youth unemployment crisis in India is the fact that nearly two-thirds of its 1.43 billion people are under 35 years of age. Moreover, 12 million additional people reach employment age every year in India. Half of the lost employment is accounted for by women, leading to a deterioration in women’s participation rate in the labour force. A staggering 42% unemployment rate among young graduates under 25 years old presents a rudderless future for the educated youth of the country. The only rudder they can hope to find to steer the ship of life is in ‘pakodanomics’. The media regularly quotes the increase in formal jobs. Just presenting the formal employment data based on the new provident fund accounts opened is at best an incomplete picture of the employment scene in the country and, at worst, a distracting picture of the employment data. Formal jobs (with a written contract and retirement benefits) as a share of regular wage work are increasing, while the overall wage employment rate is falling.

India’s unemployment rate is estimated to have exceeded the global rate in five of the last six years preceding 2022, as per data from the Centre for Monitoring Indian Economy (CMIE) and the International Labor Organization (ILO), due to an economic slowdown that was exacerbated by the shock demonetization and the black swan event of the pandemic. “The situation is worse than what the unemployment rate shows,” CMIE Managing Director Mahesh Vyas told Reuters in 2022. “The unemployment rate only measures the proportion of those who do not find jobs to those who are actively seeking jobs. The problem is that the proportion

seeking jobs itself is shrinking.” Unemployment is a situation when a person actively searches for a job but is unable to find work. Unemployment, both in terms of magnitude and severity, is the biggest challenge for the country.

Challenges in the Education & Employment:

Inequality and Accessibility: One of the significant challenges in India’s education system is the disparity in access to quality education. Rural areas and marginalized communities often lack adequate educational infrastructure and resources. Ensuring equal access to education for all sections of society remains a critical challenge.

Outdated Curriculum:

The existing curriculum in many educational institutions does not always align with the evolving needs of industries. There is an urgent need to update & modernize the current curriculum to equip students with relevant skills and knowledge that match the job market demands.

Quality of Education:

While India has many educational institutions, the quality of education provided is inconsistent across the board. Issues such as the shortage of qualified teachers, outdated teaching methods, and insufficient infrastructure hinder the delivery of quality education.

Skill Gap:

The traditional education system often lacks a focus on practical skills, soft skills, and industry-specific knowledge. This gap leads to a high rate of unemployment or underemployment among graduates.

Lack of Vocational Training:

Vocational education and training have not received adequate attention in India. The focus on academic qualifications often overlooks the importance of vocational skills. Strengthening vocational training programs can provide alternate pathways for employment and bridge the skill gap.

Employability Challenges:

Many graduates struggle to find suitable employment opportunities despite educational qualifications. Lack of industry exposure, limited practical experience, and insufficient career guidance contribute to the employability challenges faced by students.

Limited Research and Development: The emphasis on research and development is relatively low in many educational institutions in India because of innovation & the creation of new knowledge, which is essential for fostering a vibrant and globally competitive education system.

What is NEP?

National Education Policy (NEP) are a set of policies formulated by the Government of India to promote education amongst Indian people. NEP is basically a comprehensive framework to guide the development of education in the country. India had seen three education policies in its post-independence history. The first National Education Policy of 1968 formulated by the government headed by Smt. Indira Gandhi and the second was introduced in 1986 when Mr. Rajiv Gandhi was the prime minister of the country and the same was modified by prime minister Narasimha Rao government in 1992. The latest education policy was formulated by Sri Narendra Modi government which was passed in the parliament on 29th July 2020. Hence, it came to be known as NEP 2020.

The NEP 2020 draft policy document envisions “an India-centered education system

that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all” NEP 2020 aims at developing self-reliant individual. Hence, the life skills are taught from the primary level itself. There are many improvements suggested in secondary education with national skill curriculum framework beginning at IX standard education. However, the policy focus on higher education is commendable.

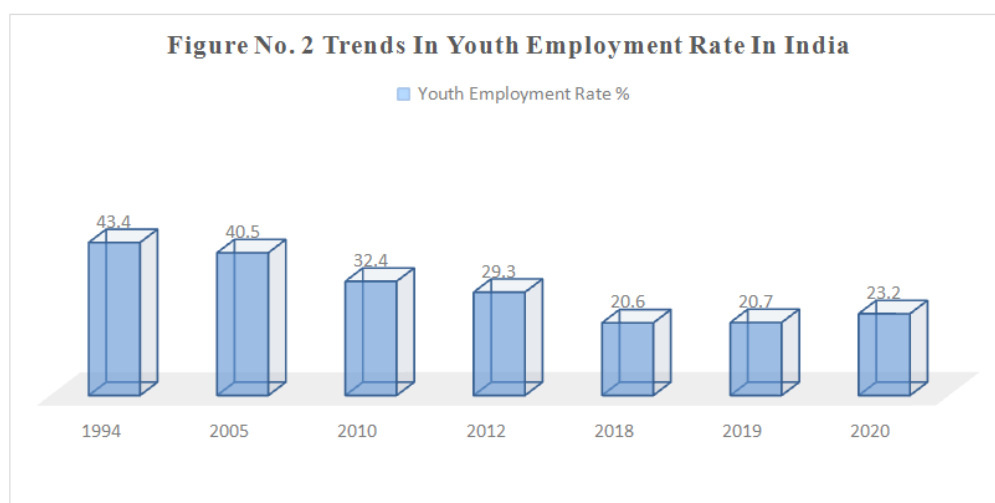
Major Take Aways in the Policy to Eradicate Unemployment:

- New architecture: A new vision and architecture for higher education has been envisaged with large, well-Resourced, vibrant multidisciplinary institutions. The current 800 universities and 40,000 colleges will be Consolidated into about 15,000 excellent institutions.
- Liberal education: A broad-based liberal arts education at the undergraduate level for integrated, rigorous Exposure to science, arts, humanities, mathematics and professional fields will be put in place. This would have Imaginative and flexible curricular structures, creative combinations of study, integration of vocational Education and multiple entry/exit points.

NEP 2020 Solution to Employment Rate in India:

India’s Unemployment at 45 Year high – India living a jobs nightmare: Over 60 % of young graduates are unemployed and each year our college and universities produce more. This is not good time to be young as India is slowly turning into a graveyard of their dreams. Youngsters in the age group of 20-24 years reported an unemployment rate of 37 %. Graduates among 20-24 years reported an unemployment rate of over 60 %. Considering this fact, reducing unemployment and increasing employment generation is one of the biggest challenges facing the Indian economy. Education plays a unique role in transforming India’s active labor force into a skilled workforce with full employment in the productive sector. Accordingly, observation becomes sequential.

The World Bank data places the employment rate for the 15-24 years age group for India at 23 per cent. The Ratio has risen from 20.6 per cent in 2018 to 20.7 in 2019 and then to 23.2 per cent in 2020. But the ratio was Much higher at 29.3 per cent in 2012 and 32.4 per cent in 2010. It was 40.5 per cent in 2005 and 43.4 per cent in 1994. This is a dramatic fall from 43.4 per cent in 1994 to 23.2 per cent in 2020. A conceptual scenario of this is shown in figure no. 2 will be visible from above. Figure No. 2 Trends In Youth Employment Rate In India.



Source: Global Employment Trends for Youth 2022.

According to International labor Organization (Global employment trends for youth 2022) Like many Countries in the world, India experienced severe working-hour and employment losses in 2020, and once again During another, shorter, period in 2021. However, in contrast to most other countries, Indian youth employment in 2021 deteriorated with respect to 2020, despite an overall average improvement in the labor market. In the mean while in the field of higher education, many changes are witnessed in the country. According To AISHE Report, Gross enrolment ratio in higher education recorded at 27.1 percent in 2019-20, slightly higher from 26.3 percent in 2018-19. For males, it has also increased from 26.3 percent in 2018-19 to 26.9 percent in 2019-20 while for females it has increased from 26.4 percent to 27.3 percent respectively. Youngsters in the age Group 15 to 24 years hold the greatest promise as the source for economic growth of a nation. This is the age When people graduate from education and step into the labour markets to chart a career or at least make a living. People usually complete high school (12th standard) by 18 years of age, graduation by 21 years and post-Graduation by 23 or 24 years. The transition from education to employment begins at different stages for Different people during these years. In India, most people seem to make this transition after high school. Education may never end, but in the modern world, employment must begin somewhere between 15 and 24 Years of age. The new education policy builds confidence among the youth as the skills are taught at the early Level. Project works, internships and innovative research permitted in UG education helps build the career.

Integration of Vocational Education

The vocational education must be an integral part of all education – this Policy aims to provide access to vocational Education to at least 50% of all learners by 2025. The National Education Policy (NEP) 2020 in India aims to address unemployment through various measures such as:

Skill Development: NEP emphasizes the importance of vocational education and skill development from an early age to equip students with practical skills that are in demand in the job market.

Flexible Education: The policy promotes flexible learning pathways, including vocational courses, online education, and apprenticeships, to cater to diverse interests and career goals, thus reducing unemployment by providing more opportunities for employment.

Entrepreneurship Education: NEP encourages entrepreneurship education to foster an entrepreneurial mindset among students, empowering them to create job opportunities rather than solely seeking employment.

Industry-Academia Collaboration: The policy emphasizes strengthening collaborations between educational institutions and industries to ensure that academic curricula are aligned with the needs of the job market, thus increasing employability.

Internships and Experiential Learning: NEP advocates for incorporating internships, apprenticeships, and hands-on experiential learning opportunities into the curriculum to provide students with real-world work experience and enhance their employability.

Lifelong Learning: The policy promotes lifelong learning and continuous skill upgrading to adapt to evolving job market demands, ensuring that individuals remain employable throughout their careers.

Overall, NEP 2020 aims to address unemployment in India by promoting skill development, entrepreneurship, industry-academia collaboration, experiential learning, and lifelong learning to enhance the employability of its workforce.

SUGGESTION:

NEP 2020 is a comprehensive document with holistic objective to transform the face of the country from India. Both the organized and unorganized sectors must adopt labour - intensive technology if sufficient employment opportunities are to be generated, and the women's participation rate in the labour force should improve. Bangladesh has achieved this by

establishing a vibrant garment industry to cater to the clothing needs of the world. To solve the unemployment problem in urban areas, the organized industrial sector must also absorb a sufficient number of workers. The failure of the organized industrial sector to generate enough employment opportunities is due to the use of capital-intensive technologies. In order to encourage the use of relatively more labour - intensive technologies and thereby generate more employment opportunities, fiscal and monetary concessions like liberal depreciation, investment allowances, etc. on the use of capital must be withdrawn or reduced. In addition to the above, the promotion of value-added agro-processing industries for export purposes has huge employment potential. The expansion of and more investments in the education and health care sectors not only promotes the accumulation of human capital but will also generate a good deal of employment opportunities. More investments and concessions in labour - intensive services such as trade, hotels, and tourism also have significant employment potential. Last but not least, there is also a need for a national employment policy (NEP) and a decentralized model of development.

CONCLUSIONS:

The purpose of NEP 2020 is to give what the students need and not the institution offers. This would lead to interest-based education and need based learning. Indian youth would be empowered with best vocational skills in future. The unemployment problem in India can be solved with the best implementation of NEP 2020. It is hoped that the complete implementation of policy would lead to great outcomes.

In an economy with the largest active (youth) labor force in India, effective implementation of the new National Education Policy 2020 will make the active youth labor force skill-based and employment-oriented in line with full employment. Assuming such positivity, it is hoped that India's active labor force will become skill oriented and employable and be included in the overall development structure of the country!

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NEW TRENDS IN COMMERCE EDUCATION

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ABSTRACT:

Commerce education carefully studies the individual's action which is injurious to the society as a whole and recommends the methods of their prevention. There are then certain commerce issues which are of direct interest to the society. The problem of money is protection, incidence of taxation, import-export, the development of agriculture, industries and the like affect the society as a whole. Commerce carefully studies these problems in the light of social welfare and gives its unbiased opinion. Commerce education gives the knowledge of well-earnings with good business. The growing phenomenon of globalization, liberalization and privatization has been immensely influencing the Commerce Education. Alvin Toffler in his famous book "Future Shock" says that, "To help avert future shock, we must create a super industrial educational system and to do this, we must search for our objectives, methods in the future rather than past. Education must shift into future tense." The Higher Education sector in India is very vast. The role of Higher Education in National development is well established. The objectives of Higher Education can be achieved only through qualitative change in the system. The output of Commerce Education should be multidimensional and with full global competitiveness. But we have to realize that the Commerce graduate have lack of practical knowledge. The practical oriented Commerce Education

is a need of the age. The main objective of education is to develop Human Resources to face any challenges of the life. The role of commerce education is to develop Human resources to overcome the challenges in the field of commerce and business. To achieve this goal the commerce education must be focused on linkage with business and industries. It should be more practical and as like on job training and hands on experience.

KEYWORDS: *Practical oriented Commerce Education, E-learning, E-banking-Governance, E-Marketing, E-commerce.*

INTRODUCTION:

The first Commerce school was established in Chennai in 1886 by Trustees of Pachiyappa's Charities. Commerce classes started in the Presidency College, Kolkata in 1903. The Sydenham College of Commerce and Economics was established in 1913 as the first institution for higher education in Commerce. In post-Independence period, Commerce education has emerged as one of the most potential pursuits in the wake of industrialization, economic development and techno-managerial revolution. Commerce has grown from a subject to a full-fledged faculty in most of the universities and had acquired a pride of place amongst different academic disciplines. The growing phenomenon of globalization, liberalization and privatization has been influencing the Commerce education. The technological revolution has further provided new dimensions' E-banking, E-marketing, E-commerce, E-finance, E-investment paper less trading and governance has been gaining importance of all over the world. At the same time, the outsourcing business, call Centre, small business operation, IT based services etc. are expanding very fast. These developments demands paradigm shift in teaching and learning process. The new skills and training are required to cope up with these changes. The technological advances must be integrated into the basic fabric of Commerce education. A career in e-commerce demands both a real knowledge of the business world and the element make a business work. The main objective of education is to develop Human Resources to face any challenges of the life. The role of commerce education is to develop Human resources to overcome the challenges in the field of commerce and business. To achieve this goal the commerce education must be focused on linkage with business and industries. It should be more practical and as like on job training and hands on experience.

OBJECTIVES:

1. To expose themselves to and to interact with the real life situation and in the process to assist the society.
2. To have practical orientation of class room instruction. Thus, this scheme is expected to helping learning while working and earning while learning.
3. The education system is developing very fast both qualitatively and quantitatively.
4. Imparting knowledge in the field of Commerce and Industry.

ROLE OF COMMERCE EDUCATION:

Webster defines Education as the process of educating or teaching. Education is further defined as to develop the knowledge, skill, or character of students. The principle purpose of education is to educate all students and give everyone equal opportunity as a means to succeed in life. The important factor of education includes providing the necessary knowledge and skill. According to Eric Hoffer, "The central task of education is to implant a will and facility for learning; it should produce not learned but learning people. The truly human society is a learning society, where grandparents, parents and children are students together". The role of Commerce education is very much challenging and most important to prepare Business leaders and entrepreneurs. There are challenges in transition from school to work. High rates of youth—unemployment have become a structural problem in India, so also in many countries. In

order to weed out this problem impart of education especially commerce and business which encompasses a whole lot of livelihood activities is an important solution. Therefore, the basic objective of Commerce Education is to provide an improved livelihood to the people at the bottom of the pyramid by empowering them to find out how the Commerce education can be leveraged for sustainable inclusive growth.

NEW TRENDS IN COMMERCE EDUCATION

Commerce is the exchange of items of value between Persons or Companies. Any exchange of money for a product, service or information is considered a deal of Commerce. The Internet and an efficient postal system have made International Commerce convenient for Business as well as individuals. Education is developing inherent abilities and power of students. It is the process by which society deliberately transmits its accumulated knowledge, skill and values from one generation to another. Education in the largest sense is any act or experience that has a formative effect on the mind, character or physical ability of an individual.

The following are new trends in commerce education: -

E-Commerce : E-Commerce involves conducting business using modern communication instrument like the Internet, Fax, Telephone, E-data interchange, E-payment, Money transfer system. Commerce provides multiple benefits to the consumers in the form of availability of goods at lower cost, wider choice and save times. People or Consumer can buy goods with a click of mouse button without moving out of their house or offices. Similarly, online services such as Internet Banking, Tickets includes Airlines, Railway, Bus Bill Payment, Hotel Booking etc. have been tremendous benefit for the customers. E-Commerce education has been phenomenal in making a deep impact on higher education. Growth in the Internet over the last few decades has led to great impact on communication and research in the institutes. Many MBA's, Working Professionals, Administrators, Housewives and similar people who fell short of time to go to a campus program have been able to benefit immensely from online sources.

E-learning: It has become an important mode of education. Since the regular courses in India are getting very expensive and highly competitive, distance and online education is fast developing as an amazing option for the students. E-learning opportunities are immense in India. Even the distance education programs are serving wonderfully. Distance learning can be availed through various types such as interactive CD-ROM programs, Mobile learning programs, Telecourses or Broadcast course via Television or Radio, Postal correspondence programs and many more.

E-Governance: E-Governance is the future, many countries are looking forward to for a corruption free government. E-government is one-way communication protocol whereas E-governance is two-way communication protocol. The essence of E-governance is to reach the beneficiary and ensure that the services intended to reach the desired individual has been met with. There should be an auto-response system to support the essence of E-governance, whereby the Government realizes the efficacy of its governance. E-governance is by the governed, for the governed and of the governed.

E-Banking: Online banking (or Internet banking or E-banking) allows customers of a financial institution to conduct financial transactions on a secured website operated by the institution, which can be a retail bank, virtual bank, credit union or building society. To access a financial institution's online banking facility, a customer having personal Internet access must register with the institution for the service. Customers numbers are normally not the same as account numbers, because number of accounts can be linked to the one customer number. The customer will link to the customer number any of those accounts which the customer controls, which may be cheque, savings, loan, credit card and other accounts. Customer numbers will also not be the same as any debit or credit card issued by the financial institution to the customer.

E-Marketing: Electronic marketing is directly marketing a commercial message to a group of people using email. In its broadest sense, every email sent to a potential or current customer

could be considered email marketing. It usually involves using email to send ads, request business, or solicit sales or donations, and is meant to build loyalty, trust, or brand awareness. Email marketing can be done to either sold lists or current customer database.

Telemarketing: The number of manufacturers of various brands are using various television channels to sale their products all over the world. The targeted customers are the viewers of the television spread all over the world. The targeted sales are achieved by saving time, cost of sales and avoiding total chain of distribution. An effective telemarketing process often involves two or more calls. The first call (or series of calls) determines the customer's needs. The final call (or series) Prospective customers are identified by various means, including past purchase history, previous requests for information, credit limit, and competition entry forms, and application forms. Names may also be purchased from another company's consumer database or obtained from a telephone directory or another public list. The qualification process is intended to determine which customers are most likely to purchase the product or service.

Challenges and Opportunities in Commerce Education: Commerce is considered as one of the most popular career options in India. Commerce education is the backbone of the business and serial development of the Nation. This education stresses on developing the people and making effective use of available resources. Commerce education develops the relationship of people with one another. Commerce education covers wide area of business and society. Commerce education provides to the business and society that how to use it for the betterment of self and oneself. Commerce education gives to the people for democratic living, good citizenship and proper utilization of resources. It provides skill oriented education to students and society.

- Challenges and Strategies for controlling inflation and promoting growth;
- Emerging issue in global Economy, Commerce and Management
- .Internationalization of Financial Market in the World
- Role of Foreign Direct Investment and Foreign Institutional Investment.
- Reform in Indian and International Economic Sectors.
- Challenges and Strategies of IMF and WORLD BANK for International competition.
- Challenges and Strategies merger and acquisition strategies for Trade, Commerce and Industry in World Challenges and Strategies for commodities markets in the world and in currency marketing International scenario.
- Challenges and Strategies for export and import of Trade, Commerce and Industries in global scenario.
- Challenges and Strategies for Stock Market and Investors for International competition.
- Challenges and Strategies in Currency Market in International scenario.

Opportunities

- At the undergraduate level, Bachelor of Commerce, a three year full time course.
- And Master of Commerce at the postgraduate level. After completing course in the field of Commerce, a student can join any private institute or government organization as a specialist in any of the Commerce stream and they can also pursue professional courses such as Company Secretary, Chartered Accountant, and ICWA, MBA.
- A graduate in Commerce can also opt careers in financial services as a Financial Consultants, Stock Brokers, Merchant Bankers, Budget Consultant, Financial Portfolio Manager, Project Formulation Manager, Tax Consultants.
- Careers in Management are also available in the field of Personnel Management, Production Management, Financial Management, Marketing Management, and Material Management, other areas of Management such as Hotel Management, Hospital Management, Tourism Management, Event Management, Office Management, Export and Import Management. In the Bank, call for Commerce graduates and post graduates with specialization in Banking.

- Insurance Companies can also call for Commerce graduates and post graduates with specialization in Insurance. Industrial segment are also call for Commerce graduates and post graduates with specialization in accounting skill including Computer Technology.

CONCLUSION:

With a growing emphasis on information, global economy, Higher Education was viewed as increasingly essential for the world's population. Information Technology and Mobile Technology is now forcing education sector to change according to the need of the time. The most emerging dimension of the Business and Commerce education in the 21st century is the need for Business School to use technology and make it integral part of course contents. Education now becomes an industry, there is explosion of technologies and knowledge in all sphere. The quality of Commerce Education has become a major marketing issue in the changing environment. As per specialization, a practical training should be provided to the students. By making relevant and practical oriented Commerce Education, we may impact global competitiveness to our students. As a part of the society the social awareness among Commerce students is the emerging need of present time.

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PALLIATIVE DRUG AWARENESS AND UTILIZATION AMONG ATHLETES IN MAHARASHTRA

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ABSTRACT

The purpose of study was the Palliative Drug Awareness and Utilization among Athletes in Maharashtra and also to examine the extent to which sports players in Maharashtra have actually Awareness and Utilization palliative drugs. The descriptive survey research design was used in this study. A total of 830 Athletes were randomly sampled from Athletes in Maharashtra. A developed standard questionnaire designed by the researcher was used to collect relevant data for the study. The data collected were analyzed using descriptive statistics percentage. The results showed that Athletes have some extant Palliative Drug Awareness, some extant

Knowledge of effects of Palliative Drug and Athletes more Utilization of Palliative drugs. It was therefore recommended that the athletes in Maharashtra should intensify its campaign and public enlightenment program to educate the Athletes and handlers on the health consequences of effect of Palliative drugs.

KEYWORDS: Development, validation, inventory, palliative drugs.

INTRODUCTION

The use of drugs to enhance performance in sport has been reported during the ancient Games held in 668 BC (Holt, Erotokritou-Mulligan and Sonksen 2009). A drug is a chemical substance that, when absorbed into the body, can alter normal bodily function. Many drugs have been banned in sport if they are deemed to provide an unfair advantage pose a risk or are seen to violate the spirit of sport. There are many different drugs and supplements used by athletes to enhance performance. Some of the more common classes are blood doping, anabolic steroids, stimulants, growth hormones, amino acids, and proteins (Johnson 1998). Several of these products although initially believed to be ineffective have been shown to be good at increasing strength, decreasing fatigue, and building muscle. However, some of these drugs are banned for athletes and referred as doping. Despite of ban on these drugs they are readily available through prescription, supplements, local gyms and the internet.

The International Olympic Committee (IOC), and more recently, the world Anti-Doping Agency (WADA) have been leading the way in the battle against drugs in sport. It has been reported that the driving force to use these drugs by athletes was desire to achieve success, glory and wealth (Bloodworth *et al.*, 2012). Further, various studies have demonstrated that body appearance is a bigger priority than competing in sports for non-competent young sportsperson in schools and clients of gymnasiums, as a result of which they make use of doping agents (Kindlundh *et al.*, 1998; Striegel, 2006; Baker *et al.*, 2006; Mallia *et al.*, 2013). Moreover, doping agents have been misused in approximately 1% of population of America and Sweden (Tokish *et al.*, 2004; Sjoqvist, Garle and Rane 2008). Also, it was estimated that around 5% of high school students of the United States had already used doping agents for enhancing their growth (Saugy *et al.*, 2006).

Doping in sports means use of banned substances or drugs. It is banned by both national and international sports governing bodies, and the World Anti-Doping Agency (WADA), which runs an extensive testing programme and initiatives designed to foster anti-doping attitudes (Bloodworth and McNamee, 2010). In spite of ban on use of performance enhancing drugs, doping in sporting events is widespread across the world (Morente-Sánchez and Zabala, 2013). Most of the time drugs are used by sportsperson to enhance performance, personal appearance or to reduce pain (Ehrnborg and Rosen, 2009; Petroczi and Aidman, 2008). The first record of using performance enhancing drug is as early as 668 B.C. (Holt, ErotokritouMulligan and Sonksen, 2009). Though drugs used by sportsman are useful tools in sports medicine but many of the drugs used by them pose a high health risk. In fact, drugs may not be the problem as long as they are being used in a legal prescribed manner, under the supervision of trained medical professionals.

Earlier studies reported that the main motive of use of performance enhancing drugs are gaining an edge on competitors, increasing muscular strength and endurance, and reducing recovery time from injuries (Nocelli, Kamber, Francois, Gmel & Marti, 1998; Petroczi & Aidman, 2009). Further, doping in Athletes may be due to improve body image and desire to win (Ehrnborg and Rosen, 2009; Petroczi and Aidman, 2009).

The use of performance enhancing drugs such as Palliative is increasing rapidly despite of ill effects on health and well-being. Although sports authorities publish list of banned drugs every year, however, it is not known whether the sportsmen are aware of the banned drugs. Hence, the researcher has planned this study entitled ***"Palliative Drug Awareness and Utilization among Athletes in Maharashtra"***.

The use of performance enhancing drugs in adolescents appears to be prevalent may be due to the characteristics and physiological effects (Knotts 2000; Yusuf, 2010). Most athletes take drugs to enhance their physical performance in an attempt to prevent them falling behind other competitors, even if it does mean damaging their health and risking their sports careers. Other athletes may use drugs to help them wind down and relax, to cope with the pressures and stress associated with a constant battle to win all the time, to boost their own self-esteem and confidence, to mask the pain of certain sports injuries, to control and reduce weight, and to hide the use of any other banned substances. In many sporting events such as cycling, track and field events, swimming and weight lifting competitions these drugs are used to enhance performance.

Following types of drugs and methods are used by athletes to enhance performance:

Lean mass builders are used by athletes to increase the growth of muscle and lean body mass, to reduce recovery time after an injury, and are sometimes used to reduce body fat. Examples of lean mass builders include anabolic steroids, beta-2 antagonists and various human hormones. Stimulants are used by athletes to increase alertness, improve concentration, increase aggressiveness, decrease fatigue and shorten reaction time. Relaxants are used in such sports as archery where a steady hand is required, and also by those athletes feeling excessive nervousness or discomfort which is hard to overcome. Examples of relaxants often used include alcohol, beta blockers and marijuana. Diuretics are often used in sports such as wrestling where a certain weight restriction needs to be met, as they remove water from the athlete's body. In many cases masking drugs are used by athletes in order to disguise the use and prevent the detection of illegal classes of drugs in sport. One method of performance enhancement used by athletes is blood doping. This involves removing red blood cells from the blood and replacing those weeks later to increase the overall number of red blood cells in the blood. This increases the amount of oxygen that the body can therefore carry and is extremely beneficial in long distance running. Painkillers are often used by athletes in order to mask the pain of an injury and so as they can continue to compete and perform beyond that of their normal pain threshold.

Despite the side effects of Palliative Athletes may use it to stop the pain resulting from injury. This can be dangerous as these substances merely hide the pain. An athlete who continues to exercise on the injured part risks further damage to that part. Scientists have discovered Palliative receptors in the brain, along with natural pain killing substances produced by the body called endorphins. Palliative behave like endorphins and act on or bind to, the receptors to produce their associated effects.

Palliative also have other effects on athletes such as addiction, loss of balance and coordination, nausea and vomiting, loss of sleep and depression, breathing becomes slower, decreased heart rate, decreased ability to concentrate and constipation.

The use of performance enhancement drugs may probably due to the pressure placed on athletes in all forms, from family, peers, media, coaches, and fans. The pressure placed on athletes to win and set personal bests has resulted in increased drug use among various athletes. Therefore, in this study the investigator will attempt to find out the status of use of Palliative among athletes and their Awareness regarding Utilization of Palliative drugs.

OBJECTIVES OF THE STUDY

This study has been conducted with following objectives

- To assess the Awareness of Palliative drugs by Athletes in Maharashtra.
- To assess the Awareness of effect of Palliative drugs by Athletes in Maharashtra.
- To assess the Utilization of Palliative drugs by Athletes in Maharashtra.

METHODOLOGY

The descriptive survey research design was used in this study. Where the newly

developed questionnaire on “Awareness about Palliative drugs” has been administered to the representative sample of the population (Maharashtra). This survey research has helped to enable information and describe present situation exists on the status of Awareness of Palliative drugs, Awareness of effect of Palliative drugs and Utilization of Palliative drugs being practiced by the Athletes.

The population of this study includes all Athletes in Maharashtra, who have represented, inter-university, all India inter-university sports competitions and have an experience of at least five years in the field. With the use of random sampling technique participants from different types of sports have been recruited for this study. The participants have been Athletes (n=830), aged 18-27 years, participated in individual and team sports attended inter-university, all India inter-university sports competitions. Data for this study were collected using a standard questionnaire designed by the researcher. The questionnaire was designed to assess the Awareness of Palliative drugs, Awareness of effect of Palliative drugs, Utilization of Palliative drugs. While questionnaire was administered on the subject they were briefed about the aim and objectives of the of the study. Further, they were assured about the confidentiality of their information. The data collected for the study were analyzed using both descriptive statistics of percentage.

Result

Table 1 to assess the Awareness of Palliative drugs by Athletes in Maharashtra.

Palliative drugs method	heard about Palliative drugs		Seen about Palliative drugs		Never heard about Palliative drugs		Utilization about Palliative drugs currently		Never use about Palliative drugs		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Tablets	198	23.8	134	16.1	99	11.9	296	35.6	103	12.4	830	100
Syrup	123	14.8	134	16.1	253	30.4	23	2.7	297	35.7	830	100
Smoke	278	33.4	129	15.5	312	37.5	5	0.6	106	12.7	830	100
Via Injection	239	28.8	219	26.3	89	10.7	176	21.2	107	12.8	830	100
Creams	183	22	117	14.1	89	10.7	306	36.8	135	16.2	830	100
Powders	286	34.4	116	13.9	193	23.2	9	1	226	27.2	830	100

Table 1 show that there is a wide gap between having heard about, Seen about, never heard and actually using it. While large number of respondents heard about Palliative drugs method, seen about Palliative drugs method and Utilization about Palliative drugs currently, only small number of respondents Seen about Palliative drugs method and never using substance Palliative drugs. As table 1 show players heard about Palliative drugs method by Tablets (23.8%), syrup (14.8%), Smoke (33.4%), via injection (28.8%), creams (22%), and powders (34.4%). Athletes seen about Palliative drugs method by Tablets (16.1%), syrup (16.1%), Smoke (15.5%), via injection (26.3%), creams (14.1%), powders (13.9%). Athletes Utilization about Palliative drugs method by Tablets (35.6%), syrup (2.7%), Smoke (0.6%), via injection (21.2%), creams (36.8%), and powders (1%). athletes Utilization great extent of Tablets, creams and via injection.

Table 2 to assess the Knowledge of effect of Palliative drugs by Athletes in Maharashtra

	heard about Palliative drugs	never heard about Palliative drugs	Utilization substance Palliative drugs	no response	Total

	N	%	N	%	N	%	N	%	N	%
Reduce Tension	153	18.4	256	30.8	45	5.4	376	45.3	830	100
Recovery Injury	151	18.2	259	31.2	34	4.1	386	46.5	830	100
Reduce Pain	326	39.3	103	12.4	286	34.5	115	13.9	830	100
Continue Training Even After Serious Injury	339	40.8	96	11.6	149	18.0	246	29.6	830	100
Relive Pain And Create Relaxation	342	41.2	86	10.4	289	34.8	113	13.6	830	100
Damage Nervous System	81	9.8	328	39.5	24	2.9	397	47.8	830	100
Decrease Heart Rate	76	9.2	379	45.7	13	1.6	362	43.6	830	100
Overdoses Can Cause Death	65	7.8	389	46.9	0	0.0	376	45.3	830	100
Enhance Performance	184	22.2	216	26.0	159	19.2	271	32.7	830	100

Table 2 show that there is a wide gap between having heard about or never heard and actually using it. While large number of respondents no response and never heard about Palliative drugs, only small number of respondents heard about Palliative drugs and Utilization substance Palliative drugs.

Table 3 to assess the Utilization of Palliative drugs by Athletes in Maharashtra.

use Palliative	No of player	%
per day	32	3.9
per week	53	6.4
practices time	96	11.6
only hard practices time	36	4.3
injury time	73	8.8
match time	117	14.1
after competition	69	8.3
no use	227	27.3
No response	127	15.3
Total	830	100

Table 2 show that 27.3% Athletes no use of Palliative drugs 14.1% Athletes use of Palliative drugs at match time 11.6% Athletes use of Palliative drugs at practice time 8.8% Athletes use of Palliative drugs at injury time 8.3% Athletes use of Palliative drugs at after competition 6.4% Athletes use of Palliative drugs at per week 4.3% Athletes use of Palliative drugs at only hard practices time and 15.3% Athletes as no response.

CONCLUSION

Based on the finding of this study, the results showed that Athletes have some extant Knowledge of Palliative drugs, some extant Knowledge of effect of Palliative drugs and Athletes more use of Palliative drugs. It was therefore recommended that the University in Maharashtra should intensify its campaign and public enlightenment program to educate the Athletes and handlers on the health consequences of effect of Palliative drugs.

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COMPARISON OF SOME PREDICTION INTERVALS FOR A FUTURE OBSERVATION FROM WEIBULL DISTRIBUTION

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ABSTRACT

In this article, a comparative study is attempted to compare the existing methods for problem of constructing prediction interval (PI) for a future observation from Weibull

distribution. A Monte Carlo simulation-based study reveals that apart from being computationally simple, Generalized Variable approach method performs uniformly best even for the sample size as small as $n = 5$. The results are illustrated using practical example.

KEYWORDS : Prediction interval, Box-Cox transformation, Generalized Variable method, Comparative study.

1. INTRODUCTION

A random variable X is said to follow a two-parameter Weibull distribution $W(a, b)$ if its probability density function (pdf) is of the form,

$$f_X(x; a, b) = \begin{cases} \frac{b}{a} \left(\frac{x}{a}\right)^{b-1} \exp\left(-\left(\frac{x}{a}\right)^b\right) & ; x > 0, a > 0, b > 0 \\ 0 & ; \text{otherwise.} \end{cases}$$

where a is the scale parameter and b is the shape parameter. The Weibull distribution is extensively used in reliability and survival analysis. One good property of Weibull distribution is that its failure rate function is either increasing or decreasing depending on the value of shape parameter b . Weibull mean is $\mu = a\Gamma(1 + b^{-1})$, it has a closed form reliability function $R(t) = \exp(-(t/a)^b)$ and its failure rate function is $h(t) = bt^{b-1}/a^b$. All these quantities are of crucial importance in reliability analysis. We refer to Heo et al (2001), Jeng (2003), Murthy et al (2003), Yang and Xie (2003) for recent applications based on Weibull distribution.

A PI is a confidence interval for a future observation from the parent population under consideration. In this paper, the existing methods for problem of constructing prediction interval for a future observation from Weibull distribution are compared based upon a simulation with respect to expected coverage probability and expected length of PI. The study reveals that the Generalized Variable approach method uniformly outperforms the existing methods particularly for small samples.

The article is organized as follows. Section 2 gives brief review of the existing methods in the literature for PI estimation of a single future observation from Weibull distribution. Section 3 presents details of the comparison among these methods based on simulation study. Section 4 illustrates the methods applied to real data sets. Section 5 provides concluding remarks.

2 EXISTING METHODS

In this section we take a review of the existing methods that are available in the literature for PI for a future observation from a Weibull distribution. For notational simplicity, methods are represented by an abbreviation mentioned in the parenthesis against the name of each method. In the sequel, $\mathbf{X} = (X_1, X_2, \dots, X_n)$ denotes a random sample from a Weibull(a, b) distribution and x denotes an observed value of $\mathbf{X}$.

2.1 Fertig, Meyer and Mann method (FMM)

Fertig, Meyer and Mann (1980) proposed a statistic $Q = (\tilde{u} - w)/\tilde{d}$ where $\tilde{u}$ and $\tilde{d}$ are best linear invariant estimators (see Mann, Schafer and Singpurwalla (1974)) of the location parameter $u = \log(a)$ and the scale parameter $d = b^{-1}$ of the type-I extreme value distribution respectively and w is the future observation from the same extreme value distribution. One can use maximum likelihood estimators (mle) of u and d as particular case of $\tilde{u}$ and $\tilde{d}$. Authors have tabulated simulated percentiles of the statistic Q and proposed a $(1-\alpha)100\%$ PI given by $[L, U]$ for future observation z from a Weibull distribution as,

$$[L, U] = [\exp(\tilde{u} - Q_{\alpha/2}\tilde{d}), \exp(\tilde{u} - Q_{1-\alpha/2}\tilde{d})]$$

where Q_α is the $100\alpha^{th}$ percentile of distribution of the statistic Q .

2.2 Tziafetas Method (TM)

Tziafetas (1987) has obtained lower and upper limits L and U of the $(1 - \alpha)100\%$ PI for a future observation z from a Weibull distribution using bayesian approach as the solutions to the following two equations,

$$\int_0^L h(z | \underline{x}) dx = \alpha/2$$

$$\int_0^U h(z | \underline{x}) dx = 1 - (\alpha/2)$$

where $h(z | \underline{x})$ is a predictive density function given by

$h(z | \underline{x}) = b(r-t)S_b^{r-t}z^{b-1}/S_{b,z}^{r-t+1}$; $r \leq n$, $t > 0$ where $S_b = \sum_{i=1}^r x_i^b + (n-r)x_r^b$ and $S_{b,z} = S_b + z^b$. That is, L and U are $(\alpha/2)^{th}$, and $(1-(\alpha/2))^{th}$ quantiles of the predictive density $h(z | \underline{x})$. The solution for L and U resorts on numerical methods and the shape parameter is assumed to be known.

2.3 Yang, See and Xie method (YSX)

Yang, See and Xie (2003) used a Box-Cox transformation

$$C = \begin{cases} \frac{X^\lambda - 1}{\lambda} & \text{if } \lambda \neq 0 \\ \log(X) & \text{if } \lambda = 0. \end{cases}$$

to Weibull random variable X for approximation to Normality and used a solution $\lambda = 0.2654b$ that minimizes the Kullback-Leibler information between the distribution of C and the Normal distribution with the same mean and variance as that of C . Using Normal distribution based PI on C and transforming back to Weibull, the resultant PI for a Weibull future observation z is given by

$$\{1 + \lambda(\bar{C} \pm t_{n-1, 1-\alpha/2} s_c \sqrt{1 + n^{-1}})\}^{1/\lambda}$$

where $\bar{C}$ and s_c are sample mean and standard deviation of the transformed vector $\underline{C}$ using above transformation on $\underline{x}$. When the shape parameter b is unknown, one can estimate the parameter λ by $\hat{\lambda} = 0.2654\hat{b}$ where $\hat{b}$ is mle of b and the corresponding PI for a Weibull future observation z is given by

2.4 Jayawardh: $\{1 + \hat{\lambda}(\bar{C} \pm t_{n-1, 1-\alpha/2} s_c \sqrt{1 + n^{-1}})\}^{1/\hat{\lambda}}$

Jayawardhana and Samaranayake (2009) have obtained prediction limits for a future Weibull observation using maximum likelihood predictive density approach proposed by Lejeune and Faulkenbemy (1982). The corresponding $(1 - \alpha)100\%$ PI is given by

$$[(\sum_1^n x_i^{\hat{\beta}})^{1/\hat{\beta}} \{(1 - \alpha)^{-1/n} - 1\}^{1/\hat{\beta}}, (\sum_1^n x_i^{\hat{\beta}})^{1/\hat{\beta}} \{(\alpha)^{-1/n} - 1\}^{1/\hat{\beta}}]$$

where $\hat{\beta} = k\hat{b}$ is bias adjusted mle of b and the values of k as a function of the sample size n have been tabulated by the authors.

2.5 Generalized Variable approach-based method (GV)

Krishnamoorthy et al. (2009) proposed PI for a Weibull future observation z as

$$[\exp(\hat{\mu} + u_{\alpha/2}\hat{\sigma}), \exp(\hat{\mu} + u_{1-\alpha/2}\hat{\sigma})]$$

where $u_{\alpha/2}$ and $u_{1-\alpha/2}$. They computed value for using the following simulation study.

For the given values of n and α , the following procedure is repeated N (say 100000) times.

- (I) n independent and identically distributed (i.i.d.) random variables U_i are generated from the extreme-value (0,1) distribution and mles $\hat{\mu}$, $\hat{\sigma}$ are computed.
- (II) For the given z , U_i is generated from the extreme-value (0,1) distribution and z is computed.

Then $100\alpha^{\text{th}}$ percentile of the generated values of z is the estimate of z .

3 COMPARISON OF THE METHODS

We have developed MATLAB Macros for computation of all the above PIs for future Weibull observation and can be made available on request. We compare above discussed five methods with respect to expected lengths and coverage probabilities based on a simulation study.

3.1 Details of the simulation procedure

The comparison of the methods is attempted based on the simulated expected length and coverage probabilities of PI, for various fixed sample sizes n and $\alpha = 0.05$. For the values of the scale parameter $a = 1$ and shape parameter $b = 0.3, 0.5, 1.0, 3.0, 30, 50$ and for each of the fixed sample size $n = 5, 15, 30$; 10000 simulated samples are generated from Weibull(a, b) distribution. For each of these 10000 samples, lower and upper prediction limits L_i and U_i ; $i = 1, 2, \dots, 10000$, for each of the five methods described in sections 2 are obtained. Finally, the simulated expected lengths of PI obtained by averaging the 10000 quantities $U_i - L_i$; $i = 1, 2, \dots, 10000$ and the expected coverage, which is proportion of the intervals that covered the simulated single future observation from Weibull(a, b) are computed.

3.2 Results of the simulation study:

As mentioned above, comparison of all these methods is done based on the coverage probability and expected length of the PI.

Tables 1, 2 and 3 below report the percentages of simulated coverage probabilities and expected lengths for 95% PI for all five methods discussed in section 2, for sample sizes $n = 5, 15, 30$.

The following prominent facts are clearly visible from the Tables.

1. Tzifafetas Method (TM), Jayawardhana and Samaranayake method (JS) and Fertig,

Meyer and Mann method (FMM) have very poor coverage probabilities for all $b > 0$ and all sample sizes and are not recommended.

2. Generalized Variable (GV) approach based method and Yang, See and Xie method (YSX) have excellent coverage probabilities for all $b > 0$ even for as small sample sizes as 5.
3. Expected lengths of PI of GV method are uniformly smaller than expected lengths of PI of YSX method for all $b > 0$, and all sample sizes.

A similar simulation study was carried out for the values of scale parameter $a = 5$, 10 and similar results are observed.

4 ANALYSIS OF REAL DATA SETS

We illustrate above methods with two real life examples with high and moderate skewness.

Example 1: We extract the following data consisting of 20 observations on Nickel concentration 8.8, 19.0, 39.0, 3.1, 1.0, 81.5, 151.0, 942.0, 262.0, 331.0, 27.0, 85.6, 56.0, 14.0, 21.4, 10.0, 8.7, 64.4, 578.0, 637.

The Kolmogorov-Smirnov test to above data set for fitting Weibull distribution gave p-value(2-tail) 0.75. This indicates that Weibull is a very good model for above data set. The mles of the parameters are $\hat{a} = 118.72$ and $\hat{b} = 0.62$ respectively. The mle $\hat{b}$ indicates that the above data set is highly skewed.

The 95% PIs and their lengths using the above five methods are as follows:

Method	95% PI	Length of PI
GV	[0.13 ,1158.40]	1158.27
YSX	[0.00 ,1188.50]	1188.50
JS	[0.23 ,1195.8]	1195.57
FMM	[1311.90, 2876.90]	1565.00
TM	[0.00 ,1414.90]	1414.90

Notice that GV based PI is shortest, as is expected based on the comparative study reported in the previous section.

Example 2: Here we analyze a real data set which are the results of an experiment extracted from Nelson (1972a). In this experiment, 11 specimens of a particular type of electrical insulating fluid are subjected to a constant voltage stress of 30 kilovats. The data set representing the failure time of each specimen is: 17.05, 22.66, 21.02, 175.88, 139.07, 144.12, 20.46, 43.40, 194.90, 47.30, 7.74.

The Kolmogorov-Smirnov test for testing distribution of above data set resulted the p-value(2-tail) 0.61 under the assumption of Weibull distribution indicating that Weibull is a good model for above data set. The mles of the parameters are $\hat{a} = 77.58$ and $\hat{b} = 1.06$ respectively. Note that the mle $\hat{b}$ indicates that the above data set is moderately skewed.

The 95% PIs with their lengths using above methods for this data set are:

Method	95% PI	Length of PI
GV	[0.42 ,361.44]	361.02
YSX	[0.00 ,368.74]	368.74
JS	[1.36 ,364.80]	363.44
FMM	[330.05, 525.80]	195.75
TM	[0.00 ,450.87]	450.87

Note that the lengths of all methods are more or less similar except FMM method, however on account of its poor performance with respect to coverage, use of this method is not recommended. Referring to the results of the simulation study and the observed PI lengths for the above two real data sets, we recommend using the PIs given by GV in practice.

Table 1
Percentages of simulated coverage probabilities and expected lengths of 95% PI for a future observation from $W(1, b)$ for $n = 5$ and $b = 0.3, 0.5, 1, 3, 30, 50$.

Method	0.3	0.5	$b1$	3	30	50
GV ¹	95.90 (4929.31)	95.04 (83.57)	95.04 (6.83)	95.40 (1.75)	95.54 (0.55)	95.38 (0.44)
GV ²	95.88 (1425.03)	95.28 (55.54)	95.32 (6.53)	95.26 (1.65)	95.46 (0.45)	95.12 (0.40)
YSX ¹	96.74 (6700.00)	96.82 (87.00)	96.90 (7.15)	96.62 (1.83)	96.96 (1.06)	96.88 (1.03)
YSX ²	98.10 (1657.87)	97.54 (60.03)	97.92 (6.82)	97.92 (1.83)	98.02 (1.06)	97.66 (1.04)
JS	93.48 (5200.00)	93.32 (82.00)	93.22 (7.20)	93.00 (1.55)	93.48 (0.19)	93.52 (0.12)
FMM	90.02 (60.00)	90.04 (37.00)	89.30 (4.80)	89.98 (1.34)	90.28 (0.17)	89.54 (0.10)
TM	81.87 (29000.00)	81.93 (78.00)	86.02 (6.35)	86.1 (1.94)	87.06 (1.78)	86.16 (1.69)

Values in parenthesis indicate expected length of the corresponding PI.

¹ : Results are obtained when shape parameter b is unknown.

² :Results are obtained when shape parameter b is known.

Table 2
Percentages of simulated coverage probabilities and expected lengths of 95% PI for a future observation from $W(1, b)$ for $n = 15$ and $b = 0.3, 0.5, 1, 3, 30, 50$.

Method	0.3	0.5	b 1.0	3.0	30	50
GV ¹	95.40 (244.72)	95.70 (22.97)	95.64 (4.49)	95.68 (1.41)	95.88 (0.19)	95.78 (0.12)
GV ²	95.76 (209.52)	95.14 (22.03)	95.84 (4.51)	95.46 (1.40)	94.94 (0.21)	95.92 (0.13)
YSX ¹	97.40 (260.00)	97.58 (24.00)	97.26 (4.63)	97.61 (1.64)	97.68 (1.05)	97.64 (1.03)
YSX ²	98.12 (238.04)	97.94 (23.25)	97.82 (4.61)	97.78 (1.64)	97.66 (1.05)	97.68 (1.03)
JS	93.90 (220.00)	93.90 (22.00)	94.10 (4.42)	94.86 (1.34)	94.48 (0.17)	93.94 (0.10)
FMM	89.68 (76.00)	90.54 (16.00)	90.44 (4.06)	90.62 (1.76)	90.10 (1.29)	89.90 (1.37)
TM	82.60 (220.00)	82.65 (18.00)	92.70 (2.95)	92.90 (1.82)	93.04 (1.63)	94.04 (1.62)

Table 3
Percentages of simulated coverage probabilities and expected lengths of 95% PI for a future observation from $W(1, b)$ for $n = 30$ and $b = 0.3, 0.5, 1, 3, 30, 50$.

Method	0.3	0.5	b 1.0	3.0	30	50
GV ¹	95.26 (134.71)	95.26 (17.84)	95.42 (4.05)	95.94 (1.33)	95.26 (0.18)	95.78 (0.11)
GV ²	95.24 (129.18)	95.80 (17.48)	95.64 (4.07)	95.50 (1.33)	94.72 (0.18)	95.76 (0.11)
YSX ¹	97.56 (150.00)	97.66 (19.00)	95.51 (4.15)	95.51 (1.34)	95.40 (0.17)	95.56 (0.11)
YSX ²	97.92 (140.48)	97.82 (18.32)	97.86 (4.17)	97.88 (1.60)	97.82 (1.05)	97.80 (1.03)

JS	94.32 (130.00)	94.56 (17.00)	94.52 (4.00)	94.46 (1.29)	95.26 (0.17)	94.98 (0.10)
FMM	89.70 (51.00)	90.48 (11.00)	88.46 (3.25)	89.96 (1.34)	91.06 (0.79)	89.50 (0.77)
TM	82.76 (100.00)	82.81 (13.00)	95.56 (2.96)	94.89 (1.80)	94.70 (1.65)	95.07 (1.60)

5 CONCLUDING REMARKS

The GV method gives excellent prediction interval coverage probabilities even for very small sample sizes, as small as 5 while maintaining minimum expected lengths. The end points of this interval have a closed form expression in terms of mles of the parameters and does not need to refer any tables. It clearly outperforms all other methods.

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"PSYCHOLOGICAL CONFLICTS IN ANITA DESAI'S IN CUSTODY AND ALICE WALKER'S THE COLOR PURPLE: A COMPARATIVE STUDY"

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ABSTRACT:

This comparative study delves into the profound psychological conflicts depicted in Anita Desai's "In Custody" and Alice Walker's "The Color Purple. Through a meticulous analysis of the characters and narrative structures, the study aims to unravel the unique ways in which the authors explore and depict the psychological struggles faced by their protagonists within the cultural and social contexts of their respective novels. Anita Desai's "In Custody" delves into the internal turmoil experienced by Deven Sharma, an Urdu poet and teacher, as he navigates the clash between personal aspirations and societal expectations. This study scrutinizes the nuanced layers of Sharma's psyche, examining the impact of cultural dissonance and the quest for artistic fulfillment on his mental state. Alice Walker's "The Color Purple," on the other hand, presents a powerful narrative centered around Celie, an African-American woman grappling with oppression, abuse, and self-discovery. Through a comparative lens, this research paper presents the unique psychological conflicts faced by Celie, exploring how her journey toward self-empowerment is shaped by the intersectionality of race, gender, and socio-economic factors. By drawing parallels and distinctions between the two novels, this study aims to illuminate the diverse ways in which Desai and Walker employ literary techniques to articulate and dissect the psychological conflicts of their characters. Additionally, the research seeks to contribute to a broader understanding of the impact of cultural and societal influences on individual mental landscapes in the context of post-colonial literature and African-American literature. Anita Desai skillfully explores the intricacies of human emotions and the challenges individuals face in a rapidly changing world, making the novel a compelling and introspective read.

KEY WORDS: Psychological Conflict, Cultural dissonance, Self-discovery, and Intersectionality.

INTRODUCTION:

In Alice Walker's novel "The Color Purple," there are several instances of psychological conflict experienced by the characters. The story is set in early 20th-century rural Georgia and follows the life of Celie, an African-American woman who faces numerous challenges and adversities. "In Custody" is a novel written by Anita Desai, first published in 1984. The story revolves around the life of Deven Sharma, an Urdu language teacher and poet, who is tasked with interviewing the renowned and reclusive Urdu poet Nur Shahjahanabadi. Throughout the novel, several psychological conflicts arise, both within Deven Sharma and among other

characters. Here are some of the prominent psychological conflicts in both the novels:

1. Sexual Identity, Low Self-Esteem and Self-Discovery: Celie experiences psychological conflict due to the severe physical and emotional abuse she endures from her father and later her husband, Mr. __ (Albert). This abuse leads to a deep sense of worthlessness and low self-esteem, as she believes she is unworthy of love and happiness. Celie also grapples with her sexual identity and desires. She forms a close and affectionate bond with a woman named Shug Avery, which leads to feelings of confusion and self-discovery. Celie's emotional and sexual awakening challenges the societal norms and expectations imposed on her. Deven seeks validation as a poet and yearns for recognition from his peers, the literary world, and his family. His desire for approval drives some of his actions, leading him to make choices that may not align with his true passion.

2. Cultural Conflict and Identity: Both novels explore the psychological conflict arising from the characters' struggle with their cultural identity. In "In Custody," Deven, an Indian literature professor, faces an internal conflict as he grapples with his passion for Urdu poetry and his ambition to preserve his cultural heritage. On the other hand, in "The Color Purple," Celie, an African-American woman in the early 20th century, struggles to find her voice and identity in a racially oppressive society. Both characters confront the tension between conforming to societal expectations and staying true to their cultural roots. The novel explores the characters' relationships with religion. Celie's belief in God is initially influenced by her abusive father's idea of God as a punishing figure, which creates internal conflicts regarding her faith. Over time, she begins to develop her understanding of spirituality and God, leading to a personal transformation.

3. Suppression of Voice: Another shared theme is the suppression of voice and agency. Deven in "In Custody" is a timid and unassertive individual who allows others to dictate his choices, leading to frustration and inner turmoil. Similarly, Celie in "The Color Purple" is silenced and oppressed by the men in her life, which takes a severe toll on her psychological well-being. The novels portray the damaging effects of silencing one's voice and the empowerment that comes with reclaiming it. Deven Sharma grapples with an identity crisis as he struggles to find his place as a poet and a teacher. He is passionate about Urdu poetry but is not recognized for his talents. This lack of recognition creates self-doubt and uncertainty about his true calling.

4. Relationships and Emotional Conflict: The two novels also explore the complexities of human relationships, leading to emotional conflicts within the characters. Deven's relationship with his wife Sarla in "In Custody" is strained due to his inability to communicate effectively and understand her needs. In "The Color Purple," Celie experiences various emotional conflicts, including her complex bond with her abusive husband, Mr., and her profound connection with Shug Avery, which challenges societal norms. The examination of intimate relationships adds depth to the characters' psychological struggles.

5. Quest for Self-Discovery and Empowerment: Both Deven and Celie embark on a journey of self-discovery and empowerment. Deven's pursuit to interview the renowned poet Nur is a quest to fulfill his aspirations and, in turn, discover himself. In "The Color Purple," Celie's emotional growth and self-realization through her letters and her connection with other strong women demonstrate her path toward empowerment and liberation from her past trauma.

6. Impact of Socio-Cultural Norms: The novels also shed light on the impact of socio-cultural norms on individuals' psychological well-being. In "In Custody," the traditional expectations and demands of society weigh heavily on Deven, contributing to his inner conflict. Similarly, "The Color Purple" portrays the devastating effects of racism, sexism, and abuse on Celie's mental and emotional state. Deven Sharma is torn between his love for Urdu poetry, which represents his cultural heritage, and the pressures of the modern world that values English literature and Western influences. He faces an internal struggle to preserve his cultural identity while adapting to changing times. Deven Sharma feels isolated from his family and society due to his artistic pursuits and love for Urdu poetry. This isolation leads to loneliness and a sense of detachment

from the people around him.

7. Racial and Gender Identity: The characters in "The Color Purple" also face conflicts related to their racial and gender identities. The novel portrays the experiences of African-American women in the early 20th century, highlighting the discrimination, marginalization, and challenges they endured in a patriarchal society. Deven Sharma grapples with an identity crisis as he struggles to find his place as a poet and a teacher. He is passionate about Urdu poetry but is not recognized for his talents. This lack of recognition creates self-doubt and uncertainty about his true calling.

In conclusion, Anita Desai's "In Custody" and Alice Walker's "The Color Purple" both explore psychological conflicts arising from cultural identity, suppression of voice, emotional struggles in relationships, quests for self-discovery, and the influence of socio-cultural norms. By delving into these themes, both authors create rich narratives that resonate with readers and offer profound insights into the human psyche. It provides some most significant aspects of psychological conflicts in characterization.

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RATIONAL EMOTIVE BEHAVIOR THERAPY AS A MEDIUM FOR THE ELIMINATION OF SUPERSTITIONS IN INDIA

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ABSTRACT:

This paper explores the potential of Rational Emotive Behavior Therapy (REBT) as an effective medium for combating superstitions in India. Superstitions, deeply ingrained in Indian society, often hinder rational thinking and decision-making, leading to adverse consequences. REBT, a form of cognitive-behavioral therapy, focuses on identifying and challenging irrational beliefs to promote rational thinking and emotional well-being. This paper reviews the prevalence and impact of superstitions in India, outlines the principles of REBT, and proposes its application in addressing superstitions. Drawing on existing research and theoretical frameworks, it discusses the potential benefits of incorporating REBT techniques in educational, community, and clinical settings to empower individuals to confront and overcome irrational beliefs. Additionally, the paper suggests future research directions and practical implications for implementing REBT interventions to promote critical thinking and reduce superstitions in Indian society.

KEYWORDS: REBT, Superstitions, Irrational Beliefs

INTRODUCTION:

Superstitions, deeply rooted in cultural and religious beliefs, continue to persist in Indian society despite advancements in education and technology. These irrational beliefs often influence decision-making, behavior, and societal norms, leading to various adverse consequences such as discrimination, hindered progress, and exploitation. In recent years, there has been a growing recognition of the need to address superstitions and promote rational thinking to foster social development and individual well-being. Rational Emotive Behavior Therapy (REBT), developed by Albert Ellis, offers a promising approach to challenge irrational beliefs and foster rational thinking, thereby potentially serving as a medium for eliminating superstitions in India.

REVIEW OF LITERATURE:

Numerous studies have documented the prevalence of superstitions in India across various socio-economic strata and regions. From astrology and numerology to beliefs in evil spirits and black magic, superstitions manifest in diverse forms, influencing everyday decisions and behaviors (Pande, 2018; Shukla, 2020). Developed by Albert Ellis, REBT is a form of cognitive-behavioral therapy that emphasizes identifying and challenging irrational beliefs to promote psychological well-being and adaptive behavior (Ellis, 1957). REBT posits that it is not events themselves but individuals' interpretations of these events that lead to emotional distress. While initially developed in Western contexts, REBT has been adapted and applied across cultures worldwide. Research indicates its effectiveness in addressing various psychological issues, including anxiety, depression, and irrational beliefs (David et al., 2018). However, its application in non-Western cultures like India requires cultural sensitivity and

adaptation (Mahalakshmi & Joseph, 2017).

OBJECTIVES:

1. To explore the prevalence and impact of superstitions in Indian society.
2. To investigate the efficacy of REBT in challenging irrational beliefs.
3. To assess the applicability of REBT techniques in the Indian cultural context.
4. To evaluate the potential of REBT in combating superstitions in India

METHOD:

This paper employs a qualitative approach, drawing on existing literature and case studies to explore the potential of REBT in addressing superstitions in India. Relevant research articles, books, and online resources were reviewed to understand the prevalence of superstitions in Indian society and the principles and techniques of REBT.

Prevalence and Impact of Superstitions in India:

India, with its diverse cultural and religious heritage, is a fertile ground for superstitions to thrive. From beliefs in astrology and numerology to adherence to ritualistic practices, superstitions permeate various aspects of daily life, influencing decision-making, interpersonal relationships, and societal norms. These beliefs often contribute to fear, anxiety, and irrational behavior, hindering individual agency and societal progress. Moreover, superstitions perpetuate social inequalities and exploitation, particularly affecting vulnerable populations such as women, children, and marginalized communities. Despite efforts to promote education and scientific literacy, superstitions persist due to their deep-rooted cultural significance and societal reinforcement. Studies consistently highlight the widespread prevalence of superstitions in India, cutting across demographic and socio-economic lines (Sharma & Sharma, 2019). These superstitions often stem from cultural and religious beliefs and influence various aspects of life, including health, relationships, and decision-making.

Rational Emotive Behavior Therapy (REBT):

Rational Emotive Behavior Therapy (REBT) is a form of cognitive-behavioral therapy that emphasizes the role of irrational beliefs in causing emotional distress and dysfunctional behavior. Developed by Albert Ellis in the 1950s, REBT posits that individuals' emotional responses are largely determined by their beliefs about events rather than the events themselves. According to REBT, irrational beliefs, such as demandingness (the belief that one must always achieve perfection) and catastrophizing (the belief that the worst possible outcome will occur), lead to unhealthy emotions and maladaptive behaviors. REBT aims to identify, challenge, and replace irrational beliefs with rational ones through cognitive restructuring, behavior modification, and philosophical insight.

Application of REBT in Combating Superstitions:

The principles of REBT can be applied effectively to address superstitions in India. By helping individuals identify and challenge irrational beliefs underlying superstitions, REBT empowers them to adopt a more rational and evidence-based approach to understanding the world. Techniques such as disputing irrational beliefs, behavioral experiments, and rational self-analysis can be utilized to confront superstitions and promote critical thinking. Additionally, REBT emphasizes the importance of unconditional self-acceptance and tolerance of uncertainty, which are essential for overcoming the fear and anxiety associated with challenging deeply ingrained beliefs. Research suggests that REBT techniques, such as cognitive restructuring and disputing irrational beliefs, can effectively challenge superstitions by promoting rational thinking and evidence-based decision-making (Dryden & Neenan, 2007). By encouraging

individuals to examine the evidence for their beliefs and consider alternative perspectives, REBT facilitates cognitive change and reduces irrational fears and anxieties.

Implementation Strategies and Future Directions:

The integration of REBT techniques in educational curricula, community outreach programs, and clinical interventions holds promise for combating superstitions in India. Educational initiatives aimed at promoting critical thinking skills and scientific literacy can incorporate REBT principles to encourage students to question and evaluate superstitions critically. Community-based workshops and counseling services can provide a platform for individuals to explore and challenge their beliefs in a supportive environment. Furthermore, collaboration between mental health professionals, educators, and community leaders is essential for designing culturally sensitive interventions that address the unique challenges associated with superstitions in India.

DISCUSSION:

The application of REBT in addressing superstitions in India holds promise but requires careful consideration of cultural factors and belief systems. Given the deeply ingrained nature of superstitions, interventions must be culturally sensitive and tailored to the Indian context. Incorporating indigenous beliefs and practices into therapy sessions can enhance acceptability and effectiveness. Furthermore, collaboration with community leaders, religious figures, and local organizations is essential to reach a broader audience and promote awareness about the detrimental effects of superstitions.

CONCLUSION:

Rational Emotive Behavior Therapy (REBT) offers a promising framework for addressing superstitions in India by challenging irrational beliefs and promoting rational thinking. By empowering individuals to confront and overcome superstitions, REBT interventions have the potential to foster social development, individual well-being, and scientific literacy. However, successful implementation requires a concerted effort from various stakeholders, including mental health professionals, educators, policymakers, and community leaders. Future research should focus on evaluating the effectiveness of REBT interventions in reducing superstitions and exploring innovative strategies for promoting critical thinking and rationality in Indian society.

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SOCIO-ECONOMIC STATUS OF KATALI NIVADE AND MALHARPETH VILLAGES OF KOLHAPUR DISTRICT: A GEOGRAPHICAL PERSPECTIVE

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1. INTRODUCTION

Historically, settlements have grown along river banks and in caves because of the two main factors influencing settlement locations and their growth: the availability of water and security. Consequently, most residences are found near the river's course. Kolhapur town, which is next to the Panchganga River, is a prime example of a riverbank settlement. For a variety of reasons, such as topography, water supply, physiographic state, security, and more, geographic location is essential to any expansion. Location can be expressed in three ways: absolute, relative, and maritime. Being an agricultural country, a sizable section of the population in India is dependent on the agricultural industry, which is reliant on geographic position, water availability, and economic growth. River areas are suitable for habitation since India has four different months with considerable rainfall. The current study focuses on the relationship between topography and village development in the Kumbhi river basin.

Irrigation is the process of using water from rivers, tanks, wells, canals, and other man-made structures for agricultural use. Because it reduces dependency on the monsoon, boosts agricultural production, improves the area under cultivation, stabilizes output levels, generates employment, provides transportation and energy, manages floods, and averts droughts, irrigation is significant economically in India. The current study focuses on the Kumbhi River, one of the tributaries of the Panchganga, and its significance in the development of the people within its basin. Based on their locations, the three villages of Katali, Nivade, and Malharpeth were chosen: Katali is located in the top zone of the Kumbhi basin, Nivade is located in the middle zone, and Malharpeth is located in the bottom zone. Within this study, we examine the socioeconomic effects of the river on the seaside grazing settlements, where about 80% of the population works in agriculture.

2. STUDY AREA

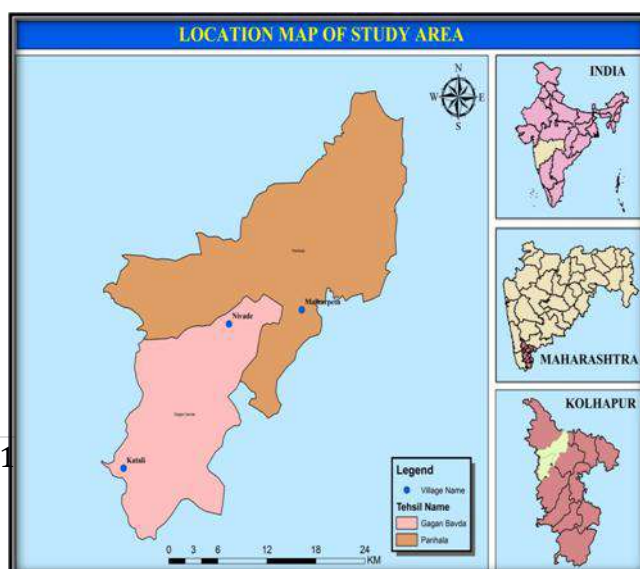


Fig.1 location Map of Study Area

3. OBJECTIVE

- 1) To study the socio-economic development of Katali, Nivade and Malharpeth Villages of Kolhapur District.

4. DATABASE & METHODOLOGY

The present research work is totally based on Primary sources of data which is collected through interview method. Three sample villages are taken in to consideration for research work. All three villages are situated near the Kumbhi river bank and positively affected by the river water. The Kumbhi basin is divided into three distinct zones: upper, middle, and lower, based on the length of the rivers. The study area was initially divided into three primary zones based on their locations.

The research area has been selected to encompass the communities of Katali, Nivade, and Malharpeth. The villages of Nivade in the middle zone, Katali in the upper zone, and Malharpeth in the bottom zone of the Kumbhi river basin are the candidates. This information was obtained from the farmers by stratified random sampling. The current study looks on the effects of irrigation on the socioeconomic development of the villages of Katali, Nivade, and Malharpeth on the Kumbhi River. We spoke with the local farmers and witnessed the problems they were facing. It is obvious that we are showing a glimpse of his life. To collect particular data, empirical techniques like questionnaires and field surveys are employed. Thus, the current study's foundation is made up of primary sources of data.

5. RESULTS & DISCUSSION

The river Kumbhi begins 4 km upstream from the town of Taliye in the Sahyadri hill ranges at an elevation of 975 meters. It is a left-bank tributary of the Bhogawati river in the Krishna Basin. The Kumbhi River starts in Gaganbawada and flows northeast for about 15 miles before veering east and joining the major Dhamani tributary at Chougulewadi. The southernmost point of the Kumbhi River is near the town of Nalechiwadi. The source of the Kumbhi River is near Bavda, and it flows fifteen kilometers northeast to Kirwai.

5.1 KATALI (Upper Zone Village of Kumbhi River Basin)

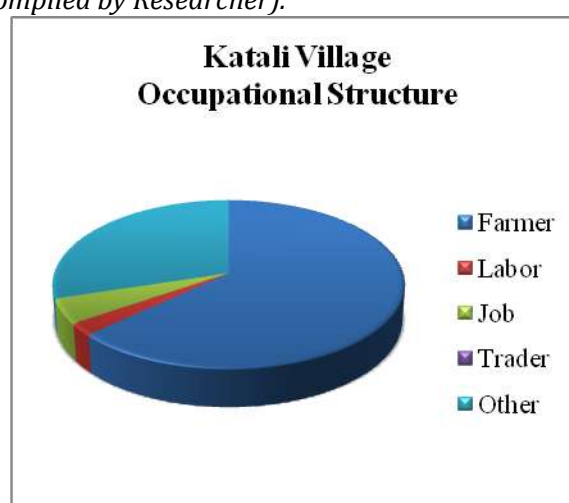
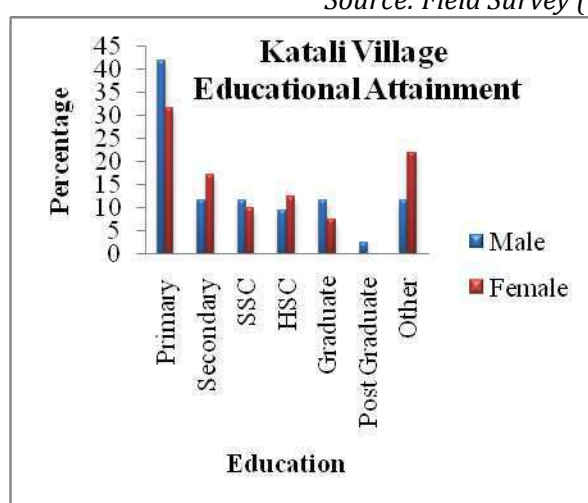
The most well-known hamlet in Gaganbavda Tehsil is Katali hamlet, which is located in the Kolhapur district of India and is part of the state of Maharashtra. The homes at Katali Village are environmentally friendly. A bar graph shows the level of education attained by men and women in Katali village. It was easy to see at the time from the graph that there were fewer women authors than men. The population's primary education ratio was 31.7 females to 41.86 men; however, as most girls dropped out of school after secondary education, females predominated in secondary education. Males made up a very tiny portion of postgraduate students.

Table. 1 Educational and Occupational Structure of Katali Village

<i>Education</i>	<i>Male</i>	<i>Female</i>		<i>Occupation</i>	<i>Percentage</i>
<i>Primary</i>	<i>41.86</i>	<i>31.7</i>		<i>Farmer</i>	<i>63.09</i>

Secondary	11.62	17.07		Labor	2.38
SSC	11.62	9.75		Job	4.76
HSC	9.3	12.19		Trader	0
Graduate	11.62	7.31		Other	29.76
Post Graduate	2.32	0			
Other	11.62	21.95			

Source: Field Survey (Compiled by Researcher).



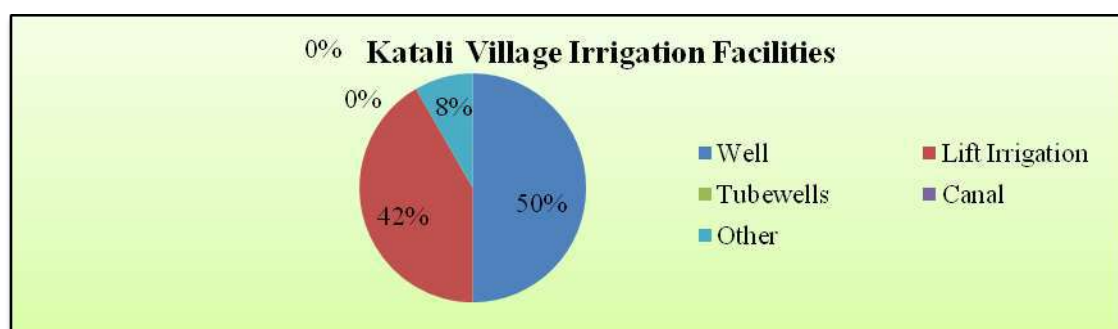
The bar graph above shows the educational status of men and women in Katali village. It was easy to see at the time from the graph that there were fewer women authors than men. In basic education, there were 31.7 females and 41.86 males per population; however, since most girls dropped out of school after secondary education, females dominated secondary education. Males made up a very tiny portion of postgraduate students. The pie chart above shows the occupation structure of Katali village. The majority of individuals (63.09%) works in the agriculture sector since fertile land and irrigation facilities are readily available. About 4.76 percent of people work for the government or privately. About 2.38 percent of people worked in the agricultural industry. Due to a lack of chances, there is not a single individual employed in the trade or trading-related sectors in Katali village.

Table. 2 Irrigational Facilities of Katali Village

Sr. No.	Irrigation	Percentage
1	Well	66.66
2	Lift Irrigation	25
3	Tube wells	0
4	Canal	0

5	Other	8.33

Source: Field Survey (Compiled by Researcher).



There were not many modifications to the lift and well irrigation systems. Half of the land was irrigated by wells before to the construction of the dam, but this has since grown to 17% and is presently at 67%. The reason for this difference in the lift irrigation ratio is that it was 42% previously and is currently only 25%.

5.2 NIVADE (Middle Zone Village of Kumbhi River Basin)

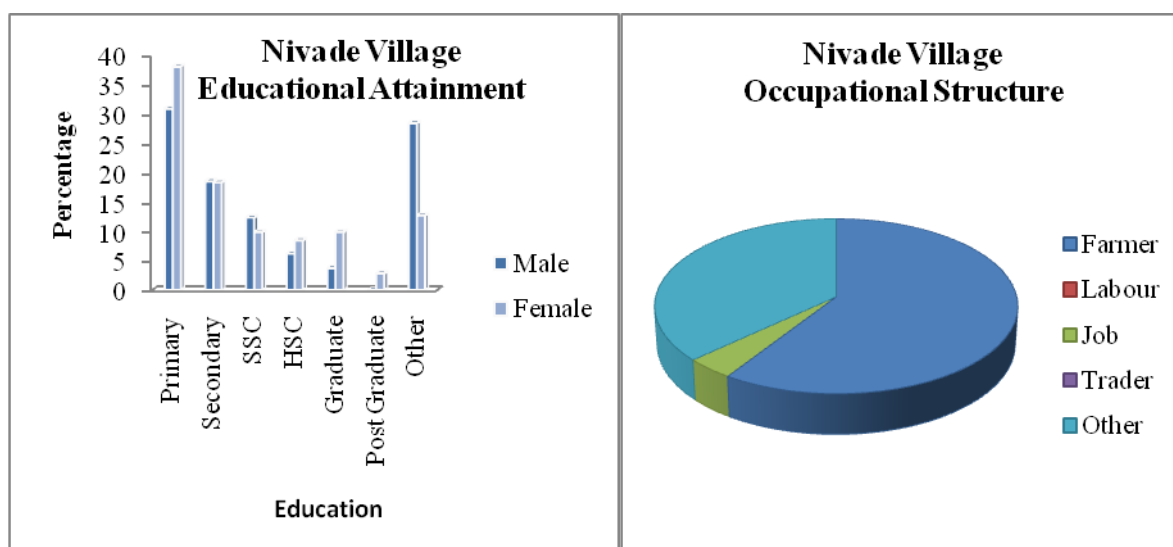
Nivade is a hamlet close to Panhala taluka in the Kolhapur district of Maharashtra state. The district center, Kolhapur, lies 34 kilometers to the west of it. Nivade is located 563 meters above sea level. In Nivade Village, more than 80% of the people are employed in primary industries like agriculture. The 500-meter-long Kumbhi River is situated not too far from the Nivade village. The border between the Sangli and Kolhapur districts is marked at this point.

Table. 3 Educational and Occupational Structure of Nivade Village

<i>Education</i>	<i>Male</i>	<i>Female</i>		<i>Occupation</i>	<i>Percentage</i>
<i>Primary</i>	<i>30.86</i>	<i>38.02</i>		<i>Farmer</i>	<i>59.21</i>
<i>Secondary</i>	<i>18.51</i>	<i>18.3</i>		<i>Labour</i>	<i>0</i>
<i>SSC</i>	<i>12.34</i>	<i>9.85</i>		<i>Job</i>	<i>3.94</i>
<i>HSC</i>	<i>6.17</i>	<i>8.45</i>		<i>Trader</i>	<i>0</i>
<i>Graduate</i>	<i>3.7</i>	<i>9.85</i>		<i>Other</i>	<i>36.84</i>

Post Graduate	0	2.81		
Other	28.39	12.67		

Source: Field Survey (Compiled by Researcher).

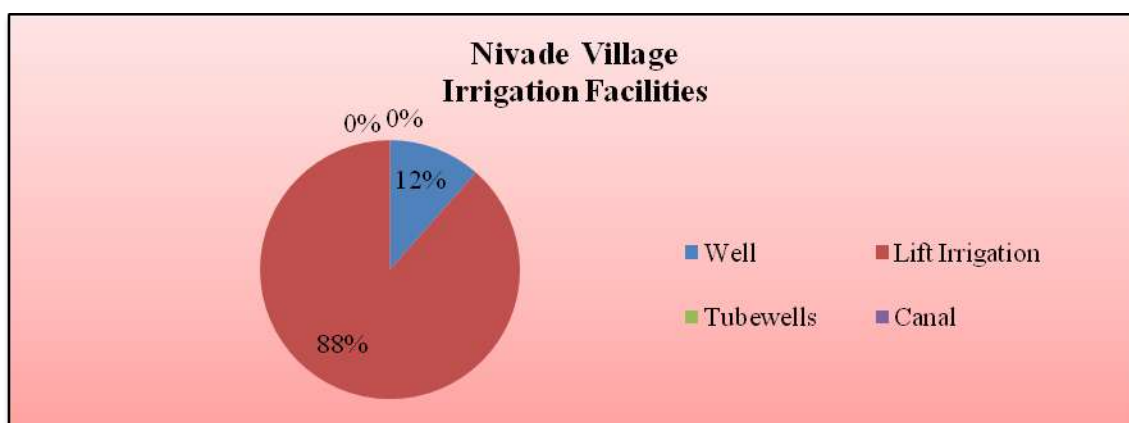


The percentage of educated men and women at Invasion Village is shown in the multiple bars graphic. The disparities in education between men and women are depicted in the graph. The fact that more men than women were enrolled in different categories suggests that fewer women seek post-secondary education. The significant distance between home and school makes the female to male schooling ratio all the more significant. The pie chart represents Nivade Village's occupational organization. Because there is plenty of water and fertile land, a significant majority of the population—59.21%—works in agriculture. Only 3.94% of people are working. That is a remarkably low proportion. 36.84% of the population is employed in other occupations.

Table. 4 Irrigational Facilities of Nivade Village

Sr. No.	Irrigation	Present
1	Well	11.53
2	Lift Irrigation	88.46
3	Tube wells	0
4	Canal	0

Source: Field Survey (Compiled by Research).



Today, 88% of irrigation is done through lift irrigation, while only 3% is done through well water irrigation in Nivade Village.

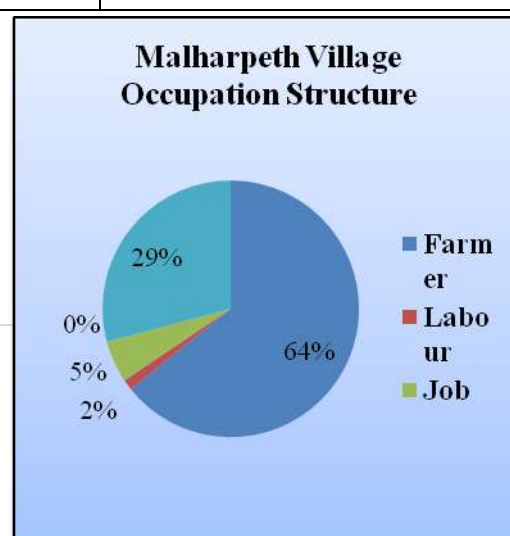
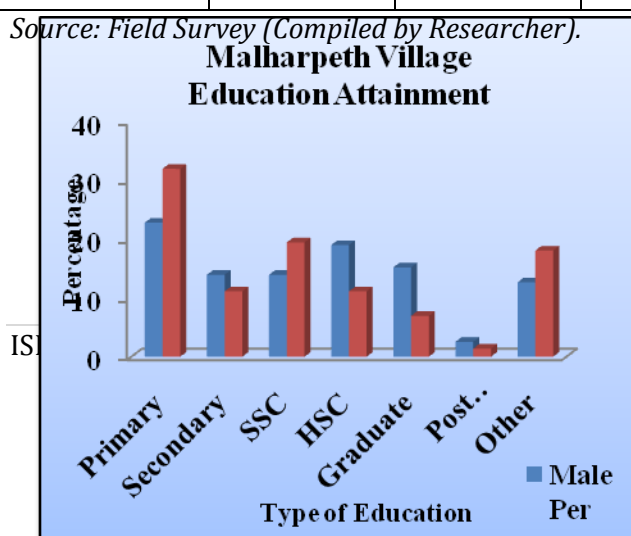
5.3 MALHARPETH (Lower Zone Village of Kumbhi River Basin)

Malharpeth is a hamlet in the Kolhapur district of Maharashtra state, India. It is located in Panhala tehsil. It is situated 23 kilometers west of Kolhapur, the district headquarters. Malharpeth Village is 563 meters above mean sea level in altitude. The settlement of Malharpeth is situated about 200 meters from the Kumbhi River's basin.

Table. 5 Educational and Occupational Structure of Malharpeth Village

<i>Education</i>	<i>Male</i>	<i>Female</i>		<i>Occupation</i>	<i>Percentage</i>
<i>Primary</i>	<i>22.78</i>	<i>31.94</i>		<i>Farmer</i>	<i>64.23</i>
<i>Secondary</i>	<i>13.92</i>	<i>11.11</i>		<i>Labor</i>	<i>1.32</i>
<i>SSC</i>	<i>13.92</i>	<i>19.44</i>		<i>Job</i>	<i>5.29</i>
<i>HSC</i>	<i>18.98</i>	<i>11.11</i>		<i>Trader</i>	<i>0</i>
<i>Graduate</i>	<i>15.18</i>	<i>6.94</i>		<i>Other</i>	<i>29.13</i>
<i>Post Graduate</i>	<i>2.53</i>	<i>1.38</i>			
<i>Other</i>	<i>12.65</i>	<i>18.05</i>			

Source: Field Survey (Compiled by Researcher).

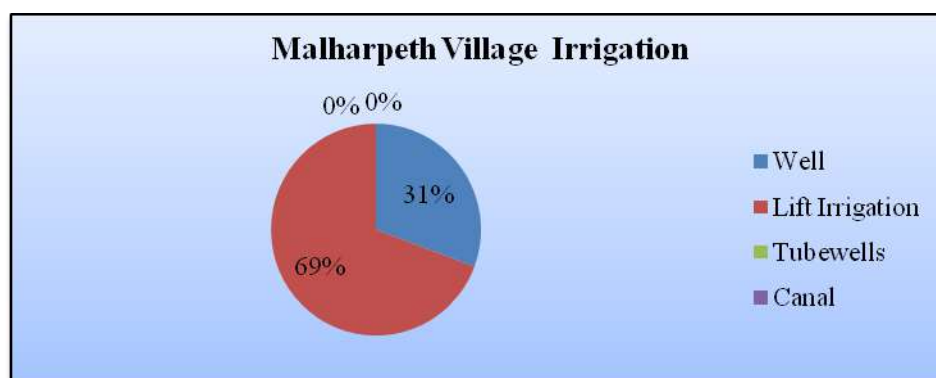


The bar graph above shows the educational status of men and women in Malharpeth hamlet. It was easy to see at the time from the graph that there were fewer women authors than men. Women are less likely than boys to have finished elementary, middle, and high school. The pie chart above shows Malharpeth Village's occupation structure. Owing to the Kumbhi River's close proximity to the settlement, 64% of the workforce works in agriculture. Five percent of persons are either privately or government employed. The agriculture sector employs 2% of the workforce. Not a single person in Malharpeth Village is employed in commerce or similar occupations.

Table. 6 Irrigational Facilities of Malharpeth Village

Sr. No.	Irrigation	Before	Present
1	Well	30.76	30.67
2	Lift Irrigation	69.23	69.23
3	Tube wells	0	0
4	Canal	0	0

Source: Field Survey (Compiled by Researcher).



About 69 per cent of populations of this village are dependent on the lift irrigation while remaining 31 per cent on well irrigation in Malharpeth village of Kolhapur district.

CONCLUSION

With characteristics that are essentially universal across the Kumbhi basin, the villages of Katali, Navipade, and Malharpeth characterize each zone. Katali hamlet is not as developed as it may be despite being near the Kumbhi River because of its steep topography, accessibility issues, and lack of infrastructure and educational resources. Nivade is a decently established neighborhood. It is mostly created for agriculture and is located near to the intersection of the Kolhapur and Gaganbavada highways; yet, it falls behind in terms of infrastructure and educational prospects. The location of Malharpeth, a well-developed community in the lower zone, and the Kumbhi irrigation project program are advantageous.

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"SPIDER DIVERSITY (FAMILY:SALTICIDAE) FROM DROUGHT PRONE REGION SANGOLA, DISTRICT SOLAPUR (M.S.)INDIA."

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ABSTRACT

Spiders belonging to family Salticidae are largest family in the order Araneae of class Arachnida. The present study was conducted during the year 2022-23 at drought prone region of Sangola in Solapur district (M.S.) India. In present study from Salticidae family 15 species were recorded belongs to 14 genera. Members of family Salticidae includes jumping spiders are voraging and hunting in behaviours. Most of Salticidae spiders either carnivorous (insect feeders) or herbivorous (nectar feeders) and plays important ecological role in the ecosystem.

KEYWORDS : Araneae, Salticidae, Spider diversity, Hunting spiders.

INTRODUCTION

Spiders play an important role in the diverse ecosystem. This study aims to study diversity of spider. Spiders are an integral part of global biodiversity as an important indicator in biodiversity assessment studies. Spiders are obligate carnivores and hold the unique position of being the only large class of arthropods which are entirely predatory in nature. Predation significantly contributes towards preventing the excessive increase of insect populations. Under normal field conditions, if one predator species is absent, another one may take its place. Spiders generally have humidity and temperature preferences that limit them to areas within the range of their physiological tolerances, which in turn makes them ideal candidates for land conservation studies (Noss,1990). Therefore, documenting spider diversity patterns can provide important information on the biodiversity of this tropical agro and forest ecosystem.

Family Salticidae is most species rich group of order Araneae. Salticidae is the largest spider family in the world grouping 671 genera and 6,495 species (World Spider Catalog, 2023) and they are commonly called jumping spiders because most of the species are very active in warm weather, leaping from leaves, bark, twigs in the search of prey or to escape from potential predators. They are very small to medium-sized, active, hunting spiders capable of jumping or leaping to a distance. The most characteristic feature is the ocular clad on the cephalothorax delimited by eight eyes arranged in three or four rows. Front row formed of forwardly directed four eyes among which the anterior median eyes are very large and easily noticeable. They move by walking, running, jumping or leaping and use all these movements for prey capture. They hunt the prey by stalking, chasing and leaping over it. Prey mainly includes insects; some also prefer other spiders or ants. They are characterized by an acute visual system and being capable of very agile jumps. Generally, they are day hunters that actively seek their prey. Jumping spiders are strongly influenced by habitat type. Their abundance and species composition are affected by the structural complexity of vegetation, giving their site preferences for stalking and hunting prey. The combination of narrow spatial niches occupied by most species and diverse microhabitats within a site would explain the high diversity of jumping spiders. Despite this long history of research and their ecological importance, considerable gaps remain in our understanding of spider fauna in Solapur district.

Jumping spiders are taxonomically diverse, present everywhere in huge abundance and diurnal. As their names simply, jumping spiders are also quick and agile jumpers, and will do so both to escape potential predators and to capture small prey and regulating arthropod population. Spiders have important role in ecosystems but they have been largely ignored in conservational studies. This might be one of the reasons of poor knowledge on jumping spider of this area.

MATERIALS AND METHODS

a. Study area: Present study region comes under drought prone region of Solapur District of Maharashtra. Stretch between 17°5' North to 17°42' North and Longitudinal extension takes place between 74°80' east to 75°16' east (Kamble, 2018). Southern part of Sangola tahsil is hilly, areas having various heights are 450 m to 750 m above mean sea level. The daytime temperature is going to reach 30°C and the temperature is going to dip to 16°C at night. Man, Belwan, Korada Rivers and its tributaries flows in Sangola tahsil. The weather condition of the Sangola are scanty and ill distributed rainfall and experiences a prolonged dry season which experiences a high variation in temperature. Annual average rainfall is about 550 mm to 600 mm approximately. According to climatic conditions variations in agriculture practices in different sites of drought prone region Sangola tahsil is occurs.

b. Methodology : The survey method was conducted into the specified regions namely Sangola, Mahud region, Javala region and Kola region from Sangola tahsil during January 2022 to

December 2023. The collected species are identified by using standard method prescribed by Tikadar (1987), Gajbe and Platnick (1994). For the identification spiders are collected, photographed and released in their natural habitat by direct visual search, litter sampling, sweep netting and hand picking methods from all the sites. Identification was carried out on the basis of morphological characters from keys and catalogues provided by Tikader (1982), Platnick (2011), and other relevant literature. The scientific names of jumping spiders are based on the World Spider Catalog (2023).

RESULTS AND DISCUSSION

The present study was conducted from drought prone region Sangola in Solapur district (M.S.) India. In present study from Family-Salticidae by 15 species belong to 14 genera (Table No.1 & Fig.No.1) were recorded. The Species such as *Hasarius adansoni*, *Plexippus paykulli*, and *Plexippus petersi* were commonly observed in human dwellings actively, searching for prey on the walls of buildings. Other species such as *Chrysilla volupe*, *Telamonia dimidiata*, *Menemerus bivittatus*, *Thyene imperialis*, *Pintella vittata*, *Stenaelurillus vyaghri*, *Hyllus semicupreus*, *Epocilla sp.*, *Rhene flavicomans*, *Epeus indicus*, *Harmochirus brachiatus* and *Myrmarachne sp.* are generally seen among foliage, where they can hide and stalk insect prey and also build silken retreats. *Menemerus bivittatus* is a pantropical species that is often seen on the bark of trees or on the walls of buildings (Gajbe 2020).

Table No.1: Jumping Spiders (Family-Salticidae) from drought prone region Sangola of Solapur district

<i>Order</i>	<i>Family</i>	<i>Species Name</i>	<i>Common name</i>
<i>Araneae</i>	<i>Salticidae</i> (Blackwall, 1841)	1. <i>Chrysilla volupe</i> (Karsch, 1879)	<i>Jumping spider</i>
		2. <i>Telamonia dimidiata</i> (Simon, 1899)	<i>Two striped jumping spider</i>
		3. <i>Plexippus paykulli</i> (Audouin, 1826)	<i>Pantropical jumping spider</i>
		4. <i>Menemerus bivittatus</i> (Dufour, 1831)	<i>Grey wall jumper spider</i>
		5. <i>Thyene imperialis</i> (Rossi, 1846)	<i>Jumping spider</i>
		6. <i>Phintella vittata</i> (C.L. Koch, 1846)	<i>Banded Phintella</i>
		7. <i>Stenaelurillus vyaghri</i> (Sanap, Joglekar & Caleb, 2022)	<i>Jumping spider</i>

		8. <i>Plexippus petersi</i> (Karsch, 1878)	Common housefly Catcher
		9. <i>Hasarius adansoni</i> (Audouin, 1826)	Adanson's house jumper
		10. <i>Hyllus semicupreus</i> (Simon, 1885)	Jumping spider
		11. <i>Epocilla</i> sp. (Thorell, 1887)	Orange jumping spider
		12. <i>Rhene flavicomans</i> (Simon, 1902)	Wasp mimic jumping spider
		13. <i>Epeus indicus</i> (Prószyński 1992)	White Spotted Green spider
		14. <i>Harmochirus brachiatus</i> (Thorell, 1877).	Jumping spider
		15. <i>Myrmarachne</i> sp. (MacLeay, 1839)	Ant mimicking jumping spider

CONCLUSION:

The present study region comes under drought prone region of Solapur district (M.S.) India (Kamble, 2018) having rich diversity of spiders belong to Family-salticidae (Jumping spiders), Salticidae spiders are predators as well as preys will helpful in controlling insect crop pest especially, pomegranate fruit crop. So, there is an urgent need to study the seasonal variation of the spider fauna in these regions and the conservation of this ecosystem which has been a habitat for multiply species of spider fauna in maintaining ecological balance. They are the controller agent of the biodiversity and therefore they should be preserved.

Fig.No.1: Showing photographs of Jumping Spiders (Salticidae) from drought prone region Sangola in Solapur district

 1a. <i>Chrysilla volupe</i> (male)	 1b. <i>Chrysilla volupe</i> (female)	 2a. <i>Telamonia dimidiata</i> (female)	 b. <i>Telamonia dimidiata</i> (male)
 3a. <i>Plexippus paykulli</i> (male)	 3b. <i>Plexippus paykulli</i> (female)	 4. <i>Menemerus bivittatus</i> (female)	 5. <i>Thyene imperialis</i>
 6. <i>Pintella vittata</i> (female)	 7. <i>Stenaelurillus vyaghri</i> (male)	 8. <i>Plexippus petersi</i>	 . <i>Hasarius adansoni</i>
 10. <i>Hyllus semicupreus</i> (female)	 11. <i>Epocilla</i> sp.	 2. <i>Rhene flavicomans</i>	 13. <i>Epeus indicus</i>

 14. <i>Harmochirus brachiatus</i>	 5. <i>Myrmarachne sp</i>

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STATISTICAL ANALYSIS OF PERFORMANCE OF UNDERGRADUATE STUDENTS IN KAVATHE MAHANKAL TEHSIL: EXPLORING FACTORS INFLUENCING ACADEMIC SUCCESS

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ABSTRACT

This research paper investigates the performance of undergraduate students through statistical analysis, aiming to uncover the factors that influence academic success. Using a dataset collected from a sample of undergraduate students in the Kavathe Mahankal Tehsil, this study employs descriptive statistics, correlation analysis, and regression analysis to explore the relationships between various variables and student performance. The results reveal significant associations between factors such as attendance, study habits, and participation in extracurricular activities, offering insights for educators and policymakers to enhance educational outcomes. Graphs, diagrams, and tables are utilized to visually represent the findings, facilitating a comprehensive understanding of the statistical analysis conducted in this study.

Keywords: undergraduate students, academic performance, statistical analysis, attendance, study habits, extracurricular activities.

1. INTRODUCTION:

The academic performance of undergraduate students in higher education institutions is a critical indicator of educational quality and effectiveness (Ariful Islam (2021). It is a topic of significant interest and importance in educational research. Understanding the factors that influence student success is essential for educators and policymakers to develop targeted interventions and support mechanisms (James Afrifa, et *al.* 2023). Understanding the factors

that influence students' performance can provide valuable insights for educators, policymakers, and stakeholders involved in higher education. Statistical analysis plays a crucial role in examining these factors and identifying patterns or trends that may impact academic success. This research paper aims to conduct a comprehensive statistical analysis of undergraduate student performance, exploring the relationships between various factors and academic outcomes, with the goal of uncovering key factors that contribute to variations in performance levels. This research aims to conduct a comprehensive statistical analysis on the academic performance of undergraduate students,

2. OBJECTIVES

1. To determine the most preferred subject in final year across the Arts, Commerce and Science streams. .
2. To check dependency between the gender and pursuing higher study across different streams.
3. To compare the attendance percentage across different streams.
4. To identify the reasons why students are irregular.
5. To identify which competitive exam are most of the student preparing across different streams and also to compare the approaches to competitive exam preparation employed by male and female students
6. To check dependency between the gender and attendance percentage across different streams.
7. To identify the preparation method to prepare for competitive exams

3. DATA COLLECTION AND METHODOLOGY

Data for this study were collected from a sample of undergraduate students enrolled in final year of the Art, Commerce and Science streams in P. V. P. Mahavidyalaya, Kavathe Mahankal Dist. Sangli (M.S.) during the academic year 2023-24. The dataset includes information on academic performance (grades), selection of subject for final year, attendance records, study habits, and participation in competitive examinations. The data is collected by preparing a questionnaire to fulfill the objectives behind the research accurately. The data collection procedure was done using Google forms and direct interviewing the students.

3.1 Descriptive Statistics, graphs and diagrams

Descriptive statistics were employed to summarize the characteristics of the data. Measures of central tendency, dispersion, and frequency distributions were calculated to provide an overview of grades, attendance rates, study habits, and extracurricular participation among undergraduate students. The descriptive analysis facilitates a better understanding of the dataset's distribution and variability.

A pie chart is a type of graph that represents the data in the circular graph. The slices of pie show the relative size the data, and it is type of pictorial representation of data. A pie chart requires list of categorical variables and numerical variable. Here the term pie represents the whole. All the slices of the pie chart add up to make whole equaling 100% and 360 degree. A bar chart is a graphical representation used to display and compare discrete categories of data through rectangular bars, where the length or height of each bar is proportional to the frequency or value of the corresponding category or strips. It can be either horizontal or vertical.

3.2 Hypothesis testing: Chi-square test for independence of attributes:

The null hypothesis of this test is that the attributes are independent of each other. The test is used to check the independency of the attributes. Observed frequencies are tabulated in the contingency table and the expected frequencies are calculated. The test checks whether the observed frequencies and expected frequencies are significantly different or not.

4. RESULTS:

4.1 Descriptive Statistics:

The descriptive analysis of the dataset reveals important insights into undergraduate student performance. It presents the summary statistics for grades, attendance rates, study hours, and participation in extracurricular activities. From graph we can observe that Science students are more regular than Arts and Commerce students and Arts students are more irregular than Commerce and Science students. From the graph we can also see that most of the male students are irregular because of doing preparation of competitive exam & farm work responsibility and most of the female students are irregular due to house work and no more interested in college. From the graph we can conclude that most of the male Art students are preparing for Armed Forces and SSC exams and from the graph we can conclude that most of the male Commerce students are preparing IBPS and CAT exams. From the graph we can conclude that most of the male Arts students are preparing Armed Forces and SSC exams and female students are not interested in competitive exams. Also we can see that across all streams female students are less interested than male students in competitive exams.

4.2 Hypothesis testing: Chi-square test for independence of attributes

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5. DISCUSSIONS

Most preferred stream in last i.e. third (final) year across Arts, Commerce and Science streams are 'Geography', 'Advanced Accounting' and 'Chemistry' respectively. From graph we can observe that Science students are more regular than Arts and Commerce students and Arts students are more irregular than Commerce and Science students. From the graph we can see that most of the male students are irregular because of doing preparation of competitive exam & farm work responsibility and most of the female students are irregular due to house work and no more interested in college. From the graph we can conclude that most of the male Science students are preparing for Armed forces and M.Sc. entrance and SSC exams. From the graph we can conclude that most of the male Commerce students are preparing IBPS and CAT exams. From the graph we can conclude that most of the male Arts students are preparing Armed Forces and SSC exams and female students are not interested in competitive exams. Also we can see that across all streams female students are less interested than male students in competitive exams. From graph we can observe that most of the students prefer you tube videos to prepare for competitive examinations.

Further it is observed that, the data provides enough evidence to claim that pursuing higher study is dependent on gender. For Science stream gender is dependent on the attendance percentage. Also in case of regularity, Science students are more regular than Arts and Commerce students, while Arts students are more irregular than Commerce and Science students. For Science and Arts stream it is found that gender and attendance percentage are dependent while they are independent in case of Commerce stream.

6. CONCLUSIONS

The findings of this research underscore the importance of attendance, study habits, and extracurricular involvement in predicting undergraduate student performance. Educators and policymakers can leverage these insights to develop targeted interventions aimed at improving academic outcomes. Strategies such as promoting attendance, fostering effective study skills,

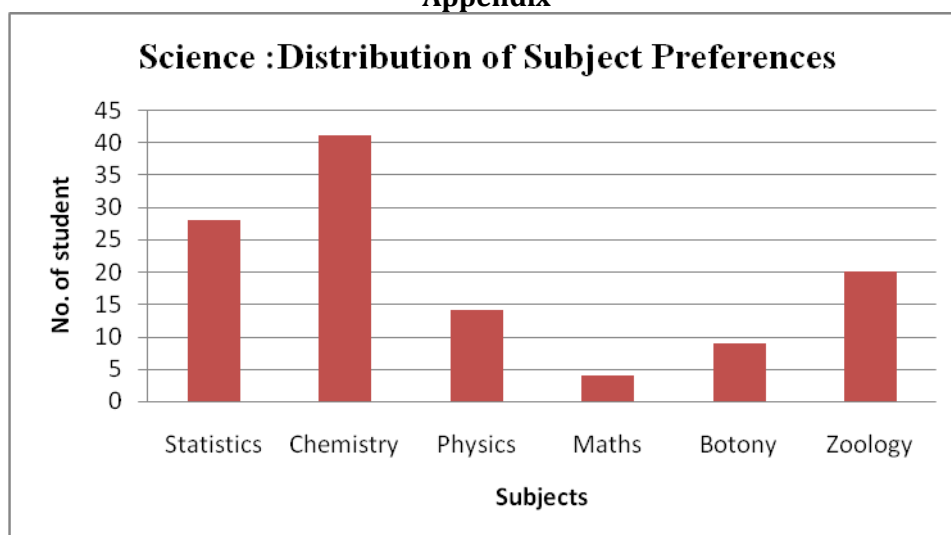
and encouraging participation in extracurricular activities can positively impact student success. Additionally, further research could explore additional factors influencing student performance and evaluate the effectiveness of intervention strategies.

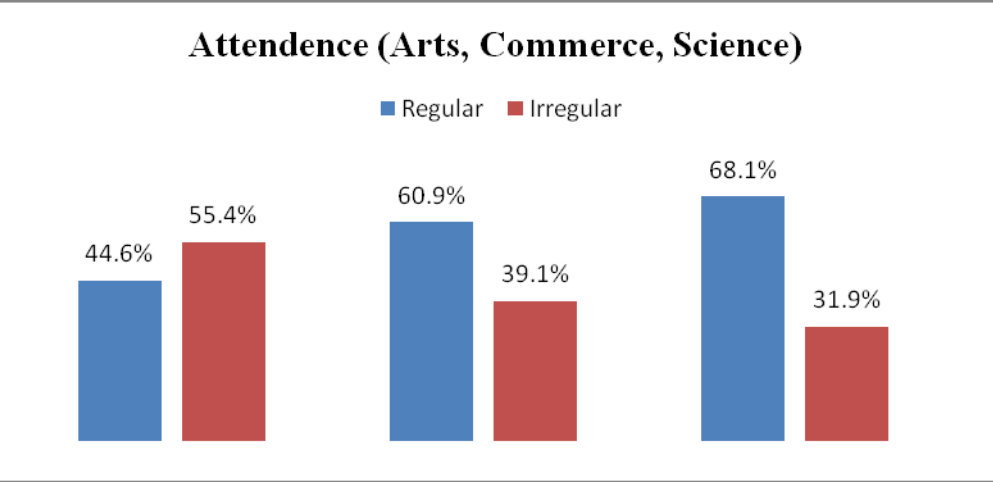
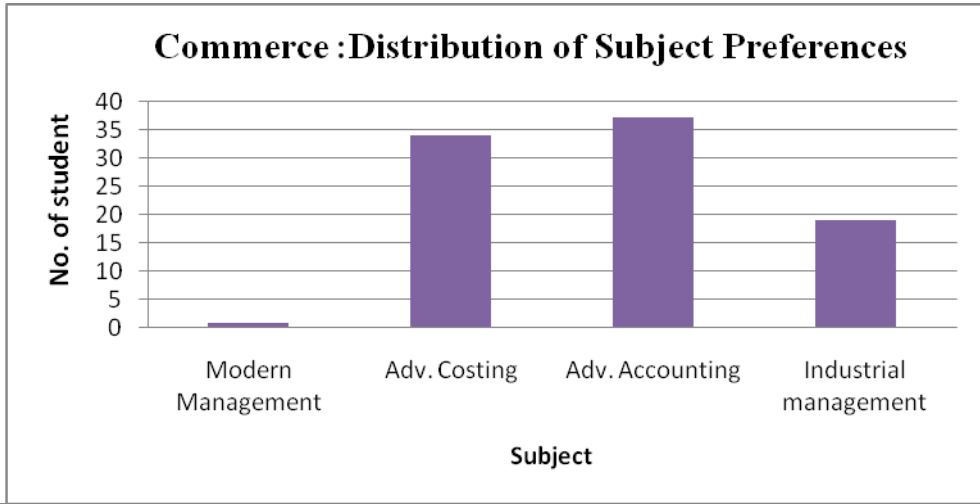
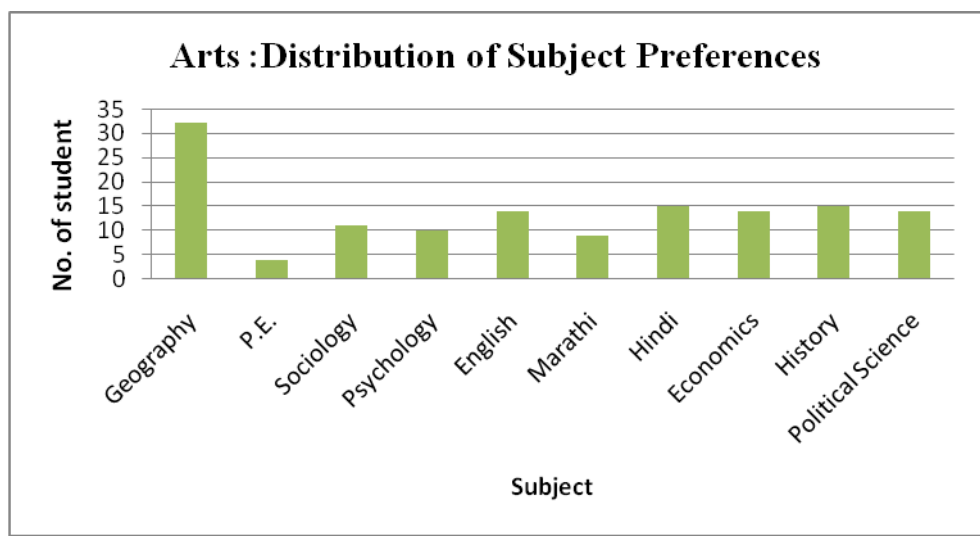
In conclusion, this research paper provides valuable insights into the statistical analysis of undergraduate student performance, offering implications for educational practice and policy. The utilization of graphs, diagrams, and tables enhances the clarity and comprehensiveness of the findings, facilitating a deeper understanding of the relationships between different variables and academic outcomes. By addressing the factors that influence student success, stakeholders can work towards creating a supportive educational environment that fosters the holistic development of undergraduate students.

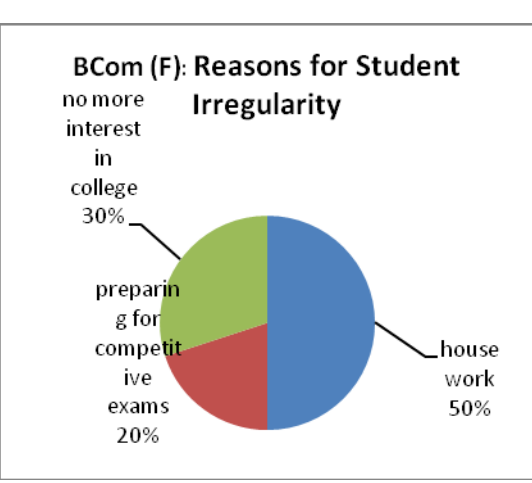
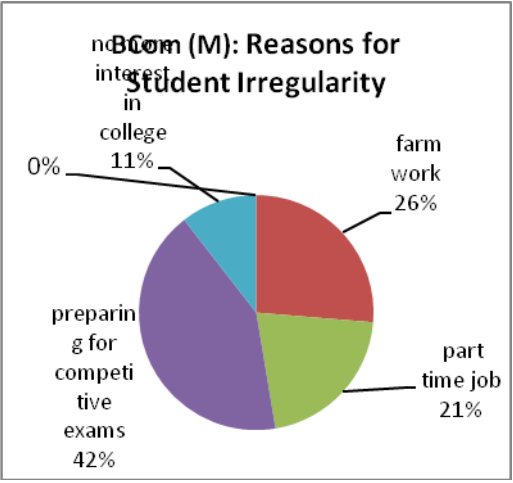
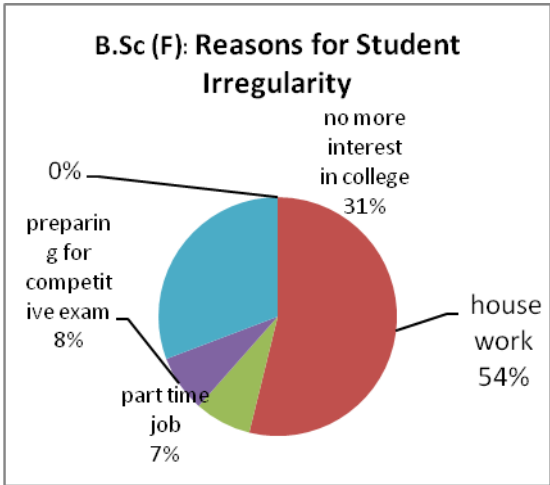
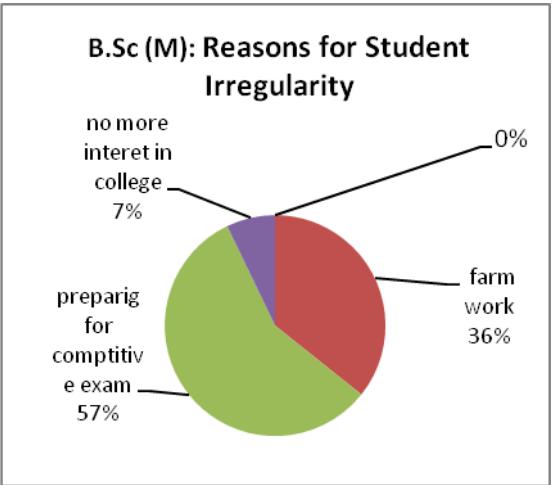
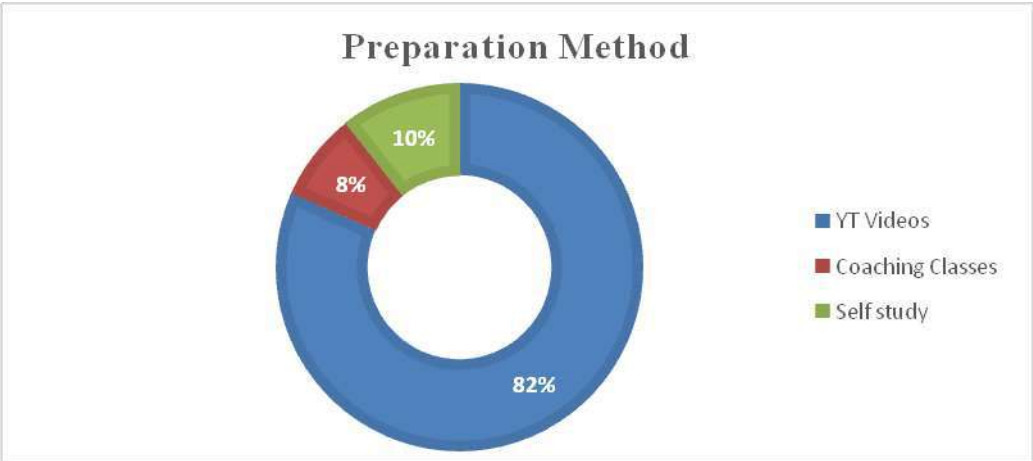
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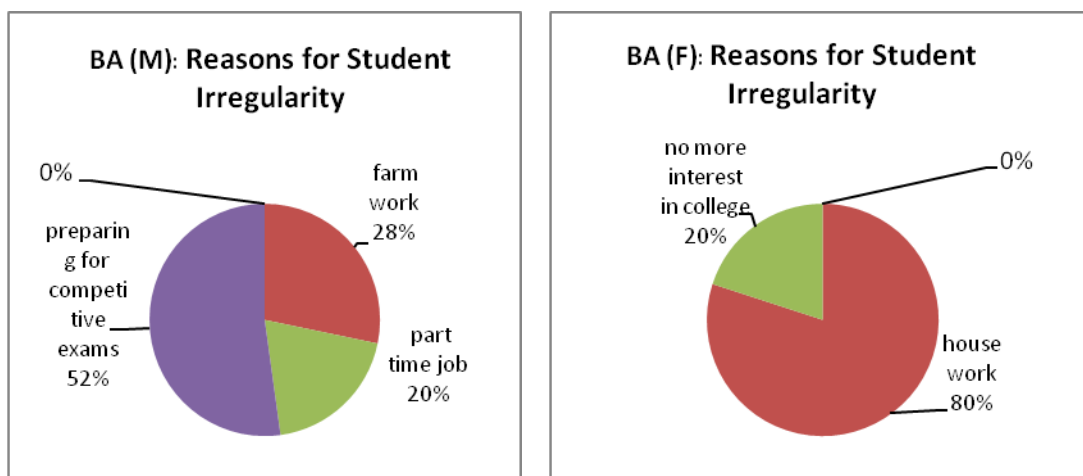
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Appendix









STATISTICAL MECHANICS ANALYSIS OF THE PARTITION FUNCTION FOR SCHWARZSCHILD BLACK HOLES: GRAPHICAL INSIGHTS INTO THERMODYNAMIC BEHAVIOUR

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ABSTRACT:

Understanding the statistical mechanics of black holes is crucial for unravelling the mysteries of their thermodynamic properties. In this paper, we investigate the partition function of Schwarzschild black holes within the framework of statistical mechanics. By employing the canonical ensemble approach and considering the quantization of energy levels, we derive the partition function. Additionally, we analyse the entropy of Schwarzschild black

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holes and its relation to the area of the event horizon. Through graphical representations including plots of entropy against area and a 3D plot of entropy against area and a constant related to the number of microstates, we gain insights into the thermodynamic behaviour of Schwarzschild black holes.

INTRODUCTION:

Black holes are among the most intriguing objects in the universe, characterized by their immense gravitational pull, which is so strong that not even light can escape from them. Over the decades, our understanding of black holes has evolved significantly, with breakthroughs in theoretical physics, particularly in the fields of general relativity, quantum mechanics, and thermodynamics. Central to our comprehension of black holes is the concept of black hole thermodynamics, which treats black holes as thermodynamic systems with well-defined temperature, entropy, and other thermodynamic quantities [1]. At the heart of black hole thermodynamics lies the statistical mechanics of black holes, which provides a framework for understanding the microscopic origins of their thermodynamic properties. Key to this framework is the notion of the partition function, which encapsulates the statistical distribution of microstates associated with a given thermodynamic system [2]. In the context of black holes, the partition function allows us to enumerate the different quantum states available to the black hole and compute thermodynamic quantities such as entropy. The partition function of a Schwarzschild black hole (Z) can be derived by considering the statistical distribution of its microstates within the framework of statistical mechanics. In the canonical ensemble, which describes a system in thermal equilibrium with a heat bath at constant temperature (T), the partition function (Z) is given by the sum over all possible microstates weighted by their Boltzmann factors. This expression captures the statistical behaviour of the black hole and provides a pathway to understanding its thermodynamic properties [3]. Alongside the partition function, the entropy of a black hole is a fundamental thermodynamic quantity that plays a central role in black hole physics. Entropy quantifies the number of microstates consistent with a given macroscopic state and is intimately related to the horizon area of the black hole [4]. In the case of Schwarzschild black holes, the entropy can be expressed in terms of the horizon area, providing a direct link between the microscopic structure of the black hole and its macroscopic features [5].

ENTROPY AND HORIZON AREA

The partition function of a Schwarzschild black hole (Z) can be derived by considering the statistical distribution of its microstates within the framework of statistical mechanics [3]. We start by defining the canonical ensemble, which describes a system in thermal equilibrium with a heat bath at constant temperature (T) [2]. In this ensemble, the partition function (Z) is given by the sum over all possible microstates weighted by their Boltzmann factors [1].

$$Z(\beta) = \sum_n g(E_n) e^{-\beta E_n} \quad \dots(1)$$

[Here, $\beta = \frac{1}{kT}$ is the inverse temperature, (E_n) represents the energy levels of the black hole, and the sum extends over all allowed energy states [1]. Entropy plays a crucial role in understanding the thermodynamic properties of black holes. In the context of black hole physics, entropy represents the measure of disorder or the number of microscopic configurations consistent with a given macroscopic state of the black hole [6]. It provides valuable insights into the underlying microscopic structure of black holes and their statistical behaviour. One of the remarkable features of black hole entropy is its dependence on the horizon area [5]. In the seminal work by Bekenstein (1973), it was proposed that the entropy of a black hole is proportional to the area of its event horizon, suggesting a deep connection between the gravitational and thermodynamic properties of black holes [1]. This idea was

further substantiated by Hawking's discovery of black hole radiation, which revealed that black holes have a nonzero temperature and consequently possess thermal properties analogous to those of ordinary thermodynamic systems [2]. The entropy-area relation for black holes has profound implications for our understanding of their thermodynamic behaviour [5]. It implies that as the area of the black hole's event horizon increases, so does its entropy, leading to an increase in the number of microstates associated with the black hole [5]. This remarkable result suggests that the entropy of a black hole is not merely a measure of its information content but is intimately linked to its gravitational properties. Moreover, the entropy of a black hole can be expressed in terms of the horizon area through the famous Bekenstein-Hawking formula [1][2]

$$S_{BH} = \frac{kA}{4l_p^2} \quad \dots(2)$$

Where (S_{BH}) is the entropy of the black hole, (k) is Boltzmann's constant, (A) is the area of the event horizon, and (l_p) is the Planck length [2]. This formula highlights the quantized nature of black hole entropy and provides a fundamental link between quantum mechanics, gravity, and thermodynamics.

The entropy (S) of a black hole can be related to the partition function through the expression:

$$S(A) = \frac{1}{4\ln 2} A \ln \left[\frac{2A}{2A - A_{crit}} \right] + N \ln \left[\frac{2A - A_{crit}}{A_{crit}} \right] \quad \dots(3)$$

Where A is the area of the black hole's event horizon is, A_{crit} is the critical area, and N is a constant related to the number of microstates [4]. The partition function and entropy provide valuable insights into the statistical behaviour of black holes and their connection to thermodynamics [5]. By analysing these quantities, we can gain a deeper understanding of the fundamental nature of black holes and their role in the universe [6]. To gain further insights into the thermodynamic behaviour of black holes, we plot the entropy S against the area A and the constant N .

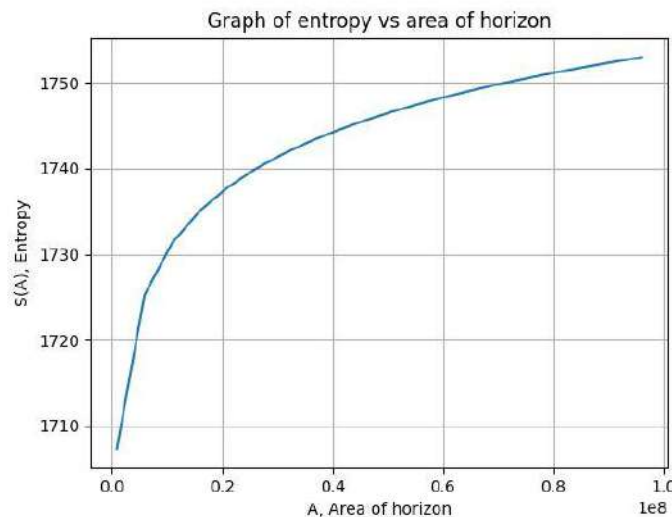


Figure1: Entropy as a function of Horizon Area

Additionally, we construct a 3D plot of entropy against both A and N to visualize the intricate relationship between entropy, area, and the number of microstates.

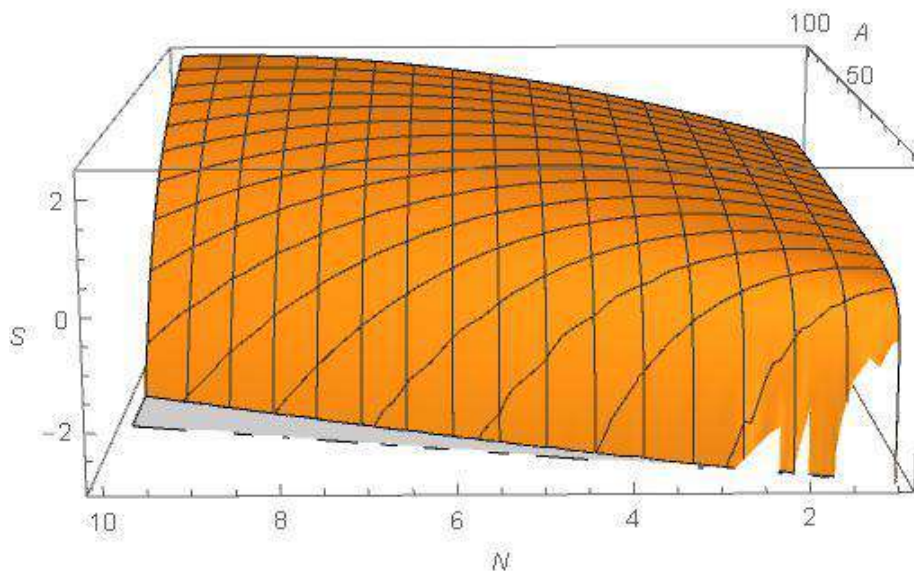


Figure 2: Entropy as a function of Horizon Area and no of constituents A and N

Thus, it is established that when the horizon area of the Schwarzschild black hole is less than or equal to the critical area (A_{crit}), the entropy of the black hole follows the Bekenstein-Hawking entropy law. However, if the horizon area exceeds (A_{crit}), the simple proportionality between area and entropy predicted by the Bekenstein-Hawking entropy law no longer holds.

RESULTS:

The graphical representations of the entropy against area and the 3D plot of entropy against area and constant N provide valuable insights into the thermodynamic behavior of Schwarzschild black holes. From the entropy-area plot, we observe a logarithmic increase in entropy with increasing area, consistent with theoretical expectations. The 3D plot reveals complex patterns and dependencies between entropy, area, and the number of microstates, underscoring the intricate nature of black hole

From figure.1 As the area A approaches zero, the entropy S approaches negative infinity. This indicates that the entropy diverges to negative infinity as the black hole becomes extremely small.

From figure.2 At the critical area A_{crit} there is a specific value where the term $\ln \frac{2A}{2A - A_{crit}}$ diverges. This divergence occurs when $2A - A_{crit}$ approaches zero, resulting in an infinite value for the logarithm. At this point, the entropy S may experience a significant change due to the divergence, leading to a potential discontinuity or singularity in the graph.

The 3D plotting for the Entropy equation shows that; the entropy $S(A)$ may exhibit different behaviors for different ranges of A and N . The values and variations of N and A_{crit} with respect to A will play a crucial role in shaping the graph. Depending on how these quantities change with A , the entropy curve may display different slopes, curvature, or even discontinuities.

CONCLUSION:

In conclusion, our analysis of the partition function and entropy, along with the graphical representations, has provided valuable insights into the thermodynamic properties of Schwarzschild black holes. The entropy-area relation, as depicted in the graphs, highlights the fundamental connection between the microscopic properties of black holes and their

macroscopic features. Moving forward, further investigations into the statistical mechanics of black holes and the implications of their thermodynamic behaviour will continue to advance our understanding of these cosmic phenomena. By continuing to explore the statistical properties of black holes, we can unravel more of the mysteries surrounding their formation, evolution, and role in the universe.

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STYLISTICS ANALYSIS: BABY KAMBLE'S AUTOBIOGRAPHY "*THE PRISON WE BROKE*"

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I. ABSTRACTS:

The present article deal with the stylistics analysis and sociolinguistic study of the selected Dalit autobiography entitled "The Prison we Broke". This is the translated English version of Marathi Dalit autobiography "Jin Amuch" by Baby Kamble. Style means, a way of writing something or representing or delineation of fiction, drama, novel and poetry. Every writer have has their own style of writing. And this unique or iconic writing style makes them recognizable or writer identified by his/her witing style. Stylistics is the important branch of applied linguistics, which unfolds keen study of the particular authors writing/language style in terms of discourse, iconicity, general structure, language dialect and idiolect, and author's tone. Dissecting different levels of stylistics analysis for instances phonological, morphological,

syntax, semantic level and grammatical level.

II. KEY WORDS: stylistics, iconicity, prison, autobiography, substitute.

III. INTRODUCTION:

Dalit autobiography has their own linguistic dialectical style, they or Dalit writer probably escapes to write in registered/official/government regional languages but they deliberately used to write in their own dialect. Written Dalit work from the different regional dialect for instances Marathi, Tamil, Telugu, Kannada, Hindi and Bengali. Translated Dalit literature created their own space, aura, tranquillity in the world literature, Which was created a specified genre as Dalit literary canon with impingement of style. The present research article delves in to the stylistics analysis with the help of various dimensions and different stylistics categories and linguistic checklist proposed by Geoffrey leech and Mick Short, in his book '*style in fiction*', used to foreground the literary style of the Dalit writing. Or the study of the Dialectical style of the Baby Kamble's Dalit autobiography "*The Prison we broke*".

IV. RESEARCH METHODOLOGY:

In present research study will be followed research methods like close reading, discourse analysis, and stylistics interpretation methods for the stylistics analysis of a particular Dalit autobiography "*The prison we broke*".

V. STYLISTICS ANALYSIS OF THE AUTOBIOGRAPHY "THE PRISON WE BROKE":

1) The Discourse: Baby Kamble's Autobiography "*The Prison We Broke*", The narrative discourse of this autobiography is the historical, personal with communal narration of their sufferings. Baby Kamble used ordinary or daily rhetoric conversion with situations; the discourse is not providing information in general. But she unfolded the reality or truth of the society. Whatever anguish or deep pain came in her way, she went through and suffered a lot. Particular community (Dalit) has been targeted to be suffer and targeted community people to be discriminated. That Baby Kamble conveying Dalit subjectivity, struggles with resistance, definitely discourse of the Dalit subaltern context. Baby Kamble addressed her autobiography not only targeted audience but to the whole world. How was the struggle of Dr. Babasaheb Ambedkar and how she became part of the anti-cast movement as feminist leader.

2) Author's Tone: Tone of the Baby Kamble in her autobiography representing the history of suffering of the community with her own individual tribulation, excruciation of Dalit community and the confrontation to come out of the inequal crises. She tried to tell everything about her personal untouchable discriminatory oppressional-experience, now that is the open secret of her life, disclosed to the world as Dalit.

3) Phonological analysis: In this present autobiography have major phonological impacts on her writing style because, an influence of the mother tongue. The translator has used simple phonetic signs / Phonemes for the connotations for the represented Dalit life in the present autobiography. Some of the selected Phonetic words like are a) "Unh..hun...uuh...hun" and b) "Unhuun, Unhuun, unhuun....." (p.36), expressing cavernous pain, these are the humming sound of women, who was possessed by demon, brutally or blistering beaten until collapsed on the floor with flowing blood out of her body in reason to bought out demon who have been taken control of her mind and body. (p.23), c) "Ahun...ahun" (p.27) the same possessed women's context painful disturbed heartrending sound, d) "Shoo... shoo" (p.81) This phonetic sound stand for or reflected the untouchability practice in the society, the upper caste woman kept a proper distance from untouchable women and said that "Mahar woman to stand at away from her", f) "ghar ghar ghar", g) "ahhh and ohh" and e) "err...", this are the other phonetical sounds occurred in the autobiography.

4) Morphological level analysis: This is the next level of the stylistics analysis, called as morphological analysis. In this present autobiography delves with different, an innovative

morpheme that have been traced and brings out forefront to the reader. In this Autobiography, we found that frequent use of open class of words or free morphemes, these are taken from the Marathi language, to keep the semantic effect as it is or does not want to miss the catastrophe of original writing. Moreover, similar kind of questions raised by Santosh Bhoomkar, while translating 'Akkarmashi' in to English.

An influence of the Marathi language is the fruitful feature of the Dalit autobiography. Marathi Dialectical word occurred many a times or frequently in the first chapter of "*The prison we broke*" autobiography and the translator/Author Maya pandit used this Marathi local dialectical morphemes as it is. For instances 1). Religious or Marathi Culture related free morphemes, that foregrounded Dalit communal culture from the Maharashtrian Veergaon and Phaltan rural region specifically. Following words like, Bukka, Anghara, Bhajani Mandal, Devrushin, potraja, Kargota, Bhandra, haldi, Kumkum, sat asra, Nagapnchami, narsoba, nivad, abhir, gulal, goumutra, choli, asud, devhara, Sankashti, Chaturthi, Dhupa arti, Poornima, Amavasya, Suwasinis, karnja tree, Rede Jatra and harijan.

2. Morphemes related to food, kitchen instruments and wearing/ clothes: How's the Dalit community people survive or lived eating food like, Jwari ani Bajri Bhakri, Buffalo dried meat called as Chanya, (dried fish) bombil, bhaji, Ukdala, channa, and dhania. this kind of food were cooked for breakfast lunch and dinner in the dalit community, on the special festival or occasion in Marathi called as Sanvar they made cultural special dish Gulwani, Amati and Puran-Poli. In those days dalit people using Kitchen instruments and clothes such as Pali, Keli, tawa, katwat, walani, Bhanvas, Kargota, Goghandi, Pallav, farak, Sari-choli. 3) Music related words: halgi, lezim, shenai, Ghumaki, taal, and mridang, 4) Monetary related words - damadi, Pei, Paisa, Anna, 5) Relative- Relationships related words: Aai, Baba, Sasu, Sasra, Bahin, Umbura, Chulha, Aajas, Aaji, Sahibs, Maharwada, vahini, karbhari, 6) Marathi Months: Ashad, Ashwin, Kartik, Kotma, Rhol, kanhar flowers, 7) Caste related words: harijan, Mang Suwasini, Mahar, Dhangar (Shaphrds), Kolhati, Maratha, Brhaman, And 8) Buddhist philosophy: Sheel, Satwa, Neeti, Pardnya and karuna. The influence of socio-linguistic dialectical Marathi word has intensive, profound, meaningful effect on the early five chapters, moreover as autobiographical narrative chronology progresses, then very limited number of accustomed Marathi dialectical word used in the real-life chronicle. Sometimes, Baby Kamble used reiterated morphemes in her autobiography e.g. Mahar, Bhakri, Suffering, torture, Bhandara, Maharwada, Pallav, terrible, 16th share, and haldi.....etc.

5) Syntax level / analysis: This is the upgrade level of stylistics; syntactical level in which includes the description of the elements of sentence (words+ verbs its types + clause its types) how it is functioned. This autobiography has the different experimental syntactical levels or structure used in this particular autobiography. In the autobiography most of the time writer substitute with verb phrase or verb clause in replacing noun clauses.

In Baby Kamble's "*The Prison We Broke*", She used enhanced phrases to explain exasperated pain, they have had experienced in the Dalit communal and personal life, some of the exceptional synthesis of idioms or phrases and highlighting following pivotal phrases a) "Sea of suffering", b) "meek slaves of the earth", c) "new dimensions of torture", d) "White sahib's own tongue", e) "A way in to people's hearts, unlimited grief and suffering, f) "story of permanent deprivation and suffering", g) " A terrible thrashing" a noun phrase with adjective as premodifier h) verb phrase " virtually staving" i) "chains of slavery" and g) "a voice drenched in self-pity".

In terms of sentence/clause structure, was written in simplistic past tense form, easy to read and understand. Probably, complex, compound and compound complex sentence structure are noted few countable numbers in the autobiography.

Sentence no.1. "We are Mahar girls, (Main clause)

And (conjunction, coordinated word)

the god has sent demons after us, (Subordinate clause)

Because (conjunction)

we have pollute him" (dependent clause)

This is very unique, ingenious and advertency sentence. The structure of the sentence is sporadic and infrequently used in the autobiographical narration, three clauses arranged in sequenced manner coordinated with conjunction And and because.

Sentence No.2 children love their grandparents. (Main clause), At least, (Adverbial phrase, reason) Besides, (co-ordination), in those days (pp), Most of the children were born (Independent clause), in their maternal grandparents' home. (Np with pp as pre modifier). Growing up (verb clause + Post modifier Adv.P) in the Grandparents' home, was like being, in the cool shelter of love. (Verb clause + Np + premodifier adv.p), Naturally, children would prefer their Grandparent's home (dependent clause) to (That clause) that of their own parents.

This is the longest sentence having 56 morphemes linguistically, literally or semantically interconnected to the each other with repetition of the noun phrase "Grandparents home". The clause and phrase structure are very complicated and complex as we have seen.

This particular autobiography follows three principles of sequencing in stylistics analysis proposed by leech 1) Presentational Skill: real life evidences is well formed with influential significant narration of Dalit community life as well as keen detail about their suffering and endured experiences. 2) and 3) Chronological sequencing and psychological sequencing: Baby Kamble narrated her historical lived instances in chronological order from her ancestor grandfather, who was native English speaker in British India to independent Dalit scenario. But her life narration started from her father Pandrinath Kakade's, sometime called as Mistry, who was struggling for a job and continuous fighting with starvation, then narration shift to the community's pathos and pain. And her father's perspective with impingement of contemporary Dalit movement led by Dr. Babasaheb Ambedkar, she narrated in the second last chapter, she didn't follow the rule chronological order but obviously, she had followed the stream of consciousness method or psychological perspective, while narrating some crucial event in her life comparing with anti-caste movement ran by Dr. Babasaheb Ambedkar .

6) Semantic level - The writing style of the autobiography is very simplistic uncomplicated to understand. The reader could be easily apprehended the exact conveyed transported meaning by the writer or Translator, but in the foremost chapters having tremendous influence of Marathi dialectical language, that's why, or occasionally it is challenging to understand, to get the meaning of Marathi Dialectical word for the English reader. According to the translator they wanted to keep unaltered or original mighty sensibility of the autobiography. And because of English translation there would be nonprobability of language barrier problem for the second language or the English reader, exceptional case of Marathi morpheme. Regional linguistic terms contented meaning; writer denotes it in convinced manner.

7) Grammatical Level: The English translator of the "Jin Amuch" Autobiography, Maya Pandit did some experiment with sentence and clause structure reflected through her writing style. How's used the simple, compound and complex grammatical sentence, while portraying the autobiography by the writer. **P) Use of simple sentence,** For Example, 1) "The first cock crowed". 2) "The digging started". And 3) "The god is very strict". **Q) Use of compound sentence:** Frequent usage or combination of subordinated sentence and compound sentence, with linkage words Like But, and, because, since, they, then, that etc. Subordinated sentence starting with which, when, where, when, where, how often, whatever and how, for e.g., A) "They would close the holes with rage, which had sharp Babhul throned stuffle inside" (p.135). The above second sentence is fine example of compound sentence started with "They" and coordinated with "which". The maximum sentence length is 25-30 words. B) "The children fetched the water in tin pots and the women would pour it down their through in great gulps". (p.51), C) "Then the mother was covered with a blanket and the baby put at the feet of the goddess, that is, in from of the seven stones". (p.61) The above sentence describes the superstitious performed activity by the Dalit community people in order get relief from the stomach aches that the little baby suffering through. **R) Use of complex sentence 1) "This**

rigorous punishment at a young age, however, was far preferable to what she had to endure once she reached maturity (p.95). The above sentence explained critical situation of the newly married Dalit girl. **S) Compound complex sentences** to conveying her agony or consciousness about the Dalit condition. E.g., 1) "Sheel Pradnaya karuna have been the founding principle of my life, what else does this humble servant of Bhim want when she has the three jewels in her possession? When on has this wealth, what does the ordinary world matter?" (p.135), 2) "The people in the house, men and women, would start wailing loudly but not without having first poured their wrath on the Mahar! Carrying such massages was really an ordeal for the Mahar" (p.79). Complex sentence and compound sentence has been used less frequent time, and simple past sentence, we came across many a times. In "The prison we broke" Dalit autobiography, the structure of the writing the autobiography very surface level simplistic, but sometime writer came across the very deep and complicated structure to understand semantically.

The interrogative sentence appeared in the rage between 60-70 times in the autobiography. Generally, in the autobiography Baby Kamble used simple language to narrate the autobiography. Sometimes, Substitution of the subject or the omissions of the subject with other related phrases e.g., VP replaced with NP. The repetition of personal pronouns and definite and indefinite article used frequently in the autobiography.

8) Figurative Language: The writer/translator used figurative language like simile, metaphor, Sarcasm, irony, climax and anti-climax, to make dynamic excellent dalit writing with cognitive consequences. **a) Simile-** There are several examples of simile used by the writer in her autobiography, some of the best following examples of its a) "he looked like the waghya or the coach man of the goddess", b) "as if they were in the seventh heaven", c) "She will live like the Patil's wife" d) "the news was spread like wild fire" e) "His words were like elixir to our ears" f) "their groups like battering and scatters them" g) "as if their lives are in moral danger" and h) "he looked like the fil star Master Bhagwan", h) "they treated like us lepers, as if our bodies dripped with dirty blood or as if pus oozed out of or rotten flesh" , and last one i)"The sweat running down the bodies felt like the first drop of the rain"

b) Irony: Instances of irony followed as "his voice could pollute but not the sound of his bell", and "The village would take every precaution against pollution"

c) Metaphor: In the very title "The prison We broke" used metaphorically by the writer here the word "Prison" used as metaphor to refers indirectly to the dominate higher caste hegemonic age-old traditional superiority of social-caste-stratum, that was broken by Dalit community and patriarchy by Dalit women. 2) "as if he were the direct descendent of the Saint Tukaram, who was famous for his generosity, "but his complexion was coal black" 3) A burning coal! holding a burning coal in ones palm was easier than living with he!" 4) "fire in their blood" 5) "the spirit of rebellion" and d) "ocean of knowledge" and 7) "Our mind were absorbed"

e) Sarcasm: "We may be like rivers, streams, canals, or even gutters; but all of us have to finally merge in the ocean. Our ocean is the community"

9) Climax and Anticlimax: This autobiography has divided into twelve chapters, and the writer Baby Kamble used the climax as figurative element very thoroughly, she created substantive atmosphere at the beginning of every chapter, while reading, or she captivated or gripped totally attention of the reader, effectuates idiosyncrasies while delineating her life as well as Dalit community life and determining every chapter of autobiography.

V. CONCLUSION:

The present study highlighted stylistic analysis of "The Prison we Broke" a popular Dalit autobiography. Writer Emphasizes the peculiar stylistics characteristics to demonstrates the Dalit contextual perspectives. The study also, focussed, how, the iconicity of the language, discourse, author tone, influence of Marathi morphemes, different linguistic and stylistic levels, simple compound, complex sentence structure and last one figurative language. Especially, primary aim of the study to pointed out significant choices of language linguistically and stylistically.

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SYNTHESIS OF 1,8-DIOXODECAHYDROACRIDINE AND REDUCTION OF P-NITROPHENOL TO P-AMINOPHENOL BY USING NiO-Al₂O₃ NANO CATALYSTS

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ABSTRACT:

A NiO/Al₂O₃ nanocatalyst has been successfully synthesized using a simple precipitation method. XRD was used to characterize the prepared product. XRD revealed that the samples are of nano-crystalline nature. NiO/Al₂O₃ nanocatalyst showed high catalytic activity for the reduction of p-nitrophenol to p-aminophenol using sodium borohydride (NaBH₄). Also 30% NiO/Al₂O₃ nanocatalyst for the synthesis of 1,8-dioxodecahydroacridine derivatives for the

multicomponent reaction between aldehyde, dimedone and ammonium acetate.

KEYWORDS: Nanocatalyst, NiO-Al₂O₃, 1,8-dioxodecahydroacridine, p-nitrophenol reduction, p-aminophenol.

1. INTRODUCTION:

Nanostructure materials have been widely explored for the fundamental-basic scientific and technological interests in retrieving new classes of functional materials with extraordinary/unique properties and applications. Nano sized materials, which effectively remit the sluggish kinetics in the conversion reactions and large volume expansion during long-time cycles (95.7%), can indeed improve the electrochemical performances. Recently, a variety of nano-structured NiO-based materials have been fabricated, such as nanofilm, nanotube, nanowire and nanocone. Nevertheless, there still remains a tough problem that nanoscale materials would easily get aggregation and agglomeration due to their high specific surface area, which may bring about poor cyclic stability and rate performances. Therefore, novel sophisticated nanomaterials are urgent to be designed and synthesized. Among the fabricated morphologies, nanosized materials with conductive substrates coating seems to solve the above issues. In despite of carbon, metal oxides coating (such as MgO, ZnO, TiO₂, Al₂O₃ and AlF₃) have been investigated as an effective method to enhance the performances of the next-generation LIBs. Note worthily, Al₂O₃ is discovered to deliver superior electrochemical properties particularly cyclic stability among different coatings due to its high surface area and high thermal stability. Thus, allow for the low-cost and the advantages, Al₂O₃ coating seems to be an effective strategy to improve the structural passability so as to enhance the electrochemical performances in LIBs electrodes. NiO is an important antiferromagnetic p-type semiconductor with excellent properties such as gas-sensing, catalytic and electrochemical properties, and has been extensively studied for different applications such as in solid state sensors, electrochromic devices and heterogeneous catalysts as well as lithium batteries. The nickel oxide thin films have been prepared using various techniques including thermal evaporation, organic-solvent method, chemical vapor deposition (CVD), electrochemical deposition, sol-gel, sputtering, chemical solution deposition (CSD), etc.

Nanomaterials with the size of 1–100 nm have paying attention due to the difference of properties from bulk phases arising from quantum size effect. In recent years, one-dimensional (1D) nanostructures, such as nanorods, nanowires and nanotubes, have received intensively attention because of both their fundamental importance and the wide range of their potential applications in many areas. Various methods have been developed to fabricate 1Dstructured materials such as laser ablation method, CVD method, hydrothermal method, structure directing soft or hard templates, and the self-assembly of spherical nano-particles by oriented attachment NiO, as one of the relatively few metal oxides that tend to bep-type, is a stable wide band gap material and can be used as transparent p-type semiconducting layer. As a kind of functional material, NiO has received considerable attention due to its attractive application in catalysts, battery cathodes, gas sensors, electro-chromic films, magnetic materials, active optical fibers and fuel cell electrodes. The main objective of the research in this field is to reduce the costs of chemical synthesis and to produce materials for technological applications. In this work, we have prepared Al₂O₃-NiOnano-materials by sol-gel method (with surfactant) using two different precursors (Aluminium nitrate and Nickel nitrate), using these prepared catalysts we have carried out multicomponent reaction between aldehyde, dimedone and ammonium acetate under solvent free condition.

2.1. MATERIALS AND METHODS

2.1.1 Materials

The main materials were nickel nitrate hexahydrate (Ni),Aluminium nitrate nonahydrate sodium hydroxide (NaOH), Sodium dodecyl sulfate (SDS), Ethanol, De-ionized

water, etc.

2.1.2 Methods

Catalyst preparation

The NiO/Al₂O₃ catalysts were synthesized using raw materials of Al(NO₃)₃·9H₂O, Ni(NO₃)₂·6H₂O, SDS and NaOH. Al(NO₃)₃·9H₂O and Ni(NO₃)₂·6H₂O were separately dissolved into deionized water to form two starting solutions, respectively. A solution of nickel nitrate in 10 mL of deionized water and the solution of SDS in 15 mL of deionized water under continuously vigorous stirring for 30 min. A solution of Ni(NO₃)₂ was then added drop wise to the Al(NO₃)₃ solution under continuously vigorous stirring for 30 min at room temperature. Then the NaOH (0.5 M) was added drop by drop with constant stirring to the solution of Ni(NO₃)₂-Al(NO₃)₃ and the pH value of the mixed solution was adjusted to 12. The resultant solution was kept at room temperature to settle down. The formed precipitate was then filtered, washed with deionized water (3 times) and dried at 80 °C for 24 hours. Finally, obtained powder has been calcined at 500 °C for 4 hrs.

By this developed procedure, we prepared 10 wt%, 20 wt % and 30 wt % of NiO/Al₂O₃ nanoparticles.

2.2 CHARACTERIZATION

The phases of NiO/Al₂O₃ were analyzed by XRD. The particle size of the nanoparticles was calculated through the Scherrer's equation.

$$[D = k\lambda / \beta \cos\theta]$$

where D is the average crystallite domain size perpendicular to the reflecting planes, k is the constant, λ is the wavelength of the X-ray, β is the Full Width at Half Maximum and θ is the diffraction angle.

2.3. Synthesis of 1,8-dioxodecahydroacridine derivatives:

Various aromatic aldehydes 1 (1 mmol), dimedone (2, 2 mmol), ammonium acetate (3, 2.5 mmol), and 50 mg NiO/Al₂O₃ catalyst under solvent-free condition were mixed and heated at 80 °C. After completion, the mixture was cooled to room temperature and diluted with 10 cm³ hot ethanol. The mixture was centrifuged to separate catalyst, washed with acetone, dried in oven. From obtained filtrate, solvent was evaporated to get the product. Product was further recrystallized by using ethanol and confirmed by melting point.

3.1 CHARACTERIZATION

3.1.1 XRD:

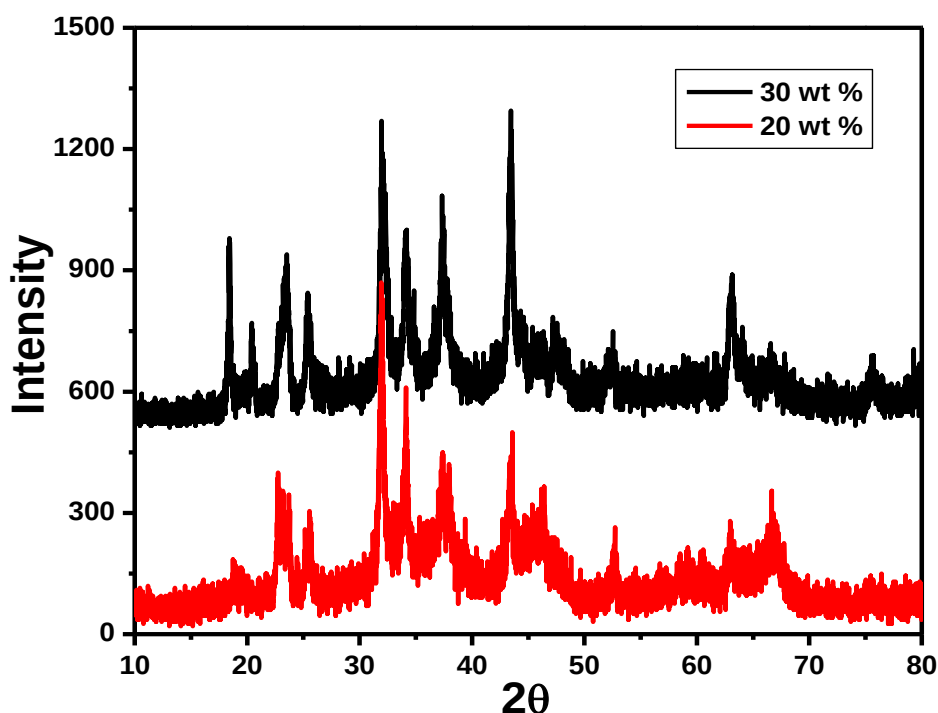


Fig. 1: XRD pattern of NiO/Al₂O₃ catalyst.

XRD of both the catalysts shows similar XRD pattern having phases of both Al₂O₃ and NiO.

3.2 p-nitrophenol to p-aminophenol conversion:

To check the catalytic performance of the prepared catalysts, we have studied reaction of p-nitrophenol to p-aminophenol by using NaBH₄ in presence of these prepared catalysts. It was found that the 30% NiO/Al₂O₃ catalyst shown better performance than other catalysts. Further activity studies we have carried out with 30% NiO/Al₂O₃.

3.3 Synthesis of 1,8-dioxodecahydroacridine derivatives:

We have tested the 30% NiO/Al₂O₃ catalyst for multicomponent reaction between aldehydes, dimedone and ammonium acetate (Scheme 1). We found that the catalyst is working excellent under solvent free condition at 80 °C.

Scheme 1

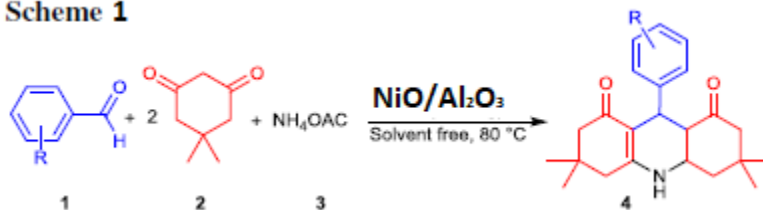


Table 1. Synthesis of 1-8dioxodecahydroacridines by NiO/Al₂O₃ catalyst

<i>Entry</i>	<i>Ar-CHO</i>	<i>Time/min</i>	<i>Yield/%</i>	<i>M.P./ °C</i>	<i>Lit. M.P./ °C</i>	<i>Product</i>
1	4-FC ₆ H ₄	110	81	292-294	292-294	
2	3-ClC ₆ H ₄	105	71	220-222	222-224	
3	4-MeC ₆ H ₄	95	68	260-264	263-268	
4	3-BrC ₆ H ₄	102	81	182-184	183-187	
5	4-NO ₂ C ₆ H ₄	115	78	284-286	288-290	
6	C ₆ H ₄	90	74	277-280	279-281	
7	4-OCH ₃ C ₆ H ₄	145	41	274-276	278-280	

4. CONCLUSIONS:

Following are the conclusions of our study:

1. We have successfully prepared NiO/Al₂O₃ catalyst by simple precipitation method.
2. Among the three catalyst 30% NiO/Al₂O₃ catalyst is found to be excellent for conversion of p-nitrophenol to p-aminophenol.
3. Furthermore, we have successfully employed the 30% NiO/Al₂O₃ catalyst for multicomponent reaction between aldehyde, dimedone and ammonium acetate for the synthesis of 1,8-dioxodecahydroacridine derivatives.

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THE AMERICAN DREAM AND LITERATURE: A MULTIDISCIPLINARY APPROACH

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ABSTRACT:

This paper explores the concept of the American Dream as depicted in literature through a multidisciplinary approach that combines insights from literary studies, cultural studies, sociology, and history. The American Dream, a central tenet of American culture, has been a recurring theme in literature throughout the nation's history, reflecting the aspirations, struggles, and realities of individuals and communities. By examining a diverse range of literary works, including novels, short stories, and essays, this study investigates how the American Dream has been portrayed, critiqued, and reimagined in different contexts and time periods. Authors such as F. Scott Fitzgerald, Toni Morrison, John Steinbeck, and Sandra Cisneros are analysed to uncover the complexities and contradictions inherent in the American Dream, as well as its role in shaping national identity and social consciousness. By adopting a multidisciplinary approach, this research aims to deepen our understanding of the enduring influence of the American Dream on literature and culture, and its ongoing relevance in contemporary society.

KEY WORDS: American Dream, Individuals, Community,

INTRODUCTION:

over time the American dream has proved a resilient and unique concept that Americans have come to understand and define in different ways as relevant to their own life narratives and experiences. not defined or rooted in lineage, religion or some form of a shaped a defined by collective values. These values and principles rooted in individualism ,self-actualisation ,and self-reliance where people are able to fulfil their own destiny, be self -reliant , and believe in the promise that through hard work and perseverance life can be different and better the apparent timeless notions of these values in relationship to pursuing and defining what we now understand as the American dream are deeply embedded in the fabric of the cultural landscape of America because they inform and preserve the my theology of the American dream is a May that endures and lasts because it promotes as aspirational experience that both lines and finds fulfilment in one is life or in the lives of other Americans.

The concept of the American Dream has long been a central theme in literature, serving as a powerful lens through which to explore the ideals, aspirations, and challenges of society. This research project, titled "The American Dream and Literature: A Multidisciplinary Approach," seeks to delve into the intricate relationship between this enduring American ideal and the diverse realms of literature. By adopting a multidisciplinary approach, this study aims

to analyse how the American Dream has been conceptualized, critiqued, and reimagined across various literary genres, periods, and cultural contexts. Through a nuanced exploration of literary works, sociocultural frameworks, and historical perspectives, this research project endeavours to shed light on the complexities and contradictions inherent in the American Dream narrative, offering a comprehensive understanding of its impact on individual identities, societal structures, and national consciousness.

OBJECTIVE:

To examine the intersection of literature, history, sociology, and cultural studies in the exploration of the American Dream, aiming to provide a holistic and interdisciplinary understanding of how this concept has shaped individual aspirations, societal structures, and national narratives throughout American literary history.

HYPOTHESES:

The portrayal of the American Dream in literature reflects the changing socio-political realities and cultural values of different time periods, with some works highlighting the dream's attainability and glorification, while others critique its exclusivity, inequality, and illusory nature.

REVIEW OF RELEVANT LITERATURE.:

"The American Dream and Literature: A Multidisciplinary Approach" seeks to explore the complex relationship between the American Dream and literature, drawing on insights from various disciplines such as literature, sociology, history, and cultural studies. This research paper aims to analyze how the American Dream has been depicted, interrogated, and critiqued in a wide range of literary works, and how these literary representations reflect and shape larger societal attitudes and values.

"The American Dream in Literature" edited by Sandra Malak and John M. Malak - This collection of essays delves into the representation of the American Dream in various literary genres and periods, examining how different authors have grappled with the concept of the American Dream and its impact on American society.

"American Dreams in Mississippi: Consumers, Poverty, and Culture 1830-1998" by Ted Ownby - This book provides a historical and sociological perspective on the American Dream, exploring how consumer culture, poverty, and racial dynamics have influenced the pursuit and realization of the American Dream in different eras.

"The Cambridge History of American Literature" edited by Sacvan Bercovitch - This comprehensive volume offers a broad overview of American literature from its early beginnings to the present day, providing valuable insights into how literary texts have both reflected and shaped the American Dream as a cultural and social construct.

By drawing on these and other relevant reference books on American literature, "The American Dream and Literature: A Multidisciplinary Approach" aims to provide a nuanced and interdisciplinary analysis of the enduring and evolving nature of the American Dream as portrayed in literary texts across different genres, time periods, and cultural contexts.

ANALYSIS:

In "The American Dream and Literature: A Multidisciplinary Approach," the author undertakes a comprehensive examination of the complex relationship between the American Dream and literature, drawing on insights from various disciplines such as literature, sociology, history, and cultural studies. The paper delves into how the American Dream has been depicted, questioned, and reimagined in a wide range of literary works, and how these representations

reflect and influence broader societal ideals and values.

One of the key strengths of this research paper is its multidisciplinary approach, which allows for a more nuanced and comprehensive analysis of the American Dream in literature. By drawing on diverse theoretical frameworks and disciplinary perspectives, the author is able to offer a richer understanding of how the American Dream has been articulated in literary texts across different genres, time periods, and cultural contexts.

Furthermore, the use of reference books on American literature, such as "The American Dream in Literature" edited by Sandra Malak and John M. Malak, "American Dreams in Mississippi" by Ted Ownby, and "The Cambridge History of American Literature" edited by Sacvan Bercovitch, strengthens the analysis by providing a solid theoretical and historical foundation for exploring the complex interplay between the American Dream and literature.

Through this multidisciplinary lens, the research paper sheds light on how authors have grappled with the promises and pitfalls of the American Dream, offering critical insights into issues of social mobility, inequality, race, gender, and the pursuit of happiness in American society. By interrogating both the idealized visions and the harsh realities associated with the American Dream, the paper invites readers to reflect on the ways in which literature serves as a mirror to society, reflecting and contesting prevailing ideologies and narratives surrounding the American Dream.

Overall, "The American Dream and Literature: A Multidisciplinary Approach" offers a compelling and insightful analysis of the enduring and evolving nature of the American Dream as portrayed in American literature, highlighting the ways in which literature both reflects and shapes our collective understanding of this quintessentially American ideal.

CONCLUSION :

The multifaceted and evolving concept of the American dream has been researched and studied for well over a century since our culture and nation are not defined by a single shared history, religion or language, the ideals defined in the construction and the declaration of independence have allowed for the notion of the American dream to evolve over time such that it has expanded and United racial and social classes the ideals central to what one thinks of as the seemingly timeless American dream have been present since the beginning of our nation the beliefs in individualism, self-actualisation and self-reliance which one understands as having the potential to fulfil his or her destiny and believe in the promise that life can be different are beliefs that have been meticulously interwoven into the fabric of the American culture from the founding to the present.

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THE CONVERGENCE OF INTERDISCIPLINARY STUDIES WITH COMMERCE AND MANAGEMENT PRESENTING A UNIQUE ITS OWN SET OF TRENDS, CHALLENGES, AND OPPORTUNITIES

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ABSTRACT:

The Indian higher education system is in the process of introducing interdisciplinary education. The stream is witnessing the process of change as support from the corporate sector and plans. This article describes interdisciplinary trade research In India as a way forward. As part of the analysis, the factors and possible needs to be pursued were derived. Such studies have been discussed. Education brings together many disciplines to form a growing field of research. Interdisciplinary approaches, as well as interdisciplinary and trans disciplinary approaches, are one of these challenging areas. The purpose of this article is to explore the potential of interdisciplinary approaches in commerce, economics, management, and related fields. Whereas the disciplinary approaches we have taken so far focus on a single specialty, interdisciplinary approaches allow him to integrate some common areas between two or more disciplines. It emphasizes an interdisciplinary approach, he attempts to develop one subject by almost 100% combination of two or more subjects. The importance of interdisciplinary approaches could be further strengthened if universities start researching how to integrate subjects and researchers choose interdisciplinary topics. In this article, researchers consider the possibility of integrating business education at interdisciplinary levels through identifying the trend, studying the challenges, identifying the opportunities of intersection of interdisciplinary studies with commerce & management.

KEYWORD: Interdisciplinary, Commerce & Management, Trends, Opportunity, Challenges.

1. INTRODUCTION:

Interdisciplinary studies in Commerce and Management involve the integration of knowledge, methodologies, and perspectives from multiple academic disciplines to address complex issues and challenges in business, economics, and organizational management. This approach transcends traditional disciplinary boundaries, drawing insights from fields such as economics, finance, marketing, psychology, sociology, and information technology to provide a comprehensive understanding of commercial activities and management practices. By

synthesizing diverse perspectives, interdisciplinary studies in commerce and management aim to foster innovation, enhance decision-making processes, and develop holistic solutions to contemporary business problems.

The intersection interdisciplinary approaches are essential in addressing complex business challenges because they enable a comprehensive understanding, foster innovation, enhance adaptability, manage complexity, promote sustainability and ethics, and facilitate cross-sector collaboration. By embracing interdisciplinary approaches, businesses can better navigate the complexities of the modern business landscape and drive sustainable growth and success and finance to analyze market trends, economic indicators, and financial performance. This includes topics such as macroeconomic analysis, financial modeling, investment strategies, and monetary policy.

- **Marketing and Consumer Behavior:** Understanding consumer behavior and market dynamics is essential for businesses. Interdisciplinary approaches in commerce incorporate knowledge from psychology, sociology, and anthropology to analyze consumer preferences, purchasing decisions, and market segmentation.
- **Management and Organizational Behavior:** Interdisciplinary studies in commerce explore management theories, leadership styles, organizational culture, and human resource management practices. This includes topics such as organizational psychology, change management, and strategic planning.
- **Technology and Innovation:** With the rapid advancement of technology, interdisciplinary studies in commerce integrate insights from computer science, engineering, and design to explore topics such as digital transformation, e-commerce strategies, innovation management, and technology adoption.
- **Globalization and International Business:** Interdisciplinary approaches in commerce address the complexities of global markets, trade agreements, and cross-border transactions. This involves integrating knowledge from international relations, political science, and cultural studies to analyze international business strategies, foreign market entry, and global supply chains.
- **Sustainability and Corporate Social Responsibility (CSR):** Interdisciplinary studies in commerce examine the intersection of business practices with environmental sustainability, social responsibility, and ethical considerations. This includes topics such as sustainable business models, green supply chain management, and corporate governance.
- **Entrepreneurship and Innovation Ecosystems:** Interdisciplinary approaches explore the dynamics of entrepreneurship, startup ecosystems, and innovation clusters. This involves integrating knowledge from business, economics, sociology, and technology to analyze factors influencing entrepreneurial success, innovation diffusion, and ecosystem development.
- **Policy and Regulation:** Interdisciplinary studies in commerce examine the regulatory environment, public policy initiatives, and government interventions that impact business operations. This includes topics such as regulatory compliance, antitrust laws, consumer protection, and corporate governance reforms.
- **Data Analytics and Business Intelligence:** With the proliferation of data, interdisciplinary approaches in commerce incorporate insights from statistics, data science, and information systems to analyse big data, develop predictive models, and derive actionable insights for decision-making.
- **Ethics, Diversity, and Inclusion:** Interdisciplinary studies in commerce explore ethical dilemmas, diversity issues, and inclusion practices within organizations. This involves integrating insights from ethics, sociology, and organizational behavior to promote ethical leadership, diversity initiatives, and inclusive workplace cultures

2. REVIEW OF LITERATURE

Etzioni, A. (2007) the University of Michigan's Modern Organization Theory made important contributions to our understanding of organizations, emphasizing the importance of human factors, participative management, and organizational effectiveness in shaping organizational behavior and performance. The insights and findings of the Michigan School had significant implications for management practice, influencing approaches to leadership, employee relations, and organizational development. This theory studies Concepts such as participative management and organizational climate were widely adopted by practitioners seeking to improve organizational performance and employee well-being. **Ireland, R. & Webb, Justin. (2007)** Cross-disciplinary exploration of entrepreneurship research, synthesizing insights from economics, management, sociology, psychology, and innovation studies. By examining the contributions of multiple disciplines, this paper highlights the multidimensional nature of entrepreneurship and the diverse perspectives that enrich our understanding of entrepreneurial phenomena. Moving forward, interdisciplinary collaboration and dialogue are essential for advancing theory, informing practice, and addressing complex challenges in entrepreneurship. By integrating insights from diverse fields, scholars can contribute to a more holistic and nuanced understanding of entrepreneurship, ultimately driving innovation, economic development, and societal change **Barney, J. B., & Clark, D. N. (2007)** According to resource-based theory, a firm's resources can be categorized into tangible and intangible assets, and the key to success lies in how these resources are combined, deployed, and managed effectively. How resource-based theory helps in creating and sustaining competitive advantage: it provides a framework for understanding how firms can create and sustain competitive advantage by leveraging their internal resources, developing core competencies, and continuously adapting to changing market conditions. By focusing on the strategic management of resources and capabilities, firms can position themselves for long-term success in the marketplace. **Foss, Nicolai & Laursen, Keld. (2012).** The researcher discuss the concept of learning organizations and the role of HRM practices in fostering continuous improvement and adaptation to change. It might examine approaches to organizational learning, experimentation, and knowledge creation to sustain innovation over the long term, human resource management practices play a multifaceted role in fostering innovation within organizations. By recruiting and developing talent, promoting a culture of innovation, empowering employees, facilitating collaboration, incentivizing innovative behavior, and managing change effectively, HRM practices contribute to creating an environment where innovation thrives and organizations can achieve sustainable competitive advantage. **González-Benito at el (2016)** The study shows that collaborations with innovation plays a critical role in driving innovation success for both large and small businesses, albeit in different ways. While large businesses benefit from access to diverse resources, risk sharing, and scale advantages, small businesses leverage external expertise, funding, market validation, agility, and brand building through collaboration with strategic partners. By fostering effective collaboration with external stakeholders, businesses of all sizes can enhance their innovation capabilities and achieve sustainable growth in today's competitive marketplace. **Moirano, at el. (2019)** Creative interdisciplinary collaboration holds tremendous potential for addressing complex challenges and driving innovation across various domains. This systematic literature review provides valuable insights into the dynamics, facilitators, barriers, and outcomes of creative interdisciplinary collaboration, drawing on a wide range of disciplinary perspectives and empirical evidence. By fostering environments that value diversity, creativity, and collaboration, we can harness the collective expertise and creativity of interdisciplinary teams to tackle some of the most pressing challenges facing our world today. **Klarin, Anton at el (2021)** The article discusses the practical implications of its findings for educators, administrators, policymakers, and industry stakeholders involved in international business education. It offers recommendations for curriculum design, pedagogical innovation, program evaluation, and strategic planning to meet the evolving needs of students and employers in the global marketplace. The article provides a comprehensive assessment of the current state of international business education, highlighting both strengths and areas for

improvement, and offering valuable insights for shaping the future of this important. **Ms. Anagha A. Mahajan(2021)**, The paper objectives to decide the issues of the approaching graduates and put up graduates towards interdisciplinary studies considering these factors and engaging in thorough discussions, approaching graduates and postgraduates can make well-informed decisions about pursuing interdisciplinary studies, recognizing the value it can bring to their personal and professional development. **Banha, Francisco & Flores, Adão & Coelho, Luis. (2022)** the researcher presents a systematic literature review of entrepreneurship education, synthesizing existing research, identifying key themes, and uncovering an existing gap in the field. By shedding light on the effectiveness of entrepreneurship education interventions in addressing social and environmental challenges, the study contributes to the ongoing discourse on entrepreneurship education and highlights opportunities for future research and practice. Addressing this gap is essential for advancing the role of entrepreneurship education in fostering sustainable development and addressing pressing societal issues. Through interdisciplinary collaboration and rigorous empirical research, scholars and practitioners can enhance the effectiveness and impact of entrepreneurship education interventions in driving positive change. **Vicente, Ruel at el (2023)** The systematic literature review provides valuable insights into the best practices of financial management in education, highlighting strategies for enhancing financial performance, accountability, and sustainability in educational institutions. By synthesizing current research and identifying successful practices, this study offers actionable recommendations for educational leaders, policymakers, and practitioners seeking to improve financial management practices and achieve organizational excellence in the education sector. **Martínez-Bravo at el (2024)**. The researcher highlights the importance of integrating sustainability into business and management studies in higher education. By examining pedagogical approaches, curriculum design strategies, and best practices, this paper provides guidance for educators, curriculum developers, and policymakers seeking to enhance sustainability education. By preparing future leaders who can address sustainability challenges, drive innovation, and create value for society and the environment, higher education institutions play a critical role in fostering responsible leadership in business and management. Through collaboration and innovation, sustainability education can empower students to become agents of positive change in the business world and beyond.

3. OBJECTIVE OF THE RESEARCH:

1. To analyse the need and connect of commerce students with other interdisciplinary studies.
3. To identify the trend influencing the interdisciplinary studies with commerce & management.
4. To Study the challenges impacting the interdisciplinary studies with commerce & management.
5. To Identify the Opportunities of convergence of interdisciplinary studies with commerce.

4. RESEARCH METHODOLOGY:

This research employs a multidimensional methodology that integrates diverse approaches and techniques to investigate the convergence of interdisciplinary studies with commerce and management. Drawing upon a combination of qualitative and quantitative methods, including literature review, longitudinal analysis, and action research, the study seeks to capture the complexity and richness of this convergence from multiple perspectives. The research design is iterative and participatory, involving collaboration between researchers, practitioners, and stakeholders to co-create knowledge and generate actionable insights. Data collection methods include document analysis, interviews, surveys, and observations, allowing for triangulation and validation of findings across multiple sources. Ethical considerations such as informed consent, confidentiality, and data privacy are carefully addressed throughout the research process, ensuring the integrity and trustworthiness of the study outcomes.

5. CONCEPTUAL FRAMEWORKS

Conceptual frameworks and models relevant to interdisciplinary research in commerce and management provide conceptual lenses through which scholars can analyze complex phenomena, develop hypotheses, and derive actionable insights. Here are some notable frameworks and models:

5.1.1 Systems Theory:

Systems theory views organizations as complex systems composed of interconnected and interdependent parts that work together to achieve common goals.

- **Application:** Interdisciplinary researchers use systems theory to analyze the interactions between different components of organizations, supply chains, markets, and economies. This approach helps understand how changes in one part of the system impact other parts and the system as a whole.

5.1.2 Resource-Based View (RBV):

RBV posits that a firm's competitive advantage stems from its unique bundle of resources and capabilities that are valuable, rare, inimitable, and non-substitutable.

- **Application:** Interdisciplinary studies leverage RBV to analyze how firms can leverage diverse resources—financial, human, technological, and intellectual—to achieve sustainable competitive advantage. This approach integrates insights from economics, strategy, and organizational behavior.

5.1.3 Institutional Theory:

Institutional theory examines how organizations conform to, resist, or reshape institutional norms, rules, and practices within their environments.

- **Application:** Interdisciplinary research applies institutional theory to understand how legal, cultural, and social institutions influence business behavior, strategy formulation, and organizational change. This framework integrates perspectives from sociology, economics, and management.

5.1.4 Stakeholder Theory:

Stakeholder theory posits that organizations have obligations to various stakeholders—such as shareholders, employees, customers, suppliers, and communities—and should consider their interests in decision-making.

- **Application:** Interdisciplinary studies use stakeholder theory to analyze how businesses can create value for multiple stakeholders while balancing competing interests. This approach integrates perspectives from ethics, corporate governance, and strategic management.

5.1.5 Network Theory:

Network theory examines the structure, dynamics, and effects of relationships between actors (e.g., individuals, organizations, markets) within networks.

- **Application:** Interdisciplinary research applies network theory to analyze various forms of interorganizational relationships, including alliances, partnerships, and supply chains. This framework integrates insights from sociology, economics, and organizational behavior to understand network formation, evolution, and performance.

5.1.6 Complexity Theory:

Complexity theory studies complex adaptive systems characterized by nonlinear dynamics, emergent behavior, and feedback loops.

- **Application:** Interdisciplinary studies use complexity theory to analyze the behavior of markets, organizations, and economies as complex systems. This approach helps understand how interactions between agents—such as firms, consumers, and regulators—shape patterns of behavior, innovation, and market dynamics.

5.1.7 Behavioral Economics:

Behavioral economics integrates insights from psychology and economics to understand how cognitive biases, heuristics, and social influences affect economic decision-making.

- **Application:** Interdisciplinary research applies behavioral economics to analyze consumer behavior, investor behavior, and organizational decision-making. This approach helps identify deviations from rationality and design interventions to improve decision outcomes.

5.2 Interdisciplinary Studies:

- **Interdisciplinarity:** The integration of knowledge, methodologies, and perspectives from multiple academic disciplines to address complex problems and challenges.
- **Transdisciplinarity:** An approach that transcends disciplinary boundaries, involving collaboration between researchers and stakeholders from academia, industry, government, and civil society to co-create knowledge and solutions.
- **Holistic Perspective:** A comprehensive understanding that considers the interconnectedness of different disciplines and factors, emphasizing the importance of synthesis and integration.
- **Boundary Crossing:** The act of moving beyond the limitations of single disciplines to explore intersections and connections between different fields of study.
- **Synthesis:** The process of combining diverse ideas, theories, and methodologies from different disciplines to generate new insights and approaches.

5.3 What is so advantageous about this type of Interdisciplinary Studies?

In interdisciplinary research, it is important to connect different concepts. Students are highly motivated because they have a strong interest in pursuing topics that are interesting to them. Therefore, content is often rooted in life experiences, giving real purpose to learning and connecting it to real-world situations. This makes learning more meaningful, purposeful and deeper, resulting in a learning experience that students will remember for a lifetime. Students cover topics in more detail as they consider multiple perspectives to examine the topic. Critical thinking skills are utilized and developed as students look to other disciplines to consider other perspectives and compare and contrast concepts between disciplines. Students begin to consolidate what they have learned by synthesizing ideas from different perspectives and considering alternative ways to gain knowledge. By exploring topics across a variety of disciplines, students are motivated to acquire new knowledge in a variety of subject areas. Transferable skills such as critical thinking, synthesis, and research are developed and can be applied to future learning experiences. Interdisciplinary knowledge and the application of different fields lead to increased creativity. Valuable research topics may exist in the “space” between traditional disciplines.

6. FINDINGS:

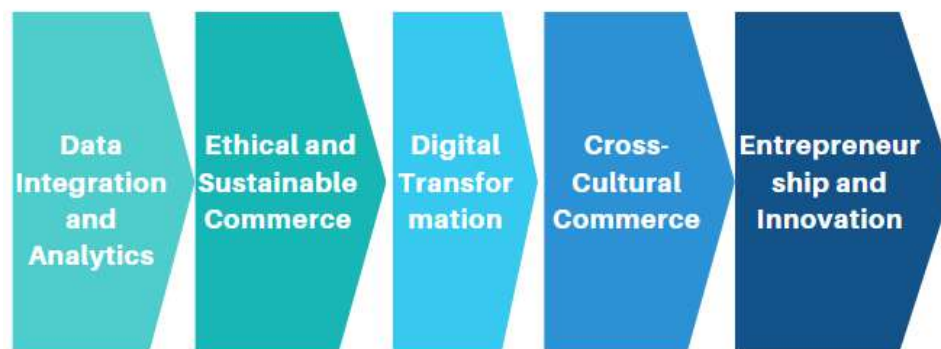
6.1 Trends:

- **Data Integration and Analytics:** With the proliferation of big data, there's a trend towards integrating insights from various disciplines such as economics, sociology, psychology, and computer science to drive commerce-related decisions. Data analytics techniques are increasingly being utilized to understand consumer behaviour, market trends, and business strategies.
- **Ethical and Sustainable Commerce:** Interdisciplinary approaches are being employed to address ethical and sustainability concerns in commerce. This involves integrating

knowledge from fields like environmental science, ethics, and business to develop sustainable business models, supply chain practices, and corporate social responsibility initiatives.

- **Digital Transformation:** The rapid digitization of commerce is driving interdisciplinary collaborations between business, technology, and design fields. This trend involves leveraging digital technologies such as e-commerce platforms, block chain, and augmented reality to enhance customer experiences, streamline operations, and create innovative business models.
- **Cross-Cultural Commerce:** Globalization has led to increased cultural diversity in consumer markets. Interdisciplinary studies involving cultural anthropology, international business, and communication are becoming more prevalent to understand and navigate the complexities of cross-cultural commerce.
- **Entrepreneurship and Innovation:** Interdisciplinary studies are fostering entrepreneurial ecosystems by combining knowledge from business, engineering, and design to create innovative products, services, and business ventures. This trend is exemplified by initiatives such as startup accelerators and innovation labs that bring together diverse expertise to support entrepreneurial endeavors.

TRENDS IN INTERDISCIPLINARY WITH COMMERCE AND MANAGEMENT



Source : Author

6.2 Challenges:

- **Silos in Education and Research:** Traditional educational and research structures often segregate commerce-related disciplines such as business, economics, and marketing, hindering interdisciplinary collaboration. Overcoming these silos requires reforms in curriculum design, academic departments, and research funding mechanisms.
- **Integration of Soft and Hard Skills:** Interdisciplinary commerce studies require a blend of both soft skills (e.g., communication, creativity) and hard skills (e.g., data analysis, financial modeling). However, integrating these skills across diverse disciplines can be challenging and requires innovative pedagogical approaches and cross-disciplinary training programs.
- **Regulatory and Legal Complexity:** Commerce intersects with various regulatory frameworks and legal systems, posing challenges for interdisciplinary research and practice. Navigating these complexities requires collaboration between legal experts, policymakers, and business professionals to develop innovative solutions that comply with legal requirements while fostering business innovation.
- **Resource Allocation and Funding:** Interdisciplinary commerce research often requires substantial resources, including funding, expertise, and infrastructure. Securing adequate

resources and funding support for interdisciplinary projects can be challenging, particularly when funding agencies and academic institutions prioritize discipline-specific research.

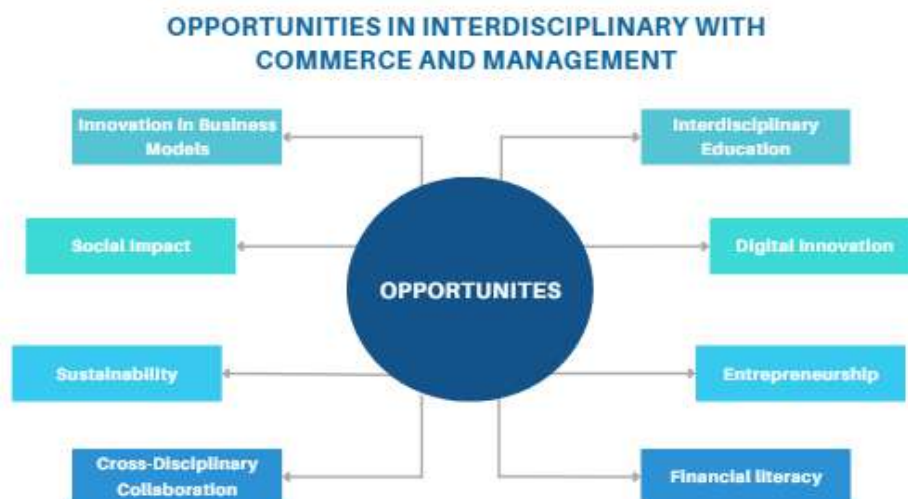
- **Industry-Academia Divide:** Bridging the gap between academia and industry is crucial for interdisciplinary commerce studies to have real-world impact. However, differences in priorities, timelines, and communication styles can impede collaboration between researchers and industry practitioners. Overcoming these challenges requires building effective partnerships, fostering mutual understanding, and creating mechanisms for knowledge exchange and technology transfer.



Source: Author

6.3 Opportunities:

- **Innovation in Business Models:** Interdisciplinary commerce studies provide opportunities to innovate and disrupt traditional business models by integrating insights from diverse disciplines. This includes leveraging emerging technologies, understanding consumer behavior, and addressing societal needs to create new value propositions and revenue streams.
- **Social Impact and Sustainability:** Integrating knowledge from disciplines such as economics, sociology, and environmental science enables interdisciplinary commerce studies to address pressing social and environmental challenges. This includes promoting sustainable consumption and production patterns, advancing social entrepreneurship, and advocating for corporate responsibility and ethical business practices.
- **Cross-Disciplinary Collaboration:** Interdisciplinary commerce studies offer opportunities for collaboration between researchers, practitioners, and policymakers from diverse backgrounds. By leveraging the collective expertise of multiple disciplines, interdisciplinary collaborations can generate innovative solutions to complex commerce-related problems.
- **Interdisciplinary Education and Training:** Educational institutions can capitalize on the interdisciplinary nature of commerce by offering innovative programs that equip students with a broad skill set and a holistic understanding of commerce. This includes interdisciplinary majors, minors, and certificate programs that combine business education with courses from other disciplines such as technology, design, and sustainability.
- **Digital Innovation and Entrepreneurship:** The digital transformation of commerce presents fertile ground for interdisciplinary innovation and entrepreneurship. This includes opportunities to develop digital platforms, technologies, and business models that leverage insights from disciplines such as computer science, data analytics, and user experience design to create value in the digital economy.



Source: Author

7. CONCLUSION:

The future of interdisciplinary studies with commerce holds great potential for addressing complex challenges, driving innovation, and creating value in the global marketplace. By embracing interdisciplinary collaboration, overcoming challenges, and seizing opportunities, researchers, educators, and practitioners can unlock new frontiers in commerce that benefit society, the economy, and the environment. The students get an opportunity to be self-employed, think different i.e. out of the box, think critically, awareness of various interdisciplinary facts and content, exposure to various national & international events. Integrating commerce and management with other disciplines such as technology, psychology, sociology, or environmental studies can give students a more comprehensive understanding of real-world issues. Students embrace lifelong learning, adopt integrating new knowledge and skills. Interdisciplinary programs often facilitate networking opportunities with professionals and scholars from various fields. Interdisciplinary skills are essential for working in multicultural teams, conducting business in global markets, and building relationships with stakeholders from different backgrounds. It also prepares students for leadership roles in multinational corporations, NGOs, government agencies, and other organizations operating in diverse settings. Students are encouraged to explore unconventional approaches and develop ground-breaking ideas that can drive business growth and societal advancement. This versatility makes them adaptable to changes in the job market and enables them to pursue diverse career paths.

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"THE ESSENCE OF STRUGGLE: ANALYSING ERNEST HEMINGWAY'S THE OLD MAN AND THE SEA THROUGH A MULTIDISCIPLINARY LENS"

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ABSTRACT:

This research paper delves into Ernest Hemingway's timeless novella, *The Old Man and the Sea*, through a multidisciplinary lens. By integrating literary, psychological, philosophical, and cultural perspectives, the paper explores the themes of struggle, perseverance, human experience, and resilience as portrayed in the text. Through a nuanced analysis, the study aims to provide a deeper understanding of the novella's significance and relevance in contemporary discourse. By exploring *The Old Man and the Sea* from multiple perspectives, we aim to uncover the complexities of the human experience as depicted in this classic work of literature.

KEYWORDS: Struggle, perseverance, human experience, resilience, literary perspective, psychological interpretation, philosophical insights, cultural influences.

INTRODUCTION:

The Old Man and the Sea, a timeless masterpiece by Ernest Hemingway, is a poignant tale of endurance, resilience, and the essence of struggle. This novella follows the journey of Santiago, an aging Cuban fisherman, as he battles against the forces of nature and the vast expanse of the sea in pursuit of a giant marlin. While the narrative may seem simple on the surface, its profound themes of human perseverance and the inherent struggle for survival offer a rich tapestry for multidisciplinary analysis. In this research paper, we will delve into the depths of Hemingway's work through various lenses, including but not limited to literary criticism, psychology, philosophy, and cultural studies. By exploring *The Old Man and the Sea* from multiple perspectives, we aim to uncover the complexities of the human experience as depicted in this classic work of literature.

ABOUT THE AUTHOR:

Ernest Hemingway was an iconic American novelist and short story writer known for his distinctive writing style and exploration of themes such as masculinity, war, and the human condition. Born in 1899 in Oak Park, Illinois, Hemingway began his literary career as a journalist before turning to fiction. He gained widespread acclaim for his works, which often featured sparse prose, realistic dialogue, and a focus on the inner thoughts and emotional struggles of his characters.

Hemingway's experiences as a journalist and war correspondent during World War I and the Spanish Civil War heavily influenced his writing, infusing his works with a sense of grit and realism. Some of his most famous novels include *"The Sun Also Rises,"* *"A Farewell to Arms,"* and *"For Whom the Bell Tolls,"* all of which capture the complexities of love, loss, and the impact of war on individuals.

In addition to his novels, Hemingway was also known for his short stories, many of which are considered masterpieces of the form. His writing often explored themes of isolation, violence, and the struggle for meaning in a chaotic world. Hemingway's distinct voice and unique approach to storytelling have solidified his place as one of the most influential writers of

the 20th century.

Despite his untimely death in 1961, Hemingway's works continue to resonate with readers around the world, cementing his legacy as a key figure in American literature. His ability to capture the essence of human experience and the complexities of the human psyche make his works timeless and enduring pieces of literature.

STATEMENT OF THE PROBLEM:

The novel "The Old Man and the Sea" by Ernest Hemingway is a timeless work that delves deep into the themes of struggle, perseverance, and the human spirit. While much analysis has been done on the novel from a literary standpoint, there is a lack of research that examines the text through a multidisciplinary lens. This research paper seeks to fill this gap by exploring the novel using perspectives from psychology, philosophy, and cultural studies to provide a comprehensive understanding of the complex themes of struggle portrayed in the text. By examining the novel through different disciplines, this research aims to shed new light on Hemingway's masterpiece and offer fresh insights into the universal nature of endurance and resilience in the face of adversity.

REVIEW OF RELEVANT LITERATURE:

Ernest Hemingway's novella, "The Old Man and the Sea," has been widely studied and analysed from various literary perspectives. Critics have praised the novel for its exploration of universal themes such as struggle, perseverance, and the human experience. However, there is a gap in the research when it comes to examining the text through a multidisciplinary lens.

Literary analysis of "The Old Man and the Sea" has focused primarily on Hemingway's minimalist writing style, the symbolism of the sea, and the character development of Santiago, the old fisherman. Critics have also discussed the novel's themes of masculinity, isolation, and the passage of time. While these analyses provide valuable insights into the text, they often overlook the opportunity to explore the novel through multiple disciplines.

Psychological studies could offer new perspectives on the mental and emotional struggles Santiago faces throughout the story. By analyzing Santiago's resilience in the face of failure and isolation, psychologists can provide insights into the character's psychological state and coping mechanisms. Furthermore, philosophical inquiries could delve into the existential themes present in the novella, such as the nature of suffering, the search for meaning, and the relationship between the individual and the natural world.

Cultural studies may also offer a valuable perspective on "The Old Man and the Sea," considering the novel's portrayal of Cuban culture and society. By examining the historical context in which the story is set and the cultural influences on Hemingway's writing, scholars can gain a deeper understanding of the text and its significance within the larger literary canon. By approaching "The Old Man and the Sea" through a multidisciplinary lens, researchers can uncover new layers of meaning in the novel and gain fresh insights into the themes of struggle and endurance that Hemingway explores. This research paper aims to bridge the gap in the existing literature by providing a comprehensive analysis of the novella from psychological, philosophical, and cultural perspectives.

SCOPE AND LIMITATIONS OF THE STUDY:

The research paper will focus on analyzing Ernest Hemingway's novella, "The Old Man and the Sea," through a multidisciplinary lens that includes literary, psychological, philosophical, and cultural perspectives. Analysis will also encompass the exploration of key characters, symbols, and narrative techniques used by Hemingway to convey these themes. The study will draw on a range of sources from different disciplines to offer a comprehensive analysis of the novella and provide new insights into its interpretation.

The research paper's analysis will be limited to the text of "The Old Man and the Sea" by Ernest Hemingway, and will not extend to other works by the author or other related literature.

While the multidisciplinary approach will provide a comprehensive analysis of the novella, it may not cover every aspect of the text or explore every possible interpretation. The interpretation of the themes of struggle and the human experience in "The Old Man and the Sea" may vary based on the researcher's subjective interpretation and the limitations of the chosen methodologies from different disciplines.

AIM / OBJECTIVE OF THE RESEARCH:

- The objective of this research paper is to analyze Ernest Hemingway's novella, "The Old Man and the Sea," through a multidisciplinary lens to gain a deeper understanding of the novel's exploration of struggle, perseverance, and the human experience. By integrating perspectives from literary, psychological, philosophical, and cultural studies, the aim is to uncover new insights into the themes present in the text and to provide a comprehensive analysis of the novel from multiple disciplines.

HYPOTHESES:

- Through a psychological lens, it is hypothesized that an analysis of Santiago's mental and emotional struggles in "The Old Man and the Sea" will reveal the character's resilience and coping mechanisms in the face of adversity.
- From a philosophical perspective, it is hypothesized that exploring the existential themes present in the novella will shed light on the nature of suffering, the search for meaning, and the relationship between the individual and the natural world. Research methodology/skill

CONCLUSION:

In conclusion, the research paper "The Essence of Struggle: Analyzing Ernest Hemingway's *The Old Man and the Sea* through a Multidisciplinary Lens" has provided a comprehensive analysis of the novella from various perspectives including literary, psychological, philosophical, and cultural. Through this multidisciplinary approach, we have gained new insights into the themes of struggle, perseverance, human experience, and resilience as portrayed in the text.

From a literary perspective, we have explored the narrative techniques and symbolism used by Hemingway to convey the protagonist's struggle against nature and himself. Through a psychological lens, we have examined the mental and emotional aspects of Santiago's character, shedding light on his internal conflicts and motivations. Philosophically, we have delved into the existential and philosophical themes of the novella, questioning the meaning of life, purpose, and the human condition. Culturally, we have considered the historical and societal context in which the novella was written, exploring how it reflects Hemingway's own experiences and influences.

While the study has provided a deeper understanding of the novella and its themes, there are still areas left for further exploration and interpretation. The limitations of this study, such as constraints on time and resources, as well as the subjective nature of interpretation, highlight the need for continued research and analysis of Hemingway's work.

Overall, "The Old Man and the Sea" remains a timeless and thought-provoking piece of literature that continues to resonate with readers across different disciplines. Its exploration of the essence of struggle and human resilience serves as a powerful reminder of the enduring human spirit and the universal themes that connect us all.

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TRENDS IN POLITICAL SCIENCE: A MULTIDISCIPLINARY APPROACH.

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ABSTRACT:

This paper examines contemporary trends in Political Science through a multidisciplinary lens, exploring intersections with political theory, sociology, economics, and other disciplines. It analyzes how globalization, technology, environmental concerns, and shifting power dynamics shape political inquiry. Emphasizing interdisciplinary collaboration, it discusses methodological implications and calls for innovative research agendas. By integrating diverse perspectives, this paper enriches our understanding of governance, electoral behavior, public policy, international relations, and political activism. It underscores the importance of multidisciplinary approaches in addressing complex societal challenges and informing political decision-making in an interconnected world.

INTRODUCTION :

Political science, as a field of study, has undergone significant transformation in recent years, moving towards a multidisciplinary approach that integrates insights from various disciplines to understand complex political phenomena. This evolution has been driven by the recognition that politics cannot be studied in isolation from other social, economic, cultural, and psychological factors. This research paper aims to explore the trends in political science through a multidisciplinary lens, examining how collaboration with other disciplines enriches our understanding of politics and contributes to theoretical innovation and empirical research.

Traditionally, political science has focused on the study of government structures, political institutions, and power dynamics within nation-states. However, with the changing global landscape and the emergence of new challenges, the discipline has expanded its scope to encompass a broader range of issues and methodologies. This expansion has led to greater interdisciplinary collaboration, as scholars seek to explore the intersections of politics with sociology, economics, history, psychology, anthropology, and other fields.

One of the key trends in contemporary political science is the increasing incorporation of social science methods, including both quantitative and qualitative approaches. Scholars are employing surveys, experiments, statistical analysis, case studies, interviews, and content analysis to study political phenomena in greater depth and with greater precision. This methodological diversity allows for a more comprehensive understanding of complex political processes and behavior.

Another prominent trend is the growing emphasis on comparative and global perspectives. Political scientists are conducting comparative analyses of political systems, institutions, and processes across different countries and regions to identify patterns, variations, and similarities. Similarly, there is a heightened focus on understanding global dynamics, including diplomacy, conflict, cooperation, and globalization, from a multidisciplinary perspective.

Furthermore, political science is expanding beyond its traditional boundaries to explore new research areas and address emerging challenges. Topics such as environmental politics,

gender and sexuality, human rights, technology and politics, and identity politics are gaining traction, reflecting the evolving nature of political inquiry and the changing dynamics of the world.

Overall, the multidisciplinary approach to political science offers exciting opportunities for inquiry and scholarship. By integrating insights from various disciplines and employing diverse methodologies, political scientists are better equipped to understand the complexities of politics in the contemporary world and to address practical challenges facing society. This research paper seeks to contribute to this ongoing dialogue by examining the trends and trajectories shaping the multidisciplinary approach to political science.

OBJECTIVES :

1. To study Explore how political science has evolved to incorporate insights and methodologies from various disciplines such as sociology, economics, history, psychology, anthropology, and others.
2. To study Explore new research areas and emerging topics in political science, such as environmental politics, gender and sexuality, human rights, technology and politics, and identity politics.
3. Provide insights into the future directions and potential areas of growth for political science as a multidisciplinary field of study.

INTERDISCIPLINARY COLLABORATION:

1. Sociology :

Political science has drawn extensively from sociology to understand the social dynamics underlying political behavior, institutions, and structures. Sociological theories such as structural functionalism, conflict theory, and symbolic interactionism have been applied to analyze power relations, social movements, and the role of identity in politics.

2. Economics :

The intersection of economics and political science, known as political economy, has become increasingly important. Political scientists use economic theories and methods to analyze the distribution of power and resources, the impact of policies on economic outcomes, and the role of economic factors in shaping political behavior and decision-making.

3. History :

Historical analysis is integral to political science research, providing context and insight into contemporary political phenomena. Political scientists often use historical case studies to understand the origins of political institutions, the evolution of political ideologies, and the impact of past events on present-day politics.

4. Psychology :

Political psychology has emerged as a significant subfield within political science, exploring the psychological factors that influence political attitudes, beliefs, and behavior. Insights from psychology are used to study topics such as voter behavior, leadership, political communication, and public opinion formation.

5. Anthropology :

Political anthropology offers valuable perspectives on the cultural and social dimensions of politics, including the study of rituals, symbols, and power dynamics within societies. Anthropological methods such as ethnography and participant observation are used to explore issues such as identity politics, nationalism, and conflict resolution.

6. Other Fields :

Political science also engages with insights and methodologies from fields such as geography, environmental studies, gender studies, and communication studies. Geographic information systems (GIS) are used to analyze spatial patterns of political behavior, while gender studies contribute to understanding the role of gender in politics and policymaking.

EXPLORATION OF NEW RESEARCH AREAS:

1. Understanding Variation and Patterns:

Comparative analysis allows political scientists to identify patterns, trends, and variations in political systems and institutions across different countries and regions. By comparing governance structures, electoral systems, party dynamics, and policy outcomes, researchers can uncover similarities and differences that inform theories of political development, democratization, and state-building.

2. Contextualizing Political Phenomena:

Comparative and global perspectives help contextualize political phenomena within their socio-cultural, historical, and economic contexts. By examining how political institutions and practices evolve in response to unique societal factors, researchers can gain insights into the drivers of political change, stability, and conflict in different parts of the world.

3. Testing Hypotheses and Theories:

Comparative analysis provides a rigorous framework for testing hypotheses and theories in political science. By comparing cases with similar characteristics but different outcomes, researchers can assess the validity and generalizability of theoretical propositions, contributing to the refinement and advancement of political science theory.

4. Informing Policy and Practice:

Comparative and global perspectives offer valuable insights for policymakers, practitioners, and international organizations seeking to design and implement effective policies and interventions. By studying policy successes and failures in different contexts, researchers can identify best practices, lessons learned, and policy transfer opportunities that inform evidence-based policymaking and development strategies.

5. Promoting Cross-Cultural Understanding:

Comparative and global perspectives foster cross-cultural understanding and appreciation of diverse political traditions, ideologies, and practices. By exploring political systems and institutions in different cultural contexts, researchers can challenge ethnocentric assumptions and promote dialogue and mutual learning among scholars, policymakers, and citizens from different backgrounds.

6. Anticipating Global Trends and Challenges:

Global perspectives enable political scientists to anticipate and analyze global trends and challenges that transcend national borders. By studying transnational issues such as climate change, migration, terrorism, and global health, researchers can develop policy-relevant insights and strategies for addressing complex global problems that require international cooperation and coordination.

7. Enhancing Methodological Innovation:

Comparative and global perspectives drive methodological innovation in political science, leading to the development of new research methods and techniques suited to cross-national and cross-cultural analysis. By adapting quantitative and qualitative methods to study political phenomena in diverse contexts, researchers can overcome methodological challenges and produce robust and reliable research findings.

The future of political science as a multidisciplinary field

1. Integration of Emerging Technologies:

The rapid advancement of technology, including artificial intelligence, big data analytics, and digital platforms, presents new opportunities and challenges for political science. Future research in political science may explore the impact of technology on political behavior, governance, and democracy, as well as the ethical implications of technological innovation for political processes and institutions.

2. Interdisciplinary Collaboration:

Political science will likely continue to benefit from interdisciplinary collaboration with other fields such as computer science, environmental science, neuroscience, and behavioral

economics. Collaboration with these disciplines can enrich political science research by providing new perspectives, methodologies, and data sources to address complex political phenomena and challenges.

3. Globalization and Transnational Politics:

With increasing globalization and interconnectedness, political science research is likely to focus more on transnational issues such as global governance, international cooperation, migration, and climate change. Future research may explore the role of non-state actors, international organizations, and global networks in shaping global politics and addressing global challenges.

4. Environmental Politics and Sustainability:

As environmental issues become more prominent on the global agenda, political science research may increasingly focus on environmental politics, sustainability, and climate change mitigation. Future research may examine the political dynamics of environmental policymaking, the role of environmental movements and advocacy groups, and the impact of environmental policies on social, economic, and political outcomes.

5. Identity Politics and Social Movements:

Identity politics and social movements are likely to remain key areas of interest for political scientists, as they continue to shape political discourse and mobilization around the world. Future research may explore the intersection of identity, ideology, and political behavior, as well as the dynamics of social movements, protests, and resistance movements in different contexts.

6. Health Policy and Public Health Governance:

The COVID-19 pandemic has highlighted the importance of health policy and public health governance in addressing global health crises. Political science research may focus on understanding the political determinants of health policy, the role of political institutions in pandemic response, and the implications of public health crises for governance, democracy, and public trust in government.

7. Democratic Backsliding and Authoritarianism:

With the rise of populist movements and challenges to democracy in many parts of the world, political science research may increasingly focus on understanding the drivers and consequences of democratic backsliding, authoritarianism, and erosion of democratic norms and institutions. Future research may explore strategies for defending and strengthening democracy in the face of these challenges.

8. Social Justice and Equity:

Political science research is likely to continue to engage with issues of social justice, equity, and human rights, particularly in response to ongoing social inequalities and injustices. Future research may examine the role of political institutions and policies in addressing inequality, discrimination, and marginalization, as well as the impact of social justice movements and advocacy efforts on policy outcomes.

CONCLUSION :

The multidisciplinary approach in political science represents a dynamic and evolving paradigm that continues to shape the study of politics in the contemporary world. This research paper has explored various trends and dimensions of this approach, highlighting its significance and potential for advancing knowledge, addressing complex challenges, and promoting positive social change.

Through interdisciplinary collaboration, political science has expanded its horizons to incorporate insights and methodologies from diverse fields such as sociology, economics, history, psychology, anthropology, and others. This integration has enriched the study of politics by offering new perspectives, approaches, and tools to understand political phenomena in greater depth and breadth. By drawing on interdisciplinary insights, political scientists can explore complex issues such as power dynamics, social movements, globalization, and

environmental governance from multiple angles, contributing to a more comprehensive understanding of the complexities of politics in the contemporary world.

Moreover, the focus on comparative and global perspectives has allowed political science to transcend national boundaries and explore political phenomena across different countries, regions, and cultures. By comparing political systems, institutions, and processes, political scientists can identify patterns, variations, and similarities, leading to insights into the factors that shape political outcomes and behavior on a global scale. This global perspective is essential for addressing transnational issues such as climate change, migration, and global health, as well as promoting cross-cultural understanding and cooperation in an increasingly interconnected world.

The exploration of new research areas has expanded the scope of inquiry in political science, allowing researchers to address emerging challenges, explore non-traditional topics, and apply innovative methodologies. By engaging with emerging issues such as environmental politics, technology and politics, and social justice, political scientists can contribute to the development of theories, policies, and practices that address pressing societal concerns and promote positive social change.

Furthermore, engagement with policy and practice is essential for bridging the gap between academia and the real world, ensuring that political science research has meaningful impact and relevance. By actively engaging with policymakers, practitioners, and other stakeholders, political scientists can contribute to informed decision-making, effective policy implementation, and democratic governance, ultimately making a difference in the lives of citizens and communities.

In conclusion, the multidisciplinary approach in political science offers exciting opportunities for inquiry, collaboration, and impact. By embracing interdisciplinary perspectives, comparative and global perspectives, exploration of new research areas, and engagement with policy and practice, political scientists can contribute to a deeper understanding of political phenomena and promote positive social change in an increasingly complex and interconnected world. As the field continues to evolve, political science is poised to play a crucial role in addressing the challenges and opportunities of the 21st century.

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BUOYANCY MACHINE FOR THE GENERATION OF ELECTRICAL POWER

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ABSTRACT -

A Buoyancy machine having an horizontal rod immersed in a tank of water and disposed on upper and lower rotatable rollers in a parallel alignment tightly enough to frictionally engage and rotate the pulleys, there being transversely arranged and longitudinally spaced, relative to the rod, collapsible air ball on the outwardly facing side of the horizontal rod. When operating, the horizontal rod has one part continually moving upwardly and an opposite part moving downwardly. The air ball moving downwardly and expand on the upwardly moving part of the horizontal rod; and those on the opposite downwardly moving part open upwardly in a collapsed condition. Air is pumped to a horizontally disposed discharge pipe adjacent the lower end of the horizontal rod, the pipe having openings for discharge of air into the succeeding upper open valve to cause the air ball to be filled with air and expand the buckets so as to move buoyantly upwardly.

A Buoyancy force power generation apparatus for producing motive and electrical power includes system housing which is vertically standing cylindrical tower in which a liquid is stored there by forming a liquid section from its bottom and gas section over a liquid section.

This invention related to a power generation using Buoyancy force and more particularly, this invention related to a method and apparatus for generating motive and electric power using Buoyancy force of water and air, thereby substantially permanently generating clean energy. The forces of Buoyancy are created by motive power, to a drive shaft rotatably connected to an electrical power generator, thus continuously generating the electric power.

INTRODUCTION -

There is an ever increasing demand for energy in the world. The main resource of energy has been the fossil fuels, which have been used to generate electrically and it is the most convenient and desired type of energy. However due to the problems with fossil fuels such as pollution, green house effect, and the limited resources, there is a crucial need for other energy resources. Many researchers throughout the world have dedicated their time and research facilities to find new ways of harnessing energy from renewable sources but the progress and achievements has not been satisfactory yet.

Renewable sources of energy are the most promising candidates to be considered as the energy resources for future life on earth. As mentioned before there have been some efforts to find efficient ways for extracting energy in solar radiations and wind currents. However the electricity generated from these resources is not economic. Because the approaches applied in solar cells and wind turbines not satisfactorily efficient. Using biomass is another source of energy to generate power but source of this energy is not as widespread as wind or solar energy.

Here we are introducing new way to form a renewable energy model to produce electrical power in very low cost and which is very useful in today's as well as tomorrow's life in day by

day use. We can call it as an Buoyancy Machine.

MODEL OF BUOYANCY MACHINE

A Buoyancy machine apparatus includes a water or liquid source such as a water tank and a buoyant force in communication with an electrical generator. The buoyant air ball is lifted from a lower level to a higher level. The system can store energy with no loss in power over a long period of time.

Archimedes' principle (also spelled Archimedes's principle) states that the upward buoyant force that is exerted on a body immersed in a fluid, whether fully or partially, is equal to the weight of the fluid that the body displaces. Archimedes' principle is a law of physics fundamental to fluid mechanics.

i.e. Buoyant force = weight of the displaced fluid

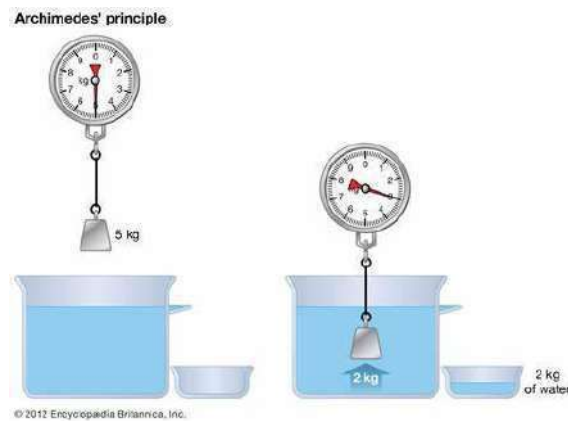


Fig1. Archimedes' principle

Model:

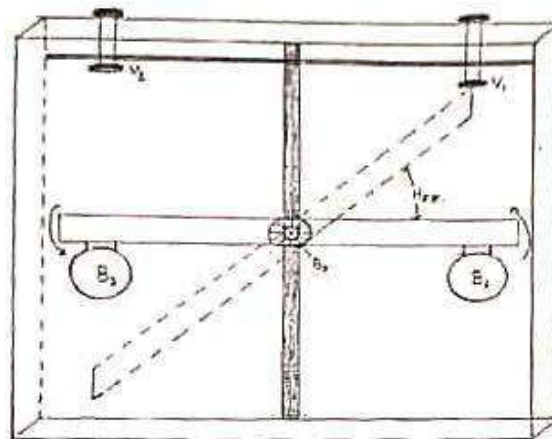


Fig2: Buoyancy Machine Schematic arrangement

This machine includes the following apparatus;

B₁ – The first air ball tube

B₂ – The second air ball tube

V₁ – The first valve

V₂ – The second valve

B_r - The bearing which is attached to the horizontal rod

H_{zr} - The horizontal rod

Accordingly, the rod rotates 90° in the clockwise direction and the air ball tubes are positioned opposite each other in the horizontal rod tracks. In succession, the air valves of 1st side are closed and the air valves of other side are opened. According to this the wheel in gear box system is rotating clockwise direction. This converts kinetic energy into mechanical energy. That is, the generator converts mechanical energy into electricity.

A buoyancy machine apparatus that creates electrical power from the movement of the apparatus through a fluid as the apparatus cycle's negative buoyancy to positive buoyancy is illustrated in the attached figures. In particular, a first embodiment is illustrated in FIG. 2. The apparatus is positioned relative to a collection of the fluid, such as a water in a water tank. Generator connected to an driving or agitating mechanism, via a shaft or axle. Having ordinary skill in the art, and typically includes a simple device that includes an armature to move a magnet near a wire to create a steady flow of electrons. That is, the generator converts mechanical energy into electricity to serve as a power source. The propellers or turbines are attached to a ballast system to rotate axles connected to the generator so that the generator will in turn create the desired electrical current.

CONCLUSION:

Accordingly, it is an object of the present invention to provide a practical apparatus for generating power utilizing gravitation force and buoyancy.

Another object of the present invention is to provide a power generating apparatus which is both simple in application to other devices such as generators and is low in manufacturing cost.

The principal object of the invention is to formulate and identify methods for achieving a high performance in air transportation and ingestion, for reducing the surface resistance and friction, and for optimizing the design of an efficient buoyancy engine, which converts the potential energy of buoyancy into kinetic energy for the purpose of acquiring free energy.

The most important object is environmental in providing an energy conserving and energy gaining power source for electric power generators (i) to meet future power requirements without consuming natural resources. Unlike wind power generators, the power output of the modified buoyancy engine is time invariant, and therefore much preferred in power grid applications.

The invention comprises a pair of balls spaced horizontally apart and carried by support members. A horizontal rod is disposed on the rollers so that one part of the horizontal rod moves upwardly and the opposite part moves downwardly when the apparatus is in operation. The apparatus is disposed in a body of water and there are a plurality of collapsible buckets or air traps secured to the belt and extending transversely of the belt and spaced longitudinally thereof. Each air trap comprises a pair of panels hinged together along adjacent transverse edges by means of a hinge; and at the ends the panels are closed by flexible walls of imperforate material such as a suitable plastic.

RESULT:

We develop the Buoyancy machine for the generation of electrical power. With the help of this machine we can generate the at least same electrical power when we provide the ball tubes by the air compressor. The generation of electrical power depends upon the gear box mechanism i.e. if we increase the speed of r.p.m. the maximum power will be generated.

Observations:-

- 1) Buoyancy Machine is manufactured and instead of electric generator. We used the machine to lift the weights. The highest weight lifted by buoyancy machine is 75kg with frequency of 0.5Hz.
- 2) The frequency is very low because no gear box is used.
- 3) It is also observed that buoyancy machine has very good power lifting capacity.

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THE PROBLEM OF WHITE IDENTITY AND CULTURE IN J. M. COETZEE'S DISGRACE

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ABSTRACT:

Culture is one of the most important and basic elements of human life. Culture can also be termed as the behavior which is transmitted from one individual to another. Culture differs from society to society and from nation to nation. Moreover, now the concept of transculturalism is gaining momentum as the world is shrinking and being globalised. Transculturalism focuses on the problems of contemporary culture in terms of relationships and attaining power. It highlights the differences, dissonance, tension and instability as it emphasizes stabilizing effects of social connections and organization and also the disintegration of groups, cultures and power.

KEY WORDS: Culture, Identity, Apartheid, Transcultural etc.

Coetzee is a highly acclaimed South African writer whose novels have won him many prizes including Booker Prize and Nobel Prize. His works, besides commenting on the politics, literature, culture and society of South Africa, talk about the inhuman behavior of the colonizer upon the colonized. Though his novels seem to throw light upon the issues of South Africa, the themes of the novels can be considered as a universal one. In *Doubling the point*, Coetzee tells David Attwell: "That: No Afrikaans would consider me an Afrikaner. That it seems to me, is the acid test for group membership, and I don't pass it. Why not? In the first place, because English is my first language, and has been since childhood. In the second place, because I am not embedded in the culture of Afrikaner and have been shaped by that culture only in a perverse way." (341)

Life in South Africa is intolerable for a man of colour. South Africa is a country of great physical beauty but its soul is dead. The most notorious political fact of South African history is the Apartheid policy. It stands for the political system of racial segregation in South Africa, where the white minority discriminated against and politically disenfranchised the black majority for decades. Although the system of apartheid has vanished in 1994, it has left deep scars in South African society that will take many years to heal. *Disgrace* takes place in South Africa, a country that for many years was ruled under a system of racial segregation called Apartheid. Apartheid, which in Afrikaans means "Separateness," was a system held in place from 1948 until 1994.

Coetzee's novels are characterized by their well-crafted composition, pregnant dialogue and analytical brilliance. The dilemmas of his novels are based on South African reality, but often presented in a timeless, metafictional form and carrying a plurality of meanings. The plot of Coetzee's novels represents a universal time and space. There is no specific moment in history and there is not a specific place in which his plots develop. Samuel Durrant describes this trait of Coetzee's writing by observing, "Rather than providing a direct historical relation of the conditions of apartheid, they instead provide a way of relation to such a history. They, teach us that the true work on novel consists not in the factual recovery of history, nor yet in the psychological recovery from history". This universal historicity makes it possible to relate to many different societies in many different places.

Disgrace (1999), Second Booker Prize winning novel by Coetzee which is set in South Africa in the late 1990, is a strong statement on the political climate in post-apartheid South Africa. It is a brilliant novel written after the demise of the apartheid regime that deals with the collective mood of present day South Africa's white population at the end of the dark 20th century. It is a novel on post-apartheid violence, continues this theme and also reveals the early obsession of Coetzee to study human beings from the perspectives of female characters. It is a story about a man's largely unchecked sexual addiction and how it has completely destroyed his life. Everything which he does is centred on sexual intercourse and how to get it more frequently. This story, along with its main character, is atrocious. The novel opens with a consideration of the fate of an aging scholar, a specialist in the Romantic poets who is reduced to teaching introductory courses in Communication which he despises, as the university has changed its emphasis from liberal arts to that of technical education. The protagonist named David Lurie is a fifty-two-year-old English professor at university of Cape Town. He is twice married and twice divorced scholar of Romantic poetry. He is the man of lust that is sex. At the beginning, we learn that he gets his jollies out by visiting a prostitute named Soraya once a week. He sees himself as an aging, but still handsome, Lothario. He begins a stalk affair with Melanie, a student in his Romantic course. He invites her home, makes dinner for her and also gets her liquored up. She is oddly passive and ambivalent about the relationship. A young man Ryan, a Melanie's boyfriend, confronts David about his relationship with Melanie and filed a Complaint against him. When the affair comes to the attention of university, the charges have been lodged against David under the university's code of conduct. The charge deals with academic tribunal after a misbegotten affair with a student, he refuses to defend himself against charges of sexual harassment. But when he blurts out an apology, the members of tribunal are not satisfied with his confession. The committee recommended that professor Lurie be dismissed with immediate effect and forfeit all benefits and privileges.

David Lurie became a victim of the great rationalization. His university has been remade into technical college, and he teaches courses in 'Communication Skills' that he finds nonsensical. Leaving the university in disgrace, Lurie goes to visit his lesbian daughter, Lucy, who lives alone in a rural town of Salem on a smallholding in the Eastern Cape. Lucy welcomes David into her home and helps him get familiar with his surroundings. When David tells her about why he is here, Lucy lets him know she already got the scoop from Rosalind. Lucy is eking out a meager existence managing dog kennels and raising flowers and vegetables for the market in cooperation with her black neighbor, Petrus. For a time Lurie finds a sort of peace on the farm as he helps Lucy, though the two have had an uneasy relationship since he and Lucy's mother divorced some years earlier. Lurie stays with her daughter and then shares her house and life also by forgetting he is a professor. When Lucy takes David to the market, he meets Bev and Bill Shaw. He starts to help Bev at animal clinic. He tells her his stage of disgrace. He spends all afternoons in the surgery, helping as far as he is able. Finally, Lurie becomes a caretaker for dying animals. He helps with the dogs in the kennels, takes produce to market, and assists with treating injured animals at a nearby refuge. He also spends time on his new academic project, an opera based on the love affair between the British poet Lord Byron and his mistress, Teresa Guiccioli. With this work he lives in peace. But as the balance of power in the country is shifting,

the fragile peace is shattered.

When David and Lucy are out and taking a couple of the dogs for a walk, the farm, where he works with his daughter, is invaded by three men (two men and a boy) who at first pretend to need help. The boy tells Lucy that need to use the phone because the sister of one of the men is having an accident. When the tall man indoors to use the phone, the second man runs into the house behind them and locks David out. He gets the car keys from David and then locks him back in. Meanwhile, the tall man with a rifle starts shooting the dogs one by one, splattering brains and guts all over the place. Besides, the second man and a boy come back In the bathroom; douse David With alcohol, set him on fire, sexually assault Lucy and leave with David's car. During this whole nightmare, Petrus, the African farmer who is nearest neighbor of David and Lucy, Is nowhere to be found. He became increasingly too troubled and ambiguous. He promises Lurie about protection from further attacks to Lucy only if she marries him. Luire tries to raise the subjects of the rape, but he gets no any political and legal protection there. After this incident, Lucy falls apart both physically and emotionally. But, she does not want to pursue the crime as a rape. She is only willing to report it as robbery and assault on David; not on herself. The relationship between David and Lucy grows increasingly strained. When David finds the boy in the party given by Petrus, he confronts the boy. Petrus gets in the middle of their fight. David wants to give information to the police but Lucy gets upset. She does not want David to ruin everything for Petrus. This experience brings repressed emotions to the surface, driving Lucy and David's relationship to a breaking point. David realizes that he has to leave the place. David comes back in Cape Town and finds that his home has been robbed. He gets a phone call from Bev about Lucy and he gets shocked. When he comes back to the Eastern Cape, Lucy reveals to him that she is pregnant and she can't deal with having an abortion. She is considering marry Petrus as a business deal and a way of protecting herself. Her decision to keep the baby, and marry Petrus throws David to loop.

J.M Coetzee presents the problem of white identity in *Disgrace*. The identity is formed through 'self' and 'other'. The problem of white identity and reversal roll of identity are projected throughout out the novel *Disgrace*. David lurie the, A white professor of Romantic literature, finds himself at odds with the new dispensation where old certainties are gone. In this new age he is deprived of the privileges of the race and anchorages. While he is morbidly aware of his ageing body; he is also victim of the dehumanizing effect of the great rationalization of global capitalism. Once a professor of Modern Languages, he is now relegated to the role and adjunct professor of communications, whit the re-christening of his institute from Cape Town University to Cape Technical University. David falls short of the standards of the puritanical times he lives in, as he refuses to issue a public statement of confession and remorse though he is ready to plead guilty to the charges brought against him. The consequence of his unchecked impulse ultimately leads to his disgrace in the academy. David is slapped with a case of sexual harassment and loses his position in university. Banished from the university and its respectable white South African citizens, David steps out into the stark and harsh geographical, social, racial and political realities of post-apartheid Shout Africa-a life for which nothing in his cloistered and self-preoccupied life in the academia has prepared him to face. With two fail marriages behind him, David turns to Lucy, his only child and seeks temporary sanctuary on her homestead in the rural Eastern Cape. The idyllic reunion is short lived as Lucy's homestead becomes the target of a vicious attack in which Lucy is raped and David assaulted by a black men. Humiliated by the display of his helpless impotence as a father and protective male, David is frustrated further by Lucy's in comprehensible decision not to press charges of rape and to stay on in the farm despite the impending signs of danger. Shaken by the turn of events, David plunges himself heading into a series of activities and be it volunteering at the Animal welfare. Coetzee's protagonists become the exemplification of the absence of the univocal identity exposing the fact that what tradition has accustomed us to think of as identity. What happens in *Disgrace* where the depiction of new South Africa and the changes which have taken place in the balance of power between the whites and blacks clearly leads Coetzee to develop his

questioning of the very concept identity?

The attack on Lucy's smallholding and her rape is manifestation of the economy of hate that operates in the structure of racial otherness. A white woman settler and small-scale farmer in rural Eastern Cape, Lucy is the 'other' of Petrus and the majority black population settled there. In a situation where the white hegemony is slowly replaced by black cruelty, David discovers that like the dogs in the Animal Welfare Clinic, all that is left at his disposal in his physical body, a shroud of flesh without transcendent meaning. Lucy enunciates the lack of transcendent meaning when she tells to David that "there is no higher life. This is the only life, there is, which we share with animals" (74). Through the white characters, J.M.Coetzee explores the predicament of white marginalized self while struggling for ethical reconstruction integration in a country that renders all such efforts futile.

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“THE REPRESENTATION OF WOMEN IN INDIAN LITERATURE: A MULTIDISCIPLINARY THEMATIC APPROACH”

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ABSTRACT:

This research paper explores the representation of women in Indian literature through a multidisciplinary thematic approach. By analysing texts from various genres and time periods, this study aims to understand the diverse ways in which women are depicted, empowered, marginalized, and subverted in Indian literary works. Drawing on perspectives from literature, sociology, gender studies, and cultural studies, this research seeks to unravel the complex societal, historical, and cultural factors that influence the portrayal of women in Indian literature. Through an in-depth analysis of key themes, motifs, and narratives, this study sheds light on the nuances of gender dynamics, power structures, and feminist perspectives in Indian literary texts. Ultimately, this research aims to contribute to a more comprehensive understanding of the representation of women in Indian literature and advocate for a more inclusive and equitable literary landscape.

KEYWORDS: Women, Indian literature, representation, multidisciplinary, thematic approach, gender dynamics, power structures, feminist perspectives.

INTRODUCTION:

A woman is a sunrise of light where all the dimness vanishes. She is the sun that illuminates everybody and observed the capacity to disappear all the dread that fills in dimness of psyche. Women are basically beginning of life. The lady reinforces the underpinning of family as a mother. Little girl, sister and spouse accepting everybody with the ultimate. Literature is considered as the truth of society characterized in words. It portrays the manner in which cultural creatures respect, comprehend or decipher different circumstances and things either doily existence. The following paper highlight the transformation of women from the Vedic ages to the contemporary Era. History of Literature has been and noticed the job of women being advanced through centuries. The expression of women of yesterday has been exceptionally

critical, disdainful, reprimands which they have taken care of with balance and persistence. Women are basically the beginning of life. Nobody can give occasion to feel qualms about the significance of ladies that they are a definitive maker of this very presence. In a patriarchal society, women are relied upon to be extremely quite overall. They build up specific examples of life for her much before she ventures into the world by forming positive particulars, what's more the connection of cynicism with the components like childishness, sentimentalism, aloofness and madness cause extraordinary harm to the lady's notoriety, evaluation of her personality and progress. Indeed, even inside the circle of ladies, the division is set up through the characterization, for example, spouse or temptress, optimal lady or whose wife or female fatale to win the reverence of society, ladies need to have a place with the specific groupings and spouse, mother or an ideal lady who is dedicated caring and conciliatory like Sita Devi (Ramayana) and Draupadi (Mahabharata). A woman is a dawn of light where all the darkness disappears. She is the sun that enlightens everyone and she holds the ability to vanish all the fear that grows in darkness of mind. Women are essentially the origin of life women and literature are closely related to each other because it requires a lot of artistic creativity to be good at literature and women are too good when it comes to artistic creativity.

STATEMENT OF THE PROBLEM:

Representation of gender in literary works always shows the differences of the male and female characters in the novels, short stories, or films. By analysing the gender role or the representation on the literary work, it can be found that the author of the literature is following the patriarchal or the feminism idea. This article explores the rapid evolution of the New Indian Woman, defined as an urban, educated, middle classed Indian woman, whose development has paralleled the equally rapid growth of the middle-classes in India.

Aim:

- The main aim of this article is to throw light on the status of women in Indian Literature especially in Indian drama. This article will also demonstrate knowledge of social, economic, political, intellectual and cultural contributions of women past and present. Moreover, it would also identify gender and sex based inequalities prevalent in Indian society. Further, this article would advance the idea about women as active participants in family, society, politics and national development.

Hypothesis:

- The Women novelists like Anita Desai, Shashi Deshpande and Bharati Mukherjee have made remarkable contribution to fiction in Indian English Literature. They have projected the various images of women in society. The present research study work tries to explore and study the images of women which are reflected through their works. With feminine aspects to explore the various images of women and their status in male-dominated society. With having comparison of the images of women reflected by them and their exact attitude regarding Indian Women, outsider can be understood the approach of these novelists towards women and society can be understood.

REVIEW OF RELEVANT LITERATURE:

Indian women have been facing challenges in the form of inequalities, mental and physical violence acts and many more from different phases of time in India. The portrayal of feminism in Indian literature is considered to be one of the most debated topics. From the 19th century to the 21st century, Indian writers have expressed their concerns and views through their work. India is a land of multiple languages and different pieces of writing have been published in several languages. The aim of this article is to assess the representation of women and feminism in Indian literature.

Depiction of feminism in Indian literature in the pre-independence era:

The portrayal of feminism in Indian literature goes back to ancient Indian history. 'Ramayana' is considered to be one of the greatest epics of Indian literature written by Valmiki in the 5th century BCE. In this epic, the characters women have depicted the real condition of Indian women in the ancient period. As stated by Gamberi, the character of Sita who is the wife of the protagonist has justified the power and strength of her husband Rama. She has also been portrayed as vulnerable without her husband.

Furthermore, Gamberi has stated that the epic has made Rama an exemplary protagonist at the cost of the rejection of his wife. According to Dwivedi, Toru Dutta, a nineteenth-century Indian poet, expressed her pain and grief through her poem 'Sita' and questioned the dominance of Indian patriarchal society.

On the other hand, another 19th-century Indian author, Pandita Ramabai depicted the helpless condition of Indian Hindu high caste women during the colonial period in her book 'The High-Caste Hindu Women' (Bhog and Bharadwaj).

Depiction of women in the post-independence literature

Post-independence Indian literature has portrayed the condition of Indian women in new dimensions. As stated by Sharnappa, the real suffering of a peasant woman in rural India can be witnessed in 'Nectar in a Sieve', a novel by Kamala Markandeya. This novel has a story of a woman and her husband in an Indian village who were exploited by moneylenders. The lead female character of the novel 'Nectar in a Sieve' is Rukmani who is the wife of a peasant husband apart from doing home chores she also helps her husband in farming. However, the land was sold and the couple had to suffer a financial burden. The village shopkeepers started refusing to sell rations on credit to Rukmani as she did not have money. This novel has depicted a picture of rural Indian women who did not receive education, financial security and societal support. On the other hand, the novel 'Voices in the City' by Anita Desai has stressed on freedom and facing realities in the lives of Indian women (Khan). The novel 'Voices in the City' has represented two lead women characters in different realities. Monisha, an important female character in the novel commits suicide due to her unhappy marriage life. Monisha discovered that her husband and his relatives have no respect for her and they wanted a child from her. Monisha was bound with old orthodox traditions like a bird in a cage. On the hand, Amla the younger sister of in maintaining healthy relationships.

CONCLUSION:

Literature is the only place in this sphere, where within the privacy of our own thoughts, we can interact with the people that can speak only through the printed words. As Jorge Luis Borges quotes, "The things that are said in literature are always the same. What is important is the way they are said." Literature is submissive to truth. It is the expression of the thoughts of society. Literature is the background of the cause and effect of social progress. It strengthens our natural sensitivities and deepens our intellectual potential. It records the experiences that we accumulate in our daily lives, connecting our past and present into a rational unity, and with this record, it nourishes the coming generations, giving them the account of traditional aspects, perceptions, and values. Literature being part of society, rescripts, and amends credibility in compatibility with the evolution of society. However, it is a sad and sobering reality that women continued to be deprived of basic and fundamental rights. Gender distinctions in education and life have influenced the lives and works of several women authors. For example: Jane Austen (1775-1817), spent less than two years in a school for young women (while two of her brothers went to Oxford). She was paradoxically playing with the well-established image of the ignorant female writer when she declined the advice on what books she should write. Lack of a solid classical education, Ishita Pundir and Alankrita Singh,

she was deprived her of proper knowledge of "science and philosophy" as well the "quotations and allusions" that were considered as the privilege of masculine knowledge. As Elif Shafak in "Black Milk: On Writing, Motherhood, and the Harem Within" truly said, "Male writers are thought of as "writers" first and then "men". As for female writers, they are first "female" and only then "writers"

The tradition of women being portrayed in literature submissive and docile has been due to the inferior position women have held in male-dominated societies. However, the wave of feminism in the 70s and 80s sparked resurgence in forging a place for the age of women. Writers began writing about the strong women in their works. Women founded presses that dedicated themselves to publishing their rejected novels. In recent years, a greater emphasis on convergence has encouraged exploration into the relationship between race, gender, religion, and class to further improve the importance of the acknowledgment of marginalized groups in literature. The times changing and women are becoming the source of inspiration to many writers now. Therefore, it would be interesting to see the more feminist writings that display the truest essence of womanhood. As Anne Frank in "The Diary of A Young Girl" quotes, "Women should be respected as well! Generally speaking, men are held in a great esteem in all parts of the world, so why shouldn't women have their share? Soldiers and war heroes are honoured and commemorated, explorers are granted immortal fame, martyrs are revered, but how many people look upon women too as soldiers Women, who struggle and suffer pain to ensure the continuation of the human race, make much tougher and more courageous soldiers than all those big-mouthed freedom-fighting heroes put together!

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THE ROLE OF EMOTIONAL INTELLIGENCE IN BUSINESS DEVELOPMENT

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ABSTRACT:

Emotional Intelligence (EI) has emerged as a crucial factor in determining success within various domains, including business development. This paper aims to delve into the intricate interplay between emotional intelligence and business growth, exploring how emotional competencies impact individual and organizational effectiveness. Drawing upon contemporary psychological research, this paper examines the multifaceted dimensions of emotional intelligence, its significance in fostering effective leadership, team dynamics, customer relations, and overall organizational performance. By synthesizing empirical evidence and theoretical frameworks, this paper elucidates the pivotal role of emotional intelligence in driving sustainable business development strategies.

KEYWORDS : Emotional Intelligence, Business Development, Leadership, Team Dynamics, Organizational Performance.

INTRODUCTION:

In today's competitive business landscape, achieving sustainable growth requires more than just technical expertise and financial acumen. Emotional Intelligence (EI), defined as the ability to perceive, understand, manage, and regulate emotions effectively, has garnered increasing attention for its role in shaping individual and organizational success. While traditional metrics of success often prioritize cognitive abilities and technical skills, recent research underscores the significance of emotional competencies in driving business development initiatives. This paper aims to explore the nuanced relationship between emotional intelligence and business growth, elucidating the mechanisms through which EI

influences leadership effectiveness, team dynamics, customer relations, and overall organizational performance.

REVIEW OF LITERATURE:

The literature on emotional intelligence in business development highlights its significance in enhancing various aspects of organizational functioning. Studies have consistently demonstrated that individuals with higher levels of emotional intelligence are better equipped to navigate complex interpersonal dynamics, communicate effectively, and resolve conflicts in the workplace (Goleman, 1995). Moreover, research suggests a positive association between emotional intelligence and leadership effectiveness, with emotionally intelligent leaders demonstrating higher levels of empathy, self-awareness, and relationship management skills (Boyatzis et al., 2000). Additionally, empirical evidence indicates that organizations characterized by a culture of emotional intelligence tend to exhibit greater levels of employee engagement, job satisfaction, and overall performance (Jordan et al., 2002).

However, while the literature underscores the importance of emotional intelligence in business contexts, several challenges and limitations warrant further investigation. For instance, the conceptualization and measurement of emotional intelligence remain subject to debate, with various models and instruments yielding divergent results (Mayer et al., 2000). Moreover, the extent to which emotional intelligence can be developed and cultivated through training interventions remains a topic of ongoing inquiry (Joseph & Newman, 2010). Despite these challenges, the cumulative findings underscore the critical role of emotional intelligence in driving business success and fostering a positive organizational climate.

OBJECTIVES:

1. To define emotional intelligence and its key components.
2. To explore the relevance of emotional intelligence in the context of business development.
3. To examine the impact of emotional intelligence on organizational effectiveness.
4. To analyze the relationship between emotional intelligence and leadership effectiveness.
5. To investigate the influence of emotional intelligence on employee performance.
6. To synthesize existing research findings to provide insights into the role of emotional intelligence in fostering a thriving business environment.

METHOD:

This research paper adopts a systematic approach to review existing literature on the role of emotional intelligence in business development. A comprehensive search strategy is employed to identify relevant studies from academic databases, journals, and books. The inclusion criteria encompass scholarly articles and empirical research that directly address the relationship between emotional intelligence and business outcomes. Key variables of interest include organizational effectiveness, leadership effectiveness, and employee performance. Data extraction and synthesis are conducted to analyze patterns, trends, and gaps in the literature.

THEORETICAL FRAMEWORK:

At the heart of the conceptual framework lies the seminal model of emotional intelligence proposed by Salovey and Mayer (1990), which delineates EI into four interrelated domains: perception of emotion, facilitation of thought, understanding of emotion, and management of emotion. Building upon this foundation, Goleman (1995) further popularized the concept by emphasizing the practical implications of emotional intelligence in various domains, including business and leadership. His framework identifies five key components of EI: self-awareness, self-regulation, motivation, empathy, and social skills, each of which plays a crucial role in fostering effective interpersonal relationships and organizational outcomes.

EMOTIONAL INTELLIGENCE AND LEADERSHIP:

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Effective leadership is often characterized by the ability to inspire, influence, and guide others towards shared goals. Emotional intelligence serves as a cornerstone of effective leadership, enabling leaders to navigate complex interpersonal dynamics, inspire trust and confidence, and foster a positive organizational culture. Leaders with high EI demonstrate self-awareness, recognizing their own strengths and limitations, and exhibit self-regulation, managing their emotions in challenging situations to make sound decisions. Moreover, emotionally intelligent leaders possess a high degree of empathy, understanding the emotions and perspectives of others, which facilitates effective communication, collaboration, and conflict resolution within teams.

EMOTIONAL INTELLIGENCE AND TEAM DYNAMICS-

In the context of business development, successful outcomes often hinge upon effective teamwork and collaboration. Teams characterized by high levels of emotional intelligence demonstrate enhanced cohesion, communication, and problem-solving capabilities. Members who are emotionally intelligent are better equipped to manage interpersonal conflicts constructively, leverage diversity of thought, and foster a climate of psychological safety where innovation thrives. Furthermore, leaders who prioritize emotional intelligence in team dynamics are adept at building trust, empowering team members, and fostering a shared sense of purpose, which catalyzes synergy and performance.

EMOTIONAL INTELLIGENCE AND CUSTOMER RELATIONS-

In an era of heightened customer expectations and evolving market dynamics, organizations must prioritize customer-centric approaches to business development. Emotional intelligence plays a pivotal role in understanding and responding to the needs, preferences, and emotions of customers. Employees who possess high levels of EI are better equipped to cultivate meaningful relationships with clients, anticipate their needs, and provide personalized solutions. Moreover, emotionally intelligent organizations prioritize empathy and responsiveness in their customer interactions, fostering loyalty, advocacy, and long-term partnerships.

EMOTIONAL INTELLIGENCE AND ORGANIZATIONAL PERFORMANCE:-

The cumulative impact of emotional intelligence on leadership, team dynamics, and customer relations ultimately manifests in organizational performance and competitiveness. Companies that prioritize the development of emotional intelligence among their leaders and employees reap numerous benefits, including higher levels of employee engagement, productivity, and retention, as well as greater customer satisfaction and loyalty. Moreover, emotionally intelligent organizations demonstrate resilience in the face of adversity, adapting proactively to change and leveraging emotional competencies to capitalize on emerging opportunities, thus driving sustained business growth and success.

CONCLUSION:-

In conclusion, emotional intelligence emerges as a critical determinant of success in business development, exerting a profound influence on leadership effectiveness, team dynamics, customer relations, and organizational performance. By cultivating emotional competencies among leaders and employees, organizations can foster a culture of empathy, collaboration, and innovation, thereby positioning themselves for sustained growth and competitive advantage in today's dynamic marketplace. Moving forward, further research and practical interventions aimed at enhancing emotional intelligence within organizations hold the potential to unlock new pathways for achieving excellence and prosperity in the realm of business development.

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THE STUDY OF GROWTH AND COMPOSITION OF THE CENTRAL GOVERNMENT OF INDIA'S REVENUE

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INTRODUCTION:

The financial performance of the Central Government of India is a critical indicator of the country's economic health and governance effectiveness. Analysing the receipts of the central government provides valuable insights into the revenue generation mechanisms, fiscal policies, and overall economic trajectory of the nation. By examining the components of receipts, including tax revenue, non-tax revenue, and capital receipts, one can gain a comprehensive understanding of how the government finances its operations, funds essential services and infrastructure projects, and manages its fiscal responsibilities.

In this analysis, we delve into the receipts of the Central Government of India over a specified period, highlighting key trends, fluctuations, and noteworthy developments. Through a detailed examination of tax revenue, encompassing both direct and indirect taxes, alongside non-tax revenue sources, we aim to elucidate the government's revenue generation strategies and their impact on the economy. Additionally, we explore the significance of capital receipts in driving investments and fostering economic growth, shedding light on the government's priorities and policy direction.

OBJECTIVES:

- Examine the growth trajectory of revenue for the Central Government of India.
- Understand the relative contributions of different tax sources to overall revenue.
- The study of scrutinizing the composition and trends of non-tax revenue.

The present research is based on the secondary data. The expected and important secondary data have been collected majorly from the official record of the Central Government

of India and Reserve Bank of India

The table presents data on the Central Government's Revenue and Capital receipts from the fiscal years 2013-14 to 2023-24 in crores of Indian Rupees.

Central Government of India's Receipts - Major Components

(₹ Crores)

Year	Tax revenue (net)	Direct tax (net)	Indirect tax	Non-tax revenue	Revenue receipts (2+5)	Capital Receipts	Total receipts (6+7)
1	2	3	4	5	6	7	8
2023-24	23,30,631	11,78,268	11,52,363	3,01,650	26,32,281	18,82,603	45,14,884
2022-23	20,86,662	10,66,827	10,19,835	2,61,751	23,48,413	18,42,061	41,90,474
2021-22	18,04,793	8,65,386	9,39,407	3,65,112	21,69,905	16,21,353	37,91,258
2020-21	14,26,287	5,83,210	8,43,077	2,07,633	16,33,920	18,83,105	35,17,024
2019-20	13,56,902	6,38,365	7,18,537	3,27,157	16,84,059	9,97,301	26,81,360
2018-19	13,17,211	7,23,492	5,93,719	2,35,704	15,52,916	7,63,518	23,16,434
2017-18	12,42,488	6,06,216	6,36,272	1,92,745	14,35,233	7,02,650	21,37,883
2016-17	11,01,372	5,21,287	5,80,085	2,72,831	13,74,203	6,09,886	19,84,089
2015-16	9,43,765	4,49,296	4,94,469	2,51,260	11,95,025	5,82,579	17,77,604
2014-15	9,03,615	5,00,531	4,03,085	1,97,766	11,01,381	4,84,448	15,85,829
2013-14	8,15,854	4,55,829	3,60,025	1,98,870	10,14,724	5,63,894	15,78,618

Source: Reserve Bank of India

Over the period from 2013-14 to 2023-24, the Central Government of India demonstrated a consistent pattern of growth in tax revenue, showcasing its fiscal stability and economic resilience. In 2023-24, tax revenue surged to ₹23,30,631 crores, reflecting a substantial increase compared to previous years. Both direct and indirect taxes played pivotal roles in driving this growth, underlining the balanced taxation structure of the government. This increase in tax revenue contributed significantly to the overall revenue of ₹26,32,281 crores in 2023-24, indicating a robust financial performance. Additionally, capital receipts experienced a notable rise, reaching ₹45,14,884 crores, further bolstering the total receipts of the Central Government. The steady rise in tax revenue continued in 2022-23, with tax revenue reaching ₹20,86,662 crores, indicating a sustained economic growth trajectory. Non-tax revenue also increased, contributing to a total revenue of ₹23,48,413 crores in 2022-23, further reinforcing the government's fiscal strength. Capital receipts remained stable, resulting in total receipts of ₹41,90,474 crores, showcasing a balanced approach to financial management. In 2021-22, tax revenue saw a significant uptick to ₹18,04,793 crores, with a notable rise in indirect taxes, highlighting the government's ability to adapt to changing economic conditions.

Non-tax revenue also surged, leading to a total revenue of ₹21,69,905 crores, indicating a robust revenue generation framework. Capital receipts remained stable, resulting in total receipts of ₹37,91,258 crores, showcasing prudent financial planning. The year 2020-21 witnessed a steady increase in tax revenue to ₹14,26,287 crores, primarily driven by direct taxes, underscoring the effectiveness of tax collection mechanisms. Non-tax revenue also registered moderate growth, contributing to a total revenue of ₹16,33,920 crores, reflecting a balanced revenue mix. Capital receipts exceeded revenue receipts, resulting in total receipts of ₹35,17,024 crores, highlighting the government's focus on infrastructure development. In 2019-20, tax revenue continued its upward trajectory to ₹13,56,902 crores, with both direct and indirect taxes contributing significantly, showcasing a stable tax regime. Non-tax revenue also increased, leading to a total revenue of ₹16,84,059 crores, demonstrating diversified revenue streams.

Capital receipts remained significant, resulting in total receipts of ₹26,81,360 crores,

indicating prudent financial management. From 2018-19 to 2013-14, the government observed similar trends of increasing tax and non-tax revenue, reflecting its commitment to fiscal discipline. Fluctuations in the contributions of direct and indirect taxes were observed, highlighting the dynamic nature of the economy. Additionally, variations in capital receipts impacted the total receipts of the Central Government, necessitating adaptive fiscal policies.

FINDINGS:

- Tax revenue has steadily increased over the years, reaching ₹23,30,631 crores in 2023-24 from ₹8,15,854 crores in 2013-14.
- Direct tax contribution has consistently risen, from ₹4,55,829 crores in 2013-14 to ₹11,78,268 crores in 2023-24.
- Indirect tax revenue has also shown a significant increase, growing from ₹3,60,025 crores in 2013-14 to ₹11,52,363 crores in 2023-24.
- Non-tax revenue witnessed fluctuations but generally increased over the years, from ₹1,98,870 crores in 2013-14 to ₹3,01,650 crores in 2023-24.
- Total revenue receipts have seen a consistent upward trend, reaching ₹26,32,281 crores in 2023-24 from ₹10,14,724 crores in 2013-14.
- Capital receipts have fluctuated over the years, with a notable increase observed in 2023-24, reaching ₹18,82,603 crores compared to ₹5,63,894 crores in 2013-14.
- The total receipts of the Central Government have shown substantial growth, increasing from ₹15,78,618 crores in 2013-14 to ₹45,14,884 crores in 2023-24.
- The proportion of direct tax to total tax revenue has remained relatively stable over the years, indicating a balanced tax structure.
- Indirect tax revenue has shown fluctuations but generally maintained a significant portion of the total tax revenue.
- Overall, the financial performance of the Central Government of India has improved steadily over the specified years, with consistent growth in both tax and non-tax revenues, contributing to higher total receipts.

CONCLUSIONS:

1. **Revenue Growth Trajectory:** The Central Government of India has consistently experienced growth in revenue over the years, indicating a robust and expanding financial base.
 2. **Tax Policy Effectiveness:** The balanced contributions from direct and indirect taxes suggest that the government's tax policies have been effective in generating revenue while distributing the tax burden equitably.
 3. **Economic Resilience:** Despite economic fluctuations and external challenges, the government's ability to sustain revenue growth demonstrates the resilience of the Indian economy and its capacity to withstand varying economic conditions.
 4. **Investment Priorities:** The significant rise in capital receipts underscores the government's focus on infrastructure development and investment, signaling a commitment to long-term economic growth and development.
- Overall, the government's management of revenue and expenditure reflects a commitment to fiscal responsibility, ensuring stability and sustainability in public finances over the examined period

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THE STUDY OF THE FISCAL DEFICIT AND FINANCING OF THE CENTRAL GOVERNMENT OF INDIA

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ABSTRACT:

This study examines the Gross Fiscal Deficit (GFD) and its financing patterns of the Central Government of India from fiscal years 2010-11 to 2023-24. The GFD serves as a crucial indicator of the government's fiscal health, reflecting the disparity between its expenditures and revenues. Data sourced primarily from the official records of the Central Government of India and the Reserve Bank of India reveal significant trends and dynamics in the GFD and its financing. Analysis of the data indicates a consistent increase in the fiscal deficit over the years, highlighting the government's reliance on borrowing to finance its spending commitments. Both external and internal financing sources play pivotal roles in bridging the fiscal gap, with borrowings constituting a substantial portion of deficit financing. The study identifies varied financing patterns, influenced by economic events and policy decisions, and underscores the challenges in debt management and fiscal sustainability. Findings emphasize the importance of effective fiscal policies to address fiscal imbalances, optimize borrowing, enhance revenue generation, and ensure long-term economic stability. This research provides valuable insights for policymakers, economists, and stakeholders to assess the government's fiscal performance and formulate strategies aimed at achieving sustainable fiscal outcomes and fostering economic growth.

KEYWORDS: Fiscal Deficit, Financing.

INTRODUCTION:

The Gross Fiscal Deficit (GFD) of a government is a critical indicator of its fiscal health, reflecting the disparity between its total expenditures and revenues. In the context of the Central Government of a country, the GFD represents the extent to which the government is relying on borrowing to finance its spending commitments, indicating the overall fiscal discipline and sustainability of its budgetary policies.

The Central Government's GFD is a pivotal metric in assessing the government's fiscal performance, as it provides insights into its borrowing requirements, debt levels, and overall fiscal management strategies. Understanding the trends and dynamics of the GFD enables policymakers, economists, and stakeholders to evaluate the government's ability to meet its financial obligations, sustain economic growth, and maintain macroeconomic stability.

In this introduction, we will explore the significance of the Central Government's Gross Fiscal Deficit, its calculation methodology, key components, and the implications of fluctuations in the deficit levels over time. Additionally, we will discuss the importance of effective fiscal policies in managing the GFD and promoting fiscal sustainability in the long run. By delving into the intricacies of the Central Government's GFD, we aim to gain a comprehensive understanding of its role in shaping economic outcomes, guiding policy decisions, and fostering a conducive environment for sustainable development and prosperity.

The objectives of study

1. Evaluate the overall fiscal health of the Central Government by analyzing the magnitude and trends of the Gross Fiscal Deficit over time.
2. Examine the effectiveness of government fiscal policies in managing fiscal deficits and achieving macroeconomic objectives such as growth, stability, and sustainability.
3. Identify factors contributing to fiscal imbalances and assess their implications for economic stability, debt sustainability, and public finances.

The present research is based on the secondary data. The expected and important secondary data have been collected majorly from the official record of the Central Government of India and Reserve Bank of India

The table presents data on the Central Government's Gross Fiscal Deficit (GFD) and its financing from the fiscal years 2010-11 to 2023-24 in crores of Indian Rupees. The Gross Fiscal Deficit represents the difference between the government's total expenditure and its total receipts, excluding borrowings.

CENTRE'S GROSS FISCAL DEFICIT AND ITS FINANCING

(₹ Crores)

Year	GFD Receipts	GFD Expenditure	Gross fiscal deficit (3-2)	Financing of GFD		Financing of GFD Total
				External finance	Internal Finance	
1	2	3	4	5	6	7
2023-24	2693281	4480097	1786816	22118	1764699	1786817
2022-23	2408413	4163732	1755319	23874	1731445	1755319
2021-22	2184544	3769064	1584521	36147	1548374	1584521
2020-21	1671816.54	3490108	1818291	70180	1748111	1818291
2019-20	1734363.38	2668013.8	933651	8682.32	924969	933651.32

2018 -19	1647642.37	2297060.41	649418	5519.28	643899	649418.28
2017 -18	1535277.7	2126339	591062	7930.74	583131	591061
2016 -17	1421945.55	1957564.44	535618	17996.6	517622	535618.6
2015 -16	1237157	1769948	532791	12748	520043	532791
2014 -15	1139209	1649935	510725	12933	497884	510817
2013 -14	1044092	1546950	502858	7291.93	495566	502857.93
2012 -13	905122	1395312	490190	7201	482989	490190
2011 -12	769525	1285515	515990	12448	503542	515990
2010 -11	811317	1184908	373591	23556	350035	373591

Source: Reserve Bank of India

In the fiscal year 2023-24, the Government of India recorded receipts of ₹26,93,281 crores and expenditures of ₹44,80,097 crores, resulting in a Gross Fiscal Deficit (GFD) of ₹ 17,86,816 crores. External finance for the deficit amounted to ₹ 22,118 crores, while internal finance contributed ₹ 17,64,699 crores, leading to a total financing of ₹17,86,817 crores.

During the fiscal year 2022-23, GFD receipts and expenditure stood at ₹24,08,413 crores and ₹41,63,732 crores, respectively, resulting in a GFD of ₹ 17,55,319 crores. External finance for the deficit was ₹23,874 crores, and internal finance amounted to ₹17,31,445 crores, resulting in a total financing of ₹ 17,55,319 crores. In the fiscal year 2021-22, GFD receipts amounted to ₹ 21,84,544 crores, with expenditures reaching ₹7,69,064 crores, resulting in a GFD of ₹15,84,521 crores. External finance for the deficit totalled ₹36,147 crores, while internal finance contributed ₹ 15,48,374 crores, leading to a total financing of ₹ 15,84,521 crores. For the fiscal year 2020-21, GFD receipts were ₹ 16,71,817 crores, with expenditures totalling ₹34,90,108 crores, resulting in a GFD of ₹18,18,291 crores. External finance for the deficit amounted to ₹ 70,180 crores, and internal finance stood at ₹ 17,48,111 crores, leading to a total financing of ₹ 18,18,291 crores.

In the fiscal year 2019-20, GFD receipts reached ₹17,34,363 crores, while expenditures amounted to ₹26,68,014 crores, resulting in a GFD of ₹ 9,33,651 crores. External finance for the deficit totalled ₹8,682 crores, and internal finance contributed ₹9,24,969 crores, leading to a total financing of ₹9,33,651 crores. Analysis of the fiscal years from 2018-19 to 2010-11 reveals similar trends in Gross Fiscal Deficit (GFD), sources of external and internal finance, and the total financing of the deficit over this period.

Based on the analysis of the table representing the Central Government's Gross Fiscal Deficit (GFD) and its financing, here are key findings:

- **Increasing Fiscal Deficit:** The Gross Fiscal Deficit has generally increased over the years, indicating a persistent imbalance between government expenditures and revenues.
- **Varied Levels of External Finance:** External finance, primarily through market borrowings, fluctuates annually, suggesting the government's reliance on borrowing to finance deficits. Significant Internal Financing: Internal finance, comprising other borrowings and drawdown of cash balances, constitutes a substantial portion of deficit financing, indicating the use of domestic resources to fund deficits.

- **High GFD in Recent Years:** The fiscal deficit has been notably high in recent years, such as in 2020-21 and 2021-22, possibly due to increased expenditure or revenue shortfalls, necessitating higher borrowing.
- **Increased Borrowing:** There has been a consistent trend of increased borrowing to finance deficits, reflecting the government's efforts to bridge the fiscal gap through debt instruments. **Shifts in Financing Patterns:** The proportion of external finance relative to internal finance varies annually, reflecting changes in borrowing strategies and economic conditions.
- **Trend of Rising Internal Debt:** The consistent use of internal financing mechanisms suggests a build-up of internal debt, which may have implications for future fiscal sustainability.
- **Impact of Economic Events:** Economic events and policy decisions may have influenced fiscal deficits and financing patterns, such as the COVID-19 pandemic leading to heightened borrowing in 2020-21.
- **Debt Management Challenges:** Persistent deficits and reliance on borrowing highlight challenges in debt management, raising concerns about debt sustainability and fiscal discipline.
- **Policy Implications:** The findings underscore the importance of effective fiscal policies to manage deficits, optimize borrowing, enhance revenue generation, and ensure sustainable public finances. These findings provide insights into the fiscal health of the Central Government, guiding policymakers in formulating strategies to address fiscal challenges and promote long-term economic stability.

CONCLUSION:

The representing the Central Government's Gross Fiscal Deficit (GFD) and its financing provides valuable insights into the government's fiscal management over the years. Several key observations can be drawn from the data presented:

1. **Persistent Fiscal Deficits:** The data reveals a consistent pattern of fiscal deficits, indicating a structural imbalance between government expenditures and revenues.
2. **Reliance on Borrowing:** The government has relied on borrowing, both from external and internal sources, to finance deficits, highlighting the importance of debt instruments in funding expenditure priorities.
3. **Varied Financing Patterns:** The proportions of external and internal finance fluctuate annually, reflecting shifts in borrowing strategies, economic conditions, and policy priorities.
4. **Challenges and Implications:** The high levels of borrowing and fiscal deficits pose challenges to debt management and raise concerns about fiscal sustainability, necessitating prudent fiscal policies and effective debt management strategies.
5. **Impact of Economic Events:** Economic events, such as the COVID-19 pandemic, have influenced fiscal deficits and financing patterns, underscoring the need for adaptive fiscal policies to respond to changing economic conditions.
6. **Policy Recommendations:** The findings highlight the importance of enhancing revenue generation, rationalizing expenditure, and optimizing borrowing to ensure fiscal discipline and long-term economic stability.

In conclusion, the table serves as a crucial tool for policymakers, economists, and stakeholders to assess the government's fiscal health, identify trends, and inform policy decisions aimed at achieving sustainable fiscal outcomes and fostering economic growth.

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"TRANSFORMATIVE ROLES: ACADEMIC LIBRARIES IN NEP 2020"

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ABSTRACT:

A paradigm shift in the Indian educational system has been brought about by the National Education Policy (NEP) of 2020, which places an emphasis on innovation and comprehensive learning. By offering resources, promoting a culture of study, and facilitating multidisciplinary collaboration, academic libraries are essential to the achievement of these objectives. Academic libraries act as centres for accessing various knowledge areas, enabling cross-disciplinary study, in line with NEP 2020's emphasis on multidisciplinary education. They also foster the critical thinking and problem-solving abilities necessary for the workforce of the twenty-first century. The relevance of academic libraries as venues for engaging and immersive learning experiences is highlighted by NEP 2020's emphasis on experiential learning. In keeping with NEP 2020's goal of utilising technology in education, libraries are developing into digital repositories that provide online resources and virtual learning spaces.

KEYWORDS: academic libraries, National Education Policy 2020, transformative roles, knowledge dissemination, learning experiences, research culture.

INTRODUCTION:

The National Education Policy of 2020 in India emphasizes multidisciplinary and holistic learning, with academic libraries serving as hubs for interdisciplinary research and knowledge integration. These libraries provide intellectually curious environments, maker spaces, multimedia laboratories, and cooperative study spaces, enabling students to think critically, be creative, and solve problems. They also facilitate research endeavours by providing specialized databases, large collections, and research consultation services, facilitating multidisciplinary research partnerships and knowledge exchange.

Academic libraries also support lifelong learning and ongoing skill improvement. With resources and programmes catered to the various requirements of learners, they function as centres for lifelong learning. By encouraging a culture of independent learning and intellectual development, they help people flourish in a world that is becoming more and more complicated and adjust to changing conditions. Under NEP 2020, academic libraries are leading India's educational reform. They have the capacity to influence the direction of education by encouraging interdisciplinary learning, elevating the calibre of research, and cultivating a lifelong love of learning. They are strongholds of knowledge, creativity, and intellectual engagement. Academic libraries may become social change agents and propel India towards a more dynamic, inclusive, and knowledge-driven society by using their resources and skills in line with NEP 2020 objectives.

OBJECTIVES:

1. To analyse the implications of NEP 2020 on academic libraries.
2. To explore the evolving roles of academic libraries in knowledge dissemination.
3. To examine the contributions of academic libraries to enhancing learning experiences.
4. To assess the role of academic libraries in fostering a robust research culture.

REVIEW OF LITERATURE:

Prior research has emphasised the diverse functions that university libraries play in assisting the scholarly community. Since the release of NEP 2020, researchers have started examining the connections between library services and educational policy.

- Gupta et al. (2021) conducted a research on how libraries fit into the NEP 2020 implementation process, emphasising how important it is for libraries to change with the times. The authors stress the significance of fair access to resources and information, which is a major NEP 2020 focus area that calls on libraries to invest in digital infrastructure and embrace inclusive policies in order to serve a diverse student body.
- Sharma and Verma (2022) discuss the pivotal role that libraries play in the framework of NEP 2020, highlighting the movement towards learner-centric education. The authors contend that libraries are essential for encouraging students' creativity and invention, which is consistent with the policy's focus on all-encompassing education. This demonstrates how libraries must adopt new strategies and move beyond their conventional functions in order to meet the varied requirements of students in the digital age.
- Smith and Jones (2019) highlight that libraries are increasingly utilizing digital technology to enhance resource availability, create digital archives, and foster academic communication, thereby democratizing access to knowledge.

- Chen et al. (2020) highlight university libraries' role in digital scholarship, enabling computational analysis, data visualization, and digital humanities study. They suggest libraries must adapt their offerings and spaces to meet academic needs in the digital era.
- Johnson and Smith (2018) highlight libraries' tools and services for teaching and learning, fostering autonomous learning and critical thinking.

INTRODUCTION TO THE NATIONAL EDUCATION POLICY 2020:

The Government of India published a policy statement in July 2020 called the National Education Policy 2020. The goal of the policy is to establish a fair and inclusive educational system that will equip students for the challenges of the twenty-first century. It emphasises the value of a comprehensive, multidisciplinary education that fosters creativity, critical thinking, and problem-solving abilities. The NEP 2020 acknowledges the importance of digital literacy as well as the role that technology plays in education.

1. Analyse the implications of NEP 2020 on academic libraries:

The National Education Policy (NEP 2020) has significant implications for academic libraries. It may lead to a shift towards interdisciplinary learning and research, necessitating a wider range of subjects in collections. Additionally, digital resources and technologies may be prioritized, necessitating investments in infrastructure and staff training. The policy also emphasizes equitable access to education, prompting libraries to adopt inclusive practices and support marginalized communities. Analysing these implications helps libraries align their strategies and resources with educational policy goals.

2. The evolving roles of academic libraries in knowledge dissemination:

Though historically thought of as knowledge repositories, academic libraries are playing a different role in the digital age. Libraries are becoming more than just places to store books and periodicals; they are also becoming centres of digital scholarship, offering resources such as multimedia, open-access repositories, and large online databases. Through programmes like digital publishing platforms and institutional repositories, libraries are becoming more and more involved in the generation of knowledge. Libraries may improve their ability to distribute knowledge to a variety of audiences and further scholarly research in the digital age by embracing these changing roles.

3. The contributions of academic libraries to enhancing learning experiences:

For both teachers and students, academic libraries are essential to enhancing the educational process. With resources ranging from interactive learning activities to textbooks, they offer study areas that are suitable for both individual and group work. In order to help students successfully traverse the complicated world of information, librarians also provide training classes on information literacy, research techniques, and academic writing. Libraries enable continual skill development outside of the classroom by providing access to online courses, workshops, and seminars, which promotes a culture of lifelong learning.

4. The role of academic libraries in fostering a robust research culture:

Research culture flourishes in settings where academics have access to tools, assistance, and joint opportunities. Through the provision of scholarly literature, research databases, and specialised collections, academic libraries play a crucial role in cultivating this kind of culture. At every step of the research process, librarians support researchers with professional advice on literature reviews, citation management, and research methodology. Libraries also act as venues for intellectual cooperation and communication, which promotes networking and knowledge sharing among researchers from other fields. Libraries support the creation of new knowledge

and creativity in the academic community by fostering an atmosphere that is favourable for research.

5. Propose strategies for academic libraries to adapt and thrive in the changing educational landscape:

Academic libraries need to change to be relevant in the face of quickening technical breakthroughs and shifting educational perspectives. This could entail utilising digital technologies to improve user access to resources and services, creating creative programmes to adapt to users' changing demands, and forming alliances with other players in the educational system. Furthermore, libraries can employ data analytics to better understand user behaviour and modify their services as necessary. Libraries may position themselves as essential elements of the contemporary educational landscape by consistently innovating and adapting, assuring their sustained relevance and impact in the years to come.

Role of Academic Library:

1. Knowledge Dissemination:

A multitude of information resources, such as books, journals, databases, and multimedia content, are accessible through academic libraries. Following NEP 2020, there is an increasing focus on digital repositories and open access to democratise knowledge access. In order to support teaching, learning, and research activities, academic libraries are essential in the curation, organisation, and dissemination of these resources. Libraries can serve the varied needs of students and teachers by expanding their reach beyond physical bounds and embracing digital technologies and collaboration platforms.

2. Enhancing Learning Experiences:

NEP 2020 supports an approach that is learner-centric and encourages creativity, critical thinking, and problem-solving abilities. Academic libraries support this goal by offering cutting-edge services and environments that are ideal for learning. Libraries enable learners to explore, experiment, and engage in multidisciplinary contexts through programmes like makerspaces, digital labs, and interactive learning modules. In addition, librarians support students in their academic writing, research techniques, and information literacy by acting as mentors and facilitators. This improves students' learning experiences both within and outside of the classroom.

3. Fostering Research Culture:

NEP 2020 includes research and innovation as essential elements to promote knowledge production and societal growth. From the literature review phase through publication and dissemination, academic libraries are essential to the research lifecycle. Libraries help researchers identify pertinent material, analyse data, and successfully communicate their findings by providing specialised collections, research consultations, and citation management tools. Libraries also act as collaborative locations where academics from many disciplines may meet, share ideas, and work together on interdisciplinary research projects. This helps to create a lively research culture within the academic community.

CONCLUSION:

Academic libraries play a crucial role in achieving the objectives of NEP 2020. They are dynamic hubs of information, innovation, and intellectual discourse, enabling them to make substantial contributions to the educational landscape. They facilitate access to a wealth of information, fostering a culture of inquiry, critical thinking, and lifelong learning. They also enhance learning experiences by providing innovative spaces, instructional support, and access to educational technologies. Libraries foster a robust research culture within educational institutions, offering specialized resources, research consultations, and collaborative

opportunities. They serve as catalysts for interdisciplinary research collaborations, bridging disciplinary boundaries and driving breakthroughs in knowledge creation. To fulfil their potential as agents of change, libraries must embrace innovation, collaboration, and continuous learning. They must adapt their strategies and services to meet the changing needs of users, exploring new technologies, forging strategic partnerships, and engaging in professional development. By embracing a culture of innovation and collaboration, libraries can remain responsive to the evolving demands of the educational ecosystem and maximize their impact on student success, research advancement, and societal development.

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WESTERN WINDS: EXPLORING CULTURAL INFLUENCE IN DURJOY DATTA'S 'SHE BROKE UP, I DIDN'T! ... I JUST KISSED SOMEONE ELSE!'

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ABSTRACT:

In the contemporary landscape of literature, cultural influences play a significant role in shaping narratives and characters. This research paper delves into the exploration of cultural shifts depicted in Durjoy Datta's novel, "She Broke Up, I Didn't! ... I Just Kissed Someone Else!" The narrative unfolds against the backdrop of Western cultural influences impacting the lives and relationships of the characters. Through a comprehensive analysis of the novel, this study aims to unravel the nuanced portrayal of love, relationships, and societal norms in the context of

Westernization. By examining the characters' dilemmas, conflicts, and choices, this paper sheds light on how cultural dynamics shape the perceptions and behaviors of individuals in contemporary society. Through this exploration, we gain insights into the complexities of navigating love and relationships amidst the ever-evolving cultural landscape, providing valuable perspectives on the interplay between tradition and modernity.

KEYWORDS: love and relationships, tradition and modernity, perceptions and behaviors.

INTRODUCTION:

In the modern era of globalization, cultural influences have transcended geographical boundaries, significantly impacting literature and societal norms. Durjoy Datta's novel, "She Broke Up, I Didn't! ... I Just Kissed Someone Else!" serves as a compelling lens through which to explore the intricate interplay between Eastern traditions and Western influences in contemporary Indian society. Set against the backdrop of evolving cultural landscapes, the novel delves into the complexities of love, relationships, and identity amidst shifting societal paradigms. As the Western world increasingly permeates global popular culture, its values, ideologies, and lifestyle choices have begun to shape narratives and characters in literature, offering new perspectives and challenging traditional norms. Datta's work exemplifies this phenomenon, presenting a narrative landscape where characters grapple with the clash between tradition and modernity, East and West.

This research endeavors to dissect the cultural influences portrayed in "She Broke Up, I Didn't! ... I Just Kissed Someone Else!" through a multidimensional analysis. By examining the characters' interactions, dilemmas, and decisions, we aim to unravel the intricate threads of cultural negotiation embedded within the narrative. Through this exploration, we seek to illuminate the ways in which Western values and societal norms infiltrate and intersect with the fabric of contemporary Indian life, reshaping perceptions of love, commitment, and personal autonomy. Moreover, this study intends to contribute to broader discussions on the impact of globalization on literature and cultural identity. By critically engaging with Datta's novel, we hope to offer insights into the complexities of navigating cultural hybridity and negotiating conflicting value systems in an increasingly interconnected world.

In the subsequent sections of this paper, we will delve into a detailed analysis of the cultural dynamics depicted in "She Broke Up, I Didn't! ... I Just Kissed Someone Else!", examining key themes, character motivations, and narrative strategies employed by the author to shed light on the broader implications of Western influence in contemporary Indian literature. Through this exploration, we aim to deepen our understanding of the complexities of cultural exchange and adaptation in the modern era.

Influence of Westernization in Durjoy Datta's "She Broke Up, ... Kissed Someone Else!":

In Durjoy Datta's "She Broke Up, I Didn't! ... I Just Kissed Someone Else!", the influence of Westernization on Indian society is intricately explored through the characters and the unfolding story. One of the primary ways this influence is depicted is through the protagonist's internal struggle between traditional Indian values and modern Western ideals. A perfect example is Aisha, who represents the embodiment of modernity and Western influence. She challenges conventional norms by asserting her independence and pursuing her desires unabashedly, contrasting sharply with the protagonist's adherence to traditional values and societal expectations.

The character of Deb, the protagonist, serves as a lens through which the readers witness the clash between tradition and modernity. His conflict between his feelings for Aisha and his sense of duty towards his family and cultural heritage epitomizes the struggle faced by many individuals in contemporary India. His reluctance to fully embrace Westernized notions of love and commitment reflects the tensions inherent in navigating cultural identity in a rapidly changing society. Furthermore, the novel delves into the portrayal of Westernized lifestyle

choices embraced by the characters. From their fashion preferences to their language usage and social behaviors, the characters' adoption of Western norms illustrates the pervasive influence of Westernization on cultural identity and societal norms. This is evident in Deb's interactions with Aisha, where he finds himself drawn to her modernity and liberated lifestyle, yet simultaneously feels conflicted due to his ingrained cultural values.

Additionally, the empowerment of female characters in the novel reflects the influence of Western ideals of gender equality and autonomy. Aisha's assertiveness in pursuing her desires and challenging traditional gender roles stands in stark contrast to the more passive female characters in Deb's life, such as Avantika. Through their interactions, the novel highlights the shifting dynamics of gender relations in contemporary India, influenced by Western notions of empowerment and self-determination. The overarching narrative of "She Broke Up, I Didn't! ... I Just Kissed Someone Else!" serves as a poignant commentary on the complexities of cultural globalization and its impact on love, relationships, and identity in modern India. By interweaving the characters' struggles with broader societal shifts, Durjoy Datta crafts a compelling story that invites readers to reflect on the nuances of cultural adaptation and the ongoing tension between tradition and modernity.

Deb embodies the conflict between these two sets of values. He adheres to traditional Indian values of duty, loyalty, and familial expectations, which dictate his commitment to his relationship with Avantika and his reluctance to embrace Westernized notions of love and romance. However, when he meets Aisha, a representation of modern Western influence, his worldview is challenged. Aisha's character embodies modernity and Westernization. She is independent, assertive, and unapologetically pursues her desires, embodying the ideals of individualism and personal freedom often associated with Western culture. Her introduction into Deb's life disrupts his adherence to traditional values, leading to an internal conflict between his sense of duty and his desire for personal fulfillment. The plot unfolds as Deb navigates this internal struggle, torn between his feelings for Avantika and his attraction to Aisha. His interactions with both women serve as a microcosm of the broader societal clash between tradition and modernity. Avantika represents the traditional Indian woman, characterized by her adherence to societal expectations and her commitment to familial duties. In contrast, Aisha challenges these norms, encouraging Deb to question his preconceived notions of love and relationships.

Throughout the novel, Deb grapples with the conflicting expectations placed upon him by his family, society, and his own desires. His journey is marked by moments of introspection and self-discovery as he attempts to reconcile his traditional upbringing with the allure of Western ideals of individualism and romantic freedom. Ultimately, the resolution of the novel does not neatly align with either traditional Indian values or modern Western ideals. Instead, Deb's character undergoes a process of growth and self-realization, acknowledging the complexity of his identity and the fluidity of cultural influences in shaping his perceptions of love and relationships. Through Deb's journey, Durjoy Datta offers a nuanced exploration of the struggle between tradition and modernity in contemporary Indian society, highlighting the complexities of cultural adaptation and the ongoing negotiation of identity in a rapidly changing world.

Deb, the central character in Durjoy Datta's "She Broke Up, I Didn't! ... I Just Kissed Someone Else!", undergoes a significant transformation influenced by Westernization, which impacts the trajectory of the novel in profound ways. Initially depicted as someone rooted in traditional Indian values and societal expectations, Deb's encounters with Westernized ideals challenge his beliefs, relationships, and ultimately, his identity. The influence of Westernization on Deb is primarily embodied through his relationship with Aisha, a character symbolizing modernity and Western culture. Aisha's introduction into Deb's life disrupts his conventional worldview and triggers a series of internal conflicts. Her assertiveness, independence, and non-conformist attitude contrast sharply with Deb's adherence to traditional values, leading him to question his own desires and aspirations. Deb's interactions with Aisha expose him to

Westernized lifestyle choices, including fashion, language, and social behaviors, which gradually erode his adherence to traditional norms. He finds himself drawn to Aisha's liberated lifestyle and the sense of freedom it represents, prompting him to reassess his own beliefs and aspirations. This internal struggle between tradition and modernity becomes a central theme in the novel, driving Deb's character development and influencing the decisions he makes throughout the story.

Furthermore, Deb's relationship with Aisha serves as a catalyst for his journey of self-discovery and personal growth. As he navigates the complexities of love and relationships, Deb confronts the conflicting expectations placed upon him by his family, society, and his own desires. His experiences with Aisha force him to confront his own insecurities and vulnerabilities, ultimately leading him towards a greater understanding of himself and his place in the world. The impact of Westernization on Deb is not confined to his personal life but also extends to the broader narrative of the novel. His internal struggles and conflicts mirror the broader societal shifts occurring in contemporary India, where traditional values collide with modern Western ideals. Through Deb's character arc, Durjoy Datta explores the complexities of cultural adaptation and the ongoing negotiation of identity in a rapidly changing world.

CONCLUSION :

The exploration of the influence of Westernization on Deb in Durjoy Datta's "She Broke Up, I Didn't! ... I Just Kissed Someone Else!" reveals the nuanced complexities of cultural adaptation and identity negotiation in contemporary India. Through Deb's character arc, the novel illustrates the profound impact of Western ideals on traditional Indian values, relationships, and societal norms. Deb's journey from a character entrenched in traditional Indian values to one grappling with the allure of Westernized ideals serves as a microcosm of broader societal shifts occurring in modern India. His interactions with Aisha, a symbol of Westernization, prompt him to question his beliefs, desires, and aspirations, ultimately leading to a process of self-discovery and personal growth. Deb's internal struggles highlight the ongoing negotiation of identity in a rapidly changing world, where individuals are confronted with conflicting cultural influences and societal expectations. His experiences reflect the complexities of navigating tradition and modernity, as well as the enduring tension between preserving cultural heritage and embracing the forces of change. Deb's transformation underscores the transformative power of Westernization on individual identity and the fluidity of cultural adaptation in contemporary India. Through his character arc, Durjoy Datta offers a compelling exploration of the complexities of cultural globalization and the ongoing negotiation of identity in an increasingly interconnected world. The examination of Deb's journey in "She Broke Up, I Didn't! ... I Just Kissed Someone Else!" provides valuable insights into the impact of Westernization on Indian society, highlighting the complexities of navigating tradition and modernity in a rapidly changing cultural landscape.

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INDIAN CONSTITUTION AND BASIC STRUCTURE DOCTRINE

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ABSTRACT:

Indian constitution is protector of fundamental rights of one out of five people in the world. Evolution of doctrine have various judgments of Supreme Court in its way And they each have different characteristics. Legislature and Judiciary are interconnected. It is orderly that

both should respect each other and perform their roles within the framework laid down by the constitution.

To make rules and laws is authority of Sansad. Supreme Courts duty is to check those laws made by Sansad are not violating the framework of constitution. And with help of this process strengthens our constitution. Basic structure doctrine of the Indian constitution celebrated its golden anniversary on 24 April 2023. The case of Kesavananda Bharati started discussion on the basic structure doctrine and its progress continues till date with various Supreme Court judgments.

INTRODUCTION:

A law made by Parliament or a state legislature goes against the Constitution; the Supreme Court can declare it invalid. Although the Constitution allows for amendments by Parliament to keep it relevant, the Supreme Court acts as a check on Parliament's power. It has ruled that while Parliament can amend the Constitution, it can't change its fundamental principles. This concept, known as the "basic structure," was first recognized by the Supreme Court in 1973. This doctrine was propounded by Justice Hans Raj Khanna, in Kesavananda Bharti Case that the Constitution of India has certain basic features that can't be altered or destroyed through amendments by the parliament. Since then, the Court has been responsible for interpreting the Constitution and ensuring that any amendments made by Parliament don't undermine its core principles. The primary purpose of this doctrine is to preserve the soul idea and philosophy of the original constitution.

INDIAN LEGISLATURE & INDIAN JUDICIARY:

The Indian Constitution establishes a clear separation of powers among the three branches of government: the Legislature, the Executive, and the Judiciary. This means that each branch has its own distinct powers and responsibilities. The Legislature, consisting of the Lok Sabha and the Rajya Sabha, is responsible for making laws. Members of Parliament propose, debate, and vote on bills that, once passed, become laws. However, these laws must comply with the Constitution, and if there's a question about their constitutionality, it's the Judiciary's role to interpret the Constitution. The Judiciary interprets laws passed by the Legislature to resolve disputes and ensure uniformity in their application. This interpretation often shapes how laws are implemented and affects the rights and responsibilities of citizens. The Judiciary is meant to be independent of the Legislature and the Executive to ensure impartiality and fairness in its decisions. This independence is crucial for upholding the rule of law and protecting the rights of citizens. Overall, the relationship between the Indian Legislature and the Indian Judiciary is one of mutual respect and interdependence, with each branch playing a vital role in upholding democracy, ensuring accountability, and safeguarding the rights of the people.

TRANSITIONS OF BASIC STRUCTURE DOCTRINE:

Shankari Prasad Case (1951)

In the Shankari Prasad Case of 1951, the Nehru government utilized Article 368, the amendment power of the constitution, to facilitate land acquisition. This action led to the insertion of Articles 31A, 31B, and the 9th schedule into the constitution, constituting the first amendment act of 1951. Subsequently, this amendment faced a challenge in the Supreme Court of India, where the court ruled in favor of the amendment, asserting that Article 368 held precedence over Article 13, granting Parliament the authority to amend any part of the constitution.

Sajjan Singh Case (1965)

Similarly, in the Sajjan Singh Case of 1965, the Parliament, through the 17th amendment act of 1964, added 44 new acts to the 9th schedule. This amendment, too, faced legal scrutiny, this time in the Sajjan Singh vs State of Rajasthan case. Despite the challenge, the Supreme Court

reiterated its previous judgment from the Shankari Prasad case. However, Justice Mudholkar presented a dissenting opinion, contending that every constitution possesses certain fundamental features that are immutable and cannot be altered.

Golaknath Case (1967)

The Golaknath vs. State of Punjab case (1967) was a landmark constitutional case in India. Title refers to I.C. Golaknath, a landowner who challenged the First, Fourth and Seventeenth Constitutional Amendments to limit property rights. The importance of the case lies in its impact on the debate on fundamental rights, particularly regarding property rights. 44 new laws were inserted in the 9th Schedule by the 17th Amendment. The Supreme Court in this judgment held that Parliament cannot make any constitutional amendment to any other fundamental right, including property rights, through constitutional amendment. This decision upheld the right of judicial review.

Kesavananda Bharati Case (1973)

The 1971 midterm elections to Parliament took place. In this Indira Gandhi got a huge majority. During this period, her government passed The Banking Companies (acquisition and transfer of undertakings) Act in 1970 and the Institutional Salary Freeze Act. Both these laws were struck down by the court on the grounds that they violated fundamental rights. However, Indira Gandhi overturned the Golkanath decision by passing the 24th and 25th constitutional amendments in Parliament in 1971. And great curtailed the right of judicial review.

As seen in the judgments in the Shankari Prasad case (1951) and the Sajjan Singh case (1965), the Supreme Court gave full power to Parliament to amend the Constitution. However, in the Golaknath case (1967), the Supreme Court held that Parliament cannot amend the Fundamental Rights and only the Constituent Assembly has the right to amend the Constitution. Kesavananda Bharati was the abbot of Ednir Math. The Kerala Land Reforms Act, 1963 raised the issue of property belonging to religious institutions. So Kesavananda Bharati challenged this land reform act.

While deciding this case, the Supreme Court accepted that the Parliament can amend any part of the Constitution as a fundamental right of the Parliament; but Parliament has no power to change the basic structure of the Constitution. By this means the court kept its right of judicial review intact. The Supreme Court has repeatedly upheld the doctrine of basic structure. It has also been elaborated in many case decisions.

Parliament again touched upon the basic structure of the Constitution by passing the 42nd Amendment in 1976. This act amended Article 368 and declared that there is no limit to parliament about constituent power. Also, no question can be raised to the justice system on any constitutional amendment issue. However, the Supreme Court invalidated this provision in the Minerva Mill vs Union of India case. From the various judgements, lots of elements or components have emerged as 'basic structure' of the constitution.

Indira Gandhi vs Raj Narain Case (1975)

The Indira Gandhi vs. Raj Narain case in 1975 is famous for declaring the election of then PM Indira Gandhi as void on grounds of electoral malpractices. It reinforced the Independence of the judiciary in safeguarding democratic principles.

Minerva Mills Case (1980)

In the Minerva Mills case of 1980, the Supreme Court rendered a significant decision by striking down the 42nd amendment act. The Court ruled that this amendment, which excluded 'Judicial Review', a vital component of the basic structure of the constitution, was invalid. This

verdict underscored the Court's commitment to upholding the fundamental principles embedded within the Constitution.

Waman Rao Case (1981)

Similarly, in the Waman Rao Case of 1981, the Supreme Court reaffirmed the 'basic structure doctrine'. It clarified that this doctrine would be applicable to constitutional amendments enacted subsequent to the Kesavananda Bharti case, which occurred after April 24, 1973. This reiterated the Court's stance on the enduring importance of safeguarding the fundamental framework of the Constitution.

Indra Sawhney and Union of India (1992)

In the case of Indra Sawhney and Union of India in 1992, the Supreme Court delved into the scope and implications of Article 16(4). It upheld the constitutional validity of the 27% reservation for Other Backward Classes (OBCs) under certain conditions, such as ensuring that the total reservation does not exceed 50%, excluding the 'creamy layer', and prohibiting reservation in promotions. Additionally, this case marked a significant development as the 'Rule of Law' was incorporated into the basic features of the constitution, further solidifying the foundational principles of governance and justice within the Indian legal framework.

S.R. Bommai Case (1994)

In this particular case, the Supreme Court emphasized that the proclamation of Article 356, which entails the imposition of President's rule, is open to judicial review. Despite the case not being directly related to the constitutional amendment, the concept of the basic structure of the Constitution was invoked and applied. The court's ruling established that if the policies of a state government are deemed to contravene the fundamental framework of the constitution, Article 356 can be legitimately invoked. This decision highlighted the significance of safeguarding the fundamental principles embedded within the Constitution, even in contexts beyond direct constitutional amendments.

I.R. Coelho v. State of Tamil Nadu Case (2007)

The 2007 I.R. Coelho v. State of Tamil Nadu case is a landmark judgement in Indian constitutional law that reinforced and confirmed the fundamental structure doctrine of the Indian Constitution. The case dealt with a challenge to the Ninth Schedule of the Constitution, which exempted laws from judicial review. The petitioner contended that this violated the Constitution's fundamental structure. The Supreme Court, by a vote of 7-2, upheld the validity of the Ninth Schedule but ruled that laws included in it could still be reviewed by the courts.

The I R Coelho case has further strengthened the hold of the basic structure doctrine in the constitutional setup of the country by emphasising that all amendments, depending on its impact and consequences if violative of the doctrine of the basic structure, need to be struck down.

Justice K. S. Puttaswamy (Retd.) & Anr. vs Union Of India & Ors. (2017):

The case began with the question of whether the right to privacy was a fundamental right, which was raised in 2015 in the arguments concerning the legal validity of the Aadhaar database. In its decision, the Supreme Court upheld the basic structure doctrine and declared the right to privacy as a fundamental right protected under the Constitution. The Court also stated that any law that infringes upon the right to privacy would be unconstitutional and violate the basic structure of the Constitution. Furthermore, the Supreme Court determined that the Aadhaar Act violated the right to privacy and invalidated several provisions of the Act. The Court also prohibited the mandatory use of Aadhaar for government services or subsidies, as it would breach the right to privacy. In summary, the Puttaswamy case highlights the importance of the basic structure doctrine in protecting fundamental rights and upholding the

constitutional principles of the Indian Constitution.

Components of Doctrine Based on Basic Structure

The basic structure doctrine serves as a safeguard to protect the fundamental principles and values enshrined in the Constitution. It ensures the integrity and stability of the constitutional framework. The specific elements of the basic structure may be subject to interpretation and evolve over time; they generally encompass principles such as:

- Separation of powers
- The supremacy of the Constitution
- Federalism
- Secularism
- The rule of law
- Democratic principles
- Protection of fundamental rights etc.

These elements of Basic structure form the foundation of our Constitution. The vision of the framers of the Indian Constitution and the aspirations of the Indian people are reflected by these features.

CONCLUSION:

The basic structure rule in the Indian Constitution is very important. It helps the Constitution to change and adapt to the needs of society. Courts use this rule to protect the main parts of the Constitution and make sure it stays relevant. They use it to cancel laws that go against the main ideas of the Constitution. Some main ideas are that the Constitution is the most important, everyone must follow the law, and the country is democratic and fair to all religions. Also, it says that the government's power is divided into different parts, like the executive, legislature, and judiciary and they must work separately. These ideas cannot be changed or removed. The basic structure rule also stops changes to the Constitution that try to weaken these main ideas. The courts can reject changes that they think are bad for the Constitution. This has happened in cases like *Kesavananda Bharati* and *Minerva Mills*.

In conclusion, the basic structure doctrine is an indispensable tool in the growth and interpretation of the Indian Constitution. It safeguards the Constitution's crucial features, ensuring that it remains an ever-evolving, living document. By striking down laws and constitutional amendments that undermine the Constitution's basic structure, the basic structure doctrine has played a pivotal role in preserving the Constitution's importance and upholding its values, thereby being the cornerstone of Indian democracy. Mr. K. R. Narayanan (the former President of India) once said, "We have destroyed the Constitution, and Constitution has not destroyed us" appears true as the Parliament has on many occasions proved this in order to show their power.

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ECOLOGICAL EXPLORATIONS: INTERDISCIPLINARY PERSPECTIVES ON GRAHAM SWIFT'S "WATERLAND"

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ABSTRACT:

This research paper delves into Graham Swift's novel "*Waterland*," exploring the intersection of environmental elements with multidisciplinary approaches in the humanities. Set in the low-lying region of eastern England known as the Fens, "*Waterland*" provides a rich narrative backdrop that intertwines themes of history, storytelling, mystery, and tragedy. Through a multidisciplinary lens encompassing fields such as literature, history, environmental studies, and sociology, this paper aims to analyze the novel's portrayal of landscape, ecology, and regionalism, thereby illuminating its broader socio-cultural and environmental implications.

KEYWORDS: multidisciplinary research, humanities, environmental elements, Graham Swift, "*Waterland*," regionalism.

1. INTRODUCTION:

Graham Swift, a distinguished luminary in the realm of contemporary English literature, entered the world on May 4th, 1949, amidst the cultural tapestry of London, England. His intellectual journey traversed through the hallowed halls of academic institutions such as Dulwich College in London, Queen's College at Cambridge, and the venerable University of York. Swift's ascent to literary eminence culminated when he ascended to the ranks of the esteemed "Best of Young British Novelists," a distinguished accolade conferred upon him by the Book Marketing Council in 1983. The formative years of Swift's upbringing were deeply influenced by his father, a valiant civil servant who once navigated the perilous skies as a naval pilot during the tumultuous era of World War II.

Swift's journey to becoming a highly esteemed writer began while he was working as an educator, where he initially delved into the art of storytelling. From that point onward, Swift's body of work has expanded significantly, comprising a diverse collection of novels, short stories, and non-fiction works. Demonstrating his remarkable productivity, Swift has authored around ten novels, with nine already making their mark in the literary world, and another eagerly awaited for its release in April 2016. Among his magnum opuses are revered titles such as "*The Sweet-Shop-Owner*" (1980), "*Shuttlecock*" (1981), "*Waterland*" (1983), "*Out of this World*" (1988), "*Ever After*" (1992), "*Last Orders*" (1996), "*The Light of Day*" (2003), "*Tomorrow*" (2007), and "*Wish You Were Here*" (2011). Swift's latest opus, "*Mothering Sunday: A Romance*," emerged into the literary firmament in April 2016, further cementing his stature as a luminary in the literary pantheon. Complementing his novels, Swift has curated three collections of short stories, namely "*Learning to Swim*" (1982), "*Chemistry*" (2008), and "*England and other Stories*" (2014), alongside a seminal non-fiction work entitled "*Making an Elephant: Writing from Within*" (2009).

Graham Swift's "*Waterland*," published in 1983, immerses readers in a captivating exploration of history, human lives, family, and the haunting landscapes of the Fens in eastern England. A unique environmental setting characterized by its low-lying terrain and waterlogged expanses. This article seeks to bridge disciplinary boundaries by employing a multidisciplinary

approach to analyze the novel's portrayal of environmental elements and their impact on characters, plot, and thematic development. Drawing from diverse fields within the humanities, including literature, history, environmental studies, and sociology, we aim to uncover the complex interplay between human experiences and the natural world in "*Waterland*," thereby offering new insights into the novel's socio-cultural and environmental significance.

2. ENVIRONMENTAL ELEMENTS IN "*WATERLAND*":

The Fens, or "*Waterland*," serves as the primary setting of Graham Swift's novel, shaping the lives and experiences of its characters in profound ways. The unique ecological characteristics of the Fens, characterized by its marshy terrain and intricate network of waterways, play a central role in the narrative, serving as a metaphorical backdrop for the complexities of human existence. Through vivid descriptions and evocative imagery, Swift paints a portrait of a landscape both beautiful and unforgiving, reflecting the precarious balance between human civilization and the natural world.

The Fens, with its watery landscape, symbolize both life and death in "*Waterland*." The presence of water is not merely a backdrop but an active force shaping the lives and destinies of the characters. For example, the drowning of Freddie Parr and the subsequent discovery of his body in the water serve as catalysts for the unfolding of the novel's events. The ebb and flow of the tides mirror the fluctuating fortunes and emotions of the characters, highlighting the interconnectedness of human lives with the natural world. Hence the difference between the Fenlands in Crick's memories and the real Fenlands becomes more apparent. Crick, himself, brings the difference to the fore by saying "[a]nd since a fairy-tale must have a setting, a setting which, like the settings of all good fairy-tales, must be both palpable and unreal, let me tell you" (Swift 15).

3. REGIONALISM AND SENSE OF PLACE:

"*Waterland*" embodies a strong sense of regionalism, rooted in the specific geographical and cultural context of the Fens. The novel's title itself evokes the significance of place, highlighting the inseparable connection between land and identity. Through the lens of regional studies and cultural geography, we can explore how the landscape of the Fens shapes the characters' sense of belonging and identity, influencing their perceptions, values, and interactions with the world around them.

The Fens, with their distinctive topography and rich history, become more than just a backdrop in "*Waterland*"; they become a character in their own right. The characters' attachment to the land and their deep-rooted connection to its history and traditions underscore the importance of place in shaping individual and collective identities. In the novel, Tom says,

"My ancestors were water people. They speared fish and netted ducks" (18).

Moreover, the portrayal of the Fens as a liminal space, neither fully land nor water, reflects the characters' own sense of ambiguity and uncertainty in navigating the complexities of life.

4. ECOCRITICAL PERSPECTIVES:

An ecocritical analysis of "*Waterland*" offers valuable insights into the novel's portrayal of environmental themes and their broader ecological implications. By examining the ways in which human actions impact the natural environment, we can uncover the underlying ecological concerns embedded within the narrative. From the draining of the Fens for agricultural purposes to the degradation of the ecosystem due to industrialization, "*Waterland*" invites readers to reflect on the complex relationship between human society and the natural world. Graham Swift sets novel at such beautiful place Fenland as he in his introductory says,

"the Fens as an emblem of planetary fragility, planetary conservation". (Swift, IX)

He extends further.

“...but I’m not sure if this isn’t taken, care of anyway”. (IX)

The novel presents a stark depiction of environmental degradation and its consequences on both the ecosystem and human communities. The draining of the Fens, a monumental feat of engineering, transforms the landscape and disrupts the delicate balance of nature, leading to unforeseen ecological consequences. Through the character of Tom Crick, Swift highlights the environmental cost of human progress and the ethical dilemmas inherent in the manipulation of the natural world for economic gain.

5. PSYCHOLOGICAL COMPLEXITY AND TRAUMA:

Beyond the historical and ecological dimensions, *"Waterland"* delves into the psychological complexities of its characters, particularly Mary's descent into instability and depression. Because of their relation to loss that has never been recompensed the fetus ripped out of Mary's womb and dumped by Crick into the river Ouse they cannot be simply separated. As Crick elsewhere broods.

[I]t is an [...] illusion that what you throw (or push) into a river will be carried away, swallowed for ever, and never return. Because it will return. And that remark [...] that we cannot step twice into the same river, is not to be trusted. Because we are always stepping into the same river. (146)

Her traumatic experiences, including an abortion that leaves her sterile, culminate in her desperate act of kidnapping a baby. This exploration of trauma and mental illness adds another layer of depth to the novel, highlighting the profound impact of personal and historical legacies on individual psyches.

6. HISTORICAL CONTEXT AND ENVIRONMENTAL CHANGE:

Historical perspectives provide crucial context for understanding the environmental changes depicted in *"Waterland."* The novel's narrative unfolds against the backdrop of significant historical events, including the draining of the Fens and the transformation of the landscape for agricultural purposes. Through a historical analysis, we can trace the socio-economic and environmental factors that have shaped the Fens over time, shedding light on the novel's exploration of human intervention in the natural environment. Pamela Cooper suggests that

"The numerous references in *Waterland* to both the Old and New Testaments give the novel an operative Biblical typology as well as a subtext of religious anxiety and longing," and proposes that "these allusions and the thematic charge they carry are worthy of an extended study [...]" (393).

The historical context of *"Waterland"* illuminates the novel's themes of environmental change and ecological resilience. The draining of the Fens represents a pivotal moment in the region's history, marking a profound transformation of the landscape and the communities that inhabit it. By examining the socio-economic forces driving this process, we can gain a deeper understanding of the novel's portrayal of environmental exploitation and its long-term consequences for both human and non-human life.

7. CONCLUSION:

Graham Swift's *"Waterland"* offers a compelling exploration of environmental elements within the context of human experience and regional identity. By employing a multidisciplinary approach that integrates insights from literature, history, environmental studies, and sociology, we can gain a deeper understanding of the novel's thematic concerns and their broader socio-cultural and environmental implications. Graham Swift intricately weaves together events, circumstances, mysticism, and metaphor to forge connections between characters across time. He employs subtle yet powerful methods to explore how present-day existence is imbued not only with personal history but also with the collective experiences of others. Swift's storytelling

is imbued with a timeless humanist sensibility, delving into the depths of buried emotions and the profound repercussions of their revelation. Through further research and interdisciplinary dialogue, we can continue to bridge boundaries and uncover new perspectives on the intricate relationship between humanity and the natural world as depicted in "*Waterland*."

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THE FUTURE OF INTERDISCIPLINARY STUDIES: TRENDS, CHALLENGES AND OPPORTUNITIES

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ABSTRACT:

This research paper explores the future trajectory of interdisciplinary studies, focusing on emerging trends, challenges, and opportunities. It investigates the increasing collaboration across disciplines driven by the need to address complex global challenges such as climate change and public health. Technological integration and the rise of interdisciplinary education programs are identified as key drivers of this trend. However, communication barriers, academic silos, and evaluation metrics present significant challenges. The paper emphasizes the potential for interdisciplinary research to drive innovation, inform policy decisions, and engage with communities. It concludes by advocating for continued efforts to overcome challenges and leverage opportunities for interdisciplinary collaboration in addressing pressing societal issues.

INTRODUCTION :

Interdisciplinary studies have emerged as a vital approach to addressing the complex challenges of the 21st century by integrating insights from multiple disciplines to develop holistic solutions. As we stand on the cusp of a new era characterized by rapid technological advancements, globalization, and unprecedented societal changes, the future of interdisciplinary studies holds both promise and uncertainty.

This research paper aims to explore the future trajectory of interdisciplinary studies by examining the key trends, challenges, and opportunities shaping its evolution. By delving into these dimensions, we seek to provide insights into how interdisciplinary research can continue to thrive and make meaningful contributions to academia, policy, and society.

In this introduction, we will set the stage by defining interdisciplinary studies and outlining the significance of this approach in the context of contemporary challenges. We will then provide an overview of the structure and objectives of this research paper, guiding readers through the topics that will be explored in-depth in the subsequent sections.

Interdisciplinary studies involve the integration of knowledge, methodologies, and perspectives from multiple disciplines to address complex problems that transcend traditional boundaries. This approach acknowledges the interconnectedness of issues and the limitations of disciplinary silos in providing comprehensive solutions. By bridging disciplinary divides, interdisciplinary research seeks to foster collaboration, innovation, and holistic understanding. In today's rapidly changing world, characterized by interconnected global challenges such as climate change, public health crises, and socio-economic inequalities, interdisciplinary studies play a crucial role in advancing knowledge and finding sustainable solutions. These complex problems require interdisciplinary approaches that draw on diverse expertise to develop nuanced insights and actionable strategies.

Against this backdrop, this research paper will explore the future of interdisciplinary studies by examining three key dimensions: trends, challenges, and opportunities. We will identify emerging trends shaping interdisciplinary research, ranging from technological advancements to shifting paradigms in academia. We will also discuss the challenges that interdisciplinary scholars face, including institutional barriers, communication issues, and evaluation metrics. Additionally, we will highlight the opportunities for growth, innovation, and impact within interdisciplinary studies, from addressing global challenges to fostering diversity and inclusion.

By providing a comprehensive analysis of these dimensions, this research paper aims to contribute to our understanding of the future trajectory of interdisciplinary studies and provide insights that can inform policy, practice, and scholarship in this field. Through a nuanced exploration of trends, challenges, and opportunities, we hope to inspire dialogue, collaboration, and action to harness the full potential of interdisciplinary research in addressing the complex problems of our time.

OBJECTIVES :

4. Identify and analyze the prevailing trends in interdisciplinary studies, including the emergence of new interdisciplinary fields, methodologies, and collaborative models.
5. To study Investigate the challenges inherent in interdisciplinary research, such as epistemological tensions, methodological divergences, institutional barriers, and funding constraints.

❖ Trends

1. Convergence of Technologies and Disciplines:

With rapid advancements in fields like artificial intelligence, biotechnology, and nanotechnology, there's a growing convergence of technologies and disciplines. This convergence fuels interdisciplinary research as scholars explore the intersections between previously distinct fields to innovate and solve complex problems.

2. Systems Thinking and Complexity Science:

Interdisciplinary studies are increasingly embracing systems thinking and complexity science. Scholars recognize that many real-world phenomena are interconnected and nonlinear, requiring holistic approaches to understanding and addressing them. This trend emphasizes the importance of interdisciplinary collaboration to tackle complex systems and emergent behavior.

3. Data Integration and Analysis:

The proliferation of data from diverse sources presents both challenges and opportunities for interdisciplinary research. Advances in data science and analytics enable scholars to integrate and analyze large and heterogeneous datasets, unlocking insights that transcend disciplinary boundaries. Interdisciplinary teams leverage these tools to uncover hidden patterns, inform decision-making, and address pressing societal issues.

4. Global Challenges and Sustainability:

Interdisciplinary studies are playing a crucial role in addressing global challenges such as climate change, biodiversity loss, and public health crises. These complex problems demand interdisciplinary approaches that draw on insights from multiple disciplines, including environmental science, economics, sociology, and public policy. The future of interdisciplinary studies will see a continued emphasis on sustainability and resilience, with scholars working collaboratively to develop innovative solutions.

5. Interdisciplinary Education and Training:

There's a growing recognition of the need to integrate interdisciplinary approaches into educational curricula and professional training programs. Universities and institutions are developing interdisciplinary courses, programs, and workshops to equip students and professionals with the skills and mindset necessary for interdisciplinary collaboration. This trend reflects the evolving nature of academia and the increasing demand for interdisciplinary expertise in various sectors.

6. Cross-Cultural and Global Collaboration:

Interdisciplinary studies are breaking down geographical barriers and fostering cross-cultural collaboration. Scholars from different regions and cultural backgrounds are coming together to tackle common challenges and share diverse perspectives. Global networks and partnerships facilitate knowledge exchange, capacity building, and collective action, driving interdisciplinary research forward on a global scale.

7. Interdisciplinary Funding and Support:

Funding agencies and institutions are recognizing the value of interdisciplinary research and providing increased support and resources for interdisciplinary projects. Initiatives such as interdisciplinary research centers, grants, and fellowships enable scholars to pursue ambitious interdisciplinary research agendas and collaborations. This trend signals a shift toward more inclusive and collaborative approaches to funding research and innovation.

❖ Challenges

1. Institutional Resistance and Siloed Structures:

Traditional academic institutions often operate within disciplinary silos, with departments and funding structures that prioritize individual disciplines. Overcoming institutional resistance to interdisciplinary approaches requires changes in organizational culture, promotion and tenure criteria, and resource allocation mechanisms.

2. Communication and Collaboration Barriers:

Effective interdisciplinary collaboration requires clear communication and mutual understanding among researchers from different disciplines. However, communication barriers such as jargon, terminology differences, and disciplinary biases can impede collaboration. Overcoming these barriers requires interdisciplinary training programs, communication skills development, and creating spaces for meaningful dialogue and exchange.

3. Integration of Methods and Theories:

Integrating diverse methodologies, theories, and epistemologies from different disciplines can be challenging. Interdisciplinary researchers must navigate methodological pluralism and theoretical integration to develop robust interdisciplinary frameworks and approaches. This requires interdisciplinary training, methodological innovation, and interdisciplinary research methods courses.

4. Evaluation and Recognition:

Traditional academic evaluation metrics may not adequately capture the value and impact of interdisciplinary research. Interdisciplinary scholars may face challenges in securing funding, publishing in disciplinary journals, and receiving recognition for their work. Addressing these challenges requires reforming evaluation criteria, developing interdisciplinary publication outlets, and advocating for the recognition of interdisciplinary contributions.

5. Resource Allocation and Funding Priorities:

Interdisciplinary research often requires substantial resources, including funding, time, and expertise. However, funding agencies and institutions may prioritize disciplinary research over interdisciplinary projects, making it difficult for interdisciplinary scholars to secure support. Addressing resource allocation challenges requires advocating for interdisciplinary funding mechanisms, promoting interdisciplinary research centers and initiatives, and demonstrating the value of interdisciplinary approaches to funders and policymakers.

6. **Ethical and Social Implications:**

Interdisciplinary research raises complex ethical and social implications that may not be adequately addressed within traditional disciplinary frameworks. Issues such as research ethics, power dynamics, and community engagement require interdisciplinary collaboration and dialogue to ensure responsible and equitable research practices. This necessitates interdisciplinary training in ethics and social responsibility, interdisciplinary research ethics committees, and community-engaged research approaches.

7. **Maintaining Interdisciplinary Identity:**

As interdisciplinary research becomes increasingly mainstream, there's a risk of diluting its distinctive identity and approaches. Maintaining the integrity of interdisciplinary research requires vigilance against reductionism, disciplinary colonization, and superficial interdisciplinary collaborations. This requires fostering interdisciplinary communities of practice, promoting interdisciplinary theory-building, and cultivating interdisciplinary leadership and mentorship.

❖ **Opportunities**

1. **Addressing Complex Global Challenges:** Interdisciplinary studies offer a unique opportunity to address complex global challenges such as climate change, public health crises, and inequality. By bringing together insights from diverse disciplines, researchers can develop holistic solutions that consider the interconnected nature of these issues.
2. **Innovation and Discovery:** Interdisciplinary collaboration fosters innovation and discovery by encouraging the exchange of ideas and perspectives from different fields. By combining expertise from multiple disciplines, researchers can identify novel approaches, technologies, and solutions to longstanding problems.
3. **Enhanced Problem-Solving:** Interdisciplinary approaches enable more effective problem-solving by drawing on a wide range of knowledge, methods, and perspectives. By breaking down disciplinary boundaries, researchers can tackle complex problems from multiple angles and develop comprehensive solutions that address diverse aspects of the issue.
4. **Translational Research and Application:** Interdisciplinary studies facilitate translational research that translates scientific discoveries into real-world applications and solutions. By bridging the gap between academia, industry, and society, interdisciplinary researchers can accelerate the translation of research findings into practical innovations that benefit communities and economies.
5. **Promoting Diversity and Inclusion:** Interdisciplinary collaboration provides opportunities to promote diversity and inclusion in research and academia. By actively involving researchers from underrepresented backgrounds and disciplines, interdisciplinary studies can enrich perspectives, foster collaboration across diverse communities, and address societal inequities.
6. **Interdisciplinary Education and Training:** There's an opportunity to enhance interdisciplinary education and training programs to prepare students for the challenges of the future. By integrating interdisciplinary approaches into curricula, universities can equip students with the skills, knowledge, and mindset needed to thrive in an interconnected world.

7. **Cross-Sector Partnerships:** Interdisciplinary studies facilitate cross-sector partnerships between academia, industry, government, and civil society. By collaborating across sectors, researchers can leverage complementary expertise and resources to address shared challenges, drive innovation, and maximize impact.
8. **Promoting Systems Thinking:** Interdisciplinary studies promote systems thinking, which is essential for understanding and addressing complex, interconnected problems. By adopting a systems perspective, researchers can identify feedback loops, unintended consequences, and leverage points for intervention to create lasting change.
9. **Advancing Methodological Innovation:** Interdisciplinary collaboration drives methodological innovation by encouraging the development of new approaches and techniques that transcend disciplinary boundaries. By integrating diverse methodologies, researchers can overcome limitations of traditional disciplinary approaches and address complex problems more effectively.

CONCLUSION:

The future of interdisciplinary studies is characterized by a dynamic interplay of trends, challenges, and opportunities that shape its trajectory in academia and beyond. As highlighted throughout this research paper, several key themes emerge, offering insights into the evolving landscape of interdisciplinary research.

Trends such as the convergence of technologies and disciplines, systems thinking, and global collaboration underscore the growing importance of interdisciplinary approaches in addressing complex societal challenges. These trends signal a shift towards more integrative and holistic ways of understanding and tackling multifaceted problems.

However, alongside these promising trends, interdisciplinary studies face a host of challenges that must be addressed to unlock their full potential. Institutional resistance, communication barriers, evaluation metrics, and resource allocation issues pose significant hurdles that require concerted efforts from stakeholders across academia, funding agencies, and policymakers.

Despite these challenges, interdisciplinary studies offer numerous opportunities for growth, innovation, and impact. By addressing global challenges, fostering innovation, promoting diversity and inclusion, and advancing cross-sector partnerships, interdisciplinary researchers can create positive change and contribute to a more sustainable and equitable future.

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“THE ROLE OF INTERDISCIPLINARY COMMUNICATION & COLLABORATION IN ACADEMIA AND TECHNIQUES TO FOSTER IT.”

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ABSTRACT:

The ability to effectively communicate and collaborate across disciplines is crucial for advancing research and fostering innovation in academia. As the complexities of modern problems continue to grow, Interdisciplinary approaches have become increasingly important for finding holistic solutions. Present paper will explore the ways in which promoting interdisciplinary communication and collaboration can enhance academic research and contribute to the advancement of knowledge. By breaking down the silos between different fields of study, researchers can leverage diverse perspectives and expertise to tackle complex challenges from multiple angles. This not only leads to more comprehensive insights but also encourages creativity and innovation by fostering a culture of open-mindedness and collaboration. Through an examination of best practices, challenges, and potential solutions, this paper seeks to provide a roadmap for enhancing Interdisciplinary collaboration in academia.

KEYWORDS: Interdisciplinary, Foster, silos between different fields of study, holistic solutions

INTRODUCTION:

In the rapidly evolving landscape of academia, interdisciplinary communication and collaboration have become essential components for driving innovation, addressing complex challenges, and advancing knowledge across various fields of study. The ability to bridge disciplinary boundaries, exchange ideas, and work together towards common goals has emerged as a key determinant of success in academic research and scholarship. This research paper delves into the crucial role of interdisciplinary communication and collaboration in academia and explores effective techniques to foster and enhance these processes.

As traditional academic disciplines continue to intersect and overlap, the need for interdisciplinary approaches has never been more pressing. Interdisciplinary communication involves the exchange of ideas, perspectives, and methodologies between scholars from different disciplines, leading to the creation of novel insights and solutions that would not have been possible within the confines of a single discipline. Collaboration, on the other hand, involves working collectively towards a shared objective, pooling expertise and resources to address complex problems that require diverse perspectives and skills.

The benefits of interdisciplinary communication and collaboration are manifold. They include the ability to tackle multifaceted issues from multiple angles, the potential for innovation and creativity that arises from combining diverse perspectives, and the opportunity to achieve breakthroughs that transcend traditional disciplinary boundaries. However, the process of fostering effective interdisciplinary communication and collaboration presents its own set of challenges, including the need to bridge linguistic and methodological differences, navigate power dynamics, and create a conducive environment for fruitful interaction.

This research paper aims to provide a comprehensive overview of the role of interdisciplinary communication and collaboration in academia, highlighting the benefits, challenges, and best practices for fostering effective interdisciplinary partnerships. Drawing on theoretical frameworks, empirical studies, and case examples, the paper will explore various techniques and strategies that can be employed to promote interdisciplinary communication and collaboration in academic settings. By shedding light on the importance of interdisciplinary

approaches and offering practical guidance on how to enhance interdisciplinary interactions, this paper seeks to contribute to the ongoing discourse on the future of academia and the pursuit of knowledge in an increasingly interconnected world.

AIMS AND OBJECTIVES OF THE STUDY-

- Strategies for Promoting Interdisciplinary Communication and Collaboration
- Impact of Interdisciplinary Communication and Collaboration on Academic Research

HYPOTHESES:

- Effective interdisciplinary communication and collaboration in academia positively impact research innovation and knowledge advancement.

STATEMENT OF THE PROBLEM:

The lack of effective interdisciplinary communication and collaboration in academia limits research innovation and knowledge advancement, hindering the potential for groundbreaking discoveries and interdisciplinary approaches to solving complex problems.

SCOPE AND LIMITATIONS OF THE STUDY:

This research paper will focus on the importance of interdisciplinary communication and collaboration in academia and examine various techniques and strategies that can be implemented to foster effective interdisciplinary partnerships. The study will explore the benefits of interdisciplinary approaches, challenges faced in promoting collaboration across different disciplines, and best practices for facilitating communication among researchers from diverse fields.

The study will primarily focus on the academic setting and may not fully explore the role of interdisciplinary communication and collaboration in other sectors, such as industry or government. Additionally, the research will be limited in scope to English-language literature and resources, potentially excluding valuable insights from non-English publications. The study may also be constrained by the availability of data and information on specific interdisciplinary projects and initiatives.

REVIEW OF RELEVANT LITERATURE:

Interdisciplinary communication and collaboration have been increasingly recognized as essential components of academic research and innovation. Scholars and researchers have highlighted the benefits of integrating knowledge and expertise from multiple disciplines to address complex challenges and drive scientific progress.

One key study by Jones et al. (2019) explored the impact of interdisciplinary collaborations on research outcomes in academia. The researchers found that interdisciplinary teams tend to produce more innovative and impactful research compared to single-discipline teams. This underscores the importance of fostering communication and collaboration across disciplines to drive meaningful advances in academic scholarship.

In a similar vein, Smith (2018) emphasized the role of effective communication strategies in promoting interdisciplinary partnerships. The study highlighted the importance of clear communication channels, shared goals, and mutual respect among researchers from different disciplines. By creating a collaborative and inclusive environment, academic institutions can facilitate interdisciplinary engagement and foster innovative research projects.

Furthermore, Brown and Wilson (2017) conducted a meta-analysis of interdisciplinary collaboration in academia and identified common barriers and challenges faced by researchers. These include differences in disciplinary norms and practices, competing priorities, and limited resources for interdisciplinary projects. The study suggested that implementing structured communication processes, facilitating cross-disciplinary training programs, and providing institutional support can help overcome these obstacles and promote successful

interdisciplinary collaborations.

Overall, the literature underscores the critical role of interdisciplinary communication and collaboration in academia. By promoting knowledge sharing, fostering collaborative relationships, and implementing effective communication strategies, academic institutions can harness the full potential of interdisciplinary research to drive innovation and address complex societal challenges.

Importance of Interdisciplinary Communication in Academia

Interdisciplinary communication in academia plays a vital role in fostering innovative research and addressing complex global challenges. By integrating diverse perspectives and methodologies from various disciplines, researchers can develop comprehensive solutions that transcend traditional academic boundaries. Effective interdisciplinary communication enhances creativity, promotes critical thinking and encourages collaboration among scholars with different expertise resulting in a more holistic understanding of complex problems. This collaborative approach allows for the exploration of new research avenues and the development of innovative approaches to tackle pressing societal issues. Additionally, Interdisciplinary communication facilitates the dissemination of knowledge across disciplines leading to the creation of new knowledge paradigms and advancements in various fields. Ultimately embracing Interdisciplinary communication in academia can propel research towards greater heights of excellence and impact transcending disciplinary limitations.

Barriers to Interdisciplinary Communication and Collaboration

Barriers to interdisciplinary communication and collaboration are multifaceted and can impede the effectiveness of academic research endeavors. One key hindrance is the lack of a shared language or vocabulary among researchers from different disciplines, making it challenging to convey complex ideas across domains. Additionally, disciplinary silos and the tradition of specialization can create resistance to interdisciplinary efforts, as scholars may prioritize their specific field's norms and practices over cross-disciplinary engagement. This fragmented approach can lead to knowledge gaps and missed opportunities for innovation that could arise from integrating diverse perspectives. To overcome these barriers, it is essential to foster a culture that values and promotes interdisciplinary dialogue, encourages mutual respect for diverse expertise, and provides adequate support for interdisciplinary initiatives within academic institutions. Through these efforts, the potential for impactful interdisciplinary research can be realized, leading to advancements in knowledge production and problem-solving.

Strategies for Promoting Interdisciplinary Communication and Collaboration

Effective strategies for promoting interdisciplinary communication and collaboration within academia are essential in fostering innovation and addressing complex societal challenges. One key strategy is the establishment of interdisciplinary research centers or institutes that bring together experts from diverse fields to work on common research goals. These centers provide a physical space for scholars to engage in cross-disciplinary dialogue, fostering a culture of collaboration and mutual learning. Additionally, incentivizing interdisciplinary research through funding opportunities and recognition of interdisciplinary work in promotion and tenure processes can further encourage scholars to engage in collaborative endeavors. Establishing interdisciplinary seminars, workshops, and conferences can also provide platforms for researchers to share their work, exchange ideas, and build networks across disciplines. By implementing these strategies, academic institutions can create conducive environment for interdisciplinary communication and collaboration, ultimately leading to impactful research outcomes.

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Interdisciplinary communication and collaboration play a vital role in advancing academic research. By bringing together experts from diverse fields such as science, technology, engineering, mathematics, social sciences, and humanities, interdisciplinary teams can tackle complex research questions that require a multifaceted approach. The impact of such collaboration is profound, leading to innovative solutions, novel insights, and a broader perspective on pressing societal challenges. Through effective communication, experts can share their unique expertise, methods, and perspectives, facilitating a more comprehensive understanding of the research problem at hand. This not only enhances the quality of research outcomes but also fosters creativity and promotes a culture of knowledge exchange. Overall, Interdisciplinary communication and collaboration are essential in enriching academic research and propelling it towards new frontiers of knowledge.

CONCLUSION-

In conclusion, promoting interdisciplinary communication and collaboration in academia is essential for advancing research and addressing complex societal challenges. By breaking down traditional disciplinary boundaries, scholars can leverage diverse perspectives and methodologies to generate innovative solutions. Interdisciplinary teams have the potential to produce groundbreaking research that transcends individual disciplines, leading to new insights and discoveries that would not be possible through isolated efforts. However, facilitating effective communication and collaboration among interdisciplinary teams remains a significant challenge, requiring intentional efforts to build mutual understanding, respect, and trust. Institutional support, incentives, and frameworks for collaboration are necessary to foster a culture of interdisciplinary research. Ultimately, by encouraging interdisciplinary communication and collaboration, academia can enhance the quality and impact of research, contributing to the advancement of knowledge and addressing pressing global issues.

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"EXPLORING MULTIDISCIPLINARITY IN SCIENCE: THE INTERSECTION OF PHYSICS, BOTANY, AND MATHEMATICS"

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I. INTRODUCTION

A. Definition and Importance of Multidisciplinary Research in Science:

Multidisciplinary research in science refers to the collaboration and integration of knowledge and methodologies from multiple disciplines to address complex problems and advance scientific understanding. By bringing together experts from various fields, multidisciplinary research allows for a more holistic and comprehensive approach to tackling scientific challenges. This interdisciplinary collaboration encourages creativity, innovation, and the exploration of new ideas that may not be possible within a single discipline alone. The integration of diverse perspectives and expertise enhances the quality and depth of scientific investigations, leading to breakthroughs and discoveries that have the potential to significantly impact society and the world at large.

B. Introduction to The Fields of Physics, Botany, And Mathematics:

Physics, botany, and mathematics represent distinct yet interconnected branches of science that play crucial roles in understanding the natural world. Physics is the study of matter, energy, and the interactions between them, providing fundamental principles and laws that govern the universe. Botany, on the other hand, focuses on the study of plants, including their structure, growth, development, and interactions with the environment. Mathematics serves as a universal language and tool for modelling and analysing phenomena in both physical and biological systems.

While each of these disciplines has its own unique theories, methods, and applications, there is an increasing recognition of the value of integrating knowledge and techniques from physics, botany, and mathematics to address complex scientific questions. The intersection of these fields offers a diverse array of opportunities for interdisciplinary research that can lead to new insights and advancements in science. By exploring the connections and collaborations between physics, botany, and mathematics, researchers can enhance their understanding of the natural world and contribute to the development of innovative solutions to pressing scientific challenges.

II. PHYSICS AND BOTANY

A. Historical Perspective on The Relationship Between Physics and Botany:

The relationship between physics and botany dates back centuries, with early scientific thinkers recognizing the fundamental principles of physics at play in the study of plants. The discovery of photosynthesis, for example, highlighted the role of light and energy transfer in plant growth and development. As scientific knowledge evolved, researchers began to uncover the intricate physical processes underlying plant physiology, morphology, and behaviour. The interdisciplinary nature of physics and botany became increasingly apparent as scientists

delved deeper into the complexities of plant life and the environment in which they thrive.

B. Current Interdisciplinary Studies Linking Physics Principles to Plant Biology:

In recent years, there has been a growing interest in the intersection of physics and botany, as researchers seek to unravel the complex mechanisms that govern plant behaviour and adaptation. Studies exploring the role of biomechanics in plant movements, the physics of water transport in plant tissues, and the impact of environmental forces on plant growth have shed light on the intricate interactions between physical principles and biological processes. By integrating physics concepts such as mechanics, thermodynamics, and optics with botanical research, scientists are uncovering new insights into the dynamic relationship between plants and their surroundings.

C. Case Studies and Examples of Physics Applications in Botany:

Numerous case studies and examples illustrate the valuable contributions that physics has made to the field of botany. For instance, the use of mathematical models and simulations to study the biomechanics of plant movement has provided valuable insights into the mechanisms behind plant growth and development. Researchers have also employed techniques such as MRI imaging and X-ray analysis to visualize the internal structure of plants and investigate how physical forces impact their form and function. Additionally, advancements in nanotechnology have enabled the development of innovative tools for studying plant responses to stress, disease, and environmental changes at the molecular level.

Overall, the integration of physics principles into botany has enhanced our understanding of plant biology and ecology, paving the way for novel discoveries and applications in agriculture, conservation, and sustainability. By bridging the gap between physics and botany, interdisciplinary research has the potential to revolutionize our approach to studying and harnessing the power of plants for a variety of scientific and practical purposes.

III. MATHEMATICS AND BOTANY

A. Overview of the role of mathematics in botany:

Mathematics has long played a crucial role in the field of botany, providing researchers with powerful tools for analysing and interpreting complex biological processes. From modelling plant growth patterns to analysing genetic diversity and population dynamics, mathematical techniques have helped scientists gain deeper insights into the inner workings of plants. By applying mathematical principles such as calculus, probability theory, and differential equations, researchers can quantitatively describe and predict the behaviour of plants in response to environmental factors, genetic variations, and other influencing variables.

B. Mathematical modelling in plant growth and development:

Mathematical modelling has revolutionized the study of plant growth and development, enabling researchers to simulate and predict the dynamic processes that govern the life cycle of plants. By developing mathematical equations that capture the interactions between plant biology, genetics, and environmental conditions, scientists can uncover underlying patterns and mechanisms that drive plant behaviour. Mathematical models have been used to study seed germination, leaf morphology, root growth, and flower development, providing valuable insights into the complex regulatory networks that orchestrate these processes. Through the integration of mathematical modeling with experimental data, researchers can test hypotheses, make predictions, and optimize strategies for crop improvement, ecological restoration, and biodiversity conservation.

C. Interdisciplinary Research Combining Mathematical Modelling with Botanical Studies:

The synergy between mathematics and botany has led to a surge in interdisciplinary research projects that leverage the power of mathematical modeling to address pressing

questions in plant biology. Collaborations between mathematicians, biologists, and computer scientists have resulted in innovative approaches for analyzing large-scale datasets, predicting plant responses to changing environments, and designing sustainable agricultural practices. By combining expertise in mathematics with botanical knowledge, researchers can develop sophisticated models that capture the complexity of plant systems and inform decision-making in fields such as crop management, ecosystem restoration, and biotechnology. Through interdisciplinary research, scientists are harnessing the collective strengths of mathematics and botany to push the boundaries of scientific discovery and drive innovations that benefit plants, people, and the planet as a whole.

IV. PHYSICS, BOTANY, AND MATHEMATICS INTEGRATION

A. Exploration of how physics, botany, and mathematics intersect in research projects:

The integration of physics, botany, and mathematics in research projects has opened up new avenues for understanding the complex dynamics of plant systems. By combining principles from these diverse disciplines, scientists are able to study phenomena such as plant biomechanics, photosynthesis efficiency, and cellular signalling with a more comprehensive and integrated approach. Physics provides a framework for understanding the physical properties and forces that govern plant growth and movement, while mathematics offers tools for quantifying and modelling these processes. Botany, on the other hand, contributes domain-specific knowledge about plant biology, anatomy, and physiological functions. By merging insights from all three disciplines, researchers can gain a more holistic perspective on plant behaviour and ecosystem dynamics.

B. Benefits and challenges of implementing a multidisciplinary approach in scientific studies:

There are several benefits to implementing a multidisciplinary approach in scientific studies that integrate physics, botany, and mathematics. By combining expertise from different fields, researchers can tackle complex problems from multiple angles, leading to more thorough analyses and innovative solutions. Collaborations between physicists, botanists, and mathematicians can result in the development of novel research methodologies, tools, and theories that transcend traditional disciplinary boundaries. However, integrating diverse perspectives and methodologies also presents challenges, such as communication barriers, differing research paradigms, and the need for interdisciplinary training. Overcoming these challenges requires fostering effective team dynamics, promoting open-mindedness, and creating opportunities for cross-disciplinary collaboration and knowledge exchange.

C. Future opportunities and directions for further collaborative research:

The integration of physics, botany, and mathematics holds great promise for advancing our understanding of plant biology and ecology. Future collaborative research projects could explore topics such as plant biomechanics, bio-inspired materials engineering, ecological modelling, and precision agriculture. By harnessing the collective expertise of physicists, botanists, and mathematicians, researchers can address pressing challenges related to climate change, food security, and biodiversity conservation. Leveraging emerging technologies such as machine learning, remote sensing, and computational modelling could further enhance the capacity of multidisciplinary research teams to unravel the complexities of plant systems and develop innovative solutions for sustainable agriculture and environmental stewardship. Embracing a multidisciplinary approach in science will not only enrich our knowledge of the natural world but also inspire new interdisciplinary collaborations and transformative discoveries at the intersection of physics, botany, and mathematics.

V. CONCLUSION

A. Summary of key findings and insights from the research paper:

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The exploration of multidisciplinary in science at the intersection of physics, botany, and mathematics has revealed the potential for groundbreaking discoveries and innovative solutions in understanding plant systems. By integrating principles and methodologies from these diverse fields, researchers have been able to deepen our understanding of plant biomechanics, photosynthesis efficiency, and cellular signalling. The collaborative efforts of physicists, botanists, and mathematicians have led to the development of novel research methodologies, tools, and theories that have enriched our knowledge of plant biology and ecosystem dynamics. Through a multidisciplinary approach, scientists have uncovered new insights into complex plant behaviours and interactions, paving the way for advancements in agriculture, bioengineering, and environmental science.

B. Importance of multidisciplinary research in advancing scientific knowledge and innovation: Multidisciplinary research plays a crucial role in advancing scientific knowledge and fostering innovation in today's complex and interconnected world. By bringing together experts from different disciplines, researchers can address complex problems with a more holistic and comprehensive perspective. The integration of physics, botany, and mathematics has demonstrated the power of collaborative efforts in unravelling the mysteries of plant systems and exploring new frontiers in science. By leveraging the diverse expertise and methodologies of multiple disciplines, scientists can generate transformative discoveries, develop new technologies, and drive progress in addressing global challenges such as climate change, food security, and sustainability.

C. Call for continued exploration and support for interdisciplinary research in science:

As we move forward in the 21st century, there is an urgent need for continued exploration and support for interdisciplinary research in science. The intersection of physics, botany, and mathematics offers a fertile ground for discovery and innovation, providing new insights into the complexities of the natural world. It is essential to foster a culture of collaboration, creativity, and open-mindedness to enable scientists from different disciplines to work together effectively and push the boundaries of knowledge forward. Governments, institutions, and funding agencies should prioritize and incentivize interdisciplinary research initiatives that bring together diverse expertise and perspectives to address pressing societal and environmental challenges. By embracing multidisciplinary approaches in science, we can unlock new pathways for exploration, discovery, and solution-building that will shape the future of scientific inquiry and benefit society as a whole.

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INTERDISCIPLINARY RESEARCH IN SPACE EXPLORATION AND ASTROPHYSICS

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ABSTRACT:

Interdisciplinary research in the fields of space exploration and astrophysics has become increasingly important in recent years. This paper explores the collaborative efforts of scientists, engineers, and researchers from various disciplines to advance our understanding of the universe and develop new technologies for space exploration. By leveraging the expertise of multiple fields, interdisciplinary research has the potential to revolutionize our understanding of the cosmos and pave the way for future space missions. This paper examines key interdisciplinary projects, challenges, and opportunities in the exciting realms of space exploration and astrophysics.

KEYWORDS: Interdisciplinary research, space exploration, astrophysics, collaboration, technology, universe, researchers, scientists, engineers, projects, opportunities, challenges.

INTRODUCTION:

The history of Indian education system is very vast and rich. The modern Indian education system is deep rooted in British era. In the Disciplinary study researcher's focus is on one area of specialisation, gaining confidence and comfort in that area. In multidisciplinary study, the study material is applied from various angles. An interdisciplinary approach produces its own theoretical, conceptual and common methodological existence. It is best example of team work in which all members get together to work and to develop novel tool and technologies. So this approach is very important in research in Space exploration and Astrophysics.

In last few decades a number of countries all over the world have developed various plans for exploring the Sun, the Moon, the Mars and near-Earth objects. For this mission robotic spacecrafts and humans are used. We can say that the period of 'Space Age' is started from there. This research shows value of science in all disciplines like Physical sciences, Chemical sciences, Mathematics, life sciences, all engineering branches and the new innovations benefits to the economy of the country and the society. Of course this program presents both opportunity and challenges before the country. Common reasons for exploring space include advancing scientific research, national prestige, uniting different nations, ensuring the future survival of humanity, developing military and strategic advantages against other countries. Astrophysics and space exploration intersect in the search for extraterrestrial life and the study of astrobiology.

OBJECTIVE:

- The objective of this research paper is to investigate the importance and impact of interdisciplinary collaboration in the fields of space exploration and astrophysics. We aim to explore the ways in which scientists, engineers, and researchers from diverse disciplines are working together to advance our understanding of the universe and develop innovative technologies for space missions.

HYPOTHESIS:

- Interdisciplinary collaboration in space exploration and astrophysics leads to breakthrough discoveries and advancements in our understanding of the cosmos.
- The integration of diverse perspectives and expertise from multiple disciplines results in the development of more innovative and effective technologies for space exploration.

STATEMENT OF THE PROBLEM:

Despite the vast potential for discovery and innovation in the fields of space exploration and astrophysics, traditional siloed approaches to research can limit the breadth and depth of exploration. With the ever-growing complexity of scientific challenges in these fields, there is an increasing recognition of the need for interdisciplinary collaboration among scientists, engineers, and researchers from various disciplines. However, there remains a lack of comprehensive understanding of the impact, benefits, and challenges associated with interdisciplinary research in space exploration and astrophysics. This research paper aims to address this gap by exploring the role of interdisciplinary collaboration in advancing scientific knowledge, developing cutting-edge technologies, and overcoming barriers to progress in these critical fields.

REVIEW OF RELEVANT RESEARCH:

The Role of Interdisciplinary Collaboration in Advancing Space Exploration: Researchers have highlighted the importance of interdisciplinary collaboration in advancing space exploration. Studies have shown that combining expertise from various disciplines, such as physics, engineering, and biology, can lead to innovative solutions for complex challenges in space exploration. For example, the collaboration between astronomers and engineers has led to the development of new telescope technologies that have revolutionized our understanding of the universe.

Interdisciplinary Approaches to Studying the Origins of the Universe: Research in astrophysics has increasingly embraced interdisciplinary approaches in studying the origins of the universe. For instance, collaborations between cosmologists, particle physicists, and astronomers have led to groundbreaking discoveries, such as the detection of gravitational waves and the confirmation of the existence of dark matter. These interdisciplinary efforts have helped to push the boundaries of our knowledge of the cosmos and have opened up new avenues for exploration.

Challenges and Opportunities for Interdisciplinary Research in Space Exploration: Despite the benefits of interdisciplinary collaboration in space exploration, researchers have also identified challenges that can impede progress. These challenges include differences in research methodologies, communication barriers between disciplines, and competition for funding. However, studies have also highlighted opportunities for overcoming these challenges, such as fostering a culture of collaboration, promoting interdisciplinary training programs, and creating incentives for interdisciplinary research.

Case Studies of Successful Interdisciplinary Projects in Astrophysics: Several case studies have demonstrated the impact of interdisciplinary research in astrophysics. For example, the Event Horizon Telescope project, which brought together scientists from multiple disciplines to capture the first image of a black hole, exemplifies the power of interdisciplinary collaboration in pushing the boundaries of scientific exploration. Other examples include the collaboration between astronomers and computer scientists in developing advanced data

analysis techniques for studying complex astronomical phenomena.

Overall, the review of relevant research underscores the importance of interdisciplinary collaboration in advancing space exploration and astrophysics. By bringing together expertise from diverse fields, interdisciplinary research has the potential to drive scientific discovery, foster innovation, and address some of the most pressing questions about the nature of the universe.

SUBJECT MATTER:

What is Space exploration exactly? For us, the space exploration encompasses the region of Solar system that is accessible to human being using the technologies where in future the human being can live and work. With this the space exploration is also purely scientific exploration of the outer solar system. With this definitions space exploration includes projects with varying degrees of scientific, technological, cultural and economic goals..

Currently the global space market is spreading widely. The public interest in both robotic and human explorations of space inspires the next generations of scientists and engineers because space is challenging and demanding environment. To get success we must work in collaboration with our international partners. We have to select those areas that creates greatest impact to satisfy the goal.

In science there are large number of outstanding questions concerning the evolution and origin of Solar system. These questions might be answered through the study of the Moon, the Mars and the asteroids. The exploration of Moon and Mars helps in investigating the origin and distribution of life. Some questions may investigated by robots and some by humans. Having the humans on Moon, gives series of important science investigations of the Cosmos and this will results the new understanding of Biology and physiology as astronaut learns to survive in new environment. This will achieved by bringing together the experts in medicine, artificial intelligence, communications and human machine interfaces. This forces the development of novel medical interventions and preventive techniques that can help support ageing population of the Earth. This creates new business opportunities in commerce, telecommunication, media, entertainment and space tourism.

Space faring nations all over the world recognised the power of space exploration as a magnet to attract and retain the science and technology talent and to inspire the younger citizens to study science, technology, engineering and mathematics. The nation which have space explorations can use it as an instrument of 'soft power' to show the citizens in nation and abroad their cultural, scientific and organisational abilities to achieve the peaceful goal. The co-operation with international partners will enhance the global security and develop the new techniques that may be used to tackle other global challenges. It is strategic area for space program because relations with other countries are influenced by political, economic, cultural and human personality factors.

In last fifty to seventy years the use of space systems by the nations has become essential part of everyday life. The popular image still is NASA and its space shuttle launches. The main focus of international space exploration is on Moon and Mars. The international communities are interested in Mars as it has similarities with Earth. Scientists thought thepossibility of life that has existed or could have existed on Mars.

India is developing economy and investing heavily in the space .Now a days we have larger space programs than some of western countries. India has its own capability so its space program operates autonomously. The Indian Space Research Organisation (ISRO) founded in 1969 is dedicated to space research, promotion of research and executions of missions related to space. Some of the other functions are protecting our planet, environment conservation, resource management, internal security and prevention of terrorism, weather forecasting and disaster management. ISRO plays a significant role in the socio-economic development of India and has pursuing bilateral and multilateral relations with space agencies of other countries. Internationally ISRO plays active role in sharing its expertise and satellite data for management

of natural disasters through various multiagency bodies. India is developing economy and investing heavily in the space sector. In 2020 about \$9.6 billion was invested in Indian space sector. By 2025 about \$13 billion will be expected.

To study Moon, in Oct 2008 'Chandrayaan I' was launched. It is complex spacecraft with 11 instruments including instruments from Europe (ESA) and NASA and Bulgaria. India continued this series with a robotic mission to the Moon and launched 'Chandrayaan II' on 22 July 2019. It failed to soft land. But 'Chandrayaan-III' launched on 14 July 2023 and it successfully soft landed on Moon's surface on 23 August 23. In future India will launch Chandrayaan 4 in 2028 and it will solidify India's position among the few nations capable of returning Lunar samples for study. ISRO's commitment to advancing space explorations and technology is evident in this ambitious endeavour.

In summary we can say the space exploration already woven both culturally and commercially into the fabric of society. The collaborations between astrophysicists, engineers and space scientists lead to design and deployment of advanced telescopes, detectors and imaging systems for exploring distant galaxies, black holes and exoplanets. The interdisciplinary research sheds light on origins and distribution of life in the Universe. By using the complementary expertise and resources across various disciplines, researchers can unlock new insights into the cosmos and propel humanities quest to explore the Universe.

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UTILIZATION OF SOME FOLK MEDICINAL PLANTS OF KAVATHE MAHANKAL TEHSIL OF SANGLI DISTRICT

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ABSTRACT

A history of medicinal plant is intimately connected with history of botany. From long long ago medicine men vaidya, tribal priests, used various plant organs in preparation of crude drugs. The present investigation gives an account of different uses of plants from Kavathe Mahankal Tehsil with their botanical name, family, vernacular name and medicinal uses.

KEY WORDS: Some folk medicinal plants, Kavathe Mahankal Tehsil.

INTRODUCTION

Kavathe Mahankal is a small Tehsil of Sangli district. It is located on the boundaries of Solapur and Belgavi (Karnataka) districts on the bank of Agrani river. Kavathe Mahankal Tehsil has an area of 2636 hectares with arid to semiarid and dry deciduous vegetation Herbal medicines are in great demand in the developed as well as developing countries for primary health care because of their wide biological and medicinal activities.

MATERIALS AND METHODS

The surveys of medicinal plants were done by frequently arranged collection tours. During this tours study work was concentrated to medicinal plants which are used by local villagers for curing various kinds of diseases. The medicinal plants were collected and identified with the help of Flora of Bombay Presidency (Cooke 1967) and Flora of Kolhapur district (2002)

ENUMERATION plants belonging to 22 families are recorded in this paper with their botanical names, local names and their uses are given.

Sr. No.	Botanical Name	Local name	Family	Uses
1	<i>Acacia nilotica</i> Lam.	Babhul	Fabaceae	Tender shoots are used as tooth brush

2	<i>Aegle marmelos L.</i>	<i>Adulsa</i>	<i>Acanthaceae</i>	<i>Rind of fruit is used in acute dysentery</i>
3	<i>Aloe vera L.</i>	<i>Korphad</i>	<i>Rutaceae</i>	<i>Leaves is used in skin treatment, inflammation, rheumatism and piles</i>
4	<i>Asperagas racemosus Willd.</i>	<i>Shativari</i>	<i>Asparagaceae</i>	<i>Root boiled in milk is used as appetizer also in diarrhea and dysentery</i>
5	<i>Azadirachta indica Juss.</i>	<i>Neem</i>	<i>Meliaceae</i>	<i>Leaf past is applied on ringworms</i>
6	<i>Barleria prionits L.</i>	<i>Katekoranti</i>	<i>Acanthaceae</i>	<i>Leaf juice is used feet cracking, bark</i>
7	<i>Boerhavia diffusa L.</i>	<i>Punernava</i>	<i>Nyctaginaceae</i>	<i>Rootis used as diuretic in jaundice, seeds are used as blood purifier.</i>
8	<i>Carissa carandus L.</i>	<i>Karvand</i>	<i>Apocynaceae</i>	<i>Used to treat constipation and diarrhea</i>
9	<i>Calotropis procera Aiton</i>	<i>Rui</i>	<i>Apocynaceae</i>	<i>Warm leaves are used as poultice</i>
10	<i>Cantharanthus roseus GDon</i>	<i>Sadaphuli</i>	<i>Apocynaceae</i>	<i>Root and shoot extract used for diabetes and constipation</i>
11	<i>Celosia argentea L.</i>	<i>Kardu</i>	<i>Amaranthaceae</i>	<i>Seeds used in diarrhea</i>
12	<i>Cleome Gynandra L.</i>	<i>Pandhari tilwan</i>	<i>Cleomaceae</i>	<i>Leaves and flower used for food poisoning, rheumatism, inflammation, headache, toothache, stomach pain, arthritis, colic pain</i>
13	<i>Clitoria ternatea L.</i>	<i>Gokarni</i>	<i>Acanthaceae</i>	<i>Roots used for indigestion, constipation and arthritis</i>
14	<i>Cymbopogon citratus Stap.</i>	<i>Gawati chaha</i>	<i>Poaceae</i>	<i>Leaves used for typhoid, bronchitis, vomiting and diarrhea</i>
15	<i>Digera muricata Mart</i>	<i>kunjer</i>	<i>Amaranthaceae</i>	<i>Leaf extract used for diabetes and cancer</i>

16	<i>Justicia adhatoda</i> L.	Adulsa	Acanthaceae	Leaves used in cold, cough, bronchitis, asthma, diarrhea, dysentery, poultice and swelling
17	<i>Kalanchoe pinnata</i> Pers.	panphutti	Crassulaceae	Juice of leaves used in kidney stone, wound healing, boils and swelling
18	<i>Leucas aspersa</i> Link.	Khumba	Lamiaceae	Plant organs used to treat snake bites, to reduce fever and antipyretic
19	<i>Mangifera indica</i> L.	Amba	Anacardiaceae	Fruit juice used in heatstroke, seeds used in asthma and astringent
20	<i>Mentha arvensis</i> L.	Pudhina	Lamiaceae	Leaves used in cold, cough, and cardiovascular disorders
21	<i>Morinda citrifolia</i> L.	Barthondi	Rubiaceae	Used for preparation of health drink called nonijuce. It is also used to treat cancer, gastric ulcers, depression
22	<i>Moringa oleifera</i> Lam.	Shewaga	Moringaceae	Used for protection the leaver from damage, oxidation and toxicity and increasing nutritional value
23	<i>Murraya koengii</i> Spre.	kadipatta	Rutaceae	Used for piles, itching, dysentery, bruises and edema
24	<i>Ocimum tenuiflorum</i> L.	Tulsi	Lamiaceae	Leaves used in cold, cough, bronchitis, asthma, diarrhea, dysentery, poultice and swelling
25	<i>Phyllanthus emblica</i> L.	Moravala	Phyllanthaceae	Used in asthma, diarrhea, rheumatic pains, gonorrhea, hemorrhage, jaundice, dyspepsia, nausea, constipation, eye diseases, brain health and coronary heart diseases
26	<i>Senna auriculata</i> Roxb.	Tarwad	Caesalpinioideae	Used for decoctions, fevers, diabetes, urinary diseases, rheumatism and constipation

27	<i>Sida cardifolia L.</i>	<i>Bala</i>	<i>Malvaceae</i>	<i>To treat, bronchitis, asthma, cold, perspiration, headache, aching joints and bones</i>
28	<i>Tamarindus indica L.</i>	<i>Chinch</i>	<i>Caesalpinioideae</i>	<i>Ripened fruits are used to treat inflammation, stomach pain, throat pain, rheumatism</i>
29	<i>Tinospora cordifolia Miers</i>	<i>Gulvel</i>	<i>Menispermaceae</i>	<i>Used for fever, jaundice, chronic diarrhea, cancer, dysentery, bone fracture, asthma, skin diseases, snake bite, eye diseases</i>
30	<i>Tribulus terrestris L.</i>	<i>gokharu</i>	<i>Zygophyllaceae</i>	<i>Used for chest pain, heart problems, dizziness, skin and eye diseases, kidney stones and as a diuretic tonic</i>
31	<i>Tridax procumbens L.</i>	<i>Dagadipala</i>	<i>Asteraceae</i>	<i>Used to treat diarrhea, dysentery and liver diseases</i>

RESULT AND DISCUSSION

Many of the rural villagers are using herbal medicines for their primer health cure. The information collected indicates that all 31 plants are traditionally utilized for treatment of various kinds of diseases. So villagers can use the traditional medicine and they are benefited. Therefore, there is an urgent need for ethnobotanist to direct their efforts immediately to gather all information regarding medicinal plants.

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FLUORESCENCE ENHANCEMENT-BASED DETECTION OF Sn^{2+} ION: SPECTROSCOPIC APPROACH

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ABSTRACT:

Sensitive and selective detection of Sn^{2+} is studied based on fluorescence enhancement in aqueous medium by using graphene oxide as fluorescent probe. The partial reduction of graphene oxide leads to the enhancement in fluorescence in presence of Sn^{2+} ion only. Mechanism for partial reduction is supported by UV-visible spectroscopy, Thermogravimetric analysis (TGA). Graphene oxide fluorescence was selectively enhanced by in presence of Sn^{2+} having 40 ppm concentration in presence of Cd^{2+} , K^+ , Ca^{2+} , Fe^{2+} , Fe^{3+} , Hg^{2+} and Zn^{2+} . The straight-line calibration plot in the range of 4-40 ppm is obtained with correlation coefficient 0.9873. Further fluorimetric method is developed with limit of detection (LOD) 4.7 ppm.

INTRODUCTION:

Graphene oxide (GO) which is oxidized form of graphene is a two-dimensional, one atom thick carbon nanomaterial with exciting mechanical, electronic and thermal properties, which has wide applications in the field of biology, electronics and optics. Presence of oxygen containing functional groups, such as carboxylic acid, phenol hydroxyl and epoxide groups mainly at the basal plane or at edges, of GO results in the formation of mixture of sp^2 and sp^3 hybridized carbon that open the optical band gap and exhibits fluorescence. [1-4]

Tin is soft, silvery white a type of heavy metal. It combines with other chemicals to form water soluble compounds and enter as pollutant in natural water. Tin can enter in to the human body through canned foods and soft drinks. At higher concentration Sn^{2+} can be readily taken up by human body causes damage to DNA, human embryonic kidney cell and diarrhea. GO shows selective enhancement in fluorescence towards Sn^{2+} ion, among other metal ions like Pb^{2+} , Cd^{2+} , K^+ , Hg^{2+} , Ca^{2+} , Fe^{2+} and Mg^{2+} . [4,5-7]

EXPERIMENTAL SECTION:

Materials:

Graphite powder, Potassium permanganate, Orthophosphoric acid, Buffer pH 4. Distilled water was used in further experiments.

Preparation of Graphene oxide:

Graphene oxide (GO) is prepared by using improved Hummer's method with slight modifications. In typical experiment 1000 mg of graphite powder and 6000 mg of potassium permanganate was added in mixture of Concentrated H_2SO_4 and H_3PO_4 . The reaction then heated at 55°C for 12 h. The reaction mixture was kept at room temperature, then poured into

the mixture of ice (100 ml) and 2 ml H_2O_2 (30%). The color of mixture is turns to bright yellow. The product is separated by centrifugation (3000 rpm for 1h), the supernatant layer was sepetared. The product is mixed with distilled water and Shaked, then mixture centrifuged (3000 rpm for 1h) and supernatant layer is removed. Process washing is repeated for 3 more cycles. Finally, the product is filtered through Whatman filter paper no. 41, washed with 5% Hydrochloric acid and distilled water. Final solid product is dried and used as Graphene oxide for experimental work. [4,7]

Preparation of GO solution and prGO.

The produced Graphene oxide 0.005gm is added in 50 ml distilled water having Ph of solution 4, the solution is sonicated for 60 min to make dispersion of constant composition. This dispersion is further used as Graphene oxide solution. The addition of 4-40 ppm of Sn^{+2} in Graphene oxide solution shows increase in degree of reduction of Graphene oxide which can be seen by naked eye. To support the mechanism of reduction, the partially reduced graphene oxide formed in presence of $20\mu\text{g/ml}$ Sn^{+2} is separated by using fridge drying technique and it is called as partially reduced Graphene oxide throughout the discussion. [4,7]

RESULTS AND DISCUSSION

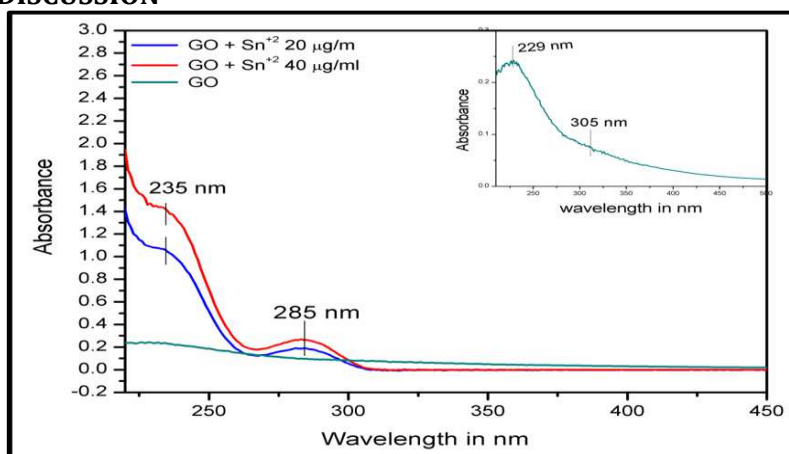


Fig. 1: Absorption spectra of Graphene oxide in aqueous medium and Graphene oxide in presence of 20 ppm and 40 ppm Sn^{+2} .

UV-vis absorption spectra of pure Graphene oxide and Graphene oxide in Presence of Sn^{+2} metal ion solution in different concentration is shown in fig.1. Pure Graphene oxide shows two absorption peaks 226 nm and 304 nm arises from the $\pi-\pi^*$ and $n-\pi^*$ transition respectively. The spectra changes upon addition of Sn^{+2} metal ion solution. [8-12]

To study thermal stability of Graphene oxide and partially reduced Graphene oxide thermogravimetric analysis (TGA) technique was employed as shown in Figure 2b, c. In the partially reduced Graphene oxide sample 78% weight loss was seen up to 200 °C, it is due to loss of oxygen containing functional group by pyrolysis and removal of steam. In contrast the prGO shows much increased thermal stability due to removal of the thermally labile oxygen containing functional group. Partially reduced Graphene oxide sample shows 11% weight loss up 200 °C, this minor mass loss is attributed to the absence or removal of the oxygen containing functional groups due to partial reduction, further total 44% weight loss up to 700 °C was observed.

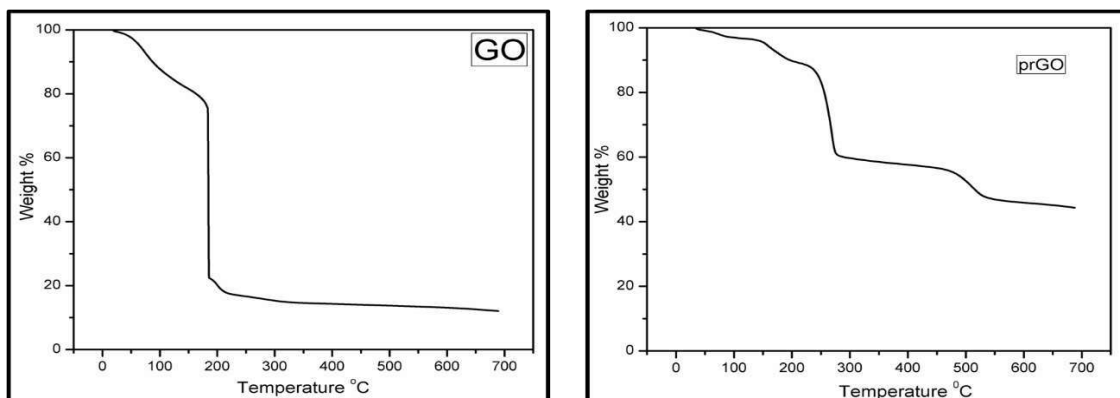


Fig. 2: TGA plot of Graphene oxide and partially reduced Graphene oxide.

Now to see the effect of metal ions on the optical property of GO, fluorescence spectra of aqueous dispersion of GO (0.002w/v %) is recorded at pH 4 in presence of different cations such as Sn^{+2} , Cd^{+2} , K^{+} , Ca^{+2} , Fe^{+2} , Mg^{+2} , Hg^{+2} and Zn^{+2} each of 20 $\mu\text{g}/\text{mL}$ concentration. As shown in Figure 3a. and fluorescence was of Graphene oxide is measured with increasing concentration of Sn^{+2} from 20- 40 $\mu\text{g}/\text{ml}$ at pH 4 and excitation wavelength is 320 nm. [12-15]

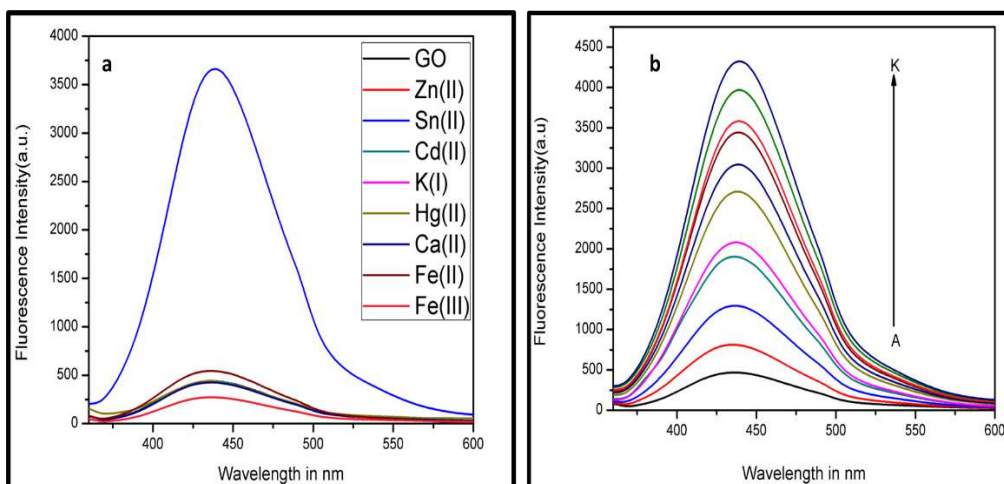


Fig. 3: (a) Fluorescence spectra of aqueous dispersion of Graphene oxide (0.002 w/v %) shows selective enhancement towards Sn^{+2} than other ions such as Cd^{+2} , K^{+} , Ca^{+2} , Fe^{+2} , Fe^{+3} , Hg^{+2} and Zn^{+2} each of 20 ppm concentration. (b) Fluorescence spectra of aqueous dispersion of Graphene oxide in presence of different concentration of Sn^{+2} ion (A: 0 $\mu\text{g}/\text{ml}$ to K: 40 $\mu\text{g}/\text{ml}$) at pH 4 and excitation wavelength is 320 nm.

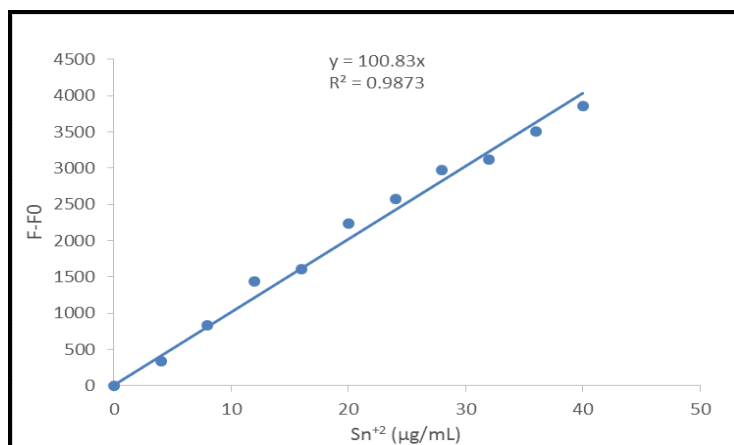


Fig.4: Plot of ΔF as function of concentration of Sn^{2+} ion.

CONCLUSION:

Graphene oxide in acidic media (pH 4) used as fluorescent probe which shows partial reduction with addition of increasing amount of Sn^{+2} solution in the range of 4-40 ppm the calibration plot obtained with correlation coefficient 0.9873. Further this fluorimetric method is can developed for detection of Sn^{+2} ion from environmental water sample with detection limit of (LOD) 4.7 ppm.

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EXPANDING FRONTIERS IN COMPUTER VISION AND LANGUAGE FUSION

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ABSTRACT

Image captioning represents a challenging frontier in natural language processing (NLP), demanding the fusion of visual understanding with linguistic expression. Leveraging recent advancements in deep learning, particularly convolutional neural networks (CNNs) for image feature extraction and long short-term memory (LSTM) networks for language generation, holds promise for addressing this challenge. This research aims to contribute to the field of image captioning by developing a novel model capable of generating accurate and creative natural language descriptions of images. Through meticulous data collection and preprocessing, including the acquisition of diverse image-caption datasets and the application of appropriate preprocessing techniques, we lay the groundwork for robust model development.

KEY WORDS: - Image captioning, Deep learning, NLP, CNN, RNN, LSTM, Feature extraction,

INTRODUCTION

Image captioning, a fascinating intersection of computer vision and NLP serves as a pivotal tool in enhancing accessibility and comprehension of visual content. By providing textual descriptions of images, image captioning aids individuals with visual impairments in understanding and interpreting visual information that may otherwise be inaccessible. This task, however, presents significant challenges, requiring systems capable of seamlessly integrating visual understanding with linguistic expression.

In recent years, image captioning has emerged as a dynamic and multidisciplinary research area, driven by advancements in deep learning techniques. CNNs have innovated the field of computer vision by enabling the extraction of rich visual features from images, while RNNs, particularly LSTM models, have shown promise in generating coherent and contextually relevant captions.

The primary objective of this research is to develop an intelligent system capable of automatically generating accurate and creative natural language descriptions of images. By leveraging deep learning architectures. Through careful data collection, preprocessing, and model development, we seek to address the challenges inherent in image captioning, such as dataset size, manual annotation, and potential subjective bias in captions.

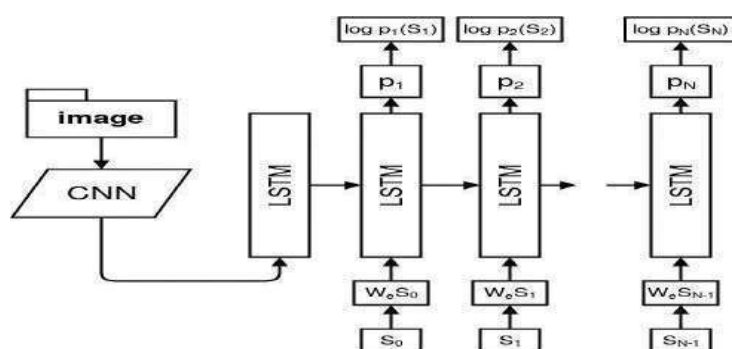


Fig 1: Image caption generation model

OBJECTIVES OF THE STUDY

The objectives of our research encompass several key aspects: we aim to first master the annotation of datasets with relevant captions and the subsequent training of machine learning models. Next, we seek to comprehend how machines discern specific elements within images and generate corresponding descriptions. Additionally, we intend to seamlessly integrate visual features extracted by CNNs with sequential information using LSTM and RNN architectures. Furthermore, our goal is to develop a model proficient in generating descriptive and meaningful captions that accurately capture the content and context of given images. Lastly, we aim to employ the trained model to narrate images featuring human individuals.

DATA COLLECTION AND METHODOLOGY

Our dataset primarily comprises high-resolution images featuring Indian human subjects, carefully selected to encompass a diverse range of individuals. Each image file represents a specific human individual, and we carefully selected the dataset by manually annotating captions for all pictures. These captions are tailored to describe various aspects of the subjects' appearances, including their expressions, attire, age, gender, hair characteristics, and activities. The images in our dataset were sourced from a variety of sources, with a focus on featuring well-known Indian actors. We manually downloaded these images from online platforms, ensuring that they met the requirements of our project objectives. Despite the

varying qualities of the downloaded images, we undertook preprocessing steps to enhance their consistency and suitability for model training. Each image was precisely paired with a corresponding caption, written in natural language to describe the content and context of the image comprehensively.

One of the key strengths of our dataset lies in its systematic alignment between images and their accompanying captions. This precise alignment ensures accurate pairing between visual content and textual descriptions, facilitating effective model training. Moreover, the captions in our dataset exceed pure object identification, incorporating contextual information such as actions, relationships between objects, and scene descriptions. This complete approach enables our model to capture the overall context of the images and generate more informative and comprehensive captions. However, it is important to acknowledge the challenges inherent in utilizing this dataset for image captioning. The data coupled with manually written captions, may introduce errors or inconsistencies. Furthermore, the subjective nature of caption writing may lead to variations in the descriptions provided for the same image. Despite these challenges, our diligent approach to dataset curation and annotation has enabled us to train a model capable of generating relevant and informative captions for a diverse range of images.

The trained model integrates two neural network architectures; CNNs and RNNs. Within the framework of an image caption generator, CNNs are pivotal for extracting visual features. Leveraging CNNs, we extract crucial features from images, subsequently employing them to generate descriptive captions that faithfully represent the visual content.

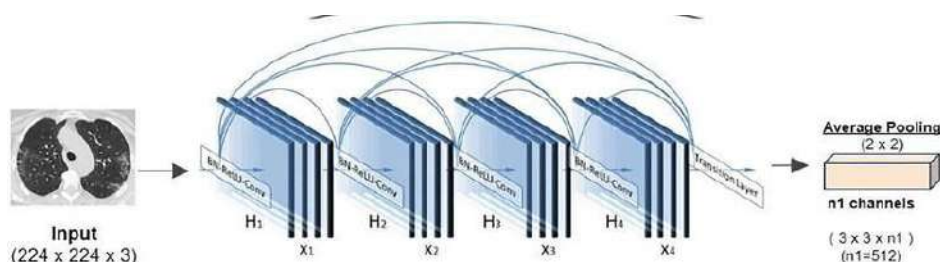


Fig 2: DenseNet201 Block Architecture

We adopted the DenseNet-201 convolutional neural network architecture proposed by Huang et al. in their 2017 paper titled "Densely Connected Convolutional Networks." DenseNet-201 addresses the vanishing gradient problem and enhances information flow by introducing dense connections between layers. With a total of 201 layers, DenseNet-201 comprises various types of layers, including convolutional layers, pooling layers, and fully connected layers. Notably, DenseNet-201 incorporates convolutional layers within dense blocks, each comprising multiple dense units. These dense units include a batch normalization layer, a rectified linear unit (ReLU) activation layer, and a 3x3 convolutional layer, responsible for feature extraction. DenseNet-201 features four dense blocks, each containing a different number of layers: the first block has 6 layers, the second 12, the third 48, and the fourth 32 convolutional layers, all utilizing a 3x3 kernel size. The feature vectors extracted by CNNs are multidimensional and computationally intensive. To mitigate this, we employ Artificial Neural Networks (ANNs) to convert the feature vectors into one-dimensional representations. The output of the ANNs serves as input for the LSTM network. In this process, LSTM receives two inputs sequentially: one from the ANN and the other from the caption in the training data. LSTM generates output words sequentially, forming a sentence. Subsequently, the generated sentence is compared with the original caption, and the loss is computed. LSTM utilizes Backpropagation Through Time (BPTT) to adjust the weights accordingly.

IMPLEMENTATION

We have undertaken our implementation by importing requisite libraries for tasks such as image reading, text preprocessing, and optimizing, crucial for constructing CNNs, LSTM networks, among others. Subsequently, we loaded the training images along with their corresponding captions, subjecting the images to preprocessing steps including resizing to a specific dimension. In the discipline of text preprocessing, we standardized the caption sentences by converting them to lowercase and removing stop words. Additionally, to facilitate neural network sequencing, we affixed "startseq" and "endseq" tokens to the captions. A comprehensive vocabulary was then generated utilizing all captions, and each caption was tokenized for neural network utilization.

Our dataset was divided into a training dataset (85%) and a validation dataset (15%) to analyze model performance effectively. The training images were transformed into 3D arrays and fed into the CNNs, which extracted features via convolutional layers and corresponding kernels, augmented by pooling layers to concentrate meaningful features. The resultant features were then converted into 1D arrays and passed as input to the LSTM. Here, LSTM received two inputs at each sequential timestep: a 1D array representing image features and a tokenized caption. LSTM predicted output words sequentially, comparing each predicted word with the original caption to compute loss.

The loss calculation, summing the losses of all predictions throughout the sequence, was conducted using the categorical cross-entropy method, measuring the dissimilarity between predicted and true captions. This integrated model, combining CNNs and LSTM, was optimized using the "Adam" optimizer. Subsequently, the model was fitted to the training dataset, compiled, and evaluated on both the training and validation datasets for a specified number of epochs. This rigorous evaluation process enabled the assessment of model performance across different datasets, providing insights into its efficacy and generalization capabilities.

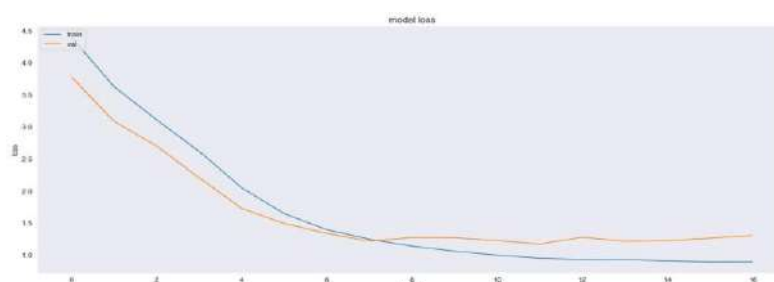


Fig 3: Loss of training and validation dataset

DISCUSSION

Unlike previous studies focusing on non-human subjects and limited human activities, our model breaks new ground by extracting detailed characteristics from human images. It describes expressions, attire, age, gender, hair traits, and activities depicted, elevating the understanding of visual content. This innovative approach expands the scope of computer vision and natural language processing.

Limitations of the Study

The model's training data predominantly consists of images featuring actors in their early 50s, introducing bias towards this demographic. This limited diversity within the dataset may restrain the model's ability to generalize effectively. Additionally, biases in related image features could affect the accuracy of image descriptions. Moreover, the dataset's size may restrict the model's performance potential. Furthermore, the model's results may be skewed due to insufficient data, while its performance is contingent upon the quality and clarity of input images.

Future Scope of the Study

Even with these limitations, there is considerable potential for further exploration. Expanding the dataset's diversity could reduce biases and enhance the model's generalization capabilities. Additionally, investigating how caption generation models can enhance search engine algorithms' understanding of visual content holds promise. Integrating captions into search engine algorithms could innovate search experiences, leading to more contextually relevant results and improving user interaction. Thus, future research in this direction could significantly advance information retrieval and user experience optimization.

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A STUDY OF LIFE CYCLE OF *SAMIA RICINI* UNDER LABORATORY CONDITION

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ABSTRACT

Eri silk or Vanya silk is commonly poor man's silk. The eri silkworm, *Samia ricini* is raised in India and parts of the orient for its silk. The eri silk worm is a polyphagous and multivoltine insect and can be reared throughout the year to a maximum of 6-7 times a year. The larvae feed on various host plants of which castor (*Ricinus communis*) and kesseru (*Heteropanax fragrans*) are the primary food plants. The present study was conducted to different species of castor food plant for *S. ricini* under the laboratory condition. Eri silk worms were reared from the defoliated leaves of Castor under laboratory conditions during winter seasons. In the present study, Eri silkworm *S. ricini* showed the respectable morphological characters like hatching percentage, larval duration, larva color, cocoon color, shell color on *Ricinus communis* food plant under laboratory condition. The worms does not more prone to diseases like flacherie, gracerie & muskerdine during rearing performance and September to December worms exhibit greater tendency to gain weight between instar stages and show less mortality. The present study concludes the indoor rearing and multiple life cycle of eri silkworm is possible under the laboratory condition. The indoor rearing eri silkworm does not affect on growth of larvae.

KEYWORDS: Eri Silkworm, Rearing, Food plant.

INTRODUCTION

Eri silk or Vanya silk is commonly poor man's silk and its production in India is limited to backyard venture. The eri silkworm, *Samia ricini* is raised in India and parts of the orient for its silk. The Eri silk worm is a polyphagous and multivoltine insect and can be reared throughout the year to a maximum of 6-7 times a year. The larvae feed on various host plants of which castor (*Ricinus communis*) and kesseru (*Heteropanax fragrans*) are the primary food plants (Jadhav, 2012). The Eri culture being carried out throughout the year in traditional areas because of the abundant availability of castor plants in the rural areas (Rao, *et al.*, 2005). The progressive growth of eri silkworm was superior when fed on castor. Further, the larvae receiving the castor leaves during fifth instar had better growth irrespective of the diet used earlier i.e., whether tapioca/castor (Joshi, 1987; Kavane, 2015). According to Chowdhury (1982) Castor (*Ricinus communis*) is an important oil seed crop widely grown in rain fed conditions of Telangana and also used for rearing of eri silk worm. The quality of leaves provided to the silkworms for rearing is considered to be the most important factor which greatly influences the larval growth, production of good quality cocoons (Borah , *et al* 2020). The ambient temperature during rearing affects larval growth, survival rate, cocoon parameters and silk quality. The eri silkworm culture adaptation is being practiced in a large scale on the leaves of castor. Hazarika *et al.* (2003) studies proved that castor was best in terms of different growth parameters of silk worm viz, larval wt, ERR, cocoon weight, shell weight etc. Impact of varietal feeding on *Samia ricini* in spring and autumn seasons of Uttar Pradesh was studied (Rajesh Kumar and Gangwar, 2010). Rearing technology of eri silkworm under varied seasonal and host plant conditions in Tamilnadu were reported by Subramanianan *et al.* (2013).

Based on the above cited literature and information the present study was conducted to different species of castor food plant for *S. ricini* under the laboratory condition of Ichalkaranji.

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Therefore, an attempt has been made to rear the insect from 1st instar to 5th instar and allow for cocoon and adult formation.

MATERIALS AND METHODS

Eri silk worms were reared from the defoliated leaves of Castor under laboratory conditions during winter seasons of 2023-24.

The rearing of eri silkworm in a convenient, equipped rearing room with adequate ventilation, on freshly collected castor leaves from plantation raised (*Ricinus communis*) during the winter (Sep–Dec) seasons at under normal temperature and humidity, by recording climatic influences on the life span of eri silkworm during 2023-2024.

The rearing was done by tray rearing method in which the Eri silkworms were reared in plastic trays. A paraffin paper of tray size was used to cover over the beds in the newly hatched larvae of *Samia ricini* were reared on tender fresh leaves of castor plant and maintained in the laboratory during the months of Sep-Dec. Second and third instar, also taken to feed with tender leaves, while late instar worms were fed with mature leaves (top most leaves of stem). The optimum temperature and relative humidity under which Eri silkworm thrive the best are 25°-28 °C and 80-90 % respectively and were maintained in the laboratory.

During this time taken to complete different instar stages of life cycle were observed and noted down. Insects from different instar stages were picked at regular intervals randomly and the change in their weight was observed in normal and healthy insects. Rate of the mortality was also observed in this season.

Collection of sample and selection of food plant

The eggs of eri silkworm was purchased from eri silkworm seed production center, Central Silk Board, Guwahati, Azara, Assam.

Castor (*Ricinus communis*, Family: Euphorbiaceae) were taken as the food plant for the experiment. Healthy, disease free *Ricinus communis* were collected from the local area of Ichalkaranji.

Rearing : After successful transportations of eri silkworm eggs were collected and after hatching of eggs rearing of early stage larvae takes place under controlled conditions of temperature and humidity. Rearing of silkworm was done by standard protocol with little modification *S. ricini* was fed on castor leaves at indoor condition throughout the experimental period.

Morphological study

Eggs: Morphological variations of the eggs of *S. ricini* were studied on the basis of its size, shape, shell colour.

Larva: Morphological characters of the larvae were studied by observing its larval color, size (length and breadth).

Cocoon: The cocoon characters such as shape, size length and breadth (LxB).

Pupa: The pupal characters of silkworm were studied on the basis of its size, shape and colour.

Moth: The morphological differences in the adult moths of *S. ricini* were studied on the basis of LxB of antennae, wing span, pattern and its coloration; and pattern of tufts and tergum in abdomen.

All the experiment was done according to the standard protocol.

RESULTS AND DISCUSSION

Subsequently the accomplishment of study the data obtained from morphological characters and Rearing performance *S. ricini* silkworm on Castor (*Ricinus communis*) are explained below in the tables.

Table no. 1: Morphological Characters of *S. ricini*

<i>Voltinism</i>	<i>Multivoltine</i>
<i>Eggs</i>	<i>Color White</i>
<i>Larva</i>	<i>Body Color Yellow Plain</i>
<i>White Waxy Powder On Body</i>	<i>Mild</i>
<i>Cocoon Color</i>	<i>Brick Red</i>
<i>Peduncle</i>	<i>Absent</i>
<i>Pupa Color</i>	<i>Copper Brown</i>
<i>Abdominal Tergum</i>	<i>Suffused With White Scales</i>
<i>Abdominal Tufts</i>	<i>Flattened</i>
<i>Moth Antennae (Male)Size (L × B)</i>	<i>Broad 13 X 4 Mm</i>
<i>Antennae (Female) Size (L × B)</i>	<i>Slender And Elongated 13 × 3 mm</i>
<i>Cocoon Color</i>	<i>Brick Red</i>
<i>Peduncle</i>	<i>Absent</i>

**Table no. 2: Rearing performance *S. ricini* silkworm
on *Castor (Ricinus communis)***

<i>Life Stages</i>	<i>Duration (days)</i>	<i>Feeding time per day</i>	<i>Leaf number on food plant twig</i>	<i>Leaf size</i>	<i>No of boxes/cages</i>	<i>No of trays</i>	<i>Box/tray cleaning time</i>
<i>Eggs</i>	<i>10</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>1st instar</i>	<i>3</i>	<i>One</i>	<i>Tender</i>	<i>Whole</i>	<i>2</i>	<i>-</i>	<i>1</i>

2 nd instar	3	Two	Tender/Matured leaves	Whole	4	-	1
3 rd instar	4	Two	Matured leaves	Whole	-	2	2
4 th instar	6	Two	Matured leaves	Whole	-	3	3
5 th instar	8	Two	Matured leaves	Whole	-	4	4
Pupal	15	-	-	-	-	-	-
Adult	3-4	-	-	-	-	-	-

The life cycle *S. ricini* was studied under laboratory condition. The descriptions were made from live specimens reared during 2023-2024. It was observed that there was less mortality of 1st instar worms when fed with tender, soft leaves of castor. The larvae of all the five instars fed upon tender, soft matured leaf and successfully completed the life cycle. The result indicated that the rearing success of *S. ricini* on castor leaves under laboratory conditions (28 ± 2 °C and RH of $80 \pm 5\%$).

In the present study no. of female moths were more than male moth. Table no. 1 showed the morphological characters in *P. ricini* of different stages. Adult moth mated successfully, laid fertilized eggs. The results of life performance of *S. ricini* silkworms were showed in Table no. 2. The newly laid eggs rounded in shape, look like creamy white in color. An individual and breadth 0.12 to 0.13 mm, hatching percentage is 100 percent and incubation period of 8 to 9 days.

First instar larval head was black, body color was yellow with black lining and hairs, tubercles conical, legs black, black band present on the dorsal side. The duration of first instar lasts for 3 days. The second instars, head black, body color yellow without black lining and with short black tubercles with whitish hair, pairs of black spot longitudinally. The duration of second instar lasts for 3 days. The third instar larva with black head, body color white with short white tubercles with powdery. The body bears longitudinal black spots, legs, anal flap and claspers become yellow. The duration of third instar last for 4 days. The fourth instar range with a head yellow, body color white with short white tubercles with powdery. The duration of fourth instar last for 6 to 8 days with a mean of 6.4 days. The fifth instar larvae with in length, head yellow, body color white with short white tubercles with powdery. The duration of fifth instar lasts for 8 to 9 days. The total larval duration ranged from 26 days. The effective rate of larval survival was 95%. At the end of the larval stage the fifth instar were released on the montages for cocoon formation. Matured larvae crawl down for cocooning and cocoon was formed. Cocoons were white, elongate, spindle shaped with a thin floss layer and it can be easily distinguished. The open types of cocoons are compact and hard without peduncle. The pupa is dark brown or radish brown.

The male moth has pointed wings while females has broad wing. The wing span of the male and female moth is 110 to 123 mm and 130 to 135mm respectively. Wings color dark brown. The present finding has firmly established that, the eri silkworm *S. ricini* could be reared on castor leaves.

In the present study, eri silkworm *S. ricini* showed the respectable morphological characters like hatching percentage, larval duration, larva color, cocoon color, shell color on *Ricinus communis* food plant under laboratory condition. The worms does not more prone to

diseases like flacherie, gracerie and muskerdine during rearing performance and September to December worms exhibit greater tendency to gain weight between instar stages and show less mortality. The effect of host plant species on the growth and development on the insects has been reported (Peigler and Naumann, 2003). Performance of promising ecoraces of eri in agro climatic conditions of western Odisha region studied (Ray *et.al.*, 2010). Rearing technology of eri silkworm under varied seasonal and host plant conditions in Tamilnadu reported (Subramanianan *et.al.*, 2013) . Impact of varietal feeding on *samia ricini* inspring and autumn season of Utter Pradesh studied (Kumar and Gangwar, 2010). Castor was found best in terms of different parameters viz, larval wt, ERR, cocoon weight, shell weight etc. (Hazarika, *et.al.*, 2005).

CONCLUSIONS

The present study concludes the indoor rearing and multiple life cycle of eri silkworm is possible under the laboratory condition. The indoor rearing eri silkworm does not affect on growth of larvae. Eri larvae's does not more prone to diseases like flacherie, gracerie and muskerdine during rearing performance and September to December worms exhibit greater tendency to gain weight between instar stages and show less mortality. Castor food plant is the most suited food plant for eri silkworm rearing and for production of healthy and heavier silkworm larvae. . Larval duration was observed longer in winter season due to temperature is lower which affect on metabolic processes, physiological activities of the worms.

Future Scope:-

Eri silkworm rearing is one of the essential & age old practice of silk rearing in North East India since time immemorial. It plays an important role in overall status of the women & rural society. The standard of living of the people of a village is depending upon the production of silk for weaving clothes, pupa for consumption by the tribble communities. High income from silk fabrics flows back to cocoon growers in the villages and they share this income with other people like the supplies etc.

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Plate:

1. Eggs
2. Third instar caterpillar
3. Fifth instar caterpillar
4. Fully grown instar caterpillar

5. Early Cocoon Formation
6. Cocoon Formation
7. Pupa
8. Cocoon
9. Adult Moth

"SHIFTING PARADIGMS: GENDER REPRESENTATION IN MARATHI THEATRE WITHIN A MULTICULTURAL CONTEXT"

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ABSTRACT:

This study examines the shifting paradigms of gender representation in Marathi theatre within a multicultural context. Through an analysis of various plays and performances, it explores how traditional gender roles and stereotypes are being challenged and redefined in contemporary Marathi theatre. The intersectionality of gender with other identities such as caste, class, and religion is also explored, highlighting the complexities and nuances of gender representation in this specific cultural context. The study delves into the ways in which female characters are portrayed, the agency given to women in the narratives, and the impact of these representations on audiences. By critically examining the gender dynamics in Marathi theatre, this study sheds light on the evolving landscape of cultural representation and social change within the context of a diverse and multicultural society.

KEYWORDS: gender representation, intersectionality, female characters, social change, cultural representation, stereotypes, agency

INTRODUCTION:

In the context of this research paper, the portrayal of women in theatre serves the dual purpose of reflecting societal values and shaping collective understanding. This portrayal holds a nuanced power dynamic with real women, as the distinction between reality and representation is often blurred. This power dynamic is central to the cultural politics of theatrical representation, where the construction of representation carries embedded ideologies and cultural norms. The examination of this power dynamic involves analysing how theatrical representation is structured and imbued with significance, influencing the embodiment of female characters in performances. The politics of theatrical representation in this study refers to the deliberate choices made in positioning the subject within the narrative and performance of the female character. Within this framework, theatre functions as a vehicle for semiotic and phenomenological expression, portraying the performing body as a cultural text or signifying entity. The transition from a mere sign to a fully-realized subject hinges on the concept of performativity, which extends beyond theatricality according to Fischer-Lichte's perspective.

The genesis of Marathi theatre is commonly attributed to a royal order commissioned by Shrimant Chintamanrao Appasaheb Patwardhan in the post-Peshwa princely state of Sangli in the late 18th century. This order led to the creation of a new form of performance, reflecting a desire for refinement and sophistication in entertainment that catered to elite taste. The intention was to distance the theatrical production from what was perceived as crude forms of indigenous folk performances, such as *Tamasha*, which were associated with lower caste status. The transition towards a more refined form of entertainment marked a significant shift in the cultural politics of theatrical representation, where aesthetics were tied to caste values and social hierarchies. The adherence to tradition and the introduction of new sophistication in performances aimed to cater to a selected and sophisticated audience, indicating a move

towards the monopolization of theatre by the Brahmanical elite.

The establishment of Marathi theatre was further propelled by factors such as caste, class, masculine gender norms, urban conditions, colonial education, and the adoption of the proscenium form. Following the demise of Bhave's patron, the troupe migrated to Bombay where they encountered a cosmopolitan environment conducive to the growth of theatre. The exposure to public patronage, media publicity, and interactions with the native intelligentsia in Bombay facilitated the evolution of a vibrant theatre culture influenced by English, Urdu, and Gujarati language performances.

The pivotal moment in the genesis of Marathi theatre occurred when Bhave performed his first show in Bombay utilizing the proscenium theatre space. The use of this theatrical form, inspired by European practices, marked a significant departure from traditional performance styles and signaled the beginning of modern Marathi theatre. The recognition and feedback received from English-educated social personalities further reinforced the importance of the proscenium stage in shaping the trajectory of Marathi theatre.

IMPORTANCE OF ADDRESSING GENDER REPRESENTATION IN MARATHI THEATRE

Despite the historical presence of women as loyal audiences and subjects of theatrical content, their voices and contributions to Marathi theatre have often been overlooked and marginalized. Women have traditionally been excluded from decision-making processes regarding theatrical content and presentation, both in the past and present. This constructed invisibility of women in the theatre is a significant issue, considering the theatre's role in reflecting and influencing social changes, nationalist movements, and class struggles in Marathi society.

The absence of women in Marathi theatre cannot be solely attributed to patriarchal norms prevalent in society. Historian Uma Chakravarti suggests that the non-recognition of women's contributions amounts to a deliberate suppression of their histories. This erasure not only disregards women's creative abilities as playwrights, directors, and actors but also denies them agency and a rightful place within the theatrical landscape.

The invisibility of women in Marathi theatre is often brushed aside by justifying the theatre's male-dominated nature as a reflection of broader societal norms. However, this indifference towards women's participation cannot be justified by mere numbers, as the representation of women in professional capacities within the theatre industry has been significantly limited compared to men.

Exploring the reasons behind the absence of women in Marathi theatre involves questioning the socio-cultural factors such as caste, class, and the elite nature of the theatre. Interrogating the historical narratives and meta-narratives of Marathi theatre is essential in uncovering the overlooked stories of women's contributions and experiences within the theatrical realm. To address this gap in understanding, it is crucial to adopt a critical approach informed by feminist perspectives in theatre historiography. By examining the broader developments in feminist theatre historiography and applying them to the specific context of Marathi theatre, a more nuanced understanding of women's roles and experiences in the theatrical landscape can be achieved. This process requires a consideration of Indian cultural contexts and local conditions to effectively analyze and interpret the presence or absence of women in Marathi theatre history.

GENDER, PERFORMATIVITY AND THEATRICAL DISCOURSE:

Considering language to be a system of representation, theatre productions and their performances can be said to constitute a language for presentation of specified content. There is a close relationship between language and the notion of gender as a social role. It is observed that just as language constitutes gender, performance of gender 'acts to pattern language' (Robson and Stockwell 2005: 4). The role of language as well as production of meaning in relation to gender was closely analysed and problematised by Judith Butler's path breaking

work, *Gender Trouble: Feminism and the Subversion of Identity* (1990). Building on the theories of Jaques Derrida, various French feminists and Michel Foucault, she argued that the character of gender was unfixed and that 'woman' was a fiction. It implied that gender attributes are performed by the body that embeds them. Her postulations were debated for questioning feminist politics. They declared the category of 'woman' as a fiction. Yet, her arguments opened identities to subversive re-interpretation and 'allow[ed] for connections among high theory political activism and quotidian choices' (Hall 2006, 108). Her formation of the analytical category of performance, the meaning of which she insists, is not to be equated with that of performance in theatre because there is a danger of gross oversimplification to mean choice of a new sexuality at will (Hall 2006, 108).⁹² The formation suggested that all identities are available for subversive reinterpretation. Though she considers subversion of gender identities in everyday life as not useful in the wake of unfixed character of gender, her treatise is credited with inauguration of 'a method of studying the ways in which, in social life, literature, and the visual arts, gender is constantly being re-made' (Evans 2006: 230). As it challenged significance of the category of personal experience in feminist explorations, Butler's theory was understood to be a radical culmination of 'the turn away from biology and essences and towards language and meaning production' (Hekman in Malpas and Wake 2006, 99). It revealed that 'the identity 'woman' is literary created (...) by the discourses that define it' (ibid.). In fact, 'it is not that an identity 'does' discourse or language', but the other way around – language and discourse 'do' gender (Butler cited in Salih 2002: 64). The performance of gender is constituted by language understood as system of representation and by discourse understood as social practice.

Butler's explanation about how various discourses constitute identity of gender is potentially useful for the present theatrical analysis. The possibility is generated by the awareness that final realization or embodiment of women characters in theatre performances is a result of multiple processes. It includes conceptualization, casting, comprehension, rehearsal and embodiment, and thus appears to be a product of collective imagination that feeds on, reiterates and constitutes sociological knowledge about women. The performance of feminine gender as in acting out a theatrical character amid the theatrical event is thus constituted jointly by theatrical language and social discourse that 'do' the feminine gender. Following this logic, a range of women characters in Marathi theatre productions can be understood as embodiments of the culture specific historical and contemporary ideas of feminine gender. Further, the characters can be schematically and intermittently placed in the history of the theatre to form an idea about theatrical social knowledge about feminine gender. In this view, the function of creating a socially powerful language of femininity can be assigned to theatrical discourse.

If theatrical construction of femininity is doing gender in theatrical way, it forms the prior stage of analysis of representation planned in the next chapter because as Shepherd and Wallis (2004: 79) explain '[b]ecoming gendered means participating in th[e] realm of representation'. Referring to de Lauretis' ideas of interpellation by gender into the feminine, they point out that de Lauretis 'helps foreground the theatrical apparatus as one 'technology of gender' amongst many (ibid.)' for she 'provides a performative model of subjectivity geared to the subversion of the sex-gender system (ibid.)'. Her submission that representation constructs gender instead of simply reflecting it is also important for understanding why and how caste identity dominates over other identities of women in Marathi theatre

WOMEN AND MARATHI THEATRE:

Identifying the theatre as masculine enterprise generated the complex question of invisibility of women. Due to meager archival resources, findings had to be case based. Similarly, it was hard to determine between women's disinterest and the theatre's attempt to keep women at bay, to be the reason in individual cases. A set of questions was prepared to accommodate maximum number of different aspects of historical relationship of women with the theatre. Itemised discussion of each of them exposed the theatre as a gendered institution and broke the myth of phenomenal invisibility of women. Instead of women being disinterested in the theatre,

lack of suitable conditions was found to have hindered their contribution in most of the cases. Employing the notional understanding gained from feminist theatre historiography, search in the distant past of Marathi theatre threw light on the multiple erasures and absence of 'attribution of significance' (Bhattacharya 2008: 66) to various theatrical events that involved women. It appeared more a question of permission, requirement, confinement and encouragement rather than being about independent capabilities of women. The fact that post-colonial increase in number of women actors does not match with number of women directors, producers or playwrights, and that the actors rarely received challenging and memorable lead roles illustrates that the theatre needed women more as visible biological bodies rather than creative geniuses. The findings suggested masculine privilege to be responsible as epistemic agency for women related content and prepared a frame for understanding masculine theatrical imagination of women. Nevertheless, women are historically found to be critical of the theatre's indirect interference in their lives, and in post-colonial period they are found to protest overtly insensitive depiction of women's negotiations with problems in life. It is to be noted that pertaining to the fact that most of the theatre women in the past as well as in the present belong to the Brahman middle classes, caste seems to have facilitated women's minimal participation.

CONCLUSION:

In conclusion, the exploration of gender representation in Marathi theatre within a multicultural context reveals a complex and nuanced landscape. The traditional invisibility and marginalization of women in the theatre industry, despite their historical presence as audiences and subjects of theatrical content, underscore the need for a critical reevaluation of the historical narratives and meta-narratives that have shaped the discourse around Marathi theatre.

By delving into the ways in which women have been excluded from decision-making processes and creative roles within the theatre, this research sheds light on the deliberate suppression and erasure of women's contributions to Marathi theatre. It becomes evident that gender dynamics intersect with caste, class, and the elite nature of the theatre, creating barriers for women to assert their agency and carve out a space for themselves within the theatrical landscape.

Examining the historical interactions between women and Marathi theatre through a feminist lens offers a pathway for reinterpreting the existing narratives and reimagining the possibilities for women's participation and representation in the theatre. By drawing upon insights from feminist theatre historiography and adapting them to the Indian cultural context, we can challenge the status quo and work towards a more inclusive and diverse theatre industry that reflects the multifaceted experiences of women.

In moving forward, it is essential to continue interrogating and interpreting the history of Marathi theatre, with a focus on uncovering the forgotten stories of women playwrights, directors, and actors. This process of rewriting the narrative and amplifying women's voices within the theatre not only enriches our understanding of the past but also paves the way for a more inclusive and equitable future for gender representation in Marathi theatre within a multicultural context.

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THE INTERSECTION OF ART AND SCIENCE IN EDUCATION

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Abstract:

In today's era perspective to see old traditions and concepts is changing, everyday different inventions are presented before the world by scientists. Innovation is the major identity of today's era because all field experts are working on new ways to enhance those fields. All sectors working for more outcomes from their work. The education sector is one of them that is working for the good and secure future of the nation. Art and science are theoretically different concepts because one prefers theories and thoughts to represent their presence in society and on the other hand science is purely based on practical knowledge. Today's new world is demanding the intersection of both different sectors.

Keywords: Intersection, Creativity, NEP2020, Innovation , AI

INTRODUCTION:

Imagination is the key in Art and Science. It helps the creators to imagine the needs of the human and do the same for them. Without the imagination, both art and science are going to struggle for the existence. Art and Science follow the simple law for their perfection. Explore a question, a thought or feelings. The methods to achieve that imagination have changed and depend upon the demands. Science took some crucial steps to fulfil requirements.

Education works as an instrument which enhances the thinking ability of human beings. Higher education helps the pupil to compete in the world. Human beings with different skills and abilities can survive anywhere. Art is generally referred to as a diverse range of human activity which results the creative and imaginative products (technical proficiency, beauty, emotional power or conceptual ideas). Art or artistic work is the product of creative minds, or we can call them the creation. On the contrary, science is rigorous, systematic knowledge that is concerned with the physical world and that entails unbiased observation and systematic experimentation. Both art and science work for the well beings of humans. The intersection of these two different streams can produce a fruitful future for the next generation. This paper is going to explore how beneficial the intersection of art and science in education.

SciArt

"The most beautiful experience we can have is the mysterious- the fundamental emotion which stands at the cradle of true art and science." Albert Einstein, *World as I See It*.

In today's era, everything getting its perfect form, or we can say that things are updating as per the demand of the users. Education is a mandatory part of the life of human beings. From ancient times to modern times, humans have preferred to experience the different fields of education. Earlier philosophers like Aristotle, Plato, Socrates, Pythagoras, Anaximander etc. prefers to grab knowledge from different fields. Teachers used to be fully equipped with much stream knowledge. Art and Science seem to be different fields, but both play very vital roles in the character-building of the students. Art helps the users to analyse deeply anything they observe. Human beings understanding level and analytical ability increased with the close observation of many things and those things inspired them to create new things. From ancient to recent times any structural building or complex structures need to be drawn on paper for better understanding and precise presentation of the thoughts.

"The creative activity of science lies here, in the process of induction" (Bronowski, 62). Science is always considered a part of academicians, or people belong to the technological fields

people, but science affects and exists in all aspects of human beings. From the moment we wake up, all day long, and through the night we are surrounded by and directly or indirectly used the Science. If we closely observed the ancient buildings and creations, we could see that everything was well-calculated and based on science. In the modern era, everything is working with the help of science. Nowadays *AI* is replacing many things and doing the work in less time. Today toddlers to older people use these objects which are primarily based on science. The biggest achievement of science is improving day by day in the medical field. We can't deny the deep impact of science on our lives. Today demand for something new always inspires scientists to build something unique and innovative. Mobile phones help humans with their amazing features and replace many things.

Arts and Science both directly or indirectly help humans to live their lives without any hassle. The life of human beings is getting better shapes with the help of Arts and science. Art and Science have a deep impact on everyone, today many places VR are used for Cows to produce more milk means even animals are also affected by science. Arts has many forms like *Painting, Architecture, sculpture, Literature, Music, performing and Cinema*. Arts are not for specific people but like Science Art is also for everyone who lives. The intersection of Arts and Science is going to be the masterstroke for learners because it offers different opportunities to them.

The intersection of art and science opens new doors to the young seeking minds. Educational awareness is reaching almost all countries. Everyone wants and deserves a better education. Education helps pupils to fill their life with confidence to face world competition, and such advances help the users to evolve themselves. Education with a blend of different streams grew the curiosity in the minds of learners. In India, *NEP 2020* also works on the holistic development of the pupils, and it focuses on the new experience for the students. The blend of Arts and Science gives new ways for the students to explore many new things which are initially reserved for specific fields. Learners can consume knowledge of theories and practicals. Arts and Science are independent spheres in academic settings, but their core is intertwined. *NEP 2020* has flexibility and choice of subjects before pupil to choose their path of own interest.

Art and Science both has advantage and Disadvantages , We are going to explore some of them.

Art

Advantages of the Art

- Art helps to preserve the Culture and History
- It helps to promote positive thinking in the readers'/users' minds, by supporting them emotionally and psychologically.
- Art includes different forms which help to earn money and directly or indirectly it helps the economic growth of the country

Disadvantages of Arts

- To access the art users need resources but underprivileged communities have limited accessibilities.
- To produce artistic work artists need financial support and without it, it's impossible to create art.
- Artist has some limitations to creating work, society sets some norms for their artist.

Science

Advantages of Science

- Science helps to *save time* e.g. earlier pigeons were sent for communication and it was time-consuming but with technological advancements now messages can be sent in no time.
- *Provides Protection*: science helps by providing advancements in all fields which helps to protect humans. (facilities in Hot and Cool weather)

- *Opportunities*: Science offers opportunities for human beings to evolve themselves and better life.

Disadvantage of Science

- *Replacement of humans*: Scientific advances in many places replacing human beings and promoting unemployment and crime. *The Industrial Revolution* causes a huge amount of unemployment.
- *Nature*: Scientific developments and advances increase the number of factories and facilities which harm nature. Smog and chemical liquids from factories.
- *Addiction*: this is the most dangerous disadvantage of Science because, nowadays humans blindly believe in technology and the overuse of different things harms humans.

Place of Art And Science in Education

Education is an essential need of human beings. Educational materials and their references help the readers to think analytically and do something for society. Inhabitants' progress pushes the limits of the country towards advancement. Teachers can't be replaced with technology; Artistic education plays a key role in promoting the imagination in the minds of pupils and scientific imagination and education helps pupils to extract those pictures by giving them specific forms. Today all countries try to offer all the necessary experiences to their pupils, so they try to provide them with opportunities to learn art and science. The intersection of Art and Science in education is the simplest way to make the pupil familiar with upcoming challenges by imagining new things and creating the same.

Benefits of Intersection of Art and Science in Education

"New technology is common, new thinking is rare". (Peter Blake).

- **Stimulates creativity**
The intersection of Art and Science in Education can be very useful to promote the creative thinking ability of the students. Students at the beginning of their learning stage are always in need of inspiration and that time if education offers them a sufficient source of creativity, then it can be miraculous for them. Students' early inspiration for their creativity shows a positive impact on their higher academics because they gain enough confidence to face the challenges. Creativity means the fulfilment of something which is faced by society and it is time-saving, effortless and economical. The creation of something new was always praised by society, mark Zuckerberg's creation in his younger days helped him to create Facebook.
- **Improvement in analytical ability**
Art and Science share the same core though they are different. Educational institutes and teachers worked a lot to gain confidence and logical thinking. Superstitious countries never compete with the pace of the world with their superstition. Especially countries like India need more analytical minds. Intersection of scientific methods to the young minds can lead them to think big and face the challenges with confidence. Analytical ability is purely shown in the Artistic works because any art created by an artist is a piece of analysis. So, a feature of art keen observation and the use of scientific method leads the country into a new future.
- **Exploration of Self**
Identity is the priority. Everyone wants to live in a society where they can be praised by the people for their work. Self-exploration of the students means the secure future of the nation. Creative thinking and work through Art help the pupil to identify his strengths and hardships and work towards self-discovery improving his personality.
- **Enhancement in Problem Solving**
Students' improvement in their early stages leads them to become strong citizens. Problem-solving minds have only the ability to face any challenge and improve themselves. Intersection of two different spheres into one can help to build good citizens. Arts in any form begins with the needs of society and artists try to feed the needs of their readers and spectators with their satisfying work. In the field of science, the major aim of the students is solving

problems. Science students learn how to solve the problems which are faced by the society. All kinds of advancements in technology were in the form of problems. If the students get the opportunities to learn both problem-solving skills from art and science, then they can work for their country and the overall growth of a secure world.

- **Social Work**

Humanity is the best policy. Art and science work for the welfare of the society. The arts tried to fulfil the needs of people by giving them what they wanted. Arts in every form aim to offer pleasure to the people. Science with its new instruments helping the needy people in the society.

- **Visualization to Reality**

Imagination is the initial stage of any creative work. If students start to visualise something in their mind, then only they can create it with the help of science. Education with the intersection of art and science can help the pupil to imagine and create things into reality.

- **Offers more opportunities**

If the students learn both opposite ideas from a single source, then it's going to be the best source for them. Learning Art and science together with the full potential can help the students to achieve something big.

- **Healthy Lifestyle & Communication**

The primary role of education is to help students to live in a society with dignity and respect. Society means groups of communication. The intersection of art and science can help the students acquire some good communication skills using art and use it for better communication. Advancements in Science offer more lifespan to people with new medical instruments, new nanobots for surgery, cures for incurable diseases etc.

- **Holistic Development**

Educational institutes make lots of efforts to help in the growth of students' overall performance. With the help of art and science, students can learn about how to imagine new things and create them with all possible solutions from science. Holistic development of the student is the primary need and expectation of education. The intersection of art and science in education can help the holistic development of the students.

CONCLUSION:

The intersection of art and science in education unlocks new opportunities to the pupils and society, with the help of art students can create more things for themselves and society. Science is serving the society from its beginning. The aim of the Arts is simple because it follows the simple rule of spread of happiness among their users and science helps to enhance new techniques to improve them. Education can offer more options and opportunities to people to develop themselves and prepare themselves for any challenge. When all good things of art and science merge in a single place then it's very useful for society.

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'घनसाळ' कथासंग्रहातील धर्मचिकित्सा

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जी. के. ऐनापुरे हे समकालीन साहित्यातील नाव असून कथा, कादंबरी, समीक्षा अशा सगळ्या क्षेत्रात त्यांनी विपुल लेखन केले आहे. असे असले तरी कथाकार म्हणून त्यांची ओळख महत्त्वाची मानली जाते. त्यांचे 'खंगोल' (२०१०), 'निकटवर्तीय सूत्र' (२०१७), लघुकथासंग्रह तर 'कांदाचिर' (२००५), 'स्कॉलर ज्यूस' (२०१२), 'झिंझुरडा' (२०१५), 'घनसाळ' (२०१७), 'चिंचपोकळी' (२०१९), 'नासमाया' (२०२३) इत्यादी महत्त्वाचे कथासंग्रह आहेत. या कथासंग्रहातून सर्वहार जगाचे दर्शन घडविले आहे. या कथासंग्रहातील 'घनसाळ' मधून धर्मचिकित्सेचे चित्रण येते याचा विचार इथे करावयाचा आहे. तत्पूर्वी मराठी कथेची परंपरा पहाणे आवश्यक आहे.

मराठी कथेची परंपरा

भारतात मौखिक परंपरेतून सुरु झालेल्या कथा हा वाङ्मय प्रकार १८५४ साली छापील स्वरूपात अवतरला. समाजातील विविध पंथ, विविध विचारसरणी आणि विविधधर्मी भावनांचा प्रभाव साहित्यावर होत असतो.तसा तो कथा या वाङ्मय प्रकारावरही झाला. परिणामी 'मराठी कथा' हा वाङ्मय प्रकार सर्वाधिक लोकप्रिय झाल्याचे दिसून येते.कमीत कमी पात्र प्रसंगांच्या साहाय्याने एका विशिष्ट स्थलकालात परस्पर संबधातून घडलेल्या घटनांचे सहेतूक आणि उत्कंठावर्धक केलेले चित्रण म्हणजेच 'कथा' होय. मराठी साहित्यामध्ये कथा लेखनाची मोठी परंपरा आहे. शंकर पाटील, शिवाजी सावंत, आनंद यादव, आशा बागे, कमल देसाई, गौरी देशपांडे, भास्कर चंदनशिव, जी.ए.कुलकर्णी, राजन गवस, आनंदीबाई शिर्के, श्री.कृ.कोल्हटकर, उषाकिरण अत्राम, बाबुराव बागुल, व.पु.काळे, पु.ल.देशपांडे, यासारख्या शेकडो लेखकांनी कथा हा वाङ्मय प्रकार समृद्ध केला आहे.

१९ व्या शतकातील 'बालबोधमुक्तावलि', 'पंचतंत्र', 'हितोपदेश', 'सिंहासनबत्तीशी', 'इसापनिती', 'वेताळपंचविशी' इथपासून सुरु झालेला अध्यात्मिक, उपदेशात्मक कथांचा प्रवास आज २१ व्या शतकात भेदक आणि जाज्वल्य वास्तवापर्यंत येवून पोहचला आहे. १९६० नंतर 'कथा' या वाङ्मय प्रकारामध्ये आशय आणि विषयांच्या अनुषंगाने खूप मोठा बदल झाल्याचे दिसते. समाजातील वेगवेगळ्या घटकांनी धार्मिक अथवा पारंपारिक पद्धतीने कथेचे प्रकार साहित्यामध्ये आणण्याचा प्रयत्न केला. रंजनवादी कथा, स्त्री कथा, दलित कथा, ग्रामीण कथा, वास्तववादी कथा, विज्ञान कथा, प्राणी कथा आणि अशा अनेक प्रकारे कथा साहित्यामध्ये अवतरू लागली.

लघुकथेची परंपरा सुरु करणाऱ्या ह.ना.आपटे यांनी स्फुट गोष्टीपासून या वाङ्मय प्रकाराची सुरुवात केली.घटनाप्रधान असणाऱ्या स्फुट गोष्टीमधून पाल्हाळीक वर्णनामुळे आपटे वास्तववादी जीवनाच्या खोलात शिरले नसल्याचे दिसते.मात्र बाबुराव बागुल, भास्कर चंदनशिव, योगीराज वाघमारे, प्रज्ञा द्या पवार, कमाल देसाई, मेगना

पेठे,यासारख्या कथा लेखकांनी मानवी आयुष्यातील जगणे महत्वाचे मानून आयुष्याचे व जीवनाचे गणित वस्तुनिष्ठ पद्धतीने व वास्तवाच्या पातळीवर आपल्या कथांतून व्यक्त केले आहे. त्याच फळीतील एक महत्त्वपूर्ण लेखक म्हणून जी.के.ऐनापुरे यांचा उल्लेख क्रमप्राप्त मानवा लागतो.

जी.के.ऐनापुरे ‘मराठी कथा’ सशक्त करणारे कथाकार :

१९९० च्या आसपास मराठी साहित्यातील कथा या वाड.मयप्रकारामध्ये लेखनासास प्रारंभ करणारे कथाकार म्हणून जी.के.ऐनापुरे यांचा उल्लेख केला जातो. दलित साहित्यातील पुनरावृत्ती आणि साचालेपणा, जनचळवळीची धार बोथट होत जाणे, सामाजिकदृष्ट्या अस्थिरता मुलतत्त्ववादाचा उद्य आणि बाबरी मस्जिद जमिनोध्वस्त केल्याच्या काळात स्वतःची लेखणी उचललेले जी.के.ऐनापुरे हे जगण्याच्या अत्यंत अस्थिर कालखंडात लिहू लागले. तिथून पुढे एक कादंबरीकार,कथाकार आणि समीक्षक म्हणून परिचित झालेल्या जी.के.ऐनापुरे यांनी जवळपास आठ कथासंग्रह लिहिले. पैकी ‘खंगोल’ आणि ‘निकटवर्तीय सूत्र’ हे दोन कथासंग्रह वगळता, ‘कांदाचिर’, ‘स्कॉलर ज्युस’, ‘झिंझुरडा’, ‘घनसाळ’, ‘चिंचपोकळी’ आणि ‘नासमाया’ हे दिर्घकथासंग्रह प्रकाशित आहेत.

मानवी आयुष्यातील विलक्षण कोंडमारा कथाबीज, कथामूल्य, कथागर्भ होत असतो. अशा वास्तववादी, अनुभवसिद्ध कथा समता, बंधुता आणि स्वातंत्र्य या मूल्यांना डोळ्यासमोर ठेवूनच अभिव्यक्त होत असतात. या तत्वांशी/ मुल्यांशी तडजोड न करता, कलात्मक संकल्पनाना डावलून आपला वेगळा आणि स्वतंत्र मार्ग तयार करून त्यावर आपल्या कथांची वाटचाल करणारे लेखक म्हणजे जी.के.ऐनापुरे होत. कथा म्हणून जे कथेचे घटक आहेत त्या कथाबीज, कथानक, वातावरणनिर्मिती, संघर्ष, संवाद, भाषाशैली इत्यादी घटकांना सामावून घेत जी.के.ऐनापुरे यांची कथा अवतरते.

साहित्य आणि संस्कृतीव्यवहारावर सातत्याने भाष्य करणारे जी.के.ऐनापुरे हे आपल्या अवतीभोवती घडणाऱ्या असंख्य घटनांकडे गांभीर्याने पाहून त्या घटनेच्या आतील सुप्त षडयंत्रे आणि मनसुबे या बाबी शोधण्याचा प्रयत्न करतात. त्यातून आविष्कृत होणाऱ्यात्यांच्या कथा या अशक्य कोटीतल्या अनेक सत्यांना वेशीवर उघड करताना दिसतात.या दृष्टीने जी.के.ऐनापुरे यांच्या कथांचा विचार केल्यास मराठी साहित्यातील वास्तववादी कथांच्या माध्यमातून सामाजिक, सांस्कृतिक व वैयक्तिक पातळीवर उघडे नागडे सत्य आपल्या कथामधून आविष्कृत करणारे सशक्त लेखक म्हणून जी.के.ऐनापुरे यांचा उल्लेख करावा लागेल.

धर्मचिकित्सक कथासंग्रह ‘घनसाळ’ :

सर्वहारांच न उलगडलेले जग उलगडून दाखविणारे कथाकार म्हणजे जी.के.ऐनापुरे.हे सूत्र आता सर्वश्रुत आहे. गोष्टी वेल्हाळपणा न करता सामाजिक व सांस्कृतिक ठोसा विधाने करणारे, कथा क्षेत्रात नव-नविन प्रयोग करताना आशयावर कोणताही अन्याय होवू न देणारे, जीवन जाणिवांची जाणीव ठेवणारे कथाकार म्हणून जी.के.ऐनापुरे संपूर्ण मराठी साहित्याला परिचित आहेत. भुतकाळातील मूल्यव्यवस्था, वर्तमानाचे भान ठेवून भविष्यकालीन दुरदृष्टी असणारे कथाकार म्हणून जी.के. यांचा उल्लेख निश्चितच अतिशयोक्ती ठरणार नाही.

जी.के.यांच्या 'घनसाळ' मध्ये 'देहरासर' आणि 'खुदा आणि खुर्दा' या दोन दीर्घकथा आहेत. ग्रामीण भागात घडणारी 'देहरासर' ही कथा म्हणजे, कथानायक सुरेशच्या माध्यमातून महाराष्ट्रातील लाखो बेकारांची मानसिक व सामाजिक अवस्था व्यक्त करणारी आहे. शरीराच्या विचित्र ठेवणीचे आणि धार्मिक वृत्तीच्या लोकांच्या श्रद्धेचे भांडवलकरून उत्पन्नाचा व्यापार करणाऱ्या बेकारांच्या परिप्रेक्ष्यातून ही कथा वाटचाल करते. विविध पंथाचे महाराज, स्वयंघोषित धर्मपीठे, बुवा-बाबा यांच्या अचानक उद्याची कहाणी वाटावी असे 'देहरासर' या कथेचे कथानक आहे. ही कथा म्हणजे महाराष्ट्रीय धार्मिक व समाजजीवनाची प्रतिकृतीच जाणवते. मुक्त, समर्पक आणि सक्षम प्रतिमा, अर्थपूर्ण प्रतिके, ध्वनी, यांच्या साहाय्याने आशय प्रवाही ठेवण्याचे कसब जी.के.ना नेमके गवसले आहे. याचा प्रत्यय त्यांच्या सर्वच कथांमधून येतो. त्या माध्यामतून समकालीन वेदना, वास्तवही त्यांच्या कथांमध्ये वाहत राहते. प्रतिमांची रेलचेल न करता अर्थपूर्ण निवेदन करण्यामध्ये जी.के.यशस्वी ठरतात.

डॉ.बाबासाहेब आंबेडकर यांच्या विचारसरणीमुळे जी.के.आपल्या लेखनातील 'स्त्री' कडे पाहताना पुरते भान राखतात. त्यामुळेच इतर कथांप्रमाणेच या कथेतील सुमनी, बंगारी, इमली, 'खुदा आणि खुर्दा' मधील मनिषा, सगुणा, निर्मला या स्त्री पात्रांना उभे करतात. हे करताना कुठेही स्त्री - वर्णन लैंगिकतेकडे झुकणार नाही. याची काळजीही जी.के. घेतात. स्त्रीयांचे वर्णन केवळ रंजकपणे न करता स्त्रीयांच्या वेदना, उद्योग, व्यवसाय, चाली रीती, परंपरा यातून जन्मणारी अवेहेलना याचाच प्रत्यय वाचकांना येतो. याबाबतच्या वर्णनातून वाचकही मनोमन 'स्त्री' च्या बाजूनेच उभा राहतो. 'देहरासर' या कथेत येणारी भाषा, वर्णने, पात्रे, प्रतिमा यांच्या वापरामागे आशय दुःख वेदना यांचा प्रचंड डोंगर उभा जाणवतो. आशय आणि अभिव्यक्तीसाठी सभ्य भाषेच्या संकेतांच्या पलिकडे जात करारी भाषा लेखक वापरतात. तरीही या कथेचे मुख्य तसूभरही कमी होताना दिसत नाही.

'खुदा आणि खुर्दा' ही जी.के.यांची दुसरी दीर्घकथा. भारतीय धर्मव्यवस्थेच्या जखमेवरचा पापुद्रा काढून सत्याची भळभळ आणि धर्माची गरज सांगणारी ही कथा जावेदच्या अब्बाच्या (जाधव बाबा) रूपाने धर्माची पायमल्ली करत माणूस आणि माणुसकी महत्वाची मानताना दिसतो. हिंदू-मुस्लीम धर्मातील दोन कुटुंबातील ही कथा जाधव बाबा यांच्या ओतप्रोत भरलेल्या माणुसकीने आणि जी.के. यांच्या लेखन कौशल्याने दोन धर्माची, दोन वेगवेगळ्या संस्कृतीची, चालीरीतींची निदर्शक बनते. इतकच काय तर या कथेतील दोन वेगवेगळ्या धर्मातील सुभाष आणि जावेद या दोघांच्या वर्तनातून दोन देशातील भूमिका वाटते.

खरं तर स्वतःच्या बायकोपेक्षा माझी जास्त गरज हिंदू कुटुंबाला आहे. या करणाने खुदा बनलेल्या जाधव बाबाचे अस्तित्व मात्र विस्कटून जाते. जिथे धर्मालाच धर्माचे वावडे आहे. तिथे जाधव बाबा परधर्मातील माणसांना जपतो. सैनिकी स्कूलमध्ये शिकणाऱ्या आपल्या नातवापेक्षा परधर्मीय मुलाला (समर्थ) जीव लावतो. यातून मानवी नातेसंबंधातील बारकाव्यांचे सूक्ष्म चित्रण ऐनापुरे करतात. अनेक बाजूनी पराजीत, सामान्य दिसणारी माणसं अनेक विकृतींनी भरलेली असतात. ही माणसं आपल्या भौतिक गरजा पूर्ण करण्यासाठी एकमेकांचा बळी घ्यायलाही कमी करत नाहीत. असे लोक ऐनापुरे यांच्या कथेत येतात. जातीच्या पलिकडची कथा म्हणून त्यांच्या कथेचा उल्लेख करायला हवा. लेखक या कथेतील निर्मला, मनिषा, जाधवबाबा या पात्रांच्या संवादावेळी आपली विवेक बुद्धी जागृत ठेवून कथेचे मुख्य ढासळणार नाही. याची काळजी घेतात. त्याचबरोबर फुले, शाहू, आंबेडकरी तत्त्वज्ञानाबरोबरच मार्क्स, लेनिन यांच्याही विचारसरणीची पक्की बैठक जी.के.ऐनापुरे यांच्या कथालेखनात जाणवते. केवळ प्रसिध्दीसाठी लेखन करण्याची भूमिका लेखक घेत नाही. मुलतत्त्ववादने मानवी जीवन असुरक्षित बनले आहे.

लोकशाही आणि समाजव्यवस्था अतिशय निबर बनली असल्याचे चित्रण येते. विद्रोह, नकार, आक्रोश मानवीमुल्य याचा कोणताही फरक या व्यवस्थेवर जाणवत नाही. याचेच चित्रण या दोन्ही कथानकांच्या माध्यमातून, पात्रातून व घटनाप्रसंगातून येताना दिसते.

समारोप

जी. के. ऐनापुरे यांनी अनेक साहित्य प्रकाराबरोबर लघुकथा व दीर्घकथा लिहिल्या आहेत. बाबुराव बागुल आणि भास्कर चंदनशिव यांच्या लेखनाप्रमाणे दलित आणि ग्रामीण साहित्याची सीमा रेषा धुषर करणारे जी. के. ऐनापुरे आहेत. त्यांच्या 'घनसाळ' कथासंग्रहामध्ये दोनच दीर्घकथा आहेत. 'देहरासर' कथेतून महाराष्ट्रीय धार्मिक व समाजीवनाची प्रतिकृती जाणवते तर 'खुदा आणि खुर्दा' या कथेतून भारतीय धर्म व्यवस्थेच्या जखमेवरचा पापुंद्रा काढून सत्याची भळभळ आणि धर्माची गरज सांगतानाच या कथेतून जावेदच्या अब्बाच्या (जाधव बाबा) रूपाने धर्माची पायमल्ली करताना माणूस आणि माणुसकी महत्त्वाची मानतात. या दोन कथातून ऐनापुरे यांनी धर्मचिकित्सा केली आहे. हे त्यांच्या साहित्याचे वेगळेपण जाणवते.

संदर्भ

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छत्रपती शिवाजी महाराजांची आदर्श संदेशवहन यंत्रणा

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प्रस्तावना-

छत्रपती शिवाजी महाराज हे जलद संदेश वहन यंत्रणेचे जनक होत. छत्रपतींच्या व्यवस्थापन शास्त्राचा उत्कृष्ट पैलू म्हणजे त्यांची जनसंपर्क यंत्रणा होय. विश्वासहर्तेसाठी व जलद संपर्कासाठी संदेश वहण यंत्रणा आवश्यक असते. दुसऱ्याशी संवाद साधने व संपर्क यंत्रणेच्या माध्यमातून क्रांति घडविणे ही एक ऐतिहासिक सत्यता आहे. छत्रपतींच्या प्रत्येक यशस्वी मोहिमेच्या विजयाचे गणित म्हणजे त्यांची जलद गतीने दौडत असणारी संदेश वहन यंत्रणा होय. स्वराज्याच्या संरक्षण व्यवस्थेसाठी जलद अशी संदेश वहण यंत्रणा आवश्यक होती. संपर्क व्यवस्थेचे महत्व लक्षात घेऊन छत्रपतींनी स्वराज्यामध्ये टपाल व्यवस्थेला म्हणजेच डाक व्यवस्थेला महत्व प्राप्त करून दिले. कोणताही प्रांत जिंकणे, त्याची व्यवस्था लावणे , त्यांची जबाबदारी लक्षात घेऊन जलद हालचाल करण्यासाठी स्वराज्यातील संदेशवहन यंत्रणा छत्रपतींनी मजबुत केली. ज्या ठिकाणी लढाई होणार आहे अशा ठिकाणांची इंधुत माहिती जलद संपर्क यंत्रणेच्या माध्यमातून तात्काळ मिळत असे. नेहमीच स्वराज्यामध्ये संपर्क व्यवस्थेला महत्वपूर्ण स्थान राहिले .

रयतेशी थेट संपर्क- रयतेशी थेट संपर्क हे छत्रपती शिवाजी महाराजांच्या संपर्क व्यवस्थेचे मुळ तत्व होते. स्वराज्यातील प्रत्येक स्वारीच्या व मोहिमेच्या वेळी छत्रपतींनी सुनियोजित अशी संपर्क व्यवस्था उभी केली. प्रशासन व्यवस्था चालविणे, तेथे शांतता व सुव्यवस्था निर्माण करणे हे या संपर्क व्यवस्थेमुळे सहज शक्य झाले. शत्रू गोटातील माहिती अतिशय बिनचुक व तातडीने काही कालावधीमध्ये काढणे व ती छत्रपती पर्यंत पोहचविणे हे या जलद संपर्क व्यवस्थेमुळे शक्य झाले.

हरकारे- छत्रपती शिवाजी महाराज स्वराज्यातील पत्र व्यवहार करण्यासाठी हरकारे नेमत असत. हे हरकारे एका गावाहून दुसऱ्या गावी सरकारी व खाजगी पत्रे वाटण्याचे काम करीत असत. रायगड ते मुंबई हे सुमारे 125 मैलांचे अंतर कापून जाण्यासाठी छत्रपती शिवाजी महाराजांच्या एका हरकाऱ्याला पाच दिवसाचा कालावधी लागला असा

संदर्भ मिळतो. हरकारे यांच्या बरोबर सांडणीस्वार , घोडेस्वार यांचाही या कामासाठी वापर केला जात असे. जलद पत्रे वाटपाचे काम करणारे हरकारे घोडेस्वारापेक्षा ही जलदपणे टपालाचे वाटप करीत असत. हारकारे यांच्या दोन ते तीन मैलाच्या अंतरावर छोट्या छोट्या झोपड्या असत. तेथे हरकारे बसत. पहिला हरकारा दुसऱ्या झोपडीत टपालाची पिशवी नेऊन ठेवीत तेथे पिशवी घेण्यासाठी तयारीत असलेला हरकारा ती पटकन उचलून पळत पळत जाऊन पुढच्या झोपडीत ती पिशवी ठेवी. सरकारी व व्यापारी लोकांची सर्व पत्रे याच पद्धतीने पाठविली जात असत.1

जलद व गुप्त संपर्क यंत्रणा - छत्रपतींनी स्वराज्यात फारशी पत्र व्यवहार करण्यासाठी पारसनीस नेमले होते. ही जबाबदारी फारसी व संस्कृत उत्तम येत असलेल्या नीळ प्रभू पारसनीस यांच्यावर टाकली होती. हे अलीबागचे राहणारे येसाजी पारसनीस हे त्यांचे नाव. पारसनीस म्हणजे फारशी पत्र व्यवहार करणारा मुन्शी होय. 2 छत्रपतींच्या संदेशवहन यंत्रणेमध्ये स्थानिक लोकांबरोबरच भटक्या परंतु शूर जमातींचाही मोठ्या प्रमाणात उपयोग होत असे. वंजारी सारख्या प्रामाणिक व विश्वासू जमाती हे काम अतिशय चोखपणे बजावत असत. स्वराज्यामध्ये ज्यांना हे काम दिले आहे त्याने ते अत्यंत चोखपणे बजावले.

संदेशवहन यंत्रणेचे प्रकार- छत्रपतींच्या स्वराज्यामध्ये लष्करी , मुलकी व परराष्ट्रीय अशा प्रकारची संदेशवहन यंत्रणा कार्यरत होती. परराष्ट्रीय व्यवहाराची लष्करी पत्रे अतिशय गुप्त स्वरूपाची असत. मुलकी पत्र व्यवहार हा प्रांता-प्रांतानुसार केला जात असे. स्वराज्यातील महत्वाची पत्रे अत्यंत गुप्त पद्धतीने सांडणीस्वाराबरोबर पाठविली जात असत. त्याची अमलबजावणी अतिशय तातडीने होत असे.3

हेर व्यवस्थेतून संपर्क यंत्रणा - छत्रपतींनी किल्ल्यावरील बांधकाम अधिक मजबुत व भक्कम होण्यासाठी परकीयांचीही मदत घेतली व किल्ले व्यवस्थापन श्रेष्ठ बनविले. ज्या प्रमाणे शत्रू गोटातील लष्करी हालचालींची माहिती काढण्यासाठी हेर पाठविले जात त्याच पद्धतीने दुर-दुरच्या कामाकरीता निर-निराळ्या प्रांतात हेर पाठविले जात असत. स्वराज्यामध्ये मोठ-मोठी बांधकामे करण्याकरीता परकीय वास्तुतज्ञांची मदत घेण्यासाठी मद्रास येथील इंग्रजांच्या फोर्ट सेंट जॉर्ज किल्ल्याच्या मुख्य अधिकाऱ्याकडे त्यांनी आपल्या हेराबरोबर बांधकामा संदर्भात माहिती मिळविण्यासाठी पत्रे पाठविल्याचा उल्लेख सापडतो.4

जलद संपर्क यंत्रणा - छत्रपती शिवाजी महाराजांनी जलद गतीने संदेशवहन यंत्रणेचा वापर करून आश्चर्यकारक विजय मिळविले. संदेश वहनाची गती एवढी असे की रात्रीच्या रात्री इकडचा संदेश तिकडे सहजासहजी पोहचत असे. स्वराज्यात टपाल व बातम्या आदि. साठी त्वरित संदेशवहनाची व्यवस्था निर्माण करण्यात आली होती.5 एका जागेहून दुसऱ्या जागी बातमी पाठविण्यासाठी टपाल सेवेला खुप महत्व होते. निरोपे किंवा जासूद खुष्कीच्या मार्गाने पाठविण्यात येत आणि सागरी मार्गाने जाणारी पत्रे जहाजातून जात असत. स्वराज्यातून केलेल्या टपाल व्यवस्थेचे विशिष्ट असे प्रकार होते.6

टपाल सेवेचे विविध प्रकार- जलद संपर्क यंत्रणेसाठी छत्रपतींच्या स्वराज्यामध्ये टपालाचे विविध प्रकार होते. त्यामध्ये राजदरबाराची पत्रे , व्यापाऱ्यांची पत्रे , सर्व सामान्य लोकांची पत्रे , सावकारांची पत्रे , वरिष्ठ व कनिष्ठ प्रकारची पत्रे, गावकीची पत्रे, खाजगी पत्रे आदि. टपालांच्या प्रकारांचा समावेश होत असे.7

प्रशासकीय विभागातून दळणवळणाचे कार्य- स्वराज्यामध्ये छत्रपती शिवाजी महाराजांनी तळघाट, वरघाट आणि देश असे तीन प्रशासकीय विभाग केले होते. या प्रशासकीय विभागातून दळणवळणाचे कार्य चालत असे. 8 घाटावर देखरेख करणाऱ्या अधिकाऱ्याला घाटपांडे असे म्हणत. घाटमार्गावर गस्त घालण्याची व घाटमार्ग सुरक्षित

ठेवण्याची जबाबदारी घाटपांडे यांच्याकडेच होती. घाटपांडे आपल्या हाताखाली इतर अधिकारी वर्ग ठेवत असे व त्यांच्या कडून अनेक कामे करून घेत असे. एवढेच नव्हे तर त्यांच्यावर देखरेख ठेवण्याचे काम ही तो करीत असे. घाटमार्गाच्या रक्षणासाठी घाटपांडे पुढील अधिकारी नेमत असे. त्यामध्ये मेटकरी, पानसरे, परकी, मोडवी, पत्की, डांगी, घाटमेटे व घाटे हे अधिकारी रस्ते दुरुस्तीमध्ये व जकात व्यवस्थेमध्ये घाटपांडे अधिकाऱ्याला मदत करीत असत.9

घाटमार्ग- पुणे व सातारा जिल्ह्यांना जोडणारे सहयाद्रीतून जाणारे अनेक घाट रस्ते रायगड जिल्ह्यातून जात होते. बंजारी लोक कोकणातून घाट रस्त्यावरून सातार्याशी धान्य व मिठाची वाहतूक करीत असत. 10 स्वराज्यातील घाट रस्त्यांचा उल्लेख खालील प्रमाणे करावा लागेल. अंबा घाट , कुंभार्ली घाट, विशाल घाट, पिंपरी घाट, कुंडी घाट, कुसूर घाट, कामथा घाट, माता घाट, रडतोडी घाट व शेवल्या घाट इ. अशा प्रकारे स्वराज्यातील संदेशवहन यंत्रणा कार्य करीत असे. 11 सहयाद्रीच्या रांगेत अनेक ठिकाणी घाटमार्ग तयार झाले. नाणेघाट , बोरघाट, आंबेनळी, पारघाट, हातलोट, अंबा घाट, आंबोली, तिवरा खिंड, कुंभार्ली घाट, फोंडा घाट, मळाखिंड वगैरे यातील आंबेनळी व कुंभार्ली घाटातून देशावरून कोकणात मोठे मार्ग गेले आहेत. आंबोली , उत्तर तिवरा, दक्षिण तिवरा आणि मळा या घाटातून बैलगाड्याचे मार्ग आहेत. आणि पार घाट , हातलोट खिंडीतून पाऊल वाटा होत्या. छत्रपती शिवाजी महाराजांनी घाटाच्या संरक्षणासाठी अनेक दुर्गांची निर्मिती केली . कातळ्या घाट , तैलबैला, बोचेघौल, सिंगापुरची नाळ यावरील देखरेखीसाठी लिंगणा , रायगड हे किल्ले बांधले. ढवळया घाटावर ढवळया किल्ला , आंबोली घाटावर महादेव गड , वरंधा घाटावर कावळया किल्ला , हातलोट घाटावर मकरंदगड , पार व आंबेनळी घाटावर नियंत्रण ठेवण्यासाठी प्रतापगड हा किल्ला बांधला.12

प्रति संदेश वहन- स्वराज्यातील गड-किल्ले संदेशवहन यंत्रणेमध्ये महत्वाची भूमिका बजावत असत. छत्रपतींनी चिपळूण जवळ वशिष्ठी नदीवरील गोविंदगड हा दाभोळ खाडीतील आरमाराला निरोप पोहचविणे तेथून येणारे निरोप स्वराज्याची राजधानी किल्ले रायगडावर पोहचविणे या संदेश वहनातील दुवा म्हणून हा किल्ला महत्वाचे काम करीत असे. किल्ले गोविंदगडावरून राजधानी रायगडावरील संदेशाची आग पेटविलेली दिसत असे. प्रति संदेश वहनासाठी किल्ले गोविंदगडावर आग पेटविली जात असे. अशा प्रकारे फारच कमी वेळात ही संदेशवहन यंत्रणा एकमेकापर्यंत पोहचत असे. घाट मार्गावर चौक्या बसविल्या होत्या. घाटावरील मुख्य अधिकाऱ्यास घाटपांडे असे म्हटले जाई. घटपांड्याच्या मदतीला पानसरे , पथकदार, मोडवी, पत्की, डांगी, मेटकरी आदि. अधिकारी असत. 13 छत्रपतींच्या कालखंडामध्ये किल्ले मकरंदगडावरून वासोटा व प्रतापगड किल्ल्यांवरती संपर्क ठेवता येत असे. किल्ले मकरंदगड किल्ले प्रतापगडाचा सहाय्यक किल्ला म्हणून काम करीत असे. त्याच बरोबर या किल्ल्यावरून हातलोट घाटावर नियंत्रण ठेवण्याचे काम केले जात असे.14

वाहतूकीवर नियंत्रण- एका चौकीपासून दुस-या चौकी पर्यंतच्या घटातील रस्त्यावर प्रवाशांना संरक्षण देण्याचे काम पथकी यांच्याकडे असे. या कामासाठी पथकीला गुजर हे अधिकारी मदत करत असत. घाटपांडेचा कारकुण म्हणून गुमास्ते किंवा मुतालिक यांना काम करावे लागत असे. प्रवाशांना संरक्षण देणे व वाहतूकीवर नियंत्रण ठेवणे ही दोन कामे चौक्यांना करावी लागत असत. छत्रपती शिवाजी महाराजांच्या काळामध्ये पारनेर येथील पोळ शिवाजी गोविंद जोस याला घाटपांडे पद देण्यात आले होते. या घाट मार्गावरून अतिशय जलद अशी संदेश वहन यंत्रणा वापरली जात होती .

जलद दळणवळणाची साधने - डोंगराळ प्रदेशातून जलद गतीने दळणवळण करणे अवघड होते. त्यासाठी

जलद गतीने अंतर तोडण्यासाठी घोड्याचा उपयोग केला जात असे. घोडे, हत्ती, उंट, बैल, गाई वगैरे प्राण्यांची व्यवस्था स्वराज्यामध्ये चांगली ठेविली होती. चांगल्या जातीची घोडी स्वराज्यात होती. छत्रपती शिवाजी महाराज स्वतः घोड्याची पारक करून घोडी स्वराज्यात ठेवित असत. प्राण्यास दाणा , घास, गवत वगैरे वेळच्या वेळी देणे. अशा बाबतीत ही बंदोबस्ताचे नियम केले होते.15

जलद संपर्क यंत्रणेसाठी प्रकाश व ध्वनीचा वापर- एका किल्ल्यावरून दुसऱ्या किल्ल्यावर जलद पोहचणारी संदेशवहन यंत्रणा छत्रपतींनी उभी केली व युद्धरचनेचे अतिशय योग्य असे नियोजन केले. छत्रपतींनी दिवस व रात्र या दोन्हीही गोष्टी डोळ्यासमोर ठेऊन संदेशवहन यंत्रणा राबविली. छत्रपतींनी जलद संपर्क यंत्रणेसाठी ध्वनीचा अतिशय योग्य पद्धतीने वापर केला. किल्ले रायगडवरून ही संदेशवहन यंत्रणा कार्यरत केली जात असे. 16 रायगड हा जवळ जवळ 65 किल्ल्यांच्या गराड्यात आहे. या किल्ल्यावरून संपर्कयंत्रणेचे केलेले नियोजन अतिशय श्रेष्ठ दर्जाचे होते. तोफेचा व नगऱ्याचा केलेला आवाज त्याचबरोबर विविध वनस्पतींचा धुर हे संपर्क यंत्रणेचे श्रेष्ठ माध्यम होते. गवताच्या गंजी पेटविणे व वेगवेगळ्या वनस्पतींचा धुर या माध्यमातूनही ध्वनी संपर्क यंत्रणा स्वराज्यात मोठ्या प्रमाणात वापरली जात होती.17

संपर्कयंत्रणेचे विशिष्ट असे नियम - छत्रपती शिवाजी महाराजांनी विचारशीलतेच्या जोरावर उत्कृष्ट प्रकारची संपर्क व्यवस्था व संदेशवहन यंत्रणा वापरली. ध्वनी आणि प्रकाश यांचा वापर करून छत्रपतींनी ही व्यवस्था श्रेष्ठ बनविली. किती तरी किलो मिटरचे अंतर कापून छत्रपतींची संदेशवहन यंत्रणा काही मिनिटात कार्य करीत असे.18 छत्रपतींनी उभा केलेले गिरीदुर्ग उंचवट्यावर म्हणजेच डोंगर-पर्वत कड्यावर उभा असल्यामुळे एका गडावरून दुसऱ्या गडावर संदेश पाठविणे सहज शक्य होत असे. एका गडावरून दुसऱ्या गडावर संदेश पाठविण्यासाठी छत्रपती नेहमी सज्ज असत. छणाचाही विलंब न होता एका गडावरील संदेश दुसऱ्या गडावर जात असे. छत्रपतींनी संदेश वहनाचे व संपर्कयंत्रणेचे विशिष्ट असे नियम बनविले होते. जाळ करून , धुर करून, आगट्या पेटवून, टेंबा करून, अवाज काढून अशा नानाविध प्रकारे प्रत्येक गड-किल्ल्यावर संदेश जात असे. त्यामुळे जलद हालचाली करून आपले ध्येय साध्य करता येत असे. किल्ले रांगणावरती खोतवाडीच्या जवळच्या एका भव्य डोंगरात 6 बाय 7 फुट आकाराच्या दगडावर क्रांतीज्योत उभारण्यात आली आहे. या दगडास जोगा धोंडा म्हणतात. या दगडाचे वैशिष्ट्य म्हणजे या दगडावरून रांगणा किल्ल्यावर पेटविलेली गंजी दिसते. छत्रपतींच्या कालखंडामध्ये सुरक्षितेसाठी संदेशवाहकाचा वापर किती कल्पकतेने केला होता याची कल्पना येते. 19

टपालसेवा- एका जागेहून दुसऱ्या जागी बातमी पाठविण्यासाठी टपाल सेवा उपलब्ध होती. खुष्कीच्या मार्गाने जासुद किंवा निरोप पाठवण्यात येत असे तर सागरी मार्गाने जाणारी पत्रे जहाजातून जात असत. 20 अशी टपाल व्यवस्था दोन प्रकारे केली जात असे. सरकारी टपाल आणि व्यापारी टपाल होय. कल्याण ते काशी, कल्याण ते मुंबई, पुणे ते नाशिक-त्र्यंबक, ग्वाल्हेर ते सातारा, मुंबई ते बेलापूर, पुणे ते बदामी, पुणे ते दिल्ली, माहेश्वर ते दिल्ली आणि थालनेर ते दिल्ली अशी टपालसेवा चालू होती. काही ठिकाणी उंटावरून टपाल वाहतूक करण्यात येत असे. संदेश वहनासाठी छत्रपतींनी किल्ले पन्हाळेदुर्ग हा कोकणात किल्ला बांधला. किल्ले रायगडाचा संदेशवहनाचे माध्यम म्हणून वापर केला जात असे. छत्रपतींनी दक्षिण दिग्वीजयाच्या वेळी सुसज्ज अशी पोंडेचरी ते पन्हाळा अशी संपर्क यंत्रणा उभी केली होती. 21

सारांश-

स्वराज्यातील गड-किल्ले म्हणजे स्वराज्यातील संपर्क व्यवस्थेची केंद्रे होती. छत्रपती शिवाजी महाराजांनी नेहमीच जलद व चपळ संदेश वहनावर लक्ष केंद्रित केले. छत्रपतींनी वेळो वेळी अचुक माहिती मिळविण्यासाठी चपळ संदेश वहन यंत्रणेचा नेहमी वापर केला. स्वराज्यातील टपाल व्यवस्थेची महिती परकीय प्रवासी अँबेकॅरे , थवेनॉट, ट्रॅव्हर्नीयर इत्यादींच्या प्रवास वर्णनात आली आहे. दळणवळण कशा पध्दतीने केले जात होते. कसे केले जात होते. सुरक्षितता कशी होती याचे संपूर्ण चित्रण या प्रवास वर्णनात दिसून येते. जलद संदेश वहण यंत्रणेवर छत्रपतींनी लक्ष केंद्रित करून त्यातून महत्वपूर्ण विजय मिळविले . म्हणूनच जलद संदेश वहन यंत्रणेचे सूत्र जगाला देणारे छत्रपती शिवाजी महाराज हे सर्वश्रेष्ठ राजे होत.

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मराठी साहित्यामध्ये दलित वाङ्मयाचे स्वरूप लक्षणीय आहे. प्रामुख्याने दलित साहित्यामध्ये दलित समाज जीवनाचे चित्रण आढळते. “आत्मकथने” ही दलित साहित्याचा आत्मा आहे. दलित वाङ्मयीन प्रवाहात आत्मकथनं पुष्कळ प्रमाणात लिहीली गेली. त्यातील आशय आणि अविष्कार अतिशय महत्वाचे आहे. त्यांमधून जगण्याच्या अनेक पैलूंचे दर्शन घडते. दलित आत्मकथनांमधून त्या जीवनाचे वास्तव विस्ताराने अभिव्यक्त झालेले दिसते. आपले जीवनदर्शन घडविण्यासाठी त्यांना आत्मचरित्र लिहावयाचे नव्हते तर , आपल्या आत्मपर अनुभवांच्या निवेदनाच्या निर्मितीने सामाजिक व्यवस्थेने त्यांच्यावर लादलेल्या जीवनाचे सत्य स्वरूप वाचकांसमोर आनावयाचे हाते. व्यक्ती आणि समाज यांचा कालसंदर्भात परामर्श घेऊन वास्तव मांडण्याचा प्रयत्न दलित आत्मकथनांमधून झालेला दिसतो. यामुळे या लेखनाला वेगळेपण प्राप्त झाले आहे. कोणत्याही साहित्याच्या निर्मितीची बीजे जीवनातील वास्तवात असतात. म्हणून जीवनाच्या विविध आयामांचा संबंध साहित्याशी असतो. जीवन जगत असताना अनेक प्रश्न , समस्या निर्माण होतात. ते कधीकधी तीव्र होऊन विविध विचारांना चालना मिळते. त्यातून चळवळ उभी राहते.

डॉ. बाबासाहेब आंबेडकरांच्या प्रेरणेमुळे दलित समाज जागृत झाला. आणि प्रस्थापित व्यवस्थेला फार मोठा धक्का दिला. त्यांच्यावरील होणाऱ्या अन्यायाला आपल्या लेखनीच्या माध्यमातून वाट मोकळी करून दिली. आपले प्रश्न समस्या, अन्याय, षोषण इत्यादींना निर्भिडपणे मांडण्याचा प्रयत्न केला. हे सगळे डॉ. बाबासाहेब आंबेडकर यांच्या

प्ररणेमुळे पाहावयास मिळते. त्याच्या प्रेरणेमुळे दलित साहित्याला चालना मिळाली. अनेक जन अतिशय परखडपणे आपली भूमिका मांडू लागले. यामध्ये आत्मकथने ही अतिशय महत्वाची ठरतात. दलित आत्मकथनांनी वाचकांचे लक्ष वेधून घेतले. यामध्ये प्रामुख्याने उचल्या, तराळ-अंतराळ, उपरा, बलुतं, अक्करमाशी, आठवनीचे पक्षी, आयदान, जिनं आमुचं यांसारख्या आत्मकथनांनी मराठी साहित्यात प्रचंड लोकप्रियता मिळवली. आपले वेगळे अस्तित्व निर्माण केले. ज्याप्रमाणे दलित पुरुष आत्मकथनांनी लोकप्रियता मिळवली, अगदी त्यांच्याच बरोबरीने दलित स्त्रियांच्या आत्मकथनांनी आपली वेगळी ओळख निर्माण केली. दलित साहित्यामध्ये दलित स्त्रीयांच्या आत्मकथनांचे योगदान अतिशय मोलाचे आहे. इ.स. 1980 नंतर दलित स्त्रीयांची आत्मकथने प्रकाशित होण्यास मोठ्या प्रमाणात सुरुवात झाली. ज्याप्रमाणे पुरुष लेखकांची आत्मकथने विशेष गाजली. त्यातुलनेत स्त्रियांची आत्मकथने काही अंशी दुर्लक्षित राहिली. काही ठराविक आत्मकथनांची चर्चा झाली. मात्र, केवळ दलित स्त्रियांच्या आत्मकथनांवर विशेष प्रकाश पडलेला दिसत नाही. दलित स्त्रीयांनी लिहीलेल्या आत्मकथनांतून त्यांची व्यक्तिगत प्रेरणा ही वेगवेगळी आहे. परंतु त्यांच्यावर असलेला आंबेडकरी विचारांचा प्रभाव आणि त्यातून उदयास आलेली आत्मशोधाची प्रक्रिया ही समान आहे. असे दलित स्त्री आत्मकथनांतून आपल्या लक्षात येते.

दलित स्त्रियांच्या आत्मकथनांचे स्वरूप:

आधुनिकतेने अनेक बदल झाले. त्यामध्ये स्त्रीयांच्या जीवनाचे अनेक मार्ग तयार झाले. अनेक स्त्रिया स्वतःच्या जगण्यावर आपल्या लेखनीच्या माध्यमातून समाजामध्ये मिळनारी वागणूक प्रतिबिंबित करू लागल्या. भारत स्वतंत्र होऊन काही दशके उलटली परंतु स्त्रियांचे मुळ प्रश्न हे सर्व स्त्रियांचे प्राथेनिधिक आहेत. असे दलित स्त्री आत्मकथनांमधून पाहावयास मिळते. ज्याप्रमाणे दलित स्त्री धर्म-जात वर्गाच्या, आधुनिकतेच्या तसेच सामाजिक, शैक्षणिक व आर्थिक पातळीवर कौडीमोल झाल्याचे दिसून येते. अगदी त्याचप्रमाणे मध्यमवर्गीय व उच्चजातीय कुटुंबातल्या स्त्रीयांचे देखील असेच प्रश्न निर्माण झाल्याचे पाहावयास मिळते. स्त्री जीवनामध्ये दलित, आदिवासी, कष्टकरी, मुस्लीम, कामगार अशा अनेक प्रकारच्या स्त्रीया आहेत. या स्त्रीजीवनामध्ये त्यांना जीवन जगत असताना समाजात वावरत असताना असंख्य समस्या त्यांच्यासमोर आवासून उभ्या होत्या. म्हणून ज्याप्रकारे दलित पुरुष आत्मकथनांनी आपले हक्क व विविध प्रश्न आत्मकथनाच्या माध्यमातून समाजासमोर आणण्याचा प्रयत्न केला. अगदी त्याचप्रमाणे दलित स्त्रियांनीसुद्धा आपले होणारे शोषण, अन्याय अत्याचार, आपले हक्क आणि प्रस्थापित समाजव्यवस्था इत्यादींमूळे भोगावे लागणारे दुःख लिखित स्वरूपामध्ये पुढे यायला पाहीजे. आपले जगणे कुठेतरी जोडून पाहीले पाहीजे. अशी भूमिका अनेक दलित स्त्रियांनी घेतली. दलित स्त्रियांच्या आत्मचरित्र लिहीण्याच्यामागील प्रेरणा पाहिल्या तर असे दिसते, की या स्त्रिया आपल्या जातीचे घडने विस्ताराने मांडतात. उदा. बेबी कांबळे यांचे जिनं आमुचं या आत्मकथनाची कारणमीमांसा करताना त्या म्हणतात, “माझे लेखन हे माझ्या पुढच्या पिढीतील पोरीबाळी व लेकीसुनांसाठी आहे. आपण बजुजनबर्गातील महार जातीमध्ये असल्याने कमीपणा का बाळगावा? आपले प्रेरणस्थान डॉ. बाबासाहेब असताना आपण षोषीत का राहावे. तसेच प्रस्थापित व्यवस्थेला आपण आपल्या हक्क आणि अधिकारांसाठी प्रश्न का विचारू नये?” अशाप्रकारचे स्फुर्तिदायक लेखन त्यांच्या आत्मकथनांमध्ये आढळते. दलित स्त्रियांच्या आत्मकथनांचे स्वरूप वैविध्यपूर्ण आहे. यातील समाजजीवन दारिद्र्याने पिचलेले आणि गरीबीने दुबळे झालेले आहे. प्रस्थापित समाजात प्रचंड अस्पृश्यता होती. त्यामुळे दलितांचे मोठ्या प्रमाणात शोषण व्हायचे. त्यांना पशू

प्रमाने वागनूक मिळायची. त्यांना कधीच आपले हक्क आणि पूर्णपणे मिळाले नाही. उच्चवर्नियांनी जातीव्यवस्थेला प्रमान माणून आपले सामाजिक वर्तनाला चालना दिलेली आहे. जात पंचायत, रुढी, अंधश्रद्धा आणि परंपरेमुळे कायम दलितांच्या वाट्यालाच शोषण आलेले आहे. त्यामुळे दलितांचे जीवन हे अधिक कष्टप्राय आणि दिशाहीन झालेले आहे. दलित स्त्री आत्मकथनांचे स्वरूप पाहता प्रामुख्याने आजच्या बौद्ध आणि पूर्वाश्रमीच्या महार समाजातील स्त्रियांचे प्रमान जास्त आहे. त्यांचे कारण या समाजावर आंबेडकर चळवळीचा आणि विचारांचा प्रभाव अधिक आहे. 'शिका , संघटीत व्हा आणि संघर्ष करा.' या आंबेडकरी विचारसुत्राचे माठ्याप्रमानात अनुकरण या समाजाने केले आहे. म्हणून दलित स्त्रियांची लेखनी प्रखर झालेली दिसून येते. दलित स्त्री आत्मकथने ही वेदनादायी जीवनाची परिपूर्ण उदाहरणे आहेत. ही आत्मकथने मराठी साहित्याचे मौलिक धन आहे. साहित्यातील प्रभावी वाङ्मयप्रकार म्हणून दलित स्त्री आत्मकथनांना आज पतिष्ठा प्राप्त झाली आहे.

नवोदोत्तरी काळातील दलित स्त्रियांची निवडक आत्मकथने:

स्वातंत्र्योत्तर कालखंडानंतर दलित साहित्यप्रवाह उद्यास आल्यानंतर समाजातील भयानक विषमता साहित्याच्या माध्यमातून समोर आली. डॉ. बाबसाहेब आंबेडकरांच्या प्रेरणेमुळे दलित समाजाला आपल्या अन्यायाची जाणीव झाली. स्त्रियांना जी हीन वागणून समाजात मिळत होती , त्यासाठी काही सुशिक्षित स्त्रियांनी चळवळीच्या माध्यमातून अनेक प्रश्नांना हात घातला. त्यामुळे स्त्रियांना आपल्या कर्तव्याची जाणीव झाली. ज्याप्रमाणे पुरुषांनी आपल्या जीवनातील वास्तविकता मांडली. त्याचप्रमाणे स्त्रियांनीही आपल्या जीवनाची कहाणी शब्दांमध्ये शब्दबद्ध केली. दलित स्त्री आत्मकथनाला अंशीच्या दशकात खरी चालना मिळाली व नव्वदच्या दशकानंतर स्त्री आत्मकथनांनी मराठी साहित्यात वेगळे स्थान प्राप्त केले. या दोन दशकातील स्त्रियांची आत्मकथने पंचंड लोकप्रिय झाली. कारण त्यातध्ये स्त्रिजीवनाची दाहकता, स्त्रियांचा विद्रोह, स्त्रियांचे समाजातील स्थान व त्यांचे कष्टप्राय जीवन आत्मकथनांच्या माध्यमातून पाहावयास मिळाले. या दोन दशकातील आत्मकथनांचा विचार केला तर , प्रामुख्याने मुक्ता सर्वगौड (मिटलेली कवाडे) , शांता कांबळे (माज्या जन्माची चि तरकथा), विमल मारे (तिन दगडाची चूल) , जनाबाई गि०हे(मरणकळा), कुमुद पावडे (अंतःस्फोट) , बेबी कांबळे (जिनं आमुचं) इ. मह त्वाच्या स्त्रियांनी आपले जीवन शब्दबद्ध केले. तसेच नव्वदीनंतर - मंगला केवळे (जगायचं प्रत्येक सेकंद) , उर्मिला पवार (आयदान) , यशोधरा गायकवाड (माझी मी) , सिंधुताई सपकाळ (मी वनवासी) , नजुबाई गावीत (आदोर) , मलिका अमरशेख (मला उद्धस्व व्हायचंय!) इ. स्त्रियांची आत्मकथने विशेष गाजली. या वरील सर्व दलित स्त्रियांच्या आत्मकथनांचा विचार करता या आत्मकथनांमध्ये औत्तरनारी स्त्री ही दुहेरी गुलामगिरीत जीवन जगत होती. ही स्त्री वेगवेगळ्या भूमिकेतून अवतरते. ती षोषीत आहे , विक्रिचे जनावर आहे , वेष्ट्या आहे , दरिद्री अपमानकारक व दुखी , कष्टकरी आहे. दुस ०या बाजूने ती मायाळू, ममता वा कुटुंबाचा भार पेलणारी, श्रम करणारी, पुरुषाला हिम्मत देणारी, कर्त्या धर्त्या, चारित्र्य जपणारी अशी अवस्था नव्वदच्या दशकात पाहायला मिळते. ती बिंधास्तपन आपले जीवन लेखनबद्ध करताना दिसते.

'मरणकळा' हे जनाबाई गि०हे यांनी लिहीलेले आत्मकथन बालपन , शिक्षणासाठी संघर्ष , विवाह, नोकरी, संसार या क्रमाने उलगडत जाते. त्यांनी ज्या वेदना , कळा सोसल्या होत्या त्या त्यांनी आपल्या कथनातून नमूद केल्या आहेत. 'माझी मी' या आत्मकथनामध्ये यशोधरा गायकवाड यांनी आपलं घरटं बांधताना पक्ष्यामध्येही नर-मादी काडीकाडी जमवून घरटे बांधतात. पण आपण माणूस असून आपल्या संसाराचे घरकुल एकटीने कोणाच्या

आधाराशिवाय तयार केलेले दिसते. 'मी वनवासी' मध्ये सिंधूताईनी कोणत्याही मायेच्या , नात्याच्या व रक्ताच्या माणसापासून त्यांना एकटीला वेगळे जगावे लागले. म्हणून त्यांनी अतिषय भयानक प्रसंगांची उकल केलेली आहे. 'जगायचं प्रत्येक सेकंद' या आत्मकथनामध्ये मंगला केवळे यांनी आपली संसारीक कहाणी मांडली आहे. अनेक अडचनी, राहण्याखाण्याची भ्रांत तरीही मेहणतीने यश प्राप्त करण्याची जिद्द या त्यांच्या आत्मकथनात पाहायला मिळते. 'आयदान' मध्ये उर्मिला पवार यांनी आपले बालपन हलाखीत गेलेले पण , सासरी जावून सुखी कुटुंब कसे होते? याचे वर्णन केलेले आहे. तसेच नजुबाई गावीत यांनी 'आदोर' मधून आपल्या जीवनातील अनुभव अतिशय प्रमाणिक व प्रांजळपणे मांडले आहेत. 'तीन दगडाची चूल' मध्ये विमल मोरे यांनी भटक्या विमुक्त समाजान अंधश्रद्धेमुळे अन्याय व अत्याचार कसे होतात याचे सुंदर वर्णन केलेले आहेत. 'मला उद्धवस्त व्हायचय!' मध्ये मलिका अमर शेख यांनी स्त्रिला आपलं मन मारून कसं जगावं लागतं याचे दर्शन घडविले आहे.

दलित स्त्री आत्मकथनांनी समाजशास्त्राला आणि भाषाशास्त्राला अनेक नवे विषय दिले आहेत. दलित स्त्री अनेक अडचणीवर मात करत शिकली. सामाजिक व कौटुंबिक शोषण भोगून तिने आपले मनोगत आत्मकथनातून प्रकट केले. एकून स्त्री आत्मकथनांचा षोध घेतल्यानंतर कोणत्याही समाजामध्ये स्त्रियांना उच्च दर्जाचे स्थान नव्हते. तिला कायम सर्व अधिकारांपासून वेगळे ठेवलेले आहे. हे स्पष्ट होते. उच्चा वर्णीय स्त्री पेक्षा दलित समाजातिल स्त्रिचे दलित म्हणून दुहेरी षोषण झालेले आहे असे दिसून येते.

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भारताच्या वन विकासामध्ये शासकीय, अशासकीय संघटनांची आणि स्थानिक समुदायाची भूमिका

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सारांश –

मानवाच्या सभोवताली असलेल्या परिस्थितीस पर्यावरण असे म्हणतात. पर्यावरणामध्ये मानवासाठी आवश्यक अनेक नैसर्गिक साधनसंपत्ती आढळतात. त्यामध्ये मृदा, पाणी, वने, हवा अशा अनेक आहेत. त्यापैकी वनांचे महत्त्व मानवासाठी महत्त्वपूर्ण आहे. भारताची प्रचंड लोकसंख्या वाढल्यामुळे मानवाने वसाहतीसाठी, उद्योगधंद्यासाठी मोठ्या प्रमाणात वृक्षतोड केल्याने निर्वनीकरण झालेले दिसून येते. त्याचे दुष्परिणाम कमी करण्यासाठी भारताने यावर ठोस उपयोजना राबविण्यासाठी अनेक संघटना स्थापन केलेल्या आहेत. या संघटनांचा परिपाक म्हणून थोडेफार भारतामध्ये वनक्षेत्र वाढलेले दिसून येते.

प्रस्तावना –

मानव ज्या ठिकाणी राहतो, त्याच्या सभोवती असलेल्या परिस्थितीस ‘पर्यावरण’ म्हणतात. पर्यावरणातील वनस्पती हा एक महत्वाचा घटक असून त्याचे स्थान अतिशय महत्वाचे आहे. हवामान, जमिनीच्या सुपीकतेच्या दृष्टिकोनातून, पाऊस पारडण्यामध्ये, प्रदूषण नाहीसे करण्यासाठी, परिस्थितीकाचा समतोल राखण्यासाठी वने अतिशय महत्वाची भूमिका पार पाडतात, भारताच्या प्रचंड लोकसंख्येचा ताण 'बने' या नैसर्गिक साधनसंक्तीवर येत आहे सामुळे निर्वर्णीकरण मोत आहे व साचे अनेक दुष्परिणाम दिसत आहेत. सामध्ये पर्जन्यावर परिणाम, वाढते प्रदूषण, जमिनीची वाढती धूप पूरांचे वाढते प्रमाण दुष्काळ, वन्य पशुपक्षीनामीस होणे, वारे व वादळांची निर्मिती के परिणाम दिसून येत आहेत.. भारत वनस्थिती अहवाल 2021 नुसार देशाचे एकूण वनक्षेत्र 7.13,789 चौ. किलोमीटर आहे जे देशाच्या भौगोलिक क्षेत्राच्या 21.729 आहे. एकूण वन आणि वृक्ष क्षेत्र एकूण औलोलित क्षेत्राच्या 24.62% खडे आहे. भारत वन स्थिती अहवाल 2019 च्या तुलनेत, देशाच्या एकूण वनक्षेत्रात 1540 चौ.

किलोमीटरने वाढ झाली आहे. वृक्षाच्छादित क्षेत्र 721 चौ. किलोमीटरने वाढले आहे आणि राष्ट्रीय स्तरावर एकूण वन आणि वृक्षाच्छादन क्षेत्र 2261 चौ. किलोमीटरने वाढले आहे. तरीदेखील क्षेत्रफळाच्या तुलनेने ते कमी आहे.

अभ्यासाची उद्दिष्टे:-

- १) नैसर्गिक साधनसंपत्ती (वने) यांच्या वापराबाबत जनजागृती निर्माण करणे.
- २) वन विकासात कार्यरत संघटनांचा अभ्यास करणे,

माहिती स्रोत आणि पद्धत :-

संशोधन पेपरमध्ये मिळवलेली माहिती ही माहितीचा दुय्यम स्रोत वापरून मिळवली आहे. ही माहिती मनेक पुस्तके, संदर्भ ग्रंथ तसेच वेबसाईटचा वापर करून मिळविली आहे. मिळालेसा माहितीचे संकलन, विश्लेषण करून नंतर सावरून निष्कर्ष काढला आहे.

अभ्यास क्षेत्र:

अभ्यासासाठी निवडलेले क्षेत्र के संपूर्ण भारत देश आहे. भारत का देश जगाच्या नकाशात उत्तर-आणि पूर्व गोलार्धात आहे तो आशिया खंडाच्या दक्षिण भागात मध्यवर्ती आहे, भारताचा अक्षवृत्तीय विस्तार 8°4'28" उत्तर ते 37°6'53" उत्तर आहे. रेखावृत्तीय विस्तार 68°7'33" व 97°24'47" पूर्व असा आहे.

वन विकासातील महत्वाच्या शासकीय संघटना :

वनांचे महत्व लक्षात घेता व निर्वनीकरणांमुळे होणारे दुष्परिणाम कमी करण्यासाठी भारतामध्ये अनेक शासकीय संघटना कार्य करत आहेत,

1) राष्ट्रीय वनीकरण आणि पारिस्थितीकी विकास मंडळ (NAEB)-

ही संघटना 1992 मध्ये देशामध्ये वनीकरण, वृक्षलागवड पारिस्थितीकी पुर्नस्थापना, पारिस्थितीकी विकासाला चालना देण्यासाठी स्थापन करण्यात आली आहे.

NAEB ची भूमिका आणि कार्ये :

निकृष्ट वनक्षेत्र आणि लगतच्या जमिनीच्या पर्यावरणीय पुनर्संचयनासाठी पद्धतशीर नियोजन आणि अंमलबजावणीद्वारे खर्च प्रभावी पद्धतीने यंत्रणा विकसित करणे,

पर्यावरणीय सुरक्षेसाठी आणि ग्रामीण समुदायांच्या इंधन लाकूड चारा आणि इतर गरजा पूर्ण करण्यासाठी नैसर्गिक पुनरुत्पादन किंवा योग्य हस्तक्षेपाद्वारे देशातील वनक्षेत्र पुनर्संचयित करणे

या वस्तूंच्या मागणीची पूर्तता करण्यासाठी निकृष्ट जंगल आणि लगतच्या जमिनीवर इंधन लाकूड, चारा, आणि इतर वनक्षेत्र पुनर्थचयित करणे,

निकृष्ट वनक्षेत्र आणि लगतच्या जमिनीच्या पुनरुत्पादन आणि विकासासाठी नवीन आणि योग्य तंत्रज्ञानाचा वापर प्रसार करण्यासाठी संशोधन आणि संशोधन निष्कर्षाचा विस्तार करणे,

सामान्य जागरूकता निर्माण करणे आणि स्वयंसेवी संस्था अशासकीय संस्था, पंचायती राज संस्था आणि इतरांच्या मदतीने वनीकरण आणि पर्यावरणीय विकासाला चालना देण्यासाठी लोक चळवळीला चालना देण्यासाठी मदत करा आणि निष्कृष्ट वनक्षेत्र, आणि लगतच्या जमिनीच्या सहभागात्मक आणि शाश्वत अवस्थापनाला प्रोत्साहन द्या.

वनीकरण, वृक्ष लागवड, पर्यावरणीय पुनर्संचयित आणि पर्यावरणीय विकास उपक्रमांना चालना देण्यासाठी आवश्यक असलेल्या इतर सर्व उपयोजना करणे.

NAEB च्या योजना :-

अ) राष्ट्रीय वनीकरण कार्यक्रम (NAP) :-

लोकांच्या सहभागाने वनासंबंधी साकल्याने विकास हाती घेतात. याला राज्यशासनाद्वारा मदत दिली जाते की, ज्यामुळे वनीकरणाचे कार्यक्रम राबविले जातात. 'काळजी आणि सहभाग' पद्धतीने समुदायाचे गुणकौशल्य प्राप्त करतात.

ब) हरित भारतासाठी सहाय्यक अनुदान :-

वनस्पती संदर्भात जागृती करण्यासाठी व संस्थाना उच्च वनस्पतीच्या लागवडीसाठी मदत करणे.

क) परिस्थितीकी विकास फोर्सेस योजना :-

परिस्थितीकी पुनर्स्थापना संरक्षण खात्यामार्फत अंमलबजावणी होते.

2) संयुक्त वन व्यवस्थापन समिती (JFMC) :-

1980 मध्ये स्थापना झाली. वन अवस्थापनाचे एक आदर्श उदाहरण आहे, ज्यामध्ये स्थानिक समुदायाचा सहभाग योजना आणि संवर्धन कार्यक्रमात असतो. यामुळे स्थानिक लोक वनांचे पालक बनले. JFMC चा असा विश्वास आहे की, जर पूर्वीचे फायदे स्थानिक लोकांना प्राप्त झाल्यास वनसंवर्धनासंबंधी सकारात्मक दृष्टिकोन अंगीकारतील.

वनविकासातील महत्वाच्या अशासकीय संघटना –

भारतामध्ये वन विकासात महत्वाची भूमिका बजावणाऱ्या अनेक अशासकीय संघटना आहेत त्या पर्यावरण व विकास क्षेत्रामध्ये अतिशय महत्वाची भूमिका पार पाडतात.

1) आगाखान ग्रामीण मदत कार्यक्रम –

संघटनेची स्थापना 1983 साली झाली. उत्पनावर व साधनसंपत्तीच्या व्यवस्थापनावर यामध्ये भर आहे. खेड्यातील मृदा व जल संधारण यांना वित्तीय मदत करतात.

2) भारतीय कृषी उद्योग प्रतिष्ठान (BAIF) :-

जी साधनसंपत्ती संपुष्टात आली आहे त्याला मदत करते, यामध्ये भूमी, पशु, जल व वनस्पती यांचा समावेश होतो. आदिवासी लोकांच्या पुनर्वसनाचा पाणलोट क्षेत्र, वृक्षारोपण, जैव ऊर्जा निर्मिती यामध्ये स्थानिक भागातील तंत्रज्ञान व संशोधनाला मदत करते.

3) विक्रम साराभाई विकास व अन्योन्य क्रियाकेंद्र :-

ही संस्था नागरी विकास, ग्रामीण तंत्रज्ञान, निसर्ग शिक्षण, सामाजिक वनीकरण यासाठी काम करते.

भारतातील वनविकासामध्ये स्थानिक समुदाय :-

भारतामध्ये वनविकासामध्ये बऱ्याच मोठ्या प्रमाणात स्थानिक समुदाय कार्य करतात. कारण भारतातील झालेल्या निर्वणीकरणाचे अनेक दुष्परिणाम लोकांना भोगावे लागत आहेत त्यामुळे लोकांना वनीकरणाचे महत्व पटले आहे.

मूलतत्वे :-

- 1) समुदाय सहभागामुळे लोकांचे ज्ञान आणि अनुभव विकास योजनांच्या यथास्थितेसाठी उपयुक्त असतात.
- 2) लोकांना स्वतःचे भविष्य ठरविण्याचा अधिकार दिला पाहिजे.
- 3) समुदायाच्या प्रयत्नांचा उपयोग केला पाहिजे.
- 4) समुदायामुळे लोकांच्यामध्ये अंगभूत कौशल्य आणि क्षमता वाढीस लागते.
- 5) लोकांना परिस्थिती हाताळण्यासाठी शिक्षण व प्रशिक्षण दिले पाहिजे.

भारतातील पर्यावरण चळवळी :-

पर्यावरण चळवळ ही सामाजिक चळवळीचा एक प्रकार आहे. ज्यामध्ये व्यक्ती, गट आणि युतीचा समावेश असतो. भारतात विशेषतः 1970 नंतर अनेक पर्यावरणीय चळवळी उदयास आल्या. या चळवळी वेगवेगळ्या वेळी वेगवेगळ्या ठिकाणी स्थानिक समस्यांवर स्वतंत्र प्रतिसादांच्या मालिकेतून वाढलेल्या आहेत.

1) सायलेंट व्हॅली चळवळ :- 1978

- केरळा येथे ही चळवळ सुरू झाली
- केरळाच्या पालघाट जिल्ह्यात सायलेंट व्हॅली आहे.
- राज्याच्या विविध डोंगरांनी वेढलेले आहे.
- या डोंगर व्यवस्थेतील कुंठीपुढा नदीवर धरणांची कल्पना ब्रिटिशांनी 1929 मध्ये मांडली होती.
- तांत्रिक व्यवहार्यता सर्वेक्षण 1958 मध्ये करण्यात आले आणि 1973 मध्ये भारत सरकारच्या नियोजन आयोगाने या प्रकल्पाना मंजूरी दिली.
- 1978 मध्ये लोकसंख्येच्या सर्व स्तरातून या प्रकल्पाच्या विरोधात आंदोलने झाली.
- ही चळवळी प्रथम स्थानिक लोकांनी सुरू केली आणि नंतर केरळ साहित्य परिषदेने (KSSP) ताब्यात घेतली.
- नर्मदा बचाव आंदोलन (NBA), बॉम्बे नॅचरल हिस्ट्री सोसायटी (BNHS) आणि सायलेंट व्हॅली ॲक्शन फोरम यांसारख्या अनेक पर्यावरण गटांनी या मोहिमेत भाग घेतला.
- कारण/उद्दिष्ट – निःशब्द खोरे आणि त्यातील समृद्ध जैवविविधता जतन करण्यासाठी प्रस्तापित केलेल्या जलविद्युत धरण प्रकल्पातून.

2) चिपको आंदोलन :-

- चिपको चळवळ 24 एप्रिल, 1973 रोजी उत्तराखंडच्या धारवाल विभागातील चामोली जिल्ह्यातील मंडल येथे सुरू झाली.
- जगप्रसिद्ध पर्यावरण चळवळीपैकी एक आहे.
- ही चळवळ टेकड्यांमधील पर्यावरणीय अस्थिरतेतून उभारली गेली.
- जंगलातील उत्पादनांनी उत्पदकता कमी झाल्यामुळे डोंगरी रहिवाशांना बाजारपेठेवर अवलंबून राहावे लागले, जे तेथील रहिवाशांसाठी मुख्य चिंता बनली.
- पूर, भूस्खलन यांसारख्या नैसर्गिक आपत्ती मागे वनसंपत्तीचे शोषण हे कारण मानले जात असे.
- 27 मार्च रोजी 'चिपको' म्हणजेच कुन्हाडीने धोक्यात आलेल्या झाडांना 'मिठीत घेण्याचा' निर्णय घेण्यात आला आणि त्यामुळे चिपको आंदोलनाचा जन्म झाला.
- खाजगी कंपन्यांना राखेची झाडे तोडण्यापासून परावृत्त करण्यात या प्रकारचा निषेध मोलाचा ठरला.
- हिमालयातील जंगले नष्ट होण्यापासून वाचण्यासाठी चंडीप्रसाद भट्ट, सुंदरलाल भौगुणा आणि इतर.

3) बिष्णोई चळवळ –

- या आंदोलनाचे नेतृत्व अमृता देवी यांनी केले, ज्यामध्ये सुमारे 363 लोकांनी आपल्या जंगलांच्या रक्षणासाठी बलिदान दिले.
- झाडांना त्यांच्या संरक्षणासाठी उत्स्फूर्तपणे मिठी मारण्याची रणनीती विकसित करणारी चळवळ.

- 1700 चे दशकात राजस्थानमध्ये स्थापन झाली.
- चळवळीचे कारण – राजासाठी नवीन राजवाडा बांधणासाठी गावातील पवित्र वृक्षांचा नाश थांबवणे

4) ऑपिको चळवळ –

- कर्नाटकातील उत्तर कन्नड प्रदेशात, प्रश्चिम घाटातील ग्रामस्थांनी सप्टेंबर-नोव्हेंबर 1983 मध्ये सुरू झाली.
- येथे लाकूड काढण्यासाठी व्यावसायिक वृक्षतोडीमुळे जंगलाचा नाश झाला.
- या प्रदेशातील नैसर्गिक जंगले कंत्राटदारांनी तोडली, त्यामुळे मातीची धूप झाली व बारमाही जलस्त्रोत कोरडे झाले.
- सिरसी मधील सकलानी गावात, जंगलातील रहिवाशांना फांद्या, बाळलेल्या फांद्या आणि लाकूड नसलेली वन उत्पादने इंधन लाकूड, चारा, मध इ. साठी गोळा करण्यापासून प्रतिबंधित करण्यात आले होते आणि त्यांना या उत्पादनांवार त्यांचा परंपरागत हक्क नाकारण्यात आला होता.
- 1983 मध्ये प्रदेशातील महिला आणि तरूणांनी दक्षिण भारतात चिपको सारखीच चळवळ सुरू करण्याचा निर्णय घेतला.
- हे आंदोलन 38 दिवस चालले आणि त्यामुळे अखेर राज्य सरकारला त्यांच्या मागण्या मान्य करून झाले तोडण्याचा आदेश मागे घ्यावा लागला.
- पांडुरंगा हेगडे, पश्चिम घाटातील ग्रामस्थ, सकळणी व परिसरातील गावातील महिला व युवक.

5) नर्मदा बचाव आंदोलन -

- 1985 मध्ये मेधा पाटकर व इतर कार्यकर्ते यांनी आंदोलन केले.
- नर्मदा ही भारतीय द्वीपकल्पातील प्रमुख नद्यांपैकी एक आहे.
- सरदार सरोवर प्रकल्पाची व्याप्ती, गुजरातमधील नर्मदेवरील टर्मिनल जलाशय हा खरे तर नर्मदा पाणी विवादातील मुख्य हुद्दा आहे.
- गुजरात, मध्यप्रदेश, महाराष्ट्र येथे आंदोलन झाले.
- चळवळीचे कारण – विकास प्रकल्प, विशेषतः नदी ओलांडून बांध बांधण्यामागील तर्कांवर प्रश्नचिन्ह निर्माण करणे.

6) जंगल बचाव आंदोलन -

- 1982 मध्ये बिहारच्या सिंहाभूम जिल्ह्यात सुरू झाले.
- सिंहाभूममधील आदिवासींनी हे आंदोलन केले.
- नैसर्गिक साल जंगलाच्या जागी व्यावसायिक सागवान लागवड करण्याच्या सरकारच्या निर्णयाला विरोध करण्यासाठी हे आंदोलन झाले.
- ही चळवळ बिहार, झारखंड आणि ओडिशासारख्या राज्यांमध्ये इतर विविध स्वरूपात मोठ्या प्रमाणावर पसरली होती.

निष्कर्ष :-

- 1) भारतातील लोकांना या नैसर्गिक साधनसंपत्तीचे महत्व लक्षात आलेले आहे.
- 2) निर्वणीकरणामुळे भारतामध्ये अनेक दुष्परिणाम दिसून येत आहेत. याची जागृती लोकांच्यात निर्माण झालेली आहे.
- 3) भारताने वनांच्या विकासामध्ये संघटनांच्या माध्यमातून अनेक उपक्रम राबविले आहेत.
- 4) उपक्रमाचा परिणाम म्हणून भारतामध्ये सद्य परिस्थितीत 2019 च्या तुलनेत 2021 मध्ये वनांचे क्षेत्र वाढले आहे.
- 5) भविष्यामध्ये वनक्षेत्र वाढीसाठी आणखी वेगवेगळ्या संघटनेबरोबरच उपाययोजना करणे गरजेचे आहे

संदर्भ –

- 1) भूगोलाची मूलतत्वे (खंड पहिला) ए.बी.सवदी.
- 2) आर्थिक भूगोल – प्रा. के. ए. खतीब.
- 3) उपयोजित भूगोल – प्रा. के. ए. खतीब
- 4) <https://moef.gov.in>
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मार्गदर्शक , सहायक प्राधापक, श्रीसाईबाबा लोक प्रबोधन कला महाविद्यालय , वडनेर ,वर्धा

प्रस्तावना :

आजच्या काळात महिला सक्षमीकरण हा चर्चेचा विषय बनला आहे . खासकरून मागासवर्गीय व प्रगतिशील देशामध्ये महिला सक्षमीकरणवर जास्त भर दिल्या जात आहे. कारण आज प्रत्येकाला कळून चुकले आहेत की देशातील स्त्रियांच्या प्रगतीशिवाय देशाची प्रगत शक्य नाही. आपल्या प्राचीन ग्रंथामध्ये “यत्र नार्यस्त्यु पूज्यन्ते रमन्त्ये तत्र देवता” अर्थात जेथे नारीची (स्त्रिची) पुजा केली जाते तेथे देवाचे स्थान असते अशा पद्धतीने स्त्रियांना मानसन्मान दिल्या जाते .

महिला सक्षमीकरण म्हणजे सामाजिक, आर्थिक, राजकीय, सांस्कृतिक व शैक्षणिकदृष्ट्या महिला शक्तिमान होणे होय . महिला सक्षमीकरण म्हणजे महिलांच्या अंगभूत क्षमतांचा विधायक विकास होणे होय . स्त्रियांना पुरुषांच्या बरोबरीने निर्णय प्रकियेत व सामाजिक,राजकीय आर्थिक व सांस्कृतिक व्यवस्थेत समान स्वरूपाची संधि ,स्थान ,लाभ व प्रतिष्ठा मिळाली पाहिजेत , जनमत ,लैंगिकता श्रमावर तसेच विचारावर फक्त पुरुषांचे वर्चस्व न राहता स्त्रियांना पुरुषांच्या बरोबरीने स्थान मिळणे आवश्यक आहेत. या सारख्या विचारास महिला सक्षमीकरणाचा पाया मानतात . महिला सक्षमीकरण ही एक दीर्घकाळ व निरंतर चालणारी प्रकिया आहेत .परंतु आज महिला म्हटले की महिला बचत गट ही ओळख डोळ्यासमोर उभी राहते ,म्हणूनच महिला बचत गट संदर्भात शासनाच्या वेगवेगळ्या योजना यांचा उल्लेख करणे महत्वाचे आहेत .

सध्या महाराष्ट्र मध्ये बचत गटातील महिलांच्या प्रगति ,उन्नती व उपजीविका साठी उमेद – महाराष्ट्र राज्य ग्रामीण जीवन्नोनी अभियान (MSRLM) हे मिशन काम करताना दिसत आहेत , त्यासोबतच माविम , नाबार्ड , सारख्या वेगवेगळ्या संस्था काम करत आहेत परंतु उमेद मिशन सध्या मोठ्या स्वरूपात काम करीत आहेत आणि उमेद अभियान महिला सक्षमीकरण मध्ये मोठी भूमिका बजावत आहेत , हे मिशन ग्रामीण विकास मंत्रालय महाराष्ट्र मार्फत राबविल्या जात आहेत ,

स्वयंसहायता बचत गट ही संकल्पना प्रा . मोहमद युनूस यांनी बांगलादेश या देशात सुरू केली , बांगलादेशातील अत्यंत हलाकीचे जीवन जगणार्या लोकांना संजीवनी देण्याचे काम या बचत गटाच्या माध्यमातून प्रा. युनूस यांनी करून दाखविले . प्रा. युनूस यांना असे आढळून आले की ,बांगलादेशातील जोबरा या गावात बांबूपासून फर्निचर तयार करण्याकरिता लागणारे बांबू व इतर साहित्य विकत घेण्याकरिता लोकाजवळ पुरेसे पैसे नव्हते . त्याकरिता त्यांना सावकाराकडून कर्ज घ्यावे लागत असे व त्यांनी मिळविलेल्या या व्यवसायातून प्राप्त केलेल्या उत्पन्नाचा फार मोठा भाग सावकार यांना द्यावा लागत असे ,म्हणून प्रा युनूस यांनी गरीब लोकांना मदत करण्यासाठी बचत गटाची स्थापना केली व त्यातून गरजू लोकांना कर्जपुरवठा करता येईल व त्यामधून हे लोक कर्जाची परतफेड करतील व स्वयंपूर्ण होतील , या उद्देशाने त्यांनी 1977 मध्ये ग्रामिण बँक स्थापना केली . अशाप्रकारे स्वयंसहायता बचत गटाची संकल्पना जगभर मान्य झाली.

बचत गट म्हणजे काय ?

आपल्या सभासदाला अडीअडचणीच्या वेळी आणि त्यांनी केलेल्या बचत मधून एकमेकांना आर्थिक साहाय्य करणे , आपली अर्थिक परिस्थिति उन्नत करण्यासाठी स्वताचे भांडवल तयार करणे . माहीलामध्ये आत्मविश्वास निर्माण करणे व संघटिकपणे कार्य करणे म्हणजे बचत गट किंवा स्वयंसहायता समूह होय .

महिला सबलीकरण :

सबलीकरण ही एक अशी प्रकिया आहेत की ज्यामुळे महिलांना स्वतःची ओळख पटेल व त्यांचे सर्व क्षेत्रातील महत्वपूर्ण स्थान त्यांना माहिती होईल . सक्षम महिलांची एक सकारात्मक स्वप्रतिमा तयार होईल व स्वतःसंबंधी , कुटुंबासंबंधी आणि राष्ट्रासंबंधी निर्णय घेण्यावर देखील नियंत्रण ठेवता येईल .

महिला सबलीकरणाची संकल्पना 1985 मध्ये नैरोबी येथील जागतिक महिला परिषदेमध्ये उदयास आली .

महणून UNO संघटनेने 1985 हे आंतराष्ट्रीय महिला वर्ष म्हणून पाळण्यात येते . या दशकात संयुक्त राष्ट्र संघटनेने सर्व देशांना महिलांच्या स्थितीवर अहवाल मागितला . याविषयी भारत सरकारने एक समिति स्थापन केली होती . या अहवालानुसार भारताने नॅशनल प्लान ऑफ ॲक्शन फॉर वुमेन्स असा प्रारूप आराखडा तयार केला आणि त्यानंतर भारतात महिला सबलीकरणाची दिशा निश्चित झाली . आणि भारतामध्ये महिलांसाठी बचत गटाच्या माध्यमातून गंगा कल्याण , स्वर्णजयंती ग्रामस्वरोजगार योजना SGSY , आणि आता संपूर्ण भारतात NRLM (राष्ट्रीय ग्रामीण जीवन्नोणती अभियान) हे मिशन सुरू आहेत . प्रत्येक राज्यात वेगवेगळ्या नावाने हे मिशन काम करीत आहेत ,

MSRLM उमेद – महाराष्ट्र राज्य ग्रामीण जीवन्नोणती अभियान

महाराष्ट्र मध्ये MSRLM उमेद – महाराष्ट्र राज्य ग्रामीण जीवन्नोणती अभियान या नावाने हे मिशन काम करीत आहेत , ग्रामीण विकास मंत्रालय मार्फत जिल्हा स्तरावर जिल्हा परिषद व तालुका स्तरावर पंचायत समिति कामकाज पाहत आहेत , गाव स्तरावर महिलांचे बचत गट तयार करणे आणि मोठ्या गावात 10 ते 20 गट एकत्र करून त्यांचे ग्रामसंघ (VO) तयार करून आणि प्रभाग स्तरावर प्रभागसंघ (CLF) तयार केले जातात आणि बचत गटाचे काम वरील यंत्रणेद्वारे पूर्ण केले जाते , बचत गटातील महिलांना वेगवेगळ्या ॲक्टिविटी मध्ये मदत करणेसाठी समूह संसाधन व्यक्ति ज्याला CRP म्हणतात ते काम करतात यासाठी त्यांना मानधन दिल्या जाते , उदा . कृषिसंबंधी माहिती देण्यासाठी कृषिसखी , जनावरे व पशूबाबत पशुसखी , महिलांच्या उद्भययोग साठी उद्भययोगसखी , बँकेचे कामासाठी बँकसखी , कृतिसंगम सखी , गटाचे मीटिंग व्यवस्थित झाली पाहिजेत म्हणून प्रेरिका , लेखे लिहिण्यासाठी लेखापाल असे वेगवेगळे Cadres ज्यांना समूह संसाधन व्यक्ति असे सुद्धा म्हणतात . म्हणून बचत गटातील महिलांचा महिला सबलीकरण मध्ये महत्वाचा वाटा आहेत .

आज बचत गटातिल महिलाना बँक मार्फत व ग्रामसंघ मार्फत व शासकीय योजना मार्फत कर्ज घेऊन आपली उपजीविका वाढविण्या मध्ये मोलाची भूमिका बचत गटातिल महिला करताना दिसत आहेत , बचत गटातील महिला बँकतून कर्ज घेऊन आपला व्यवसाय उभा करतात , त्यांना बँकेचे कर्ज परवडतात कारण उमेद मिशन मार्फत त्यांना interest subvention व्याजावर सबसिडी मिळतात , आज बचत गटातील महिला फक्त गटाचे कर्ज व मीटिंग एवढ्यवरच अवलंबून न राहता आपला व्यवसाय करून आपली स्वतःची ओळख निर्माण केली , सोबतच महिला गटातील सामूहिक शक्ति मुळे स्थानिक स्वराज संस्था मधील राजकरणावर फारसा प्रभाव पडलेला दिसतो . स्थानिक नेते बचत गटातील महिला किंवा ज्या समूह संसाधन व्यक्ति म्हणून काम करतात त्यांना आपल्या पक्षामार्फत निवडणुकीला उभे करतात व उमेदवारी देऊन मानसन्मान दिल्या जातो , हे सुध्दा महिला सक्षमीकरणचा एक भाग आहेत , म्हणूनच महिला बचत गटाचा महिला सबलीकरणवर प्रभाव पडलेला दिसून येतो .

महिला सबलीकरणाचे उद्दिष्टे :

- 1 अशी वातावरण निर्मिती करणे की ज्यामुळे सकारात्मक आर्थिक धोरणाद्वारे महिलांचा पुर्णपणे विकास होईल व त्यांना त्यांच्या क्षमतांची जाणीव येवू शकेल
- 2 . पुरुषप्रमाणे महिला देखील सर्व क्षेत्रामध्ये आर्थिक , सामाजिक , राजकीय संस्कृतिक , नागरिकत्व , समान हक्क व मूलभूत स्वातंत्र्य उपभोगता येईल .

3. आरोग्यसेवा, सर्व पातळीवर शिक्षण ,व्यवसाय विषयक मार्गदर्शन ,नोकरी ,समान वेतन ,व्यवसायिक ,सामाजिक सुरक्षितता ,एत्यादी बाबतीत महिलांना संधि मिळेल .
4. राष्ट्राच्या सामाजिक,राजकीय व आर्थिक निर्णयामध्ये महिलांना पुरुषांच्या बरोबरीने सहभाग घेण्याची संधि मिळेल .
5. महिला व मुलीबाबतचा हिंसाचार दूर करणे व स्त्री –पुरुष भेदभाव काढून टाकणे , महिला संघटना बरोबरीचे भागीदारी वादविणे .
6. महिला विषयीचे भेदभाव दूर करण्याकरिता कायदेविषयक पद्धती बळकट करणे .

स्वयंसहायता समूह व भारत सरकारची भूमिका :

स्वयंसहायता गटातून महिलांची यशस्वी वाटचाल सुरू झाली आहेत .बचत गटाची स्थापना हा महिलांच्या सबलीकरणाचा आणि सक्षमिकरणाच्या वाटचालीतील एक महत्वाचा टप्पा आहेत .त्यामुळे केवळ बचत करणे व कर्ज वाटणे एवढायपूरतीच या कार्याची व्याप्ती न राहता बचत गटाच्या माध्यमातून महिलांचे विविध सामाजिक प्रश्न , विविध विषय ,याबाबत चर्चा करणे व त्यासाठी बचत गटामार्फत सामुहिकपणे काही कृती करणे ,याचाही विचार केल्या जातो , बचत गटाच्या माध्यमातून महिला स्वावलंबी बनत आहेत ,त्यांच्यातील निर्मितीक्षमतेचा विकास या माध्यमातून होत आहेत , यातून त्यांना मान व आत्मसन्मान प्राप्त होत आहे

महिला स्वयंसहायता समूह गरीबी निर्मूलना मध्ये हातभार लावत आहेत ग्रामपंचायत मध्ये तयार होणारा GPDP गाव गरीबी निर्मूलन आराखडा बचत गटाच्या माध्यमातून पूर्ण तयार केला जातो . महिला स्वयंसहायता समूह चळवळ आर्थिक प्रश्नांची सोडवणूक करण्यासाठी असली तरी महिलांच्या व्ययक्तिक ,सामाजिक ,आरोग्य विषयक प्रश्नांची सोडवणूक देखील या माध्यमातून होत आहेत . स्त्रीने स्वतःच्या क्षमतांची ओळख करून त्या क्षमतांचा विकास करण्यासाठी घरगुती व सामाजिक निर्णयाच्या प्रक्रियेत सहभागी होऊन आत्मनिर्भरतेने व आत्मविश्वासाने काम करणे म्हणजे महिला सक्षमीकरण होय .वर्तन ,कौशल्य ,अभिव्यक्ती व जमाखर्चाचा ताळेबंद जोपर्यंत महिला करू शकणार नाही तोपर्यंत महिलांची उन्नती व सक्षमीकरण अशक्य आहे . याच धर्तीवर महिला स्वयं सहायता बचत गट या उमेद अभियानाची वाटचाल 2011 पासून महाराष्ट्र सरकारने सुरू केली आणि हे अभियान स्त्रियांच्या विकासासाठी वाटचाल देणारे ठरले .

महिला बचत गट व स्त्रियांची उद्धयोजकता:

महिला उद्धयोजकतेच्या बाबतीत जन्मताच उध्योगिनी असतात. कारण त्यांच्या घरातील पिढ्यान पिढ्या चालणार्या व्यवसायचे बाळकडू त्यांना मिळालेले असतात ,तरीपण सरकार महिला बचत गटाच्या महिलासाठी उध्योग करण्यासाठी वेगवेगळ्या योजना काढत असतात व त्यांचा फायदा बचत गटातील महिलांना होताना दिसून येतो . आणि आज तर ऑनलाइन च्या माध्यमातून बचत गटाच्या वस्तु विकल्या जातात , Amazon, flikpart, एत्यादी ऑनलाइनच्या माध्यमातून विक्री केल्या जाते . वर्धा जिल्हामध्ये वर्धा जिल्हातील बचत गटांनी तयार केलेल्या वस्तु विक्री साठी वर्धिणी विक्री केंद्र उभारले आहेत ,त्यामाध्यमातून जिल्हातील सर्व बचत गट आपले उत्पादने विक्री साठी वर्धिणी शॉप मध्ये ठेवतात. हा महिला सबलीकरणाचा एक भाग आहेत म्हणूनच बचत गटाचा महिला सबलीकरणावर प्रभाव पडलेला दिसतो ,कारण महिला आता कोणावर अवलंबून न राहता स्वतःची उपजीविका तयार

करायला शिकल्या हे सर्व बचत गटातील महिला एकीमुळे व शासनाच्या चांगल्या धोरणामुळे शक्य झाले .

बचत गटासाठी केंद्र शासन व राज्य सरकारच्या योजना –

- मुद्रा योजना
- महिला उध्योग निधि योजना
- PMFME(प्रधानमंत्री सूक्ष्म अन्न प्रकिया उध्योग योजना
- CMEGP (मुख्यमंत्री रोजगार निर्मिती कार्यक्रम)
- PMEGP (प्रधानमंत्री रोजगार निर्मिती कार्यक्रम)
- DDUGKY(दीनदयाळ उपाध्याय ग्रामीण कौशल्य योजना)
- R-SETY (स्टार स्वरोजगार प्रशिक्षण संस्था)
- महिला समृद्धि कर्ज योजना

अशा प्रकारे बचत गटातील महिलासाठी सरकारने विविध योजना तयार केले आहेत , आणि त्या योजनाचा लभ बचत गटातील महिलांनी घेऊन आपली व कुटुंबाची उपजीविका निर्माण केली आहेत .

निष्कर्ष :-

स्वयं सहायता बचत गट स्थापन केल्यामुळे ग्रामीण भागातील दरिद्र रेषेखालील कुटुंबाचा विचार करणे गरजेचे होते . ग्रामीण भागातील महिला कार्यक्षम असूनही त्या चूल आणि मूल या पलीकडे कोणतेही कार्य करीत नाही, ही खंत होती. शेती, जनावरे सांभाळणे, मुलांचे संगोपन करणे ही कार्ये ग्रामीण भागातील महिलापूरतीच मर्यादित होती .

आर्थिकदृष्ट्या दुर्बल व ग्रामीण माहीलामध्ये गरीबी व उत्पादन साधनाचा अभाव या जोडीत शेती सोडून एतर कोणताही व्यवसाय करण्याचे कौशल्य नाही . बाजारपेठेचा अभाव , पिढ्यांपिढ्या चालत आलेली सामाजिक बंधने त्यामुळे एकट्या महिलेने व्यवसाय करणे कीबहुना सामाजात मोकळेपणाने वावरणे ह्या सर्व बाबी विचारात घ्यावा लागतात . भारतातील सामाजिक चालीरीती ,रुढी व परंपरामुळे ग्रामीण महिलाना विकासामध्ये महत्व दिले गेले नाही आणि त्यांना स्वयंविकासाची संधि दिली गेली नाही .

परंतु बचतगटामुळे महिलांचा आर्थिक सामाजिक व राजकीय विकासात चालना मिळत आहेत . जागतिकीकरणाच्या या युगात महिलांच्या संदर्भात असणारी चूल आणि मूल ही संकल्पना कालबद्ध झाली आहेत . “जिच्या हाती पाळणाची दोरी ,ती जगाची उदधारी “ तर आता महिलांच्या हातामध्ये आर्थिक विकासाची नाडी आली आहेत . बचत गट चळवळ ही खर्यात अर्थाने स्त्री उद्धाराची व देशोन्नती ची चळवळ झाली आहेत . ज्यामुळे जगतिकीकरणाचा काळात गरीब , ग्रामीण , कष्टकरी महिलांच्या सहकारातून पुढे आलेली ही बचत गटाची चळवळ ही आता गरीब भारतीय समाजाच्या आशेचा किरण ठरत आहेत . बचत गटाच्या माध्यमातून महिलांचे नेतृत्व उभे आहेत व येणारा काळ हा महिला नेतृत्वाचा आहे.

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प्रास्ताविक-

भारतीय युद्धशास्त्रामध्ये किल्ल्यांचे महत्त्व अगदी प्राचीन काळापासून मानले गेले आहे. मध्ययुगीन कालखंडामध्ये छत्रपती शिवाजी महाराजांच्या स्वराज्यकार्यात गड दुर्गांना अनन्यसाधारण महत्त्व प्राप्त झाले होते. याच गड दुर्गांच्या आश्रयाने छत्रपती शिवाजी महाराजांनी अनेक लढाया जिंकल्या आणि स्वराज्यावर आलेले संकट थोपवले. महाराष्ट्रात गडकोट विपुल प्रमाणावर आहेत. महाराष्ट्रातील दुर्गबांधणीची परंपरा किमान दोन हजार वर्षे जुनी आहे. सातवाहन, कलचुरी, चालुक्य, राष्ट्रकुट,

शिलाहार, यादव, मराठे यांनी महाराष्ट्रामध्ये गडकोटांची एक समृद्ध शृंखलाच निर्माण केली. गड दुर्गांच्या बांधणीमध्ये स्थल-काल सापेक्ष बदल दिसून येतात. इतकेच काय पण राजवटीनिहायही बदल दिसून येतात. महाराष्ट्रात आहेत तसे आणि तितक्या प्रकारचे किल्ले भारतात अन्य कोणत्याही राज्यात नाहीत.

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“संपूर्ण राज्याचे सार ते दुर्ग. दुर्ग नसतां मोकळा देश परचक्र येतांच निराश्रय, प्रजा भग्न होऊन देश उद्ध्वस होतो. देश उद्ध्वस झाल्यावरी राज्य असे कोणास म्हणावे ? याकरिता पूर्वी जे जे राजे झाले त्यांनी आधी देशामध्ये दुर्ग बांधून तो तो देश शाश्वत करून घेतला, आणि आलेले परचक्रसंकट दुर्गाश्रयी परिहार केले. हे राज्य तर तीर्थरूप थोरले कैलासवासी स्वामींनी गडांवरूनच निर्माण केले. गडकोट हेच राज्य , गडकोट म्हणजे राज्याचे मूळ , गडकोट म्हणजे खजिना , गडकोट म्हणजे सैन्याचे बळ , गडकोट म्हणजे राज्यलक्ष्मी, गडकोट म्हणजे आपली वसतिस्थळे, गडकोट म्हणजे सुखनिद्रागार.” ३५० वर्षांपूर्वी रामचंद्रपंत अमात्य यांनी आपल्या आज्ञापत्रामध्ये उद्धृत केलेल्या या वचनावरून गडकोटांच्या अनन्यसाधारण महत्त्वपूर्णतेची ओळख होते. रामचंद्रपंत अमात्य यांनी पुढे जाऊन “नूतन देश साधणे , त्या देशात जी स्थळे असतील ती महप्रयत्ने हस्तवश करावी. ज्या देशात गडकोट नसतील त्या देशात आपले राज्याच्या सरहद्दीपासून पुढे जबरदस्तीने नूतन स्थळे बांधीत बांधीत तो देश आक्रमावा. त्या स्थळांचे आश्रयी सेना ठेवून पुढील देश स्वशासने वश करावा. असे करीत करीत राज्य वाढवावे , गडकोटाचा आश्रय नसता फौजेच्याने परमुलखी टिकाव धरून राहवत नाही. फौजेविरहित परमुलखी प्रवेश होणेच नाही. इतक्याचे कारण ते गडकोट विरहित जे राज्य त्या राज्याची स्थिती म्हणजे अभ्रपटलन्याय आहे.” अशा शब्दात गडकोटांचे महत्त्व वर्णिले आहे.

छत्रपती शिवाजी महाराजांच्या स्पर्शाने पावन झालेल्या आणि मावळ्यांच्या पराक्रमाचे साक्षीदार असलेल्या या गडकोटांची वर्तमानात काय स्थिती आहे याचा अभ्यास केल्यानंतर हे गडकिल्ले भग्नावस्थेत शेवटच्या घटका मोजत असल्याचे आपल्याला दिसून येईल. महाराष्ट्राच्या आसमंतात असे अनेक किल्ले अशा ठिकाणी बांधले आहेत की, आपल्याला त्यांच्यापर्यंत पोहोचण्यासाठी खूप पायपीट करावी लागते, कित्येक डोंगरदऱ्या, ओढे, नद्या पार कराव्या लागतात. अतिशय दुर्गम ठिकाणी किल्ले वसवण्याचे प्रयोजनही तितकेच महत्त्वाचे होते, हे आपल्याला गडकिल्ल्यांच्या डोळस भ्रमंतीतून दिसून येईल. काही किल्ले हे आपल्या इतिहासाच्या अज्ञानातून, ऐतिहासिक वास्तूविषयीच्या अनास्थेतून आणि अवशेषांच्या उचलेगिरीने विनाशाच्या मार्गावर उभे आहेत.

वरील वर्णनाला पुरेपूर उतरणारा कोळदुर्ग हा किल्ला सांगली जिल्ह्यातील खानापूर तालुक्याच्या पूर्वेला आणि कवठे महांकाळ, तासगांव, आटपाडी तालुक्याच्या सरहद्दीवर दूर डोंगरात इतिहासप्रसिद्ध भूपालगड तथा बाणूरगडाच्या सोबतीने वसलेला आहे. या किल्ल्याचे दुर्दैव हे की, स्थानिक लोकांनी या किल्ल्यावरील अवशेष उचलून नेऊन या किल्ल्याला भग्न स्वरूप आणले आहे. ढासळलेले बुरूज, कोरडा ठक्क पडलेला आणि पावसाच्या प्रतीक्षेत असलेला तलाव, तटबंदी, वीरगळ, इतस्ततः विखुरलेले मंदिरातील अवशेष असा भग्नावस्थेत हा किल्ला उभा आहे. पळशी गावातील लोकांच्या म्हणण्यानुसार १९७२ साली पडलेल्या दुष्काळात गावातील लोकांनी एकत्र येऊन कोळदुर्गावरील नक्षीकाम केलेले दगड बैलगाड्यांच्या माध्यमातून पळशी गावात आणून कुलदैवत असणाऱ्या सिद्धनाथाच्या मंदिराच्या उभारणीसाठी आणि शेतकऱ्यांनी आपल्या शेताला बांध घालण्यासाठी वापरले. मंदिराचे स्थापत्यवैभव आणि स्थानिक शेतकऱ्यांच्या शेताचे बांध हे अशाप्रकारे कोळदुर्गाच्या विनाशाने उभे राहिले. आजही पळशी गावातील सिद्धनाथाच्या मंदिरात आपल्याला कोळदुर्गावरून आणलेले नक्षीकाम केलेले दगड, वीरगळ, हत्ती-सिंहादी प्राण्यांची शिल्पे पाहावयास मिळतात. कोळदुर्गावरून आणलेल्या या अवशेषांच्याकडे पाहिल्यानंतर कोळदुर्गावरील तत्कालीन वास्तू (मंदिरे वगैरे) यांच्या वैभवसंपन्नतेची साक्ष पटते.

इतिहासप्रसिद्ध किल्ले भूपालगड तथा बाणूरगड आणि शुकाचारीकडून कोळदुर्गाकडे जातांना दोन मार्गांनी जाता येते. पैकी एक मार्ग शुकाचारीकडून पळशीकडे जाणारा पक्का डांबरी मार्ग आहे, ज्यावरून एक फाटा उजव्या बाजूला फुटतो आणि तिथून कच्चा मार्ग शेतातून आणि माळरानावरून जातो. हा मार्ग जेव्हा शेतातून जातो तेव्हा दोन्ही बाजूला असणाऱ्या शेतांच्या बांधांकडे लक्ष दिले तर आपल्याला दिसून येईल की, शेताच्या बांधाला कोळदुर्गाच्या तटबंदीचे दगड आधार म्हणून लावले

आहेत. या बांधाच्या दगडांनी शेताचे संरक्षण होत असले तरी कोळदुर्ग मात्र कायमसाठी ओस पडला आहे. दुसरा मार्ग हा पूर्णतः डोंगरदरी आणि ओढ्यातून जातो. ज्या मार्गावरून जाताना कोळदुर्गाचे अवशेष विखुरलेले दिसतात तो हा मार्ग कोळदुर्गाचे गतवैभव दाखवतो. हा मार्ग शुकाचारी मंदिराकडे जाणारी दगडी पायवाट जिथून सुरू होते, त्याच्या डाव्या बाजूला एक मळलेली पायवाट पश्चिमेकडे असणाऱ्या गणपती मंदिराच्या मागील बाजूने कोळदुर्गाच्या दिशेने जाते. वाटेत जाताना एक ओढा लागतो जो गर्द झाडीने व्यापला आहे. हा ओढा पार करून पुढे जी डोंगराची चढण लागते तो डोंगर म्हणजेच कोळदुर्गाचा डोंगर होय. आपण जेव्हा या ओढ्यातून चालत जातो तेव्हा ओढ्याच्या काठाने तुटलेले नक्षीदार खांब, नक्षीकाम केलेले दगड, जाते, ओढ्यामध्ये घातलेला दगडी बांध आणि झाडांना कठडे (पार) आपल्याला दिसून येईल. हा ओढा पार करून पुढे गेल्यानंतर साधारण १५-२० मिनिटांच्या अंतरावरती कोळदुर्गाची भरभक्कम तटबंदी, गडावरील विखुरलेले अवशेष आणि गडावर कायम वस्ती करून राहिलेले एक मुळचे डफळापुरचे असलेले चव्हाण कुटुंबियांचे घर (जे २०११-१२ सालापासून येथे राहावयास आले आहेत) आपल्या दृष्टीपथात येते. कोळदुर्गाच्या परिसरात चालताना मोठमोठे दगड इतस्ततः विखुरलेले दिसतात. गडाच्या कोणत्याही भागातून पाहिल्यास १००-१२५ एकराचा गडाचा विस्तार आपल्या दृष्टीपथास पडतो. काही जागूरक नागरिकांनी गडावरील विखुरलेले अवशेष जे त्यांच्या वाहून नेण्याच्या क्षमतेच्या मर्यादेत आहेत असे, पाषाणरुपी अवशेष गडावर एका ठिकाणी गोळा करून मोठा दगडी चौथरा बांधून त्यावर ओळीने मांडलेले आहेत. त्यामध्ये मान नसलेल्या दगडी नंदीचे शिल्प, महादेवाच्या मंदिराचे अवशेष, फोडलेली महादेवाची पिंड, वीरगळ, एक शिलालेख, कोरीव खांब असे अवशेष आपल्याला पहावयास मिळतात. या अवशेषांच्या पूर्वेकडे पाहिल्यास शुकाचारीचा डोंगर, त्याचप्रमाणे इथल्या परिसरातून कुठूनही पाहिल्यास आपले लक्ष वेधून घेणारा कावड्याचा डोंगर, भूपालगड तथा बानुरगड इत्यादी पहावयास मिळतात.

कोळदुर्ग हा किल्ला रायगड-राजगड-तोरणा या किंवा अशा च तत्सम उंच डोंगरावरील किल्ला नसल्यामुळे लढाईच्या आणि संरक्षणाच्या दृष्टीने काही अंगभूत मर्यादा या गडास आहेत. त्याचा विचार करून चारही बाजूंनी तटबंदी बांधलेली आहे. मोठमोठे पाषाण एकमेकांवर रचून ही तटबंदी बांधल्याचे दिसून येते. काही ठिकाणी ४ फूट तर काही ठिकाणी ६ ते ८ फूट उंचीची तटबंदी आपल्याला पहावयास मिळते. या तटबंदीमध्ये टेहळणीसाठी बांधलेले मोठ्या आकाराचे बुरुज तत्कालीन स्थापत्याच्या भरभक्कमपनाची साक्ष देतात.

समारोप-

कोळदुर्गाची ऐतिहासिक कागदपत्रांतून मिळणारी माहिती उपलब्ध नाही. आपण फक्त त्याच्या बांधणीवरून आणि उपलब्ध अवशेषांवरून अंदाज लावू शकतो. कोळदुर्गावरील बांधकाम पाहिल्यास विशिष्ट बांधणीचे घडवलेले दगड फक्त एकमेकांवर रचून बांधकाम केल्याचे दिसते. इतर गडकोटांप्रमाणे यावर मोठ्या इमारती बांधल्याचे अवशेष उपलब्ध नाहीत. परंतु भूपालगड तथा बाणूरगडाप्रमाणेच याही गडाची रचना दिसते. दोन्ही गड हे घडी व बांधणीचे दगड एकमेकांवर रचून बांधण्यात आलेले आहेत. शिवाय बांधणीवरून असाही अंदाज लावता येतो की, कोळदुर्गाची आणि बाणूरगडाची रचना एकाच कालखंडात झाली असावी. गडासंबंधीच्या काही आख्यायिका-दंतकथा प्रसिद्ध आहेत. त्यामध्ये हा गड कोळी राजाने बांधला असल्याचे गावकऱ्यांकडून सांगितले जाते. परंतु, यास कोणताही ऐतिहासिक पुरावा अगर आधार उपलब्ध नाही. शिवकाळात स्वराज्याच्या सीमासुरक्षेच्या दृष्टीने कोळदुर्गास महत्त्वाचे स्थान असावे असा तर्क लावता येतो. कारण, बाणूरगडाप्रमाणेच कोळदुर्गावरूनही आदिलशाही प्रदेशावर लक्ष ठेवण्यासाठी याचे महत्त्व जरूर आहे. संरक्षणाच्या दृष्टीने या गडास बाणूरगडाप्रमाणेच महत्त्व असल्याचे आपल्याला दिसून येते.

आज एकविसाव्या शतकात किल्ल्यांचे महत्त्व लढाईच्या आणि संरक्षणाच्या दृष्टीने अजिबातच नसले तरी, मराठी माणसाचे, महाराष्ट्राचे आणि पारतंत्र्याला झुगारून देऊन स्वातंत्र्याला आसुसलेल्या जनतेसाठी हे किल्ले कायमच अखंड प्रेरणास्त्रोत आणि स्फूर्तीस्थाने राहिले आहेत. हे किल्ले हे आपल्यासाठी धारातीर्थे आहेत. जो समाज आपला इतिहास विसरतो तो समाज इतिहास घडवू शकत नाही असे आपण म्हणतो, त्याचप्रमाणे ज्या समाजाला इतिहास नसतो त्याचे भविष्यही अंधारात असते. कारण आपला इतिहास आपला मार्गदर्शक असतो.

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**“सातपुड्यातील आदिवासी लोकांच्या आरोग्याच्या स्थितीचा
अभ्यास -विशेष संदर्भ नंदुरबार जिल्हा**

संशोधन मार्गदर्शक

प्राचार्य.डॉ. दिलीप रामभाऊ जगताप

कै. अण्णासाहेब पितांबर शंकर वाडिले कला महाविद्यालय थाळनेर ता. शिरपूर जि. धुळे

संशोधक

प्रा. रामदास रमेश वसावे

सहाय्यक प्राध्यापक अर्थशास्त्र विभाग , पद्मभूषण वसंतरावदादा पाटील महाविद्यालय कवठे महांकाळ जि.सांगली.

प्रस्तावना :-

जगातील इतर देशाचा विचार करता भारत कमी-मध्यम उत्पन्न असलेल्या देशांपैकी एक आहे. देशातील एकूण लोकसंख्येपैकी ८.६% आदिवासी लोकसंख्या आहे. देशातील सर्वात गरीब लोकांपैकी एक चतुर्थांश लोक आदिवासी आहेत. जरी या समाजाने गेल्या काही वर्षांमध्ये काही प्रमाणात प्रगती केली असली किंवा आदिवासी मधील गरिबी १९८३ ते २००५ दरम्यान काही प्रमाणात कमी झाली असली तरीही आजही देशातील जवळपास ५० टक्के अनुसूचित जमाती लोकसंख्या दारिद्र्यात राहिली, कारण त्यांचा आरोग्यसेवेच्या बाबतीत प्रारंभ बिंदू कमी आहे. २०११ च्या जनगणनेनुसार महाराष्ट्र राज्याची लोकसंख्या ११ कोटी २३ लाख इतकी असून त्यापैकी आदिवासी जमातींची संख्या १ कोटी ५ लक्ष इतकी आहे. ही राज्याच्या एकूण लोकसंख्येच्या ९.३५% इतकी आहे. सामाजिक-आर्थिकदृष्ट्या वंचित लोकसंख्येला मागे ठेवून आरोग्यसेवा निर्देशक आणि शेवटी देशाचे मानव विकास निर्देशांक कोणत्याही प्रकारे सुधारणार नाही हे वास्तव सत्य असल्याचे दिसून येते.

शोधनिबंध उद्दिष्टे:

१. आदिवासी भागातील आरोग्याच्या सध्याच्या स्थितीचा आढावा घेणे.
२. अतिदुर्गम भागातील बालमृत्यू व मातामृत्यू यांचा अभ्यास करणे.
३. अनुसूचित भागात राहणाऱ्या लोकांमध्ये आरोग्य सेवांची योग्यता , सामग्री, गुणवत्ता आणि वापर सुधारण्यासाठी उपाय सुचविणे.

संशोधनाचे गृहीतके :-

१. आदिवासी भागात आरोग्याच्या समस्या अधिक आहे.
२. आदिवासी अतिदुर्गम भागात पायाभूत सुविधांचा अभाव आहे.
३. शासकीय आरोग्याच्या सोयी-सुविधा दुर्गम भागात पाहिजे त्या प्रमाणात नाहीत.

संशोधन पद्धती :-

प्रस्तुत शोध निबंधात निरीक्षणात्मक व सर्वेक्षण संशोधन पद्धतीचा वापर केला असून तथ्य संकलनासाठी काही प्राथमिक सामग्री व दुय्यम सामग्रीत यात संदर्भग्रंथ , शोधनिबंध, वर्तमानपत्र, इंटरनेट, सरकारचे आरोग्यविषयक संकेतस्थळ , आरोग्यविषयक नियतकालिके .मासिके .व विविध आरोग्यविषयक लेखांचा इत्यादीचा वापर केला आहे .

माहितीचे विश्लेषण:-

नंदुरबार जिल्ह्यातील आरोग्याच्या पायाभूत सुविधा देणा-या संस्था:- संदर्भ वर्ष :- २०१९-२०

अक्र.	तालुके	लोकसंख्या	रुग्णालये	विशेष रुग्णालये कॅन्सर, टी बी	प्रसूतिगृहे	प्राथमिक आरोग्य केंद्र	उपकेंद्र	डॉक्टर संख्या	परिचारिका
१.	अक्कलकु	२१५१७४	३	०	१२	१३	६१	३७	९९

	वा								
२.	अक्राणी	१८९६५९	२	०	९	१३	५०	३३	८३
३.	तळोदा	१३३२९९	१	०	५	४	२७	२५	५९
४.	शहादा	३४६४५२	२	०	१५	१४	६३	४०	७७
५.	नावापुर	२३११३४	३	०	९	९	४६	४३	७८
६.	नंदुरबार	२५६४०९	४	१	११	७	४३	९३	२४३
	एकुण	१३७२९१९	१५	०९	६४	६०	२९०	२७९	६३९

स्रोत:-१.जिल्हा शल्य चिकित्सक, सामान्य रुग्णालय नंदुरबार २. जिल्हा आरोग्य अधिकार ,जि.प. नंदुरबार

वरील तक्त्यावरून आपणास लक्षात येते कि नंदुरबार जिल्ह्याची भौगोलिक रचना पाहता अक्कलकुवा व अक्राणी (धडगाव) या तालुक्यातील अधिक क्षेत्र हे सातपुड्यातील अतिदुर्गम डोंगराळ भागात असल्याने त्याठिकाणी पायाभुत सुविधांचा विकास नसल्यामुळे सुदृढ व तत्पर शासकीय आरोग्य सेवा देणे अडचणीचे होत आहे. तसेच लोकसंख्येच्या मानाने आरोग्य सेवेची साधने व प्राथमिक आरोग्य केंद्र व उपकेंद्र कमी प्रमाणात आहे. लोकसंख्या व प्राकृतिक रचना लक्षात घेता अतिदुर्गम भागात पायाभुत सुविधांचा विकास करून आत्याधुनिक आरोग्य सेवा पुरविणे आवश्यक आहे. तसेच प्राथमिक आरोग्य केंद्रे व उपकेंद्रांची संख्या डॉक्टर व परिचारिका यांची संख्याही खूपच कमी असल्याचे दिसून येते. त्यामध्ये वाढ करून कुशल मनुष्यबळाची पूर्तता करून आत्याधुनिक आरोग्य सेवेची साधनसामग्री पुरविणे गरजेचे आहे. या साधन सामग्रीच्या कमतरतेमुळे व वाहतुकीच्या साधनांचा अभाव , शुद्ध पिण्याच्या पाण्याची समस्या व त्याचबरोबर कच्चे व पक्क्या रस्त्यांचा अभाव ही एक महत्त्वाची समस्या आहे कारण रस्त्यांची सोयी नसलेल्या ठिकाणी बांबुलन्सचा उपयोग केला जातो त्यात कितीतरी निष्पाप रुग्णांचा व गरोदर मातांचे मृत्यू होताना आढळून आलेले हे वास्तव सत्य नाकारता येणार नाही आजच्या आधुनिक काळात अशा प्रकारच्या समस्यांना सामोरे जावे लागत असेल तर महासत्तेचे स्वप्न पाहणाऱ्या सरकारला यावर विचार मंथन करण्याची गरज आहे.

कुपोषणाची व्याख्या "एक किंवा अधिक आवश्यक पोषक तत्वांच्या सापेक्ष किंवा पूर्ण कमतरता किंवा जास्तीमुळे उद्भवणारी पॅथॉलॉजिकल स्थिती" अशी केली गेली आहे. यात चार प्रकार आहेत: अल्पपोषण, अति-पोषण, असंतुलन आणि विशिष्ट कमतरता (श्रीलक्ष्मी , 2006) . म्हणूनच, बहुतेक विकसनशील राष्ट्रांसमोरील हे प्रमुख सार्वजनिक, प्रशासकीय आव्हानांपैकी एक आहे. कुपोषण ही विकसनशील देशांच्या सार्वजनिक आणि प्रशासकीय क्षेत्रातील एक गंभीर समस्या आहे. भारताचा ग्लोबल हंगर इंडेक्स (GHI, 2009) स्कोअर असे सांगतो की, भारतात जगातील सर्वात जास्त कुपोषण , वाया गेलेली आणि कमी वजनाची मुले आहेत. ज्यात भारतीय अनेक राज्यांमध्ये

'भयानक' पातळी आहे त्यामध्ये मध्य प्रदेशची स्थिती , 'अत्यंत चिंताजनक' आहे. महाराष्ट्रातील नंदुरबार जिल्ह्यामध्ये कुपोषणाचे प्रमाण अधिक असून त्याचबरोबर बालमृत्यू , मातामृत्यू, अर्भकमृत्यू इत्यादींचे प्रमाण अधिक असल्यामुळे ग्रामीण भागातील आदिवासी लोकांची आरोग्याची स्थिती बिकट व हलाकीची असल्याचे खालील तक्त्यावरून लक्षात येते.

“ बालमृत्यूदर म्हणजे एका वर्षातील १००० जिवंत जन्मांमागे एक वर्षाखालील बालकांच्या मृत्यूची संख्या होय. हे सूत्राने दिले आहे- **IMR**= एक वर्षापेक्षा कमी वयाच्या मृत्यूची संख्या भागिले वर्षातील एकूण जिवंत जन्म.

“ अर्भक मृत्यू दर म्हणजे एका विशिष्ट भौगोलिक क्षेत्रामध्ये एक वर्षापेक्षा कमी वयाच्या मरण पावलेल्या नवजात बालकांची संख्या त्याच भौगोलिक क्षेत्रासाठी (विशिष्ट कालावधीसाठी) रहिवासी जिवंत जन्माच्या संख्येने भागली जाते. आणि १००० ने गुणाकार केला जातो.

नंदुरबार जिल्ह्यातील मृत्यूदरांचे प्रमाण व कुपोषित बालकांचे प्रमाण संदर्भ वर्ष :- २०१९-२०

अक्र.	तालुके	एकुण ग्रामीण नागरी प्रमाण /	एकुण मृत्युंची संख्या	प्रसूति दरम्यान माता मृत्युंची संख्या	एकुण बालमृत्युंची संख्या ५ ते ०)वर्ष(	एकुण अर्भक मृत्युंची संख्या (वर्ष १ ते ०)	तीव्र कमी वजनाची कुपोषित बालकांची संख्या
१.	अक्कलकुवा	ग्रामीण	६७०	७	८३	३९	१६५६
		शहरी	४	-	४	२	०
२.	अक्राणी (धडगाव)	ग्रामीण	२६९	८	१०७	३९	२९४४
		शहरी	१६	-	१४	२	०
३.	तळोदा	ग्रामीण	३१२	४	६	२	८७१
		शहरी	४५	-	५	५	०
४.	शहादा	ग्रामीण	१०३३	९	४९	१६	२६५३
		शहरी	१४२	-	१२	२	०
५.	नावापुर	ग्रामीण	९४१	३	२१	११	५५४
		शहरी	८३	-	१४	३	०

६.	नंदुरबार	ग्रामीण	१५६	१०	१२२	१४	१२८८
		शहरी	१४७	-	२५३	६२	०
	एकुण	ग्रामीण	४१८१	४१	३८८	१२१	११६६
		शहरी	१२३७		३०३	७६	००
		एकुण		४१	६९०	१९७	११६६

स्रोत:-१.जिल्हा शल्य चिकित्सक, सामान्य रुग्णालय नंदुरबार २. जिल्हा आरोग्य अधिकार ,जि.प. नंदुरबार

या शोधनिबंधामधील वरील तक्त्याचा विचार करता एकुण मृत्युदर , माता मृत्युदर , बाल मृत्युदर , अर्भक मृत्युदर , कुपोषण इत्यादी घटकांचा विचार केला शहरी भागांपेक्षा ग्रामीण भागातील लोकांची आरोग्य स्थिती बिकट असल्याचे लक्षात येते. त्याचबरोबर ग्रामीण भागातील लोकांपेक्षा अक्कलकुवा आणि अक्राणी (धडगाव) या अतिदुर्गम भागात विरील घटकांच्या बाबतीतही आरोग्याची स्थिती बिकट असल्याचे दिसून येते. वरील तक्त्यात अक्कलकुवा आणि अक्राणी (धडगाव) हे सातपुड्यातील अतिदुर्गम भागातील आहे व तळोदा , शहादा, नावापुर व नंदुरबार सपाटी प्रदेशातील तालुके आहे. वरील तक्त्यावरून एकंदरीत असे लक्षात येते की या आदिवासी जिल्ह्यात एकुण मृत्युदर , माता मृत्युदर , बाल मृत्युदर , अर्भक मृत्युदर , कुपोषण व इतर आरोग्याच्या समस्या मोठ्या प्रमाणात उद्भवलेल्या आहेत. राज्यात दर वर्षी हजारो बालमृत्यूंची नोंद होते. यात बहुतांश मृत्यू राज्यातील १६ आदिवासीबहुल जिल्ह्यांतच आहेत.

नंदुरबार जिल्ह्याचा विचार केला असता मार्च २०२३ दरम्यान तपासणी केलेल्या एक लाख ४३ हजार ११५ पैकी सुमारे ३४ हजार १३६ बालके मध्यम , तर १० हजार ९३ बालके तीव्र कुपोषित आढळल्याचे महिला व बालकल्याण विभाग सांगतो. एप्रिल २०२२ अखेर झालेल्या सर्वेक्षणात जिल्ह्यात सुमारे १५ हजार २५३ इतके बालविवाह झाले. केंद्र व राज्य सरकार कुपोषण निर्मूलनाच्या नावाखाली इतका खर्च करते ; परंतु त्याची ठोस अंमलबजावणी मात्र होताना दिसत नाही. २०२२-२३ च्या अहवालानुसार राज्यात सुमारे ३३ हजार ७०० कुपोषित बालके आढळली आहेत. त्यांपैकी सुमारे २४ हजार इतकी एकट्या नंदुरबार जिल्ह्यात असल्याने कुपोषणाच्या बाबतीत जिल्हा राज्यात प्रथमस्थानी आणून ठेवणाऱ्या अधिकाऱ्यांवर शासन कारवाई का करत नाही, असा सामान्य आदिवासी जनतेत प्रश्न निर्माण होत आहे.

राज्यात कुपोषण व बालमृत्यूचे प्रमाण दिवसेंदिवस वाढत असून , देशाच्या स्वातंत्र्यापासून ते आजपर्यंत बालमृत्यू रोखणे व कुपोषण निर्मूलन या माथ्याखाली हजारो कोटी खर्च करणारे सरकार अद्यापपर्यंत यावर मात करू शकले नाही. हा खरेच संशोधनाचा विषय असल्याचे दिसून येते. एकीकडे स्वातंत्र्याच्या ७५ वर्षेपूर्तीचे बिगुल वाजविले जात असताना आदिवासी समाजावर मात्र नियमित अन्याय केला जातो , हे देशात घडलेल्या विविध घटनांतून समोर आले आहे. एकीकडे केंद्र व राज्य शासन बालमृत्यूवर आळा बसावा याकरिता अनेक उपाययोजना करत असल्याचे भासवून कोट्यवधींचा निधी खर्ची पाडत असताना २०१९ ते २०२३ दरम्यान सुमारे ३७ हजार २९२ इतक्या बालमृत्यूंची नोंद शासनदरबारी आहे.

विविध योजना लाभार्थ्यांपर्यंत कमी का पोचतात? एक वास्तव सत्य लक्षात घेणे गरजेचे आहे

एकीकडे एकात्मिक बालविकास सेवा योजनेंतर्गत सहा महिने ते तीन वर्षे वयोगटातील बालकांना , गर्भवती व स्तनदा मातांना टीएचआर व तीन ते सहा वर्षांच्या बालकांना गरम ताजा आहार देण्याची योजना अस्तित्वात आहे. आदिवासी प्रकल्पात डॉ. ए. पी. जे. अब्दुल कलाम अमृत आहार योजनेंतर्गत गर्भवती व स्तनदा मातांना एक वेळेस पोषक आहार व बालकांना

आठवड्यातून चार वेळा अंडी व केळी दिली जातात , असे शासन सांगते. पण मुळात या योजना त्या लाभार्थ्यांपर्यंत खरेच पोचते का याचीदेखील काटेकोर तपासणी झाली पाहिजे. शासनामार्फत पुरवठा होणाऱ्या साधन सामग्रीचा दर्जदेखील निकृष्ट होत असल्याच्या अनेक तक्रारी नंदुरबारसह अनेक जिल्ह्यांत व राज्य सरकारकडेदेखील प्राप्त आहेत. त्यामुळे असे म्हणता येईल की आदिवासीबहुल दुर्गम भागातील नंदुरबार जिल्ह्यातील आरोग्यव्यवस्थेची दुरावस्था ठेवण्यात मात्र शासन व प्रशासन जबाबदार आहे . या सर्व प्रकरणी शासनाने विशेष समिती नेमून कुपोषण व बालमृत्यू रोखण्याबाबत ठोस उपाययोजना करण्याबाबत कार्यवाही होणे अपेक्षित आहे. नंदुरबार जिल्ह्यात वाढत असलेल्या कुपोषण व बालमृत्यूस जबाबदार असलेल्या घटकांचा शोध घेण्याची आवश्यकता आहे.

आज काही प्रमाणात प्राथमिक आरोग्यसेवांमुळे अनेक लोकांचे आरोग्य आणि लोकांच्या राहणीमानात व आरोग्य स्थितीत सुधारणा होतांना दिसत आहे. लोकांमधील आरोग्यातील धोके दूर करण्यासाठी तसेच उद्याच्या आरोग्य आणि लोककल्याणाला धोका निर्माण करणाऱ्या उदयोन्मुख आव्हानांना हाताळण्यास प्राथमिक आरोग्य सेवा हे अत्यंत प्रभावी आणि कार्यक्षम मार्ग असल्याचे सिद्ध होत आहे. परंतु त्यासाठी दर्जेदार प्राथमिक आरोग्यसेवा , रुग्णालयात रुग्णांची सोयी सुविधा , आधुनिक आरोग्य सेवा या आदिवासी लोकांना पुरविणे आवश्यक आहे. समाजात विविध आजारांची संख्या कमी करून त्यांचा कार्यक्षमतेत व राहणीमानात सुधारणा करणे हे देशातील सामाजिक गुंतवणूक आहे असे म्हणावे लागेल. परंतु महत्वाचे म्हणजे, केवळ PHC आणि उपकेंद्रांची स्थापना ही आदिवासी लोकसंख्येच्या आरोग्यविषयक समस्यांवर मात करू शकत नाही. कारण दर्जेदार आरोग्य सेवा देण्यासाठी प्रशिक्षित मनुष्यबळाची , अतिदुर्गम भागात पायाभुत सुविधांची कमतरता ह्या प्रमुख समस्या ग्रामीण आणि डोंगराळ आदिवासी भागात तत्पर आरोग्य सेवांच्या विस्तारात अडथळा निर्माण आहे.

निष्कर्ष :-

१. नंदुरबार जिल्ह्यातील दुर्गम भागातील आरोग्यव्यवस्थाच कमकुवत असल्याचे दिसून येते.
२. जिल्ह्यात शहरी भागातील लोकांपेक्षा ग्रामीण व अतिदुर्गम भागातील लोकांची आरोग्यविषयक स्थिती म्हणजे एकुण मृत्युदर , बालमृत्यू व माता मृत्युदर अधिक असल्याचे दिसून येते.
३. जिल्ह्यातील इतर तालुक्यापेक्षा अक्कलकुवा आणि अक्राणी (धडगाव) या सातपुड्यातील अतिदुर्गम भागात आरोग्याची स्थिती बिकट असल्याचे दिसून येते.
४. जिल्ह्यातील रुग्णालये व आरोग्यव्यवस्था लोकसंख्येचा मानाने कमी प्रमाणात आहे.
५. शासकीय आरोग्याच्या सेवांमुळे लोकांच्या आरोग्यात सकारात्मक बदल होत आहे.

शिफारसी :-

१. शासनाने आरोग्यावरील सार्वजनिक खर्च वाढवणे आणि आदिवासी आरोग्यासाठीची विशेष तरतूद करून आरोग्य बजेटच्या प्रमाणात वाढ करणे.
२. आदिवासी उपयोजना मार्गदर्शक तत्वांचे पालन करणे.
३. भारत सरकार मिनिस्ट्री ऑफ ट्रायबल अफेयर्स (MOTA) च्या आरोग्यासाठी निधी वाटपाची टक्केवारी निश्चित करणे.
४. जिल्ह्यातील अतिदुर्गम भागात पायाभुत सुविधा म्हणजे रस्ते , पाणी , वीज , बाजारपेठ, दळणवळण इत्यादीच्या विकासावर विशेष लक्ष देवून अशा भागात अत्याधुनिक सर्व सोयीयुक्त प्राथमिक आरोग्य केंद्रांची निर्मिती करणे.
५. आरोग्यविषयक जनजागृती करून विविध आरोग्य योजनांची माहिती देणे.

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श्री. श्रीनाथ महादेव शिंदे

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कवठे महाकाळ, सांगली, महाराष्ट्र ४१६४०५

घोषवारा :-

"उद्योजक जन्माला येत नाहीत तर ते तयार करावे लागतात ". कोणत्याही क्षेत्रात नवनिर्मिती करण्याची क्षमता असणारी व्यक्ती म्हणजे उद्योजक होय . ही नवनिर्मिती प्रत्यक्षात उतरवण्यासाठी त्यांनी हेतूपूर्वक केलेली कृती म्हणजे उद्योजकता होय . उद्योजकता हा शब्द इंग्रजी भाषेतील Entrepreneur या शब्दापासून आला आहे . इंग्रजी भाषेत हा शब्द फ्रेंच भाषेमधील 'Entreprendre' या शब्दापासून आला असून त्याचा अर्थ हाती घेणे किंवा अंगीकार करणे असा होतो .

कृषी हा भारतीय अर्थव्यवस्थेचा मुलाधार आहे . भारतात पारंपरिक शेती ही शेकडो वर्षे केवळ उपजीविकेचे साधन म्हणून केली जात होती. मात्र आजच्या बदलत्या तंत्रज्ञानाच्या युगात ती फक्त उपजीविकेचे साधन म्हणून न राहता नफा प्राप्त करून देणारा लाभदायक व्यवसाय म्हणून पाहणे गरजेचे आहे . कृषी क्षेत्रात उद्योजकतेचा विकास करणे म्हणजे कृषी उद्योजकता होय . तिची संकल्पना कशी आहे त्याचे महत्त्व काय आहे त्याचबरोबर या क्षेत्रात अलीकडच्या काळात कोणत्या संधी आणि त्या संधी प्राप्त करत असताना कोणत्या आव्हानांना सामोरे जावे लागणार आहे याचा आपण या संशोधन लेखात आढावा घेणार आहोत .

बिजशब्द :- कृषी, कृषी उद्योजकता.

प्रस्तावना:-

शेती हा मानवाचा अत्यंत प्राचीन व्यवसाय आहे आजही जगातील दोन तृतीयांश जनता अजूनही शेती क्षेत्रावर अवलंबून आहे आणि हे उपजीविकेचे साधन म्हणून पाहिले गेले आहे कारण अत्यंत कमी भांडवलावर व उपलब्ध नैसर्गिक साधनसामग्रीवर हा व्यवसाय करता येतो त्यामुळे दारिद्र्यरेषेखालील लोकांना थोडक्यात क्षेत्रावरही उदरनिर्वाह करता येतो .

भारतामध्येही जवळपास 70 टक्के लोकसंख्या ही शेतीवर अवलंबून आहे . शेती हा भारताचा महत्त्वपूर्ण व्यवसाय आहे. देश स्वतंत्र झाल्यानंतर भारतात हरितक्रांती घडून आली व भारतातील परंपरागत पद्धतीने होणारी शेती कात टाकू लागली ती केवळ उदरनिर्वाहाचे साधन न राहता तिचे व्यावसायिक महत्त्व सुद्धा अधोरेखित झाले आहे . पूर्वी फक्त उदरनिर्वाह करण्याचे साधन म्हणून शेतीकडे पाहिले गेले पण आजच्या युगात तिच्याकडे व्यावसायिक दृष्टीने पाहणे गरजेचे आहे . फक्त अन्नधान्याची गरज भागवण्यासाठी शेती करणे हा उद्देश मागे टाकून तंत्रज्ञानाच्या साहाय्याने शेतीचे व्यावसायिक स्वरूप विकसित करणे गरजेचे आहे. तांदूळ, गहू, मका, बाजरी, हरभरा, तूर, या उत्पादनाशिवाय आता कापूस, तंबाखू, ताग, रबर, ऊस, तुती अशी पिके घेऊन त्यापासून शेतीपूरक व्यवसाय कडे वळणे गरजेचे बनले आहे. जसे की फलोत्पादन, फुलोत्पादन, रेशीम कडे पैदास, कुक्कुटपालन, दुग्धोत्पादन, मत्स्य शेती, औषधी व सुगंधी वनस्पतींची लागवड, उदाहरणार्थ बेल, आले, गुळवेल, आवळा, कोरफड इत्यादी. यापासून शेती उत्पन्न वाढवण्यास निश्चितच मदत होणार आहे . त्यासाठी या क्षेत्रात असणाऱ्या संधी व त्यापुढील आव्हाने यांचा आढावा आपण या शोधनिबंधात घेणार आहोत .

उद्दिष्टे:-

- 1) कृषी उद्योजकतेतील नवीन संधी अभ्यासणे.
- 2) कृषी उद्योजकतेची आव्हाने शोधणे.
- 3) कृषी उद्योजकता संकल्पनेचा विस्तार करणे व समजून घेणे.

संधी :-

1) औषधी व सुगंधी वनस्पती ची लागवड :-

ज्या वनस्पतींच्या खोड मूळ पाने फळे यांचा औषध म्हणून वापर केला जातो त्यांना औषधी वनस्पती म्हणतात . भारताची आयुर्वेद परंपरा पाच हजार वर्षांहून जुनी आहे . तसेच जवळपास 8000 वनस्पती या औषधी म्हणून गणल्या गेल्या आहेत. उदाहरणार्थ तुळस, बेल, आवळा, हिरडा, बेहडा, कोरफड, आले, हळद, गवती चहा इत्यादी वनस्पतींचा प्रामुख्याने उल्लेख केला जातो की ज्यांची उत्पादन घेऊन शेतकऱ्याला नफा प्राप्त करता येईल तसेच ज्या वनस्पतींचा वापर सुवासिक द्रव्य बनवण्यासाठी होतो त्यांना सुगंधी वनस्पती म्हणतात . उदाहरणार्थ चंदन, गुलाब, जास्वंद, इत्यादींचा वापर सुगंधी अत्तर सेंट बनवण्यासाठी होतो यांच्या उत्पादनातून शेतकऱ्याला चांगल्या रीतीने नफाप्राप्ती करता येणे शक्य आहे म्हणून याकडे एक संधी म्हणून पाहता येईल.

2) अन्नप्रक्रिया:-

शेतीतील उत्पादित मालावर प्रक्रिया करणे हे उद्योजकतेचे साधन म्हणता येईल . कारण भारत शेतमाल उत्पादन करण्यासाठी अग्रेसर आहे पण त्यावर प्रक्रिया करण्याचे प्रमाण हे खूप कमी आहे . खालील शेतमालाच्या उत्पादनाची जगातील प्रमाण हे आंबे 41 %, चहा 28%, केळी 23 %, काजू 24%, दूध 14 %, कांदे 10%, पण यावर प्रक्रिया करण्याचे प्रमाण हे भाज्या 2.2%, दूध दुधाचे पदार्थ 35%, पोल्ट्री 6%, मांस 21%, असे आहे. त्यामुळे या क्षेत्रामध्ये उद्योजकतेस मोठ्या प्रमाणात वाव आहे.

3) फुलोत्पादन:-

फुलांच्या जागतिक व्यापाराचे मूल्य 1100 कोटी पेक्षा अधिक झाले आहे . त्यात भारताचा हिस्सा केवळ 0.6% इतका आहे. त्यामुळे नवनवीन प्रकारच्या फुलांचे उत्पादन घेणे ही एक मोठी संधी आहे . कारण विविध कार्यक्रम, सण ,उत्सव, नववर्ष , सत्कार इत्यादी मध्ये फुलांची मागणी ही मोठ्या प्रमाणावर असते . त्यामुळे विविध प्रकारच्या प्रजातींचे उत्पादन घेऊन त्यांचे जागतिक बाजारपेठेत वितरण करणे ही एक उत्तम संधी आहे . जसे की गुलाबाची व्हॅलेंटाईन डे दिवशी असणारी मागणी म्हणून भारतात फलोत्पादनाला मोठी संधी आहे असे म्हणता येईल .

4) फलोत्पादन:-

फुलांच्या सोबत विविध प्रकारच्या फळांच्या उत्पादनाला सुद्धा मोठी संधी आहे उदाहरणार्थ सफरचंद , आंबा, चिकू, द्राक्ष, कलिंगड, केळी इत्यादींचा उल्लेख प्रामुख्याने करता येईल . जगभरात या फळांना वाढती मागणी आहे . नॅशनल हॉर्टिकल्चर बोर्ड यासाठी विशेष प्रयत्न करत असते . गेल्या दहा वर्षांत या क्षेत्राचा विकास दर प्रतिवर्षी सहा टक्के इतका आहे . त्यामुळे जमीन उत्पादकतेत वाढ होत आहे . रोजगार निर्मिती ही यामुळे होत आहे . निर्यातीत वाढ होत आहे . महाराष्ट्र सरकारने फळबागांची लागवड हे कार्य रोजगार हमी योजनेची जोडलेली आहे.

5) रेशीम उत्पादन:-

रेशीम कडे पाळून त्यापासून कच्चे रेशीम उत्पादन घेता येते . रेशीम उत्पादन कमी मुदतीत मिळते . उष्ण कटिबंध प्रदेशात ते वर्षातून पाच वेळा घेता येते . एक किलो रेशीम उत्पादन करण्यास अकरा मनुष्य दिवस लागतात . त्यामुळे त्यातून चांगली रोजगार निर्मिती होऊ शकते आणि विशेषतः महिलांना यातून जास्त रोजगार उपलब्ध केला जाऊ शकतो . त्यामुळे सध्या रेशीम लागवडीचे क्षेत्र 0.1% असून इथे मोठ्या प्रमाणावर उद्योजकतेस वाव उपलब्ध आहे .

6) मत्स्य शेती:-

स्वातंत्र्यप्राप्तीनंतर मासे उत्पादनात सतत वाढ होत आली आहे . सध्या या क्षेत्रात एक कोटी चाळीस लाख लोकांना रोजगार मिळाला आहे . 2006 च्या आकडेवारीनुसार भारतातील मासिक उत्पादन हे जगातील उत्पादनाचा 4.4% इतके होते . भारताचा इथे दुसरा क्रमांक लागतो पण प्रथम क्रमांक असणाऱ्या चीनचा वाटा जवळपास 67% इतका आहे . यावरून भारतात आणखी उत्पादन वाढ अपेक्षित आहे असे म्हणता येईल ढोबळ राष्ट्रीय उत्पादनाच्या 1.07% हिस्सा हा मासे उत्पादनाचा आहे . मत्स्य शेतीसाठी भारतात उपलब्ध असलेले जलसाठे 23.6 लक्ष हेक्टर एवढे आहेत यापैकी 40% क्षेत्राचा फक्त उपयोग केला जात आहे . खारेपाणी असलेले जलसाठे 12 लक्ष हेक्टर असून त्यापैकी फक्त 13% क्षेत्राचाच वापर केला जात आहे . त्यामुळे भारतामध्ये मत्स्य शेती वाढवण्यास मोठ्या प्रमाणावर वाव आहे . तसेच भारताला आठ हजार किलोमीटर लांबीचा समुद्रकिनारा आहे त्यामुळे मासेमारीत वाढ करण्यास मोठा वाव इथे उपलब्ध आहे .

भारतामध्ये कृषी क्षेत्रामध्ये जशा मोठ्या संधी आहेत तसेच अनेक आव्हानेही आहेत . त्यांचा सामना कृषी उद्योजकास करावा लागतो ती आव्हाने पुढील प्रमाणे:-

आव्हाने:-

1) अपुऱ्या पायाभूत सुविधा:-

कृषी उद्योजकतेमध्ये सर्वात महत्वाचे आव्हान म्हणजे पायाभूत सुविधांचा अपुरा विकास होय . कारण रस्ते , पाणी, वीज, दळणवळण , बंदरे यांचा असणारा अपुरा विकास ही एक मर्यादा ठरते . कारण कृषी उत्पादनामध्ये बराचसा उत्पादित माल हा नाशवंत स्वरूपाचा असतो त्यामुळे तो इच्छित बाजारपेठेपर्यंत पोहोचविण्यासाठी पायाभूत सुविधांचा चांगल्या प्रकारे विकसित असावे लागतील . उदाहरणार्थ रस्ते, दळणवळण सोयी , इत्यादी तसेच मुबलक पाणी उपलब्ध असावे लागेल त्याचबरोबर विजेची उपलब्धता असावी लागेल पायाभूत सुविधांचा विकास करण्याकडे शासनाने विशेष लक्ष देणे गरजेचे आहे त्यामुळे कृषी उद्योजकतेचे विकास करणे सोपे होईल .

2) किमान आधारभूत किंमत ठरविण्याचे आव्हान:-

कृषी उत्पादनाचे किमान आधारभूत किंमत ठरविण्याचे आव्हान शासनासमोर आहे . कारण वस्तूची किंमत ही उत्पादनाच्या आवकावरून ठरते त्यामुळे आवक वाढली की किंमत ढासळते उत्पादनाचे स्वरूप नाशवंत असल्याने उतरलेल्या किमतीत शेतमालाची विक्री करावी लागते त्यामुळे प्रत्येक उत्पादनाची किमान आधारभूत किंमत ठरवणे गरजेचे आहे त्यामुळे शेतमालाचा उत्पादन खर्च व त्याची बाजारातील किमान आधारभूत किंमत यावरून शेती उत्पादनाचा नफा तोटा ठरवणे सोपे होईल.

3) योग्य पतपुरवठ्याची गरज:-

भाजीपाला उत्पादन, औषधी वनस्पती, मस्त्य शेती , फलोत्पादन इत्यादीचे शास्त्रीय पद्धतीने उत्पादन घेण्यासाठी अधिक गुंतवणूक करणे गरजेचे आहे. उदाहरणार्थ ग्रीन हाऊस, पॉलिहाऊस इत्यादींची निर्मिती करण्यासाठी मोठ्या प्रमाणात भांडवलाची गरज आहे सदर उत्पादना साठी शेतीला विशेष कमी व्याजदराने पतपुरवठा होणे गरजेचे आहे त्यामुळे शासनाने यासाठी योग्य व्याजदराने पतपुरवठा तसेच विविध नाविन्यपूर्ण उपक्रमासाठी सबसिडी देणे गरजेचे आहे .

4) मालाचे नाशवंत स्वरूप:-

शेतमालाच्या उत्पादनापैकी काही मालाचे स्वरूप हे नाशवंत स्वरूपाचे असते त्यासाठी शीतग्रहांची निर्मिती करावी लागेल. म्हणजेच शीतग्रहांचे निर्मितीमुळे बाजारपेठेतील एखाद्या उत्पादनाची होणारी प्रचंड आवक आणि त्याला असणारी मागणी यांचे स्वरूप नियंत्रित करता येईल तसेच काही मालाच्या बाबतीत त्यांचे संग्रहण करता येईल असे स्वरूप निवडावे लागेल उदाहरणार्थ दुधापासून दूध पावडरची निर्मिती करणे इत्यादी त्यामुळे नाशवंत स्वरूपाच्या मालाला सुद्धा योग्य रीतीने भाव मिळवून देता येईल.

5) सदोष सामाजिक प्रवृत्ती:-

समाजातील विचित्र परिस्थितीवर कृषी तज्ञ ज्ञानेश्वर बोडके यांनी मार्मिक भाष्य केले आहे ते म्हणतात की ' लोक पादत्राने एसी शोरूम मध्ये विक्रीला ठेवतात व जीवणाला आवश्यक असणारा फळे आणि भाजीपाला रस्त्याकडेला विकला जातो ' सेंद्रिय शेतमाल उत्तम पॅकिंग करून विकणे व समाजाने आपल्या प्रवृत्तीत बदल करणे अशा उपायांनी आव्हानांचा सामना केला पाहिजे. हे एक मानसशास्त्रीय आव्हान आहे . समाजामध्ये सर्वसाधारण अशी सामाजिक प्रवृत्ती आढळते की बिगर कृषी उत्पादने ही छापील किमतीत घेतली जातात उदाहरणार्थ कोलगेट , चहा पावडर इत्यादी . मात्र कृषी उत्पादनाच्या बाबतीत किमतीत घासाघीस केली. जाते ही सदोष सामाजिक वृत्ती बदलली गेली पाहिजे यासाठी समाजात जागृती करावी लागेल . ही कृषी उत्पादने सुद्धा उपलब्ध किमतीलाच खरेदी केली जातील .

6) कृषी उद्योजकाचे मानसिक वृत्ती:-

नगदी पिके घेणाऱ्या शेतकऱ्यांमध्ये अशी वृत्ती आढळते की काही वर्षे त्याच्या हातामध्ये खूप पैसा पडतो . अशावेळी शेतीत पुन्हा गुंतवण्यासाठी लागणारा पैसा हा बाजूला काढून ठेवावा व नंतर बाकीची रक्कम खर्च करणे अपेक्षित असते . मात्र त्याचे व्यवस्थित वित्त नियोजन होत नाही व उच्च राहणीमानाच्या अपेक्षेने चैनीच्या वस्तू खरेदी करण्याकडे त्याचा कल वाढतो व त्याला परत शेतीला पैसे गुंतवण्यासाठी कर्ज काढून कर्जबाजारी व्हावे लागते . त्यासाठी प्रत्येक कृषी उद्योजकासमोर त्याच्या शेतीपासून येणाऱ्या पैशाचे योग्य वित्त नियोजन करणे हे एक आव्हान ठरते .

निष्कर्ष:-

- 1) कृषी उद्योजकतेमुळे शेती क्षेत्रात अनेक संधी निर्माण झाल्या आहेत .
- 2) योग्य वित्त नियोजनाचा आधार घेऊन कृषी उद्योजकास संधीचा लाभ घेता येईल .
- 3) शासनाने कृषी उद्योजकतेसाठी लागणाऱ्या पायाभूत सुविधांच्या विकासावर भर देणे गरजेचे आहे .
- 4) कृषी उद्योजक घडवण्यासाठी विविध सहाय्यभूत योजना आखाव्या लागतील .
- 5) कृषी उत्पादनासाठी असणारी सदोष सामाजिक वृत्ती बदलण्याची गरज .

संदर्भ:-

1. Entrepreneurship development	-	Gupta and Srinivash
2. Entrepreneurship.	-	Dr P.C. Shejwalkar
3. Entrepreneurship in agriculture	-	Dilip Kumar
4. उद्योजक बना.	-	डॉ. दिलीप सरवटे.

महाराष्ट्रातील सण-उत्सव ही निसर्गास संस्कृती

डॉ. सरस्वती लक्ष्मणराव अंदेलवार

पद्मभूषण वसंतरावदादा पाटील, महाविद्यालय कवठेमहांकाळ, जि. सांगली

भ्रमणध्वनी- ८९९९५१५४००

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प्रस्तावना:

अनादी काळापासून निसर्गदिवतांची पूजा करणे निसर्गाच्या सानिध्यात राहून विविध चालीरीती बरोबर सर्व उत्सव साजरे करण्याची परंपरा दिसून येते सण-उत्सव हा लोकपरंपरेचा एक भाग असून ही लोक परंपरा पुरातन काळापासून चालत आली आहे. मानवाचे आणि उत्सवाचे नाते खूप जवळचे आहे. नित्य नाविन्यता परिवर्तनशीलता उत्साह अशा उपजत गुणामुळेच माणसाने सण-उत्सवाची परंपरा निर्माण केली. भारतीय सण-उत्सव आणि त्यांच्या

निसर्गाशी असलेला अतुट संबंध आपल्या कृतीतून दिसतो. मानव समाजात अस्तित्वात असणाऱ्या विविध जाती धर्मातील, जमातीतील व त्यांच्या पोटजातीनुसार विविध सण-उत्सव साजरे केले जातात. संपूर्ण मानव समाज एकसंग राहावा जाती जमातीतील सलोखा नातेसंबंध टिकून राहावेत अशा विविध कारणास्तव हे सण-उत्सव साजरी करण्याची परंपरा निर्माण झाली.

संशोधन विषयाची उद्दिष्टे

१. महाराष्ट्रातील सण -उत्सवाचे स्वरूप अभ्यासणे.
२. निसर्ग संस्कृती आणि सण-उत्सवातील सहसंबंध अभ्यासणे.
३. निसर्ग पूरक सण-उत्सवातील संस्कृतीची गरज आहे ते अभ्यासणे.
४. वैज्ञानिक महत्त्व सोबतच सण-उत्सव कसे महत्त्वाचे आहेत ते अभ्यासणे.

संशोधनाची गृहिते

१. ग्रामीण भागात मोठ्या प्रमाणात सर्व सण-उत्सव पारंपरिक पद्धतीने साजरा करतात.
२. महाराष्ट्रातील ग्रामीण भागात निसर्ग पूरक सण-उत्सव साजरी केले जाते.
३. सण-उत्सव साजरे केल्याने आनंददायी वातावरण आणि मानवाचे आनंद द्विगुणीत होते.

सण-उत्सवाचे स्वरूप

सण-उत्सव,परंपरा रितीरिवाज या साऱ्यांचे अतुट बंधन भारतीय संस्कृतीत आढळते. परंपरा व रुढीचे संवर्धन व संक्रमण भारतीय कुटुंबातील स्त्री-पुरुष करीत असतात या पारंपरिक लोकसंस्कृतीच्या अभिव्यक्तीत स्त्रिया व तिच्या जीवन वाटचालीतून अविष्कृत होणारी संस्कारशील संस्कृती ही एक अमूल्य ठेवा आहे.

सणासुदीचे दिवस म्हटले की , आनंदाला उधाण येते हौस मौजेला पाय फुटतात. सगळीकडे कसं मंगल मांगल्याचे वातावरण पसरते मनातून समाधानाचे कारंजे उसळून वर येतात. सणाच्या निमित्ताने गोडधोड खायला मिळते. सणासुदीच्या निमित्ताने उत्साह वाढतो. यातून मानवी मनावर आपोआप एखादा संस्कार होऊन जातो. संपूर्ण वातावरण अगदी प्रसन्न झालेले असते म्हणून सण-उत्सवाला मानवी लोकजीवनात अत्यंत महत्त्व दिले जाते. सणासुदीची सुरुवात पाडव्यापासून होते. 'शिमगा गेला आणि पाडवा आला ' असे म्हणतात. मग श्रावणातील नागपंचमी,पोळा,कृष्णाष्टमी,गणेश उत्सव , दुर्गोत्सव त्यानिमित्ताने प्रत्येक घराघरात घटस्थापना होते. दसरा आणि दिवाळी भाऊबीज संक्रांत रंगांची उधळण करणारा शिमगा होळी हा सण येतो शिमगा झाल्यानंतर पाठोपाठ पाडवा हा सण येतो. पाडव्याची गुडी घरोघरी उभी राहते आणि शेतकऱ्यांच्या नवीन वर्षाची सुरुवात होते. हीच ती निसर्ग संस्कृतीची देणगी मानवाला मिळालेली आहे.

निसर्ग संस्कृतीतील सण-उत्सवाचे महत्त्व

माणसाच्या जीवनात जो शांतपणा. जे स्वास्थ्य असावं लागतं ते आजच्या धावपळीच्या जीवनात तो हरवून बसलेला आहे. सर्व प्रकारचे सण टप्प्याटप्प्याने साजरी करताना नातेसंबंधाची जपणूक , सकारात्मक ऊर्जा, मानवी

संबंध, भक्ती, अध्यात्म ऊर्जेचा स्रोत मनात शांती ,सकारात्मक दृष्टिकोन सणांच्या माध्यमातून निश्चितच निर्माण होतो. आपल्याकडील सर्व-सण उत्सव पाहिले तर निसर्गाशी नातं सांगणारी,जवळीक असणारी अशीच त्यांची पूर्वापार रचना आहे.अगदी मुक्या प्राण्यांप्रती आदरभाव हा आपल्याच सणांतून व्यक्त होतो.

विविध प्रकारच्या संस्कृतीने नटलेला आपला देश व आपल्या देशातील प्रत्येक सण यांचे महत्त्व आपल्या जीवनात अनन्यसाधारण आहे. वर्षाच्या सुरुवातीपासून तर अगदी अखेरपर्यंत प्रत्येक सणांचे महत्त्व व त्यावेळेस बदलणारे ऋतुमान होणार नैसर्गिक हवामानातील बदल यांची सांगडसुद्धा या सणांसोबत घातलेली प्रामुख्याने आढळते. आपल्या संस्कृतीतील प्रत्येक धर्म यामागे कुठल्या ना कुठल्या प्रकारचा अध्यात्म व शास्त्र जोडलेला आहे.

आपला भारत हा संस्कृती प्रधान देश आहे. अनेक भाषा धार्मिक विविधता जगाच्या पाठीवर इतर कोणत्याही देशात नाही. येथील निसर्ग पाहण्यासाठी लाखो विदेशी पर्यटक भारताला भेट देत असतात.हिरवागार निसर्ग संपन्न भारत म्हणजे सणांची रांगोळी , रंगांची उधळण की येथील मातीलाही इथल्या संस्कृतीचा गंध येतो. आपण भारतीय आहोत याचा खरच खूप मनापासून अभिमान वाटतो. खूप धार्मिक अध्यात्मिक आहोत आपण अनेक धर्माचा संगम आपल्या देशात आहे आणि आपले सण आपल्या विविधतेतील एकतेचे प्रतीक आहेत धार्मिक भावनिकदृष्ट्या सणांना आपल्या जीवनात खूप महत्त्वाचे स्थान आहे. प्रत्येक सणाचा निसर्गाशी खूप जवळचा संबंध आहे.मकर संक्रांती या सणाला एकमेकांना तिळगुळ वाटण्याची परंपरा आहे हिवाळ्याच्या दिवसात तिळगुळ खाणं आरोग्यासाठी खूप हितकारक असत.

सणांचे निसर्गाशी नाते

आपल्याकडील सर्वउत्सव पाहिले तर हे नातं सांगणारे एकमेकाशी जवळीकता असणारे अशीच त्याची पूर्वापार रचना आहे. मुळात मानव उत्सव-प्रिय प्राणी आहे. निसर्गात मानव हा सृष्टीतील घटना क्रमात होणारे बदल निरीक्षण करून हळूहळू ओळखले. निसर्गातील प्रत्येक घटनेमागील नियम शोधण्याचा प्रयत्न त्यांनी केला त्यांचे आपल्या जीवनाशी नातं जोडण्याचा प्रयत्न केला त्यातून स्वतःला आणि इतरांना मानसिक समाधान आनंद मिळतो याची खात्री माणसाला पटली एकत्र येण्याने चर्चा , सुसंवाद घडतात त्यामुळे वैयक्तिक सामाजिक आणि सामूहिक ताणतणाव कमी होतात. समस्यावर मात करण्यासाठी बळ , पाठिंबा, उत्साह व प्रेरणा मिळते. मानवाला अनेक अनुभव आले आणि त्याने त्या सर्व सण-उत्सवांची त्या त्या ऋतुमानानुसार संगती लावली. सृष्टीतील इतर सजीवांप्रती सतत प्रेम , भूतदया, मैत्र जपण्याच्या शुद्ध हेतूने मानव कृतज्ञते पोटी निसर्गाच्या नावाने सहभागाने सण-उत्सवाचे आयोजन केले. यातून स्वतःचा व समूहाचा आनंद द्विगुणीत करण्याचा मानवाने नेहमीच प्रयत्न केला.

सणांचे महत्त्व

वैज्ञानिक महत्त्व सोबतच भारतीय सण सांस्कृतिक तसेच अध्यात्मिक दृष्ट्या परिपूर्ण आहेत. मराठी वर्षाची सुरुवात म्हणजे गुढीपाडवा उभारून केला जातो. गुरुपौर्णिमा भारत वर्षामध्ये जेवढे गुरूला महत्त्व आहे तेवढे कशालाही नाही. गुरुच मार्गदाता, मुक्तीदाता,नागपंचमीला नागदेवता व अन्य पशुंसाठी मनाची प्रेमाची भावना ठेवणारी हीच भारतीय संस्कृती आहे.

महाराष्ट्राला ऐतिहासिकते बरोबर सामाजिक , राजकीय, आर्थिक, धार्मिक, सांस्कृतिक परंपरेबरोबरच

भौगोलिक समृद्धताही लाभलेली आहे. महाराष्ट्रात खानदेश, मराठवाडा, विदर्भ, कोकण, माणदेश अशा विविध भागात विविध जातीजमातींचे अस्तित्व दिसून येते. त्या त्या भागात त्या जमातींच्या चालीरीती, रुढी-परंपरा, सण-उत्सव यांचे स्वरूप थोड्याफार फरकाने वेगळे असल्याचे जाणवते महाराष्ट्राचे मराठी वर्षाचे बारा महिने आणि भौगोलिक पर्यावरणानुसार निर्माण झालेले सहा ऋतू यांच्या समीकरणातून विविध सण-उत्सव व्रत हे साजरे केले जातात. हे ऋतू व सण-उत्सव खालील प्रमाणे

१. वसंत - गुढीपाडवा, रामनवमी, हनुमानजयंती, अक्षयतृतीया, बुद्धपौर्णिमा, वसंत पंचमी.
२. ग्रीष्म - वटपौर्णिमा, आषाढी एकादशी
३. वर्षा - नागपंचमी, नारळी पौर्णिमा, रक्षाबंधन, हरितालिका, गणेश चतुर्थी.
४. शरद - दसरा, कोजागिरी पौर्णिमा, दीपावली
५. हेमंत - मार्गशीर्ष, गुरुवार व्रत, दत्त जयंती, मकर संक्रांती, रथसप्तमी.
६. शिशिर - माघी गणेश जयंती, होळी, रंगपंचमी.

सण-उत्सवाच्या मागे विशिष्ट अध्यात्माचा ठेवा आणि विज्ञानाची सुयोग्य सांगड घातलेली दिसून येते. सण-उत्सवाचा संबंध हा पवित्र्याशी जोडला जातो प्रत्येक सणाला घराची आणि परिसराची स्वच्छता दिसून येते. दाराला तोरण, दारात रांगोळी, फुलांची आरास, दिप धुपाचा सुहास असे मंगलमय वातावरण निर्माण करून वाईट गोष्टींना तिलांजली दिली जाते. यातून मानसिक आणि शारीरिक सुदृढता जोपासली जाते. माणसाचे सर्व सण-उत्सव हे पर्यावरणाच्या उपलब्धतेवरून विसंबून असून पर्यावरण आणि मानव यांचा घनिष्ठ संबंध या निमित्ताने दिसून येतो. आपले सर्व सण हे निसर्गाचे रक्षण करणारे कृषी संस्कृतीशी नाते सांगणारे आहेत. ईश्वराची पूजा भीती पोटी न करता श्रद्धेने करावी आणि निसर्ग रक्षणाच्या मूळ उद्देशाचे जतन करावे. हेच आधुनिक व्रत ठरेल.

सारांश

महाराष्ट्रातील रुढी, परंपरा, सण-उत्सव, निसर्ग प्रेम, जिद्दाळा, आधार, निष्ठा, श्रद्धा असते. मानवी धर्म हा निसर्ग धर्म आहे. मानवाचे लोकजीवन हे निसर्गावर अवलंबून आहे हे त्यांच्या संस्कृतीतून दिसून येते. मानवाच्या निर्मितीपासूनच निसर्गदेवता श्रद्धेने पुजले जातात त्यात कुठेही कर्मकांड नाही. मानव हा निसर्गाच्या सानिध्यात मुक्तपणे स्वच्छंदी वावरत असतो. निसर्ग शक्तींना देव मानून मानवी मूल्ये ही जपली आहेत. मानव हा निसर्ग संस्कृतीचे जतन व संवर्धन करतो.

निष्कर्ष:

१. सण-उत्सवातून अध्यात्मिकता आणि वैज्ञानिक यांचा सहसंबंध आढळतो.
२. मानवी मूल्यांची जोपासना करून लोक परंपरेचा वारसा जोपासला जातो.
३. विविध सणांमधून प्रतिकात्मकता व पूजा विविधता आढळते.
४. श्रद्धा, प्रेम, सहकार्य, आदर, मानवता, भूत-दया, उत्साह अशा विविध गुणांची जपणूक झालेली दिसून येते.
५. निसर्ग विषयक जाणीव जागृती व निसर्गाचे संवर्धन केलेले दिसून येते.
६. सण-उत्सव, परंपरा रितीरिवाज या सान्यांचे अतूट बंधन भारतीय संस्कृतीत आढळते.

७. परंपरा व रुढीचे संवर्धन व संक्रमण भारतीय कुटुंबातील स्त्री-पुरुष करीत असतात.

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इक्कीसवी सदी की कविता का बदलता स्वर

डॉ. विनायक शिवाजी शिंदे

पी.व्ही.पी कॉलेज, कवठेमहांकाल, डॉ. अनंत वडघणे.

इक्कीसवी सदी यह गतिमान परिवर्तन की सदी है। इस काल में सामाजिक , सांस्कृतिक परिवर्तन इतना जल्द गति से हुआ जितना इसके पहले नहीं। इसके पीछे मुक्त बाजार भी यह एक प्रमुख कारण है। जिसने मनुष्य जीवन और विचारों को एक साथ झकझोर दिया। और पुराने पीढ़ी पर नयी पीढ़ी , पुराने विचारों पर नये विचार थोपे गये। सूचना तकनीकी के कारण सभी लोगों को नया ज्ञान आत्मसात करने के लिए बाध्य किया। अर्थात् जिसके हाथ

टाईपराईटर पर थिरकते थे उसके हाथ अब कम्प्यूटर पर थिरकने लगे। इन्टरनेट ने तो उसके सामने सारी दुनिया खड़ी कर दी। इसपर भी यह भागदौड़ समाप्त नहीं हुई और आगे चलकर मोबाईल क्रांति ने उसके हाथ में अन्डराईड मोबाईल थमा दिया। जिसके कारण 3जी, 4जी और उनके रिचार्ज के कतारों में लगा व्यक्ति बाज़ारवाद का सही मात्रा में उपभोक्ता हुआ। राजा से लेकर रंक तक मोबाईल जरूरत बना। इसके पड़साद जिसने कभी ए,बी,सी,डी के अक्षर भी नहीं पड़े वह देहात में रहनेवाले दादा-दादी फोन पर ‘हॅलो’ कहने लगे। जिनके माध्यम से पोती-पोतो को संस्कार और संस्कृति के पाठ पढ़ने चाहिए थे वे अपने पोती-पोतो से मोबाईल के फॅक्शन समझने और मोबाईल इस्तेमाल के पाठ गिरवाने लगे। जिसमें ‘जियो जी भरके’ कहकर मोबाईल कंपनियां अपने ताल से ताल मिलाकर जीने के लिए बाध्य कर रही है। इसी तकनीकी और मानवीय मूल्यों के पतन पर ‘नवजागरण और हिंदी कविता’ में लिखा है कि, “टेक्नोलॉजी प्रमुख है और मूल्यों के समूचे चौखटे टूट चूके हैं। हमारा प्रजातंत्र टेक्नोलॉजी की ओर और नवधनाढ्यों की जुगलबंदी में फँस चुका है।”¹ ऐसे समय साहित्य में भी इसका रेखांकन हुआ है।

हिंदी कवि इस बदलती स्थिति को अपने कविता में बड़े बखूबी से अभिव्यक्ति दे रहे हैं। वर्तमान समय की कविताओं में इस बदलते स्थितियों का चित्रण बड़े प्रभाविता से हुआ है। यथा-

“बदलाव सत्य की तरह दिखाई दे रहा है
हम बदलाव को देख रहे हैं
हम बदलाव को जी रहे हैं
बदलते हुए वक्त को
आत्मसात करना मुश्किल लगता है
बहुत तकलीफ से
बदलती हुई स्थिति को अपनाता है भीतर
भीतर जो पड़ा पुराना
नहीं निकलता बाहर “2

हिंदी कविता समय के सरोकार को भी बड़े प्रभाविता से निभा रही है। बाजारीकरण के कारण गांव की स्थिति बदली-बदली सी लग रही है। जिसका प्रत्यक्ष दर्शन वर्तमान समय के कविताओं में भी दिखाई दे रहा है। कवि उस बात को इस रूप में वाणी दे रहा है-

“इतनी जल्दी बदल गये
कैसे अपने जज़्बात ?
नहीं रही अब गांव में
वो पहले वाली बात। “3

कवि जिस तरह अपने बदलते गांव के रूप को अपने कविता में वाणी देता है उसी तरह प्रकृति के विकृतिकरण और वृक्षों के होते कटाई को भी नजरदांज नहीं करता। उसे इस नष्ट होते पृथ्वी पर दुख है। कंक्रीटे के जंगल उसे बेचैन करते हैं। जैसे-

“खत्म होती वृक्षों की दुनिया
पक्षी कहां पर वास करें
किससे वो सवाल करें
कंक्रीटों की इस दुनिया में
तपिश सहना भी हुआ मुश्किल
मानवता के अस्थि-पंजर टूटे
पृथ्वी नित हो रही विकल“4

वर्तमान समय आसमानी संकट से किसान परेशान है। उसमें कहीं पर सुखा तो कहीं पर अधिक बारिश की वजह से कृषि संस्कृति संकट का सामना कर रही है। जिसका चित्र हिंदी कवियों के कविता में भी स्पष्ट झलकता है। कवि आशीष कुमार सिंह लिखते हैं-

“असमय बारिश ने
रौंद दिया है
फसलों को
ज़िन्दगी को
कविता-कहानी भूलकर
मैं देख रहा हूँ
तबाह होती गेहूँ की बालियाँ“5

एक तरफ हिंदी कविता सृष्टि के परिवर्तन और जिसके परिणाम स्वरूप गांवों की खस्ती हालत का जायजा लेती है तो दूसरी ओर उसे शहरी जीवन में भी घुटन महसूस होती है। शहरों के इस चकाचौंध रूप ने किस प्रकार व्यक्ति को एक मजदूर बना दिया है जो अपने लिए जीवनभर एक मकान खरीद नहीं सकता। जो जन्म भी किराये के मकान में लेता है और अंत भी किराये के मकान में। उस व्यक्ति के अर्न्तमन को इस प्रकार कवि शब्दबद्ध करता है। यथा-

आओ
थोड़ा छत पर टहल लें
मकान मालिक के
लौटने तक
चांदनी तले
थोड़ा हंस-खिलखिलालें
तारों की ओर नज़र कर लें“6

वर्तमान समय में लोग महंगाई, बेकारी से परेशान है। दिनभर की मेहनत उसे कम पड़ने लगी है। वस्तु के दाम दिन-ब-दिन आसमान छू रहे हैं। इसके कारण आम जन परेशान है। देश का चित्र ऐसा बन गया है कि एक तरफ महंगाई है तो दूसरी ओर आज का युवा विभिन्न नशा खोरी में फंस गया है। उसके पीछे सरकार के रवैयों की ओर इशारा करते हुए कवि लिखता है कि-

“महंगाई लगातार बढ़ती जा रही है
और बढ़ती जा रही है
मदिरा की खपत।
दोनों का नीतियों से है गहरा संबंध
दोनों का सत्ता से है
सीधा अनुबंध। “7

इस तरह इक्कीसवीं सदी की कविता का स्वर हमें समय के साथ बदला हुआ दिखाई देता है।

निष्कर्ष:

इक्कीसवीं सदी की कविता को देखे तो वह हमें समय का निर्वाह करनेवाली कविता के रूप में दिखाई देती है। उसने भूमण्डलीकरण, निजीकरण और बाजारीकरण के कारण मनुष्य जीवन जीने का जो दो हजार के बाद बदला जिसको किस प्रकार मानवीय जीवन और यहां के किसानों सभ्यता को नष्ट किया। जिन्होंने पूरा जीवन प्रकृति के साथ रहकर उसके परिवर्तन शास्त्र को पढ़ा वही व्यक्ति अज्ञानी बना। प्रकृति का साथ छोड़ने के कारण अकाल जैसी समस्या उत्पन्न हो गई महंगाई और चकाचौंध बाजार ने उसे बेचारा बना दिया इसका स्वर कविता में उतरा हुआ प्रतीत होता है।

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मानस का हंस और अमृतलाल नागर जी

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अमृतलाल नागर जी के ऐतिहासिक उपन्यासों में मानस का हंस का शीर्षस्थ स्थान है। प्रस्तुत उपन्यास गोस्वामी तुलसीदास जी की कल्पित किंतु यथार्थ जीवनी ही नहीं अपने समय का सांस्कृतिक इतिहास भी है। "नागर जी प्रथम कोटि के किस्सागो शैली के लेखक हैं। इसका ठोस प्रमाण हमें 'मानस का हंस' में मिल जाता है। इस उपन्यास में उन्होंने महाकवि और रामभक्त तुलसीदास के जीवन वृत्त को सफल औपन्यासिक व्यक्तित्व प्रदान किया है। इतिहास और संस्कृति का अपूर्व समन्वय इस उपन्यास की विशेषता है। उपन्यास में कवि की जीवनी रोमानी कल्पना तथा कुछ किंवदंतियों के आधार पर निर्मित है जिसमें

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तुलसी-रचित कृतियों से कुछ उदाहरण लेकर उनके आधार पर तथ्य निरूपण करने का प्रयास है। इसी वजह से यह एक सफल मिश्रित जीवनीपरक उपन्यासों में उच्च स्थान प्राप्त कर सका है , अपने आप में एक अनोखा उपन्यास है।"1

प्रस्तुत उपन्यास में तुलसी का जीवन वृत्त और उनकी परम भावुकता जो उत्तम काव्य के लिए परमावश्यक है , इन दोनों का समन्वय यहाँ विद्यमान है। इसमें न तो केवल इतिहास की शुष्कता है और न तुलसी के काव्य की आलोचक की भाँति विवेचना है। "कथा के मनोवैज्ञानिक अनुबंध की दृष्टि से 'मानस का हंस' प्रयोगात्मकता की सीमा में प्रवेश करता जान पड़ता है।" नागर जी ने इतिहास - शैली का आश्रय न ले तुलसी चरित्र को प्रस्तुत करने की सर्वज्ञता से अपना बचाव कर लिया है और स्वयं कथा कहने सुनाने का प्रभाव कम ही डाला है। 'मानस' के कथान्बन्धन से संकेत लेकर नाटकीय कथा विन्यास के अपेक्षतया अधिक विश्वसनीय कौशल का आश्रय लिया है। 'रामचरितमानस' के चार वक्ता हैं और चार श्रोता। यहाँ भी तुलसी के समकालीन पात्र और स्वयं तुलसी चरित्र के प्रधान प्रस्तुत कर्ता स्वयं भागीदार बनकर पाठकों के विश्वास का संपादन करने में अधिक सफल हो सके हैं। ये मूल लेखक को अव्यक्त रख , अपनी प्रामाणिक वस्तुमता की भूमिका से नाटकीय प्रभाव भी उत्पन्न करते हैं। '2' ऐतिहासिक पुरुष तुलसीदास के व्यक्तिगत जीवन के संबंध में इतिहास खामोश है। अंतः उपन्यासकार ने तुलसीदास के साहित्य में संकेतित उनके जीवन की घटनाओं के आधार पर तथा प्रचलित किंवदंतियों का आश्रय लेकर एवं काल्पनिक परंतु मौलिक प्रसंगों की सृष्टि कर इतिहास की इस खामोशी को किसी हद तक भरने का प्रयास किया है।

उपन्यास का प्रारंभ तुलसीदास की पत्नी रत्नावली की मृत्यु घटना के साथ होता है। उस समय तुलसीदास वृद्धावस्था को प्राप्त हो चुके थे। उनसठ वर्ष लंबे अंतराल के बाद गोस्वामी जी ने अपने गाँव राजापुर आकर रत्नावली का अंतिम संस्कार किया। उनके साथ राजा भगत , संत बेनी माधव , कैलाशनाथ, पंडित राम आदि भी राजापुर आते हैं। बेनीमाधव को गुरु की जन्मभूमि में पहली बार आने का सुयोग मिला है। उन्हें गुरु के ऐहिक जीवन के विषय में जानने की उत्सुकता होती है। वे अपने गुरुजी से आग्रह करते हैं। बेनी माधव के अति आग्रह पर तुलसीदास स्वयं आत्मकथात्मक शैली में अपने जीवन वृत्त को सुनाते जाते हैं।

मुगलों के आक्रमण व बेतहाशा लूटमार के काल में पंडित आत्माराम के घर तुलसीदास का जन्म होता है। एक ओर तुलसी का जन्म होता है , दूसरी ओर माता तुलसी की मृत्यु हो जाती है। तुलसी के पिता अपने बेटे का मुँह इसलिए देखना नहीं चाहते क्योंकि वे उसे माता की मृत्यु का जिम्मेदार मानते हैं। उसे बूढ़ी भिक्षुणी सास के पास भेज देते हैं। पंडित आत्माराम पत्नी की चिता को आग देकर स्वयं संन्यास ले लेते हैं। उधर तुलसी पार्वती अम्मा के साथ भिक्षावृत्ति से निर्वाह करने लगते हैं। परंतु पार्वती अम्मा रामबोला को पाँच वर्ष की अवस्था में अकेला छोड़ चल बसती है। इधर -उधर भीख माँगते हुए वह सूकरखेत पहुँच गया। वहाँ नरहरि बाबा के दर्शन होते हैं। बच्चे की चेष्टा , साधना, अबोधता, चपलता एवं सेवाभाव से प्रसन्न होकर नरहरि बाबा ही उसका लालन-पालन करते हैं। नरहरि बाबा उसे विद्या में पारंगत करने हेतु स्वयं काशी में शेष सनातन पाद जी महाराज के पास ले जाते हैं। नरहरि बाबा ने तुलसी के जीवन को सँवारने में पग-पग पर साथ दिया।

काशी में शेष जी की पाठशाला में तुलसीदास शिष्य के रूप में शिक्षा ग्रहण कर रहे थे , वहीं उन्हें भूत-प्रेत का ज्ञान होता है, किंतु हनुमान में दृढ़ आस्था रखने वाले तुलसीदास के लिए भूत-प्रेत का कोई भय नहीं था। उन्होंने भूत-बाधा को दूर करने के लिए 'हनुमान चालीसा' जैसे मंत्र का निर्माण किया। यहीं पर उन्हें गंगाराम जैसा मित्र और बटेश्वर जैसा विरोधी मिल गया। वे अब शिक्षा ग्रहण कर शास्त्री का पद प्राप्त करते हैं और पाठशाला में विद्यार्थियों को पढ़ाते हैं। उन्हीं दिनों तुलसीदास का तत्कालीन सुप्रसिद्ध रामभक्त मेघाभगत से मधुर मिलन होता है। मेघाभगत के यहाँ रामभक्ति में दृढ़ता प्राप्त करते हैं , तो दूसरी ओर कोतवाल की रखैल वेश्या मोहिनी पर भी आसक्त हो जाते हैं। यहाँ 'राम पर काम की विजय' होती हुई दिखाई गई है। वे मेघाभगत की अपेक्षा मोहिनी बाई से मिलने के लिए ही मेघाभगत के यहाँ जाने लगे। उनका प्रेम काफी समय तक चलता रहा। तत्पश्चात् तुलसीदास मोहिनी बाई के साथ -साथ काशी को भी छोड़कर गुरुजी से आज्ञा लेकर मेघाभगत के साथ तीर्थयात्रा पर निकल गए। मथुरा में सूरदास जी से हुए मिलन के पश्चात् , घुमक्कड़ प्रवृत्ति से प्रेरित होकर राजापुर अपनी जन्मभूमि के दर्शनार्थ आ गए।

राजापुर में राजा भगत ने अपने मित्र तुलसीदास को विरक्त से गृहस्थ बना दिया। जमना पार निवासी दीनबंधु पाठक की पुत्री रत्नावली से तुलसीदास का विवाह हो गया। कुछ समय बाद उन्हें पुत्र -रत्न की प्राप्ति हुई। पत्नी को छोड़ वे धनोपार्जन के लिए काशी चले गए। वहाँ 'रामाज्ञा-प्रश्न' हल करके सवा लाख रुपए कमाए, परंतु स्वयं पच्चीस हजार रुपए रखकर शेष रुपए गंगाराम को दे दिए। वापिस राजापुर आने पर वे मूसलाधार बारिश की परवाह किए बगैर वर्षों में ही पत्नी विरह में बेबस , पत्नी से मिलने ससुराल चले गए। वे यह भी स्वीकारते हैं कि उन्हें केवल रत्नावली का ही मायापाश है , पुत्र तारापति के प्रति भी इतना मोहपाश

नहीं है। बस इतना ही सुनना था , रत्नावली तीखे स्वर में बोली - "स्त्री और पुरुष में यही तो अंतर होता है। नारी भले ही कामवश माता क्यों न बने किंतु माता बनकर वह एक जगह निष्काम भी हो जाती है और पुरुष पिता बनकर भी दायित्वबोध भले प्रकार से अनुभव नहीं करता। सच पूछो तो वह किसी के प्रति अपना दायित्व अनुभव नहीं करता। वह निरे चाम का लोभी है , जीव में रमे राम का नहीं।"3 तुलसी उसी रात घर छोड़कर चले गए। सीतावट के रास्ते में हनुमान और वाल्मीकि ने स्वप्न में आकर तुलसीदास को भाषा में रामायण की रचना करने की प्रेरणा दी।

इस प्रकार की प्रेरणा पाकर तुलसीदास जी ने संस्कृत रामायण को पुनः भगवान राम के घर की बोली अवधी में 'रामचरितमानस' की रचना कर डाली। इस कार्य को विशेष सराहना मिली , किंतु वहाँ के मठाधीश तथा विद्वान लोग इनसे ईर्ष्या करने लगे, उनकी हरकतों से तंग आकर वे अयोध्या को अलविदा कर काशी चले गए। काशी नगरी में भी तुलसीदास की प्रशंसा एवं विरोध बराबर चलता रहा। तुलसीदास की ख्याति चारों ओर बढ़ गई। सिर्फ काशी में ही नहीं , अपितु पूरे देश में तुलसीदास एक रामभक्त के रूप में स्वीकृत हुए। बाद में काशी भी अकालग्रस्त और महामारीग्रस्त हो गई। महामारी शांत होने पर तुलसी मथुरा चले गए। उनके जाने के पश्चात उनके मित्र टोडर की किसी ने हत्या कर दी , तुलसी जी को जब यह पता चला तो उन पर बड़ा आघात हुआ।

तुलसीदास जी की आयु बढ़ने लगी थी। उन्हें वात -रोग सताने लगा , फिर भी रत्नावली को दिए वचन के अनुसार वे राजापुर पहुँचे और उसे जीवन के अंतिम क्षणों में सनाथ कर दिया। तुलसीदास फिर काशी लौट आए। उनकी शारीरिक तकलीफें बढ़ने लगीं। पूरा शरीर फुसियों से भर गया। नींद नहीं आती , कभी-कभी मूर्च्छा भी आ जाती थी। तुलसी जी एक दिन रात को स्वप्न में देखते हैं कि राम अपने हाथ से कलम लेकर तुलसीदास की 'विनयपत्रिका' पर सही कर रहे हैं। राम के सही करते ही तुलसी का स्वप्न भंग हो जाता है तथा वे आँखें खोल राम से तिथि पूछते हैं। फिर वे कहते हैं कि पिछले वर्ष रत्नावली आज ही के दिन गई थी। उसके बाद वे अपने स्वप्न की बात बताते हैं तथा बैठकर विनयपत्रिका का अंतिम छंद धीरे -धीरे गाने लगे व निढाल हो गए। अंत में उन्हें नीचे जमी पर ले लिया गया। तुलसीदास जी की आँखें एकाएक खुल गई , सब के चेहरों को देखा , दीवार पर अंकित हनुमान और सियाराम के चित्रों की ओर देखा। देखते ही रहे ... देखते ही रहे। इस संसार से एक दिव्य आत्मा बिदा हो चुकी थी। उपन्यास के अंतिम वाक्य हैं- बाहर ऐसी बिजली चमकी कि उसकी कौंध भीतर तक आ पहुँची। पानी जोर से बरस रहा था। सब की आँखें भी वैसी ही बरस रही थीं।

निष्कर्ष

नागर जी अपनी चरित्र सृष्टि के कारण विशेष चर्चा में रहे हैं। उन्होंने अपनी ताकतवर कलम से अविद्यतीय पात्रों की सर्जना की है। पात्र सृष्टि को लेकर डॉ . रामविलास शर्मा उनका बड़ा सटीक मूल्यांकन करते हैं -"कथाकार अमृतलाल नागर की यह रचनावली भारतीय जीवन की चित्रावली है। पुराने रईस , नये रईस , बिगड़े हुए रईस , साहूकार , जमींदार , संपत्तिहीन सामंत , पुरोहित , कथावाचक , मध्यवर्ग के पढ़े-लिखे युवक , गरीबी और बेरोजगारी का सामना करने वाला नौजवान , व्यभिचारी और पाखंडी बड़े आदमी , हर तरह का अत्याचार सहने वाली स्त्रियाँ अपने अधिकारों के लिए लड़ती हुई युवतियाँ , कथाकार , महात्मा , कवि , संत-समाज के प्रायः हर स्तर के लोग आपको नागर जी के साहित्य में मिलेंगे। "4मानस का हंस ' उपन्यास के दो प्रमुख पात्र हैं - तुलसीदास और रत्नावली। कथानायक तुलसीदास का चरित्र इस तरह निरूपित किया गया है कि आने वाली पीढ़ियाँ यदि तुलसी के इसी चरित्र को ऐतिहासिक मानने लगे, तो कोई आश्चर्य नहीं। "

संदर्भ ग्रंथ -

** मानस का हंस -अमृतलाल नागर

- 1) हिंदी के जीवनीपरक उपन्यास -डॉ. नवनीत ठक्कर -पृ.83
- 2) हिंदी ऐतिहासिक उपन्यास प्रतिमान एवं विकासेतिहास -डॉ. सत्यपाल चुघ -पृ.436
- 3) अमृतलाल नागर रचनावली -भाग 3 (मानस का हंस)शरद नागर पृ.246
- 4) अमृतलाल नागर रचनावली -खंड 1 - शरद नागर -भूमिका से -पृ.9

छत्रपती राजर्षी शाहूप्रणित स्त्री उन्नतीसाठी केलेल्या कायद्यांचा अभ्यास

सागर हरिचंद्र एडके

(महाविद्यालय कवठेमहांकाळ .पी.व्ही.पी)

प्राचीन वैदिक काळात स्त्रीला देवता मानले जात होते या काळात पुरुष प्रधान संस्कृती असली तरीही स्त्रियांना . स्वतःचा पती . स्त्रियांना शिक्षण घेण्याचा अधिकार होता . अनेक गोष्टीत स्त्रियांना पुरेपूर स्वातंत्र्य होत . बरोबरीचे अधिकार होते परंतु उत्तर वैदिक काळात या स्थि . निवडण्याचा अधिकार होतातीत बदल झाला बऱ्याच क्षेत्रांमध्ये स्त्रियांवर मर्यादा येऊ . लागल्या, मध्ययुगात स्त्रियांची सामाजिक स्थिती काही प्रमाणात अशीच राहिली नंतर मात्र मध्ययुगाची भिंत ढासळली आणि आधुनिक युगाला सुरुवात झाली तेव्हा मात्र स्त्रियांच्या सामाजिक सुधारणा संबंधी विचार पुढे येऊ लागले एका बाजूला स्त्रियांना . दुय्यम लेखनार्या मनुस्मृतीचे समर्थन करणाऱ्या सनातनी लोकांचा एक गट आणि दुसऱ्या बाजूला स्त्रियांच्या स्वातंत्र्याचा, शिक्षणाचा पुरस्कार करणाऱ्या सुधारकांचा एक गट निर्माण झाला व्यापारी म्हणून आलेल्या ब्रिटिशांनी भारतात रा . जकीय सत्ता प्रस्थापित केली व व्यापाराच्या दृष्टीने भौतिक सुधारणा करण्याचे प्रयत्न केले पण भारतीयांच्या धार्मिक बाबींच्या मध्ये हस्तक्षेप करताना सावध भूमिका बाळगली भारतीय स्त्रियांवर होणाऱ्या अन्याय व अत्याचारावर लगाम घालण्याची इंग्रज शासनाची इच्छा . होती, परंतु भारतीय लोकांच्या उलट प्रतिक्रिया आल्याने ब्रिटिशांनी हे प्रयत्न थांबवले परंतु भारतातील राजा राममोहन रॉय ., पंडित ईश्वरचंद्र विद्यासागर , महात्मा फुले यांसारख्या स्त्री सुधारणावादी समाजसुधारकांनी ब्रिटिशांच्या मदतीने सती प्रथा बंदी , बालविवाह बंदी, विधवा पुनर्विवाह, स्त्रियांना शिक्षण यासारखे स्त्री सुधारणांचे अनेक कायदेशीर प्रयत्न केले पण त्याला समाज . कारण हे कायदे ब्रिटिशांनी केलेली होते आणि भारतीय लोकांना ही बाब म्हणजे आपल्या धार्मिक . मान्यता मिळाली नाही परंतु असाच एक प . बाबतीत परकीयांचा हस्तक्षेप वाटे . रयत्न स्वतःला कोणत्याही प्रकारच्या विषमतेची झळ न पोचणाऱ्या राजाने आपल्या संस्थानात केला छत्रपती शाहू महाराजांनी आपल्या संस्थानात . तो राजा म्हणजे छत्रपती शाहू महाराज . शाहू महाराजांनी स्त . स्त्रियांसाठी अनेक सामाजिक कायदे केले व त्याची कठोर अंमलबजावणी केलीरियांच्या सामाजिक परिस्थितीचा सखोल अभ्यास करून हे कायदे तयार केले याचे अनेक सकारात्मक परिणाम झाले संस्थानाच्या बाहेर इतर संस्थानातील याचा आदर्श घेतला जाऊ लागला या .

उद्देश -

छत्रपती राजर्षी शाहूप्रणित स्त्री उन्नतीसाठी केलेल्या कायद्यांचा अभ्यास करणे .

१. स्त्रियांना क्रूरपणे वागणूक देण्यास प्रतिबंध करणारा कायदा

कुटुंबामध्ये किंवा सार्वजनिक ठिकाणी स्त्रियांना अमानुष किंवा क्रूर वागणूक देण्यास प्रतिबंध करण्यासाठी हा कायदा करण्यात आला तसेच शिक्षेची तरतूद देखील करण्यात आली या कायद्याला 'स्त्रियांना क्रूरपणाने वागविण्याचे बंद करण्याबद्दल' २ असे नाव देण्यात आले व "नियम ऑगस्ट . पासून संस्थानातील सर्व लोकांना तो लागू असेल असे नमूद करण्यात आले 1919 या . या कायद्यामध्ये कोणतीही संदिग्धता न ठेवता क्रूरपणाची वागणूक म्हणजे काय याची सविस्तर व्याख्या केली आहे कायद्याखाली अपराध केल्यास त्याला सहा महिन्यांपर्यंतची कैद आणि दोनशे रुपये पर्यंत दंड असेल आणि जर ती स्त्री वयाने लहान असेल तर ही शिक्षा दुप्पट असेल .

उदाहरण

- एखादा पुरुष घरातील आपल्या बायकोच्या इच्छेविरुद्ध एखाद्या परस्त्रीला आपल्या घरात ठेवत असेल व आपल्या बायकोला शारीरिक व मानसिक इजा करत असेल तर तो वरील कायदानुसार गुन्हेगार असेल .
- एखादा पुरुष आपल्या भावाच्या विधवा पत्नीला सतत शारीरिक किंवा मानसिक त्रास देत असेल तर तो वरील कायदानुसार गुन्हेगार असेल .

- एखादा पुरुष बरेच दिवस आपल्या बायकोचा सहवास टाळतो किंवा मुद्दाम तिची अवहेलना करतो तो गुन्हेगार असेल .
- एकादी स्त्री आपल्या सुनेला घरात शिवीगाळ करत असेल किंवा चारचौघात तिला वाटेल ते बोलून तिच्या मनावर आघात करत असेल तर ती गुन्हेगार असेल.
- एखादा पुरुष आपल्या सावत्र भावांना वाईट वागणूक देऊन आपल्या सावत्र आईस शारीरिक व मानसिक
- इजा देत असेल तर तो गुन्हेगार असेल
- एखादा पुरुष वारंवार आपल्या बायकोच्या चारित्र्यावर संशय घेत असेल किंवा तिला वेडी असल्यासारखी वागणूक देत असेल तर तो गुन्हेगार असेल .

अशाप्रकारे सखोल तरतुदी करून स्त्रियांना क्रूरपणे वागणूक देण्यास कायद्याने प्रतिबंध करण्यात आला या सर्व गोष्टी लक्षात घेता क्रूरपणे वागणूक म्णजे कोणत्याही प्रकारची वाईट वागणूक अशी व्याख्या करण्यात आली आहे यावरून स्त्री ही आपली केवळ उपभोग्य वस्तू आहे तिला आपण कशाही प्रकारे वागणूक देऊ शकतो अशी समजूत असलेल्या पुरुषांना ही फार मोठी चपराक होती वर उल्लेख केलेल्या चुकीच्या गोष्टी प्रत्यक्ष घडण्याअगोदर या गोष्टींची भीती जरी उत्पन्न झाली तरी देखील प्रतिबंधक उपाय म्हणून यासाठी असणाऱ्या शिक्षकांचा विचार केला जावा अशी ही एक अद्वितीय तरतूद होती यावरून असे .

दिसते की स्त्रियांच्या वर होणाऱ्या अनेक प्रकारच्या अन्याय आणि अत्याचारापासून, जाचापासून संरक्षण देण्यासाठी शाहू महाराजांनी हा कायदा करून त्याच्या अंमलबजावणीवर कठोर लक्ष दिले

२. विवाह संबंधी कायदा .

शाहू महाराजांनी केलेल्या विवाहसंबंधी कायद्याचे वैशिष्ट्य म्हणजे त्यांनी जातीव्यवस्थेची निर्मूलन करण्यासाठी आंतरजातीय विवाह प्रोत्साहन दिले व आपल्या घरातील पुतणीचा विवाह त्यांनी इंदूरच्या होळकर घराण्यातील राजकुमारशी करून दिला लग्न करत असतानाचे वेळी पुरुषाचे . विवाह संबंधी कयदे करत असताना महाराजांनी काही विशेष नियम बनवले . लग्न गैर कायदेशीर ठरेल असा कोणताही नातेसंबंध . वर्षे पूर्ण असले पाहिजे १४ व स्त्रीचे वय १८ वयं ध किंवा रक्त संबंध नसावा . विवाह कोणाच्याही . चे विशेष विवाहाचे नियमाप्रमाणे स्थानिक सरकारकडे विवाहाचे नोंदणी करणे आवश्यक १९१८ सन पद्धतीने लावला तरी चालेल पण त्यावेळी इकरारावर सही करणाऱ्या तीन साक्षीदारांच्या समक्ष विवाह करावा व सर्वांना ऐकू “नवरा म्हणून पत्करली आहे/माझा कायदेशीर बायको/मी तुजला माझी” जाईल अशा तऱ्हेने असे उच्चारवे.

३. घटस्फोट संबंधित कायदा .

संस्थांतील अनेक जातींमध्ये घटस्फोट अगदी सहजरित्या घेतल्या जाऊ शकतो व हे असे चालू राहिल्यास समाज सर्वस्वी नित्य भ्रष्ट होईल त्यासाठी घटस्फोट घेण्यासाठी विशेष नियम बनवण्यात आले व त्यामध्ये स्पष्ट तरतुदी करण्यात आल्या . यातून . पासून हे अमलात आले १९१९ ऑगस्ट २ असे संबोधण्यात आले व “कोल्हापूरचे काडी मोडण्याचे नियम” या नियमांना . ख्रिश्चन पारशी व मुस्लिम यांना वगळण्यात आले या कायद्यामधील महत्त्वाचे नियम-

- नवऱ्याने काडी मोडण्याकरिता अर्ज करावयाचा असल्यास -
विवाह झाल्यापासून आपल्या बायकोने चारित्र्यहीन स्वरूपाचा अपराध केला किंवा कोणत्याही संयुक्तिक कारणाशिवाय दोन वर्ष स्वतःहून नवऱ्यापासून लांब राहत असेल तर नवऱ्याला काडी मोडण्याकरता अर्ज करता येईल .
- बायकोने काडी मोडण्याकरता अर्ज करावयाचा असल्यास -
विवाह झाल्यापासून आपल्या नवऱ्याने स्वतः अगर दुसऱ्या कोणत्याही इसमांकडून भारतीय दंड संहिता ३२० मध्ये दिलेल्या व्याख्याप्रमाणे जबर दुखापतीचा गुन्हा केल्यास .
याखेरीज आपल्या नवऱ्याला महारोग झाल्याचे आढळून आल्यास .
आपला नवरा वेडा अगर नपुसंक आहे असे साबित झाल्यास .
बायकोला काडी मोडण्याकरता अर्ज करता येईल .

- काडीमोड करण्याकरिता कोणताही अर्ज आल्यास अर्जांमध्ये नमूद केलेल्या गोष्टीसंबंधानेच शक्य तितक्या योग्य रितिते कोर्टाने आपली खात्री करून घ्यावी ज्या कारणास्तव अर्ज केला . आहे त्यामध्ये नवरा किंवा बायको सहभागी आहेत का हे खात्रीने तपासून पहावे.

४ विधवा पुनर्विवाहाचा कायदा .

भारतातील अनेक मागास जातीमध्ये विधवांना पुनर्विवाह करण्याचे स्वातंत्र्य होते परंतु उच्चवर्णीय व सुसंस्कृत समजल्या जाणाऱ्या जातीमध्ये मात्र विधवांना पुनर्विवाह करण्याचा अधिकार नव्हता अशा समाजातील स्त्रियांना पुनर्विवाहाचा अधिकार शाहू महाराजांनी दिला.

५ आंतरजातीय विवाह कायदा .

हिंदू व जैन या दोन मुख्य धर्मांच्या लोकांना जातीनिर्बंध न पाळता दोघांपैकी आपापल्या कोणत्याही धर्माच्या मनुष्याशी विवाह करण्याची मुभा देण्यात आली . रोजी कोल्हापूर गॅझेट मध्ये प्रसिद्ध करण्यात आला १९१९ जुलै १२ व हा कायदा दिनांक . वर्षे पूर्ण झालेल्या स्त्रीला विवाहासाठी पित्याची अथवा पालकाची संमती घेण्याची आवश्यकता नाही १८ तसेच या कायद्यानुसार . त्यामुळे स्त्रीला आपला जोडीदार निवडण्याचे स्वातंत्र्य देण्यात आले . तत्कालीन कालमर्यादा लक्षात घेता राजर्षी शाहू महाराजांचे . विवाहविषयक धोरण अतिशय पुरोगामी होते हे लक्षात येते

६ देवदासी प्रथा प्रतिबंध कायदा .

देवाच्या नावावर मुली सोडण्याच्या परंपरेतून देवदासी हा वर्ग निर्माण झाला यामध्ये जोकतीन , मुरळीन, भाविन असे अनेक प्रकार आहेत . अंधश्रद्धेपोटी व धर्माच्या नावावर स्त्रियांवर होणाऱ्या अन्याय अत्याचाराला प्रतिबंध घालण्यासाठी शाहू . रोजी हा कायदा केला १९२० जानेवारी १७ महाराजांनी

समारोप

पाश्चिमात्य शिक्षणाचा प्रसार मंद गतीने होत असल्याने हिंदुस्थानातील स्त्रियांची स्थिती सुधारण्यासाठी त्या शिक्षणाचा उपयोग व्हावा तितका होत नाही . हिंदुस्थानातील हिंदु कुटुंबांच्या पुढार्यांपना विशेष प्रसंगी स्त्रियांना हलके शासन करण्याची . परवानगी दिली आहे, परंतु त्या परवानगीचा दुरुपयोग होऊन स्त्रियांना वाटेल तशा वाईट रीतीने वागवण्याचा आपणाला सनातन कालाचा परवानाच मिळाला आहे , अशी पुरुषांची समजूत झालेली दिसते . म्हणून स्त्रियांवर होत असलेल्या जाचांचे जे प्रकार . भारतीय दंड संहितेच्या मर्यादेमध्ये येऊ शकत नाहीत, अशा प्रकारच्या जाचांपासून स्त्रियांना संरक्षण मिळावे आणि स्त्रियांची उन्नती व्हावी म्हणून हे नियम करणे योग्य असल्याचे शाहू महाराजांच्या लक्षात आले व या नियमांचा उगम झाला .

‘Shikshan Prasarak Sanstha’s
Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal
DEPARTMENT OF ENGLISH & RESEARCH
DEVELOPMENT CELL
Report of the Activity



Title	One Day Workshop in Research Methodology
Day & Date	Tuesday, 28 th May 2024
Organizer	English Literary Association (ELA) & Research Development Cell (RDC)
Funding	P. V. P. Mahavidyalaya, Kavathe Mahankal
Chief Guest	Dr. Vidhiya Ravichandran Research Student, Department of English, Bharthiyar University, Coimbatore, Tamil Nadu
Chairperson	Prof. (Dr.) M. K. Patil Principal, P. V. P. M., Kavathe Mahankal
No. of Beneficiary	41
Background	Research methodology is a critical aspect of academic and scientific endeavours, providing scholars and researchers with the tools and techniques necessary to conduct rigorous and systematic investigations. In the realm of higher education, a sound understanding of research methodology is essential for producing high-quality research that contributes to the body of knowledge in various disciplines.
Objective	• To familiarize participants with the key principles and concepts of research methodology, including research design, data collection methods, analysis techniques, and ethical considerations. • To provide participants with guidance on developing research proposals, designing research, and selecting appropriate research methodologies based on their research objectives. • To enhance participants' skills in critically evaluating research literature, formulating research questions, and structuring research projects effectively. • To discuss the importance of ethical considerations in research, including issues related to plagiarism, data integrity, and confidentiality.
Conclusion	The workshop on Research Methodology was a resounding success, equipping participants with the knowledge, skills, and resources needed to navigate the research process effectively and produce impactful and credible research outcomes. It served as a valuable stepping stone in the academic and research journey of the participants, empowering them to contribute meaningfully to their respective fields of study and advance the frontiers of knowledge.


Mr. A. S. Pawar
Co-Ordinator
Co-ordinator

Research & Development Cell
Padmabhushan Vasantraodada Patil
Mahavidyalaya, Kavathe Mahankal


Mr. S. S. Kamble
Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.


Prof. (Dr.) M. K. Patil
Principal
PRINCIPAL,
Padmabhushan Vasantraodada Patil
Mahavidyalaya, K. Mahankal, Dist-Sangli

**Shikshan Prasarak Sanstha's
Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal**



**DEPARTMENT OF ENGLISH & RESEARCH
DEVELOPMENT CELL**

Permission Letter

Date: 14/05/2024

Principal,

Padmabhushan Vasantodada Patil Mahavidyalaya
Kavathe Mahankal

Subject: Permission Request for Online Workshop on Research Methodology

Respected Sir,

I am writing to seek your approval for the conduct of an online workshop on "Research Methodology" as a collaborative initiative of the Department of English and the Research Development Cell at Padmabhushan Vasantodada Patil Mahavidyalaya. The workshop aims to enhance the research skills and capabilities of our students and faculty members.

Details of the workshop:

- Topic: Research Methodology
- Date: 28th May 2024
- Platform: Google Meet

Mr. Nitish Shinde, Assistant Professor in the Department of English, will serve as the coordinator for this workshop. Mr. Shinde possesses a wealth of experience in organizing academic events and is well-equipped to ensure the success of this workshop.

The workshop will feature expert speakers who will provide valuable insights and guidance on various aspects of research methodology, including research design, data collection, analysis, and reporting. Participants will have the opportunity to engage in interactive sessions and gain practical knowledge that will benefit them in their academic pursuits.

We kindly request your permission and support for this collaborative endeavour, which we believe will significantly contribute to the academic and research-oriented environment at our institution. Thank you for considering our request. We eagerly await your favourable response.

Warm regards,

Mr. Amar Pawar

Co-ordinator
Co-ordinator

**Research & Development Cell
Padmabhushan Vasantodada Patil
Mahavidyalaya, Kavathe Mahankal**

Mr. S. S. Kamble

**Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.**

TEMPLATE RESEARCH METHODOLOGY



**SHIKSHAN PRASARAK SANSTHA'S
PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA.,
KAVATHE MAHANAKAL**

**DEPARTMENT OF ENGLISH
&
RESEARCH DEVELOPMENT CELL**

ORGANIZES

**A ONE DAY WORKSHOP
ON
RESEARCH METHODOLOGY**

Guest Speaker:

**Dr. Vidhiya R.
Research Student,
Bharthiyar University, Coimbatore, Tamilnadu**

**Day & Date: Tuesday, 28/5/2024
Time: 07:00PM to 08:00PM**

**Link of Registration:
<https://forms.gle/36EKa2GWkFLuGR5T6>**

Date: 22/5/2024

Shikshan Prasarak Sanstha's
Padmabhushan Vasantraodada Patil Mahavidyalaya Kavathe Mahankal
Department of English & Research Development Cell



NOTICE

All Students and Faculty Members are hereby informed that the Department of English and Research Development Cell is pleased to announce an online Workshop on Research Methodology scheduled to be held on 28th May 2024. The workshop aims to enhance participants' understanding of research methodology principles and practices, providing valuable insights and skills to navigate the research process effectively.

Registration Link: <https://forms.gle/kAJzc6NH2CFnqbZ6A>

Workshop Details:

- Date: 28th May 2024
- Time: 7:00PM to 8:00PM

Objectives:

1. To familiarize participants with key concepts and principles of research methodology.
2. To provide practical guidance on developing research proposals and designing research studies.

All students and faculty members are encouraged to participate in this workshop to expand their research capabilities and contribute meaningfully to the academic and research community. Attendance is highly recommended for those interested in improving their research skills and producing high-quality research outcomes.

For any inquiries or further information, please contact Mr. Nitish Shinde, Assistant Professor, Department of English. We look forward to your active participation and engagement in this enriching workshop on Research Methodology.

Thank you.

Head,
Department of English
Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.

Co-ordinator
Research Development Cell
Co-ordinator
Research & Development Cell
Padmabhushan Vasantraodada Patil
Mahavidyalaya, Kavathe Mahankal

Principal
Prof. (Dr.) M. K. Patil
PRINCIPAL,
Padmabhushan Vasantraodada Patil
Mahavidyalaya, K. Mahankal, Dist-Sangli

Workshop on Research Methodology

This Workshop is being conducted by Department of English and Research Development Cell of Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal, Dist: Sangli 416405. This seminar aims to provide extensive knowledge of Research Methodology.



* Indicates required question

1. Email *

2. Full Name (Surname- First Name- Middle Name) *

3. WhatsApp Number *

4. E-Mail Id *

5. Gender *

Mark only one oval.

☐ Male

☐ Female

☐ Transgender

☐ Other

6. Name of Institute/ College *

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**Shikshan Prasarak Sanstha's
Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal**

**DEPARTMENT OF ENGLISH & RESEARCH
DEVELOPMENT CELL**

One Day Workshop on Research Methodology

Registration List



Sr. No.	Email Address	Full Name	Wha. App Num.
1	mr.sachinsgadhire@gmail.com	Gadhire Sachin Subrav	9503604905
2	shrikantphakade50@gmail.com	Phakade Shrikant Namdev	9763873900
3	s.bhosale2k8@gmail.com	Shankar Vithoba Bhosale	8806619490
4	vijayvkoshti@gmail.com	Koshti Vijay Veerbhadra	9423829117
5	archanakhadake63@gmail.com	Khadake Archana Santosh	95385553709
6	polnetajirao@gmail.com	Dr. Pol Netajirao Subhanrao	9403045961
7	pc500023@gmail.com	Chavan Pratiksha Ramesh	8010184880
8	prajktadhole90@gmail.com	Dhole prajkta adhikrao	9322458002
9	shivgondahonrao2000@gmail.com	Honrao Shivgonda Appaso	9096421749
10	appasokolekar1@gmail.com	Kolekar Appaso Shivaji	9960355358
11	shivpujepoonam777@gmail.com	Shivpuje Punam Nanasahab	9371301815
12	sadamatesayali18@gmail.com	Sadamate sayali Satish	9730114347
13	shilyugkamble1919@gmail.com	Kamble Shilyug Rajendra	7666775271
14	kamble.vinod11@gmail.com	Kamble Vinod Dilip	9822917283
15	saraswatighogre@gmail.com	Dr.Andelwar Saraswati Laxmanarao	8999515400
16	dipali.chavan87@gmail.com	Miss. Chavan Dipali Hindurao	8459636210
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19	amarpawar121@gmail.com	Pawar Amar Shivaji	9284832392
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21	sagarshinde1193@gmail.com	Shinde Sagar Sampatrao	9503235822
22	p76705718@gmail.Com	Devkate pragati sadhu	9970071051
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24	avinash.1273@gmail.com	Mr.Avinash Ashok Kamble	9579546375
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33	sbp7007@gmail.com	Patil Sanjay Babasaheb	9421130538
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35	nimaramesh67@gmail.com	Mrs. Mahamuni Pallavi Umeshchandra	9420792490
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38	nishi.6147@gmail.com	Mr. Nishikant Savanta Waghmare	9822395447
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40	arjunbrathod555@gmail.com	Rathod Arjun Bandu	8390060862
41	nitishshinde630@gmail.com	Shinde Nitish Pandurang	8080955157

Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.

Co-ordinator
Research & Development Cell
Padmabhushan Vasantodada Patil
Mahavidyalaya, Kavathe Mahankal



PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA
KAVATHE MAHANKAL, Dist. Sangli (Maharashtra) Pin- 416 405
Principal Prof. (Dr.) M. K. Patil M.Sc., M. Phil., Ph.D. Mob.9421185277
Phone-02341-295220 Email: kmpvp@rediffmail.com Website: www.pvpkm.ac.in
Jr. College Index No. J 22.04.002

Ref No.: PVPMKM/

Date:

APPRECIATION LETTER

To,
Dr. Vidhiya Ravichandran
Research Student
Bharathiyar University
Coimbatore, Tamil Nadu, India



Subject: Letter of Appreciation for Conducting Online Workshop on Research Methodology

Respected Madam,

I am writing on behalf of the Department of English and the Research Development Cell of Padmabhushan Vasantryadada Patil Mahavidyalaya to extend our heartfelt appreciation for your invaluable contribution as the resource person in the online workshop on Research Methodology held on 28th May 2024.

Your expertise and insights into research methodology provided our participants with a comprehensive understanding of the nuances and best practices essential for conducting scholarly research. Your ability to communicate complex concepts in a clear and engaging manner greatly enriched the learning experience for all attendees.

We were particularly impressed by your depth of knowledge and passion for the subject, which undoubtedly inspired our faculty members and students alike to approach their research endeavors with renewed enthusiasm and confidence.

Your dedication to fostering academic excellence and your willingness to share your expertise with our institution are commendable, and we are immensely grateful for your significant contribution to the success of our workshop. We sincerely hope to collaborate with you again in the future and continue our shared mission of promoting research excellence in academia. Once again, thank you for your invaluable contribution, Dr. Vidhiya Ravichandran.

Warm regards,


Mr. A. S. Pawar
Co-Ordinator


Mr. S. S. Kamble
Head
Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.


Prof. (Dr.) M. K. Patil
Principal
PRINCIPAL,
Padmabhushan Vasantryadada Patil
Mahavidyalaya, Kavathe Mahankal, Dist. Sangli.



PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA
KAVATHE MAHANKAL, Dist. Sangli (Maharashtra) Pin- 416 405
Principal Prof. (Dr.) M. K. Patil M.Sc., M. Phil., Ph.D. Mob.9421185277
Phone-02341-295220 Email: kmpvp@rediffmail.com Website: www.pvpkm.ac.in
Jr. College Index No. J 22.04.002

Ref No.: PVPMKM/

Date:

INVITATION LETTER

To,
Dr. Vidhiya Ravichandran
Research Student
Bharathiyar University
Coimbatore, Tamil Nadu, India



Subject: Invitation to be a Resource Person for Online Workshop on Research Methodology

Respected Madam,

I hope this letter finds you well. The Department of English and Research Development Cell at Padmabhushan Vasantryadada Patil Mahavidyalaya is pleased to invite you to be a distinguished resource person for our upcoming online Workshop on Research Methodology scheduled to be held on 28th May 2024.

Workshop Details:

- Date: 28th May 2024
- Time: 7PM to 8PM
- Platform: Online Google Meet Platform
- Topic: Research Methodology

We understand the demands on your time and expertise and sincerely hope that you will be able to accept our invitation to be a resource person for the workshop. Your participation will greatly enrich the learning experience for our students, faculty members, and researchers, and contribute to the academic and research community at Padmabhushan Vasantryadada Patil Mahavidyalaya.

Should you require any further information or have any questions, please feel free to contact at 8080955157. Thank you for considering our invitation. We look forward to the possibility of having you as a distinguished resource person for our online Workshop on Research Methodology.

Warm regards,


Mr. A. S. Pawar
Co-Ordinator


Mr. S. S. Kamble
Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.


Prof. (Dr.) M. K. Patil
Principal
PRINCIPAL
Padmabhushan Vasantryadada Patil
Mahavidyalaya, K. Mahankal, Dist. Sangli

Shikshan Prasarak Sanstha's
Padmabhushan Vasantraodada Patil Mahavidyalaya,
Kavathe Mahankal

DEPARTMENT OF ENGLISH
&
RESEARCH DEVELOPMENT CELL



Organised
ONLINE WORKSHOP ON RESEARCH METHODOLOGY
PROGRAMME SCHEDULE

Day & Date: Tuesday, 28/05/2024; Time: 07:00PM to 08:00PM

ONLINE GOOGLE MEET PLATFORM

Google Meet Link: <https://meet.google.com/umf-iosc-ptn>

Welcome & Introduction: Dr. Surendranath Babar

Inauguration of the Programme

Chief Guest Speech:

Dr. Vidhiya Ravichandran

(Research Student, Department of English, Bharthiyar University, Coimbatore, Tamil Nadu)

Chairperson: Mr. S. S. Kamble

Vote of Thanks: Mr. Nitish Shinde

ORGANIZERS:
DEPARTMENT OF ENGLISH & RESEARCH
DEVELOPMENT CELL

**Shikshan Prasarak Sanstha's
Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal**

**DEPARTMENT OF ENGLISH & RESEARCH
DEVELOPMENT CELL**

One Day Workshop on Research Methodology

Manual Attendance Marking Sheet



Sr. No.	Full Name	Email Address	Attendance
1	Gadhire Sachin Subrav	mr.sachinsgadhire@gmail.com	A
2	Phakade Shrikant Namdev	shrikantphakade50@gmail.com	A
3	Shankar Vithoba Bhosale	s.bhosale2k8@gmail.com	PA
4	Koshti Vijay Veerbhadra	vijayvkoshti@gmail.com	A
5	Khadake Archana Santosh	archanakhadake63@gmail.com	A
6	Dr. Pol Netajirao Subhanrao	polnetajirao@gmail.com	A
7	Chavan Pratiksha Ramesh	pc500023@gmail.com	PA
8	Dhole prajkta adhikrao	prajktadhole90@gmail.com	PA
9	Honrao Shivgonda Appaso	shivgondahonrao2000@gmail.com	A
10	Kolekar Appaso Shivaji	appasokolekar1@gmail.com	A
11	Shivpuje Punam Nanasahab	shivpujepoonam777@gmail.com	A
12	Sadamate sayali Satish	sadamatesayali18@gmail.com	A
13	Kamble Shilyug Rajendra	shilyugkamble1919@gmail.com	A
14	Kamble Vinod Dilip	kamble.vinod11@gmail.com	A
15	Dr.Andelwar Saraswati L.	saraswatighogre@gmail.com	PA
16	Miss. Chavan Dipali Hindurao	dipali.chavan87@gmail.com	A
17	Olekar Nutan Hambirrao	nutanolekar@gmail.com	A
18	Dr. Shendage Sambhaji Shripati	shendage1968@gmail.com	A
19	Pawar Amar Shivaji	amarpawar121@gmail.com	A
20	Patil Maruti Krishna	mkpatil.stats@gmail.com	A
21	Shinde Sagar Sampatrao	sagarshinde1193@gmail.com	A
22	Devkate pragati sadhu	p76705718@gmail.Com	A
23	Barge Sandip Bhagwan	sandio24barge@gmail.com	PA
24	Mr.Avinash Ashok Kamble	avinash.1273@gmail.com	A
25	Mali Pooja Rahul	poojamali02@gmail.com	A
26	Kamble Mahesh Maruti	mahesh8063@gmail.com	A

27	Sutar Radhakrishna Shahu	rssutar.moha@gmail.com	A
28	Dr. Reshma Aslam Sanadi	reshmasanadi09@gmail.com	PA
29	Shinde Mayur Mohanrao	mayur.shinde9@gmail.com	A
30	Gade Dilipe Akaram	dilipgade504@gmail.com	A
31	Babar Surendranath Ashok	advbaabar@gmail.com	PA
32	Shinde shrinath Mahadev	sreenathshinde@gmail.com	PA
33	Patil Sanjay Babasaheb	sbp7007@gmail.com	A
34	Narale Hanmant Shivaji	hanmantnarale1988@gmail.com	PA
35	Mrs. Mahamuni Pallavi U.	nimaramesh67@gmail.com	PA
36	Pawar Hariprasad Vitthal	hariprasadpawar123@gmail.com	A
37	Edake Sagar Harichandra	sagaredake12@gmail.com	A
38	Mr. Nishikant S. Waghmare	nishi.6147@gmail.com	A
39	Solage Sujata Pandurang	spsolage2@gmail.com	A
40	Rathod Arjun Bandu	arjunbrathod555@gmail.com	A
41	Shinde Nitish Pandurang	nitishshinde630@gmail.com	A

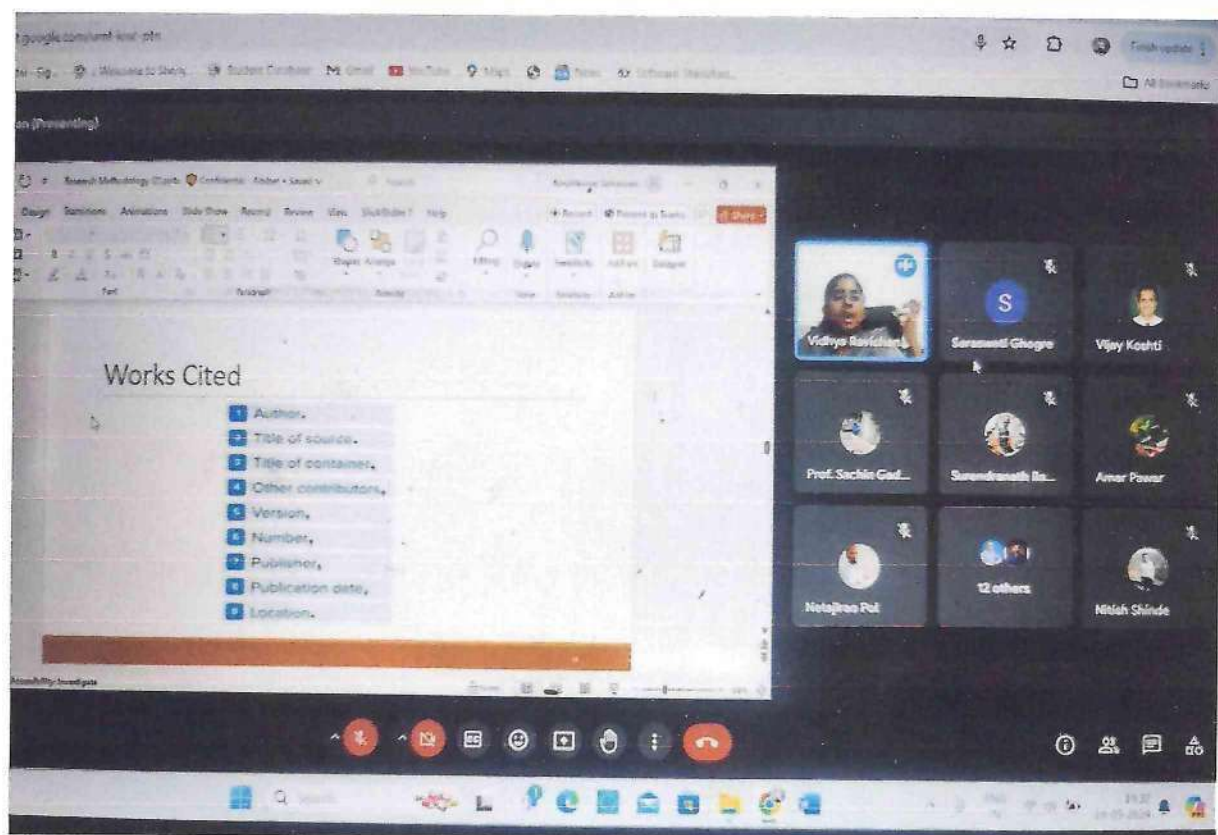
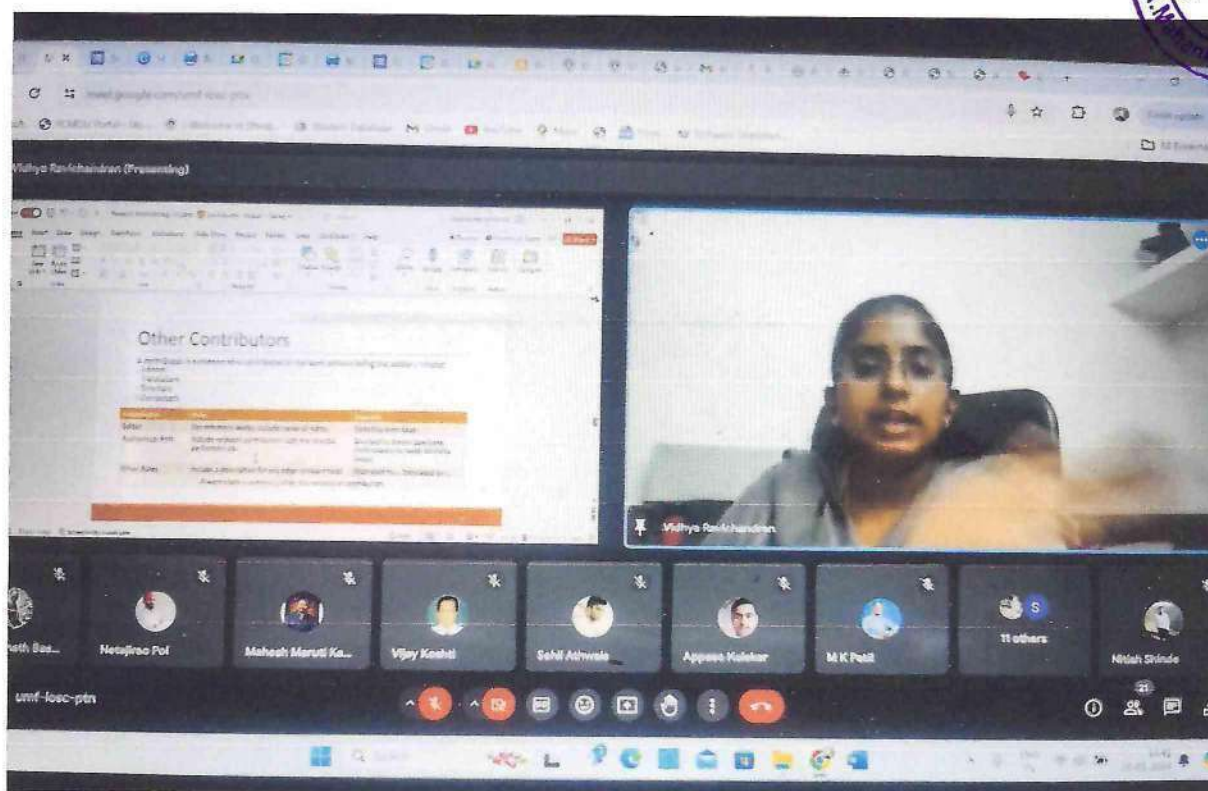


***A: Attended, PA: Partially Attended NA: Not Attended**

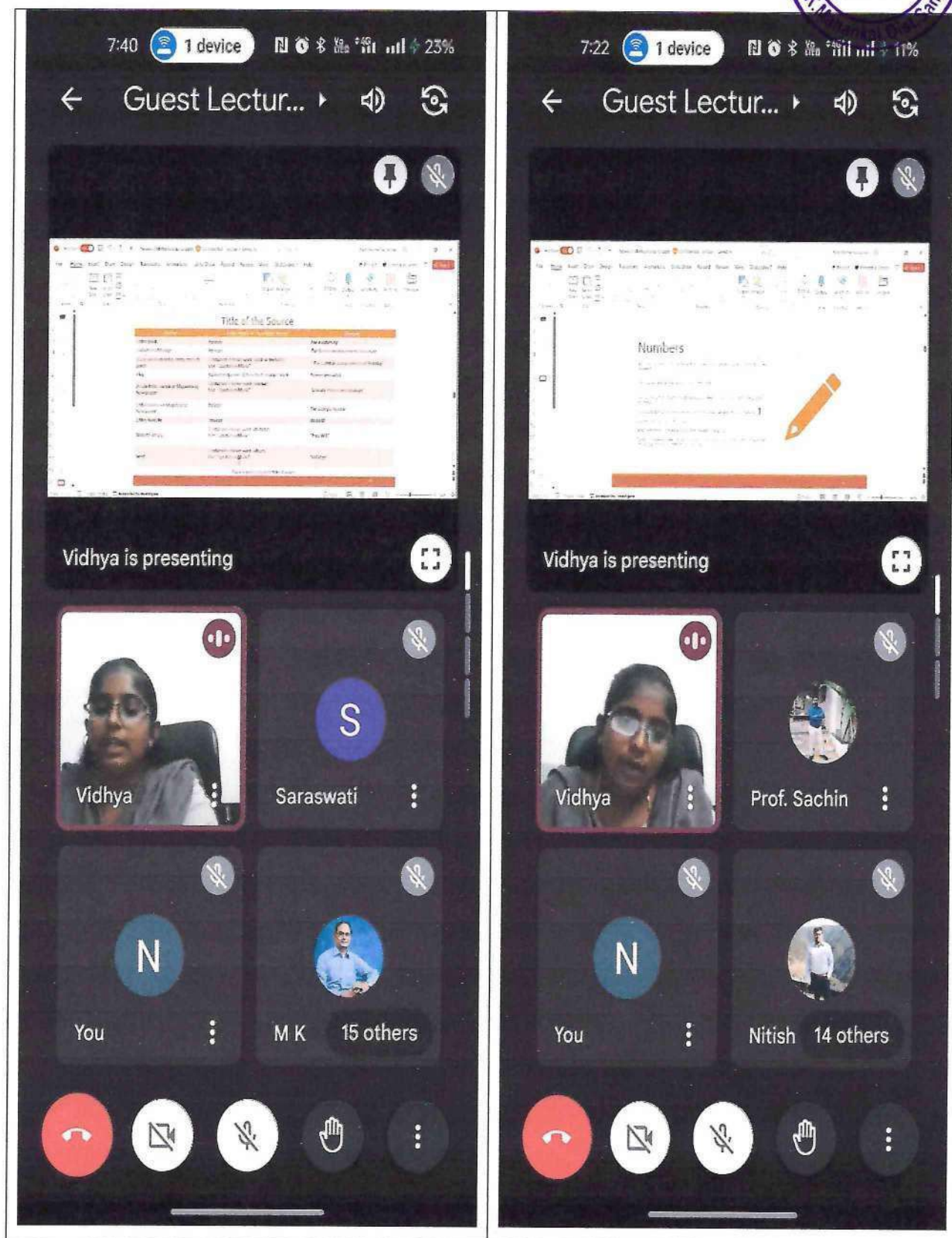

Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.

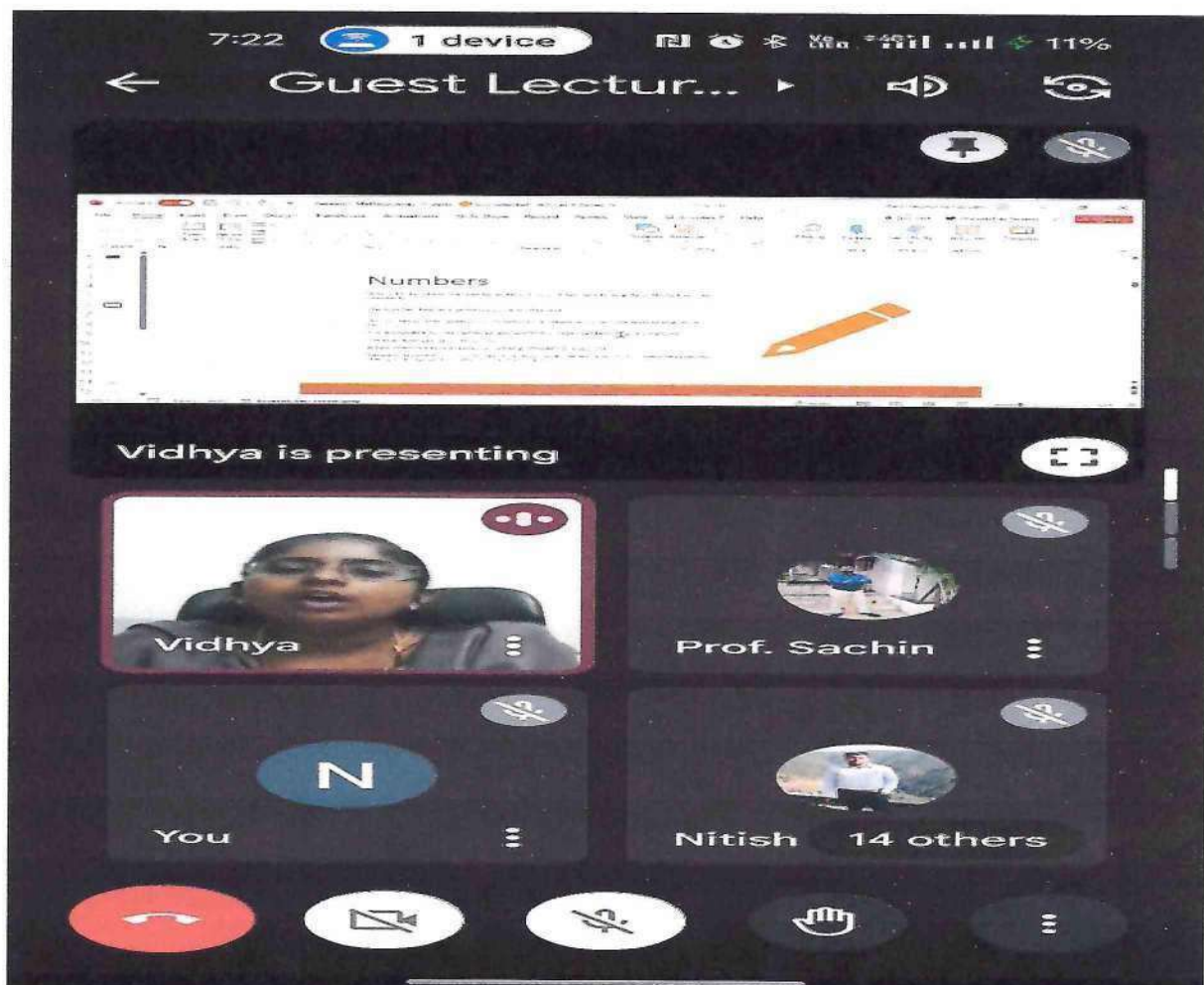
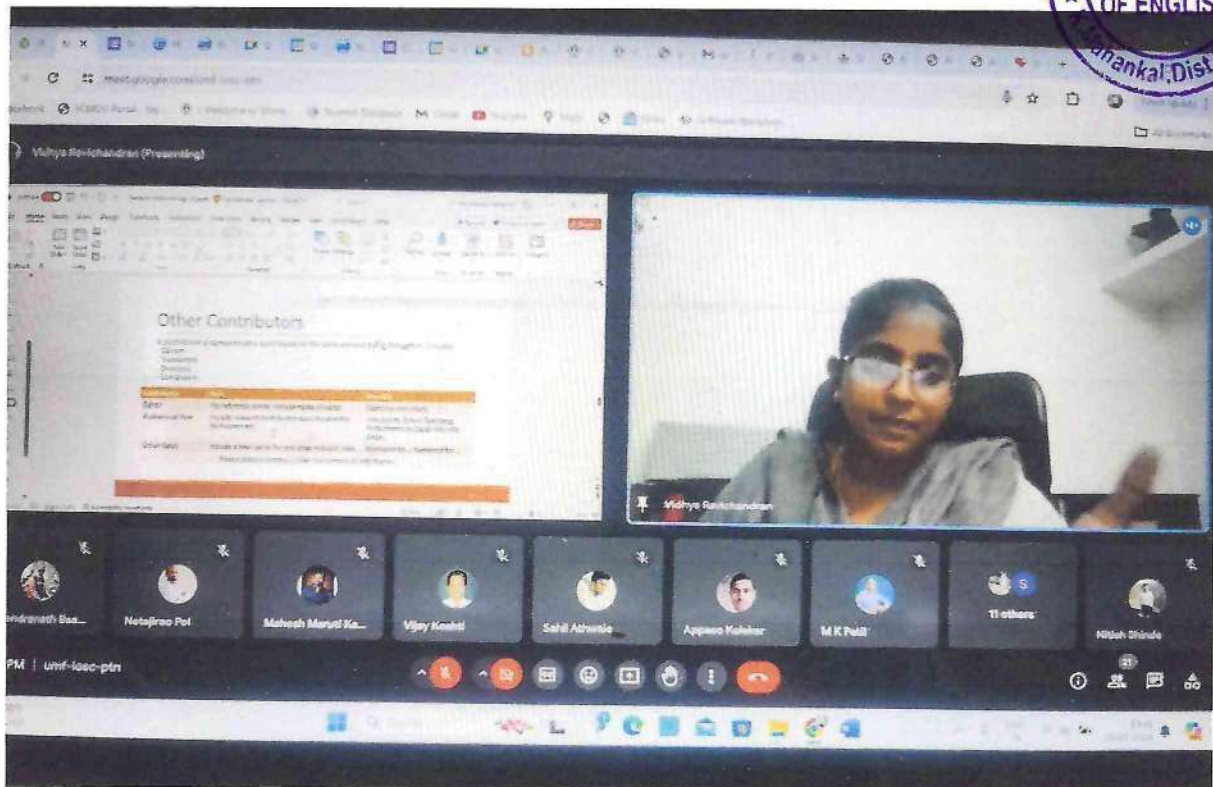

Co-ordinator
Research & Development Cell
Padmabhushan Vasantraodada Patil
Mahavidyalaya, Kavathe Mahankal

GLIMPSES OF WORKSHOP ON RESEARCH METHODOLOGY



ACTIVE PARTICIPATION





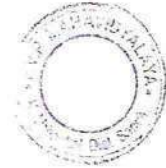


Shikshan Prasarak Sanstha's
PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA,
KAVATHE MAHANKAL, DIST-SANGLI
Department of English & Research Development Cell
Organized

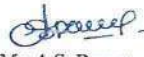
One day Workshop on (Online Mode)

"RESEARCH METHODOLOGY"

Certificate



This is to certify that **Mr./Ms./Mrs./Dr./Prof.** _____, of **Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal** has attended/ participated in the One day Online Workshop on **"Research Methodology"** organized by Department of English & Research Development Cell of Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal Dist: Sangli, Maharashtra on Tuesday, 28th May, 2024.


Mr. A.S. Pawar
Research Development Cell


Mr. S. S. Kamble
Head
Department of English


Prof. (Dr.) M. K. Patil
Principal




Head
Department of English,
P.V.P. Mahavidyalaya,
Kavathe-Mahankal.









































PVPKM/WRM/24/291



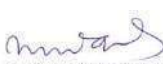
Shikshan Prasarak Sanstha's
PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA,
KAVATHE MAHANKAL, DIST-SANGLI
Department of English & Research Development Cell
 Organized
 One day Workshop on (Online Mode)
“RESEARCH METHODOLOGY”
Certificate



This is to certify that **Mr./Ms./Mrs./Dr./Prof. Rathod Arjun Bandu** of **Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal** has attended/ participated in the One day Online Workshop on **“Research Methodology”** organized by **Department of English & Research Development Cell of Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal Dist: Sangli, Maharashtra** on Tuesday, 28th May, 2024.


 Mr. A.S. Pawar
 Research Development Cell


 Mr. S. S. Kamble
 Head
 Department of English


 Prof. (Dr.) M. K. Patil
 Principal

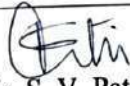


Shikshan Prasarak Sanstha's

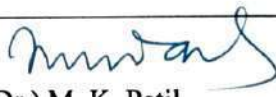
Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal,

DEPARTMENT OF CHEMISTRY
Activity Report

Title	A guest lecture on research methodology under faculty exchange program
Day & Date	Monday, 01/04/2023
Organizer	Department of Chemistry
Chairperson	Mr. S. V. Patil (Head of Dept).
Co-Coordinator	Mr. A. S. Pawar
Background	Departmental programs play a crucial role in helping students for their betterment. Department of Chemistry has signed MoU with Shri. R. R. Patil Mahavidyalaya Savlaj, under this MoU department has arranged a Guest Lecture under faculty exchange program on " Research Methodology " on 01 st April at 02:00 pm. For this program Miss. Waghmare S. M. (Assistant professor, Department of chemistry, Shri. R. R. Patil Mahavidyalaya, Savlaj) will guide the students. She is also former student of our Chemistry Department. There is wide scope for research for the students of science faculty for this reason the program was arranged.
Objective	• To provide the information about research methodology. • To give insights of skillset required for advance research. • To boost the confidence of departmental students by arranging former students lecture. • To understand the scope of research in global world.
Conclusion	The Department has arranged a Guest Lecture under faculty exchange program on " Research Methodology " on 01 st April. The major goal of the guest lecture was to provide information about importance of research and research methodology. Miss. S. M. Waghmare shared useful information about her work experience in research and importance of research methodology. At the same time, she shared her memories in her college years. All students got motivated by her lecture. Introduction of Guest was done by Mr. A. S. Pawar, followed by lecture session and Mr. S. V. Patil (Head of Dept.) gave preceidental talk. The Program was concluded with Vote of thanks by Mr. A. A. Kamble, Technical and, Workshop arrangement was done by Mr. Jangam P. R. 56 students of department benefited by this lecture.


Mr. S. V. Patil
Head

Department Of Chemistry
P. V. P. Mahavidyalaya,
K. Mahankal, Dist-Sangli


Prof. (Dr.) M. K. Patil

PRINCIPAL,
Padmabhushan Vasantraodada Patil
Mahavidyalaya, K. Mahankal, Dist-Sangli

Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF CHEMISTRY

Date: 27-03-2024

NOTICE

All the students in B.Sc. are hereby informed that, Department of Chemistry has signed MoU with Shri. R. R. Patil Mahavidyalaya Savlaj, under this MoU department is arranging a **Guest Lecture under faculty exchange program** on **"Research Methodology"** on 01st April at 02:00 pm. For this program former student of our department **Miss. Waghmare S. M.** (Assistant professor, Department of chemistry, Shri. R. R. Patil Mahavidyalaya, Savlaj) will guide the students. All the students are requested to attend the lecture on time.


Head

**Department Of Chemistry,
P. V. P. Mahavidyalaya,
K. Mahankal, Dist-Sangli**

ShikshanPrasarakSanstha's
PadmabhushanVasatraodada Patil Mahavidyalaya, KavatheMahankal

Department of Chemistry

A guest lecture under faculty exchange program

On

“Research Methodology”

Table Program

Welcome and Introduction	Mr. A. S. Pawar
Guest Lecture	Miss. S. M. Waghmare (Assistant professor, Department of chemistry, Shri. R. R. Patil Mahavidyalaya, Savlaj)
Presidential Address	Mr. S. V. Patil. (Head Department of chemistry)
Vote of thanks	Mr. A. A. Kamble

Date & Time: 01/04/2023, 02:00PM

Place: Annex Building Hall no. 32



PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA
KAVATHE MAHANKAL, Dist. Sangli (Maharashtra) Pin- 416 405
Principal Prof. (Dr.) M.K.Patil M.Sc., M.Phil., Ph.D. Mob. 9421185277
Phone- 02341-295220 Email : kmpvp@rediffmail.com
Jr. College Index No. J 22.04.002 Website : www.pvpkm.org

Ref No. PVPMKM/ 2023-24

Date : 27 March 2024.

To
Miss. S. M. Waghmare
Shri. R. R. Patil Mahavidyalaya, Savlaj,
Tal Tasgaon, Dist: Sangli.

Subject: Invitation as a guest lecturer under faculty exchange program as a part of MoU.

Respected Madam,

With great pleasure to inform you that, we are inviting you to deliver guest lecture under faculty exchange program as a part of MoU on the topic "Research Methodology" to our students on 1st April 2024 in our college. Kindly accept the invitation and grace our students with your lecture.

Yours,




PRINCIPAL,

Padmabhushan Vasantodada Patil
Mahavidyalaya, K. Mahankal, Dist-Sangli



PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA
KAVATHE MAHANKAL, Dist. Sangli (Maharashtra) Pin- 416 405
Principal Prof. (Dr.) M.K.Patil M.Sc., M.Phil., Ph.D. Mob. 9421185277
Phone- 02341-295220 Email : kmpvp@rediffmail.com
Jr. College Index No. J 22.04.002 Website : www.pvpkm.org

Ref No. PVPMKM/ 2023-24

Date : 01 April 2024

To
Miss. S. M. Waghmare
Shri. R. R. Patil Mahavidyalaya, Savlaj,
Tal Tasgaon, Dist: Sangli.

Subject: Letter of appreciation for a guest lecture under faculty exchange program as a part of MoU.

Respected madam,

We express our gratitude towards you for delivering guest lecture under faculty exchange program as a part of MoU on the topic "Research Methodology" to our students on 1st April 2024 in our college. Thank you for sharing your expertise with our students.

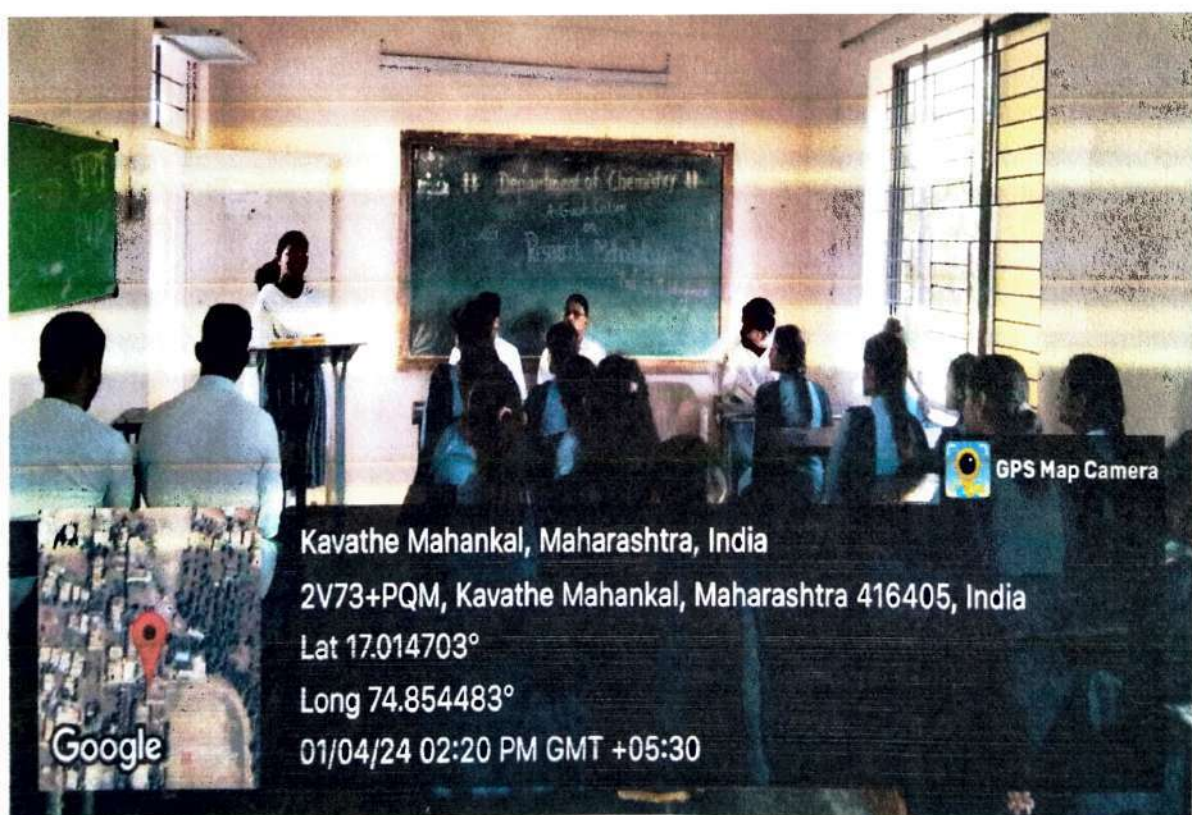
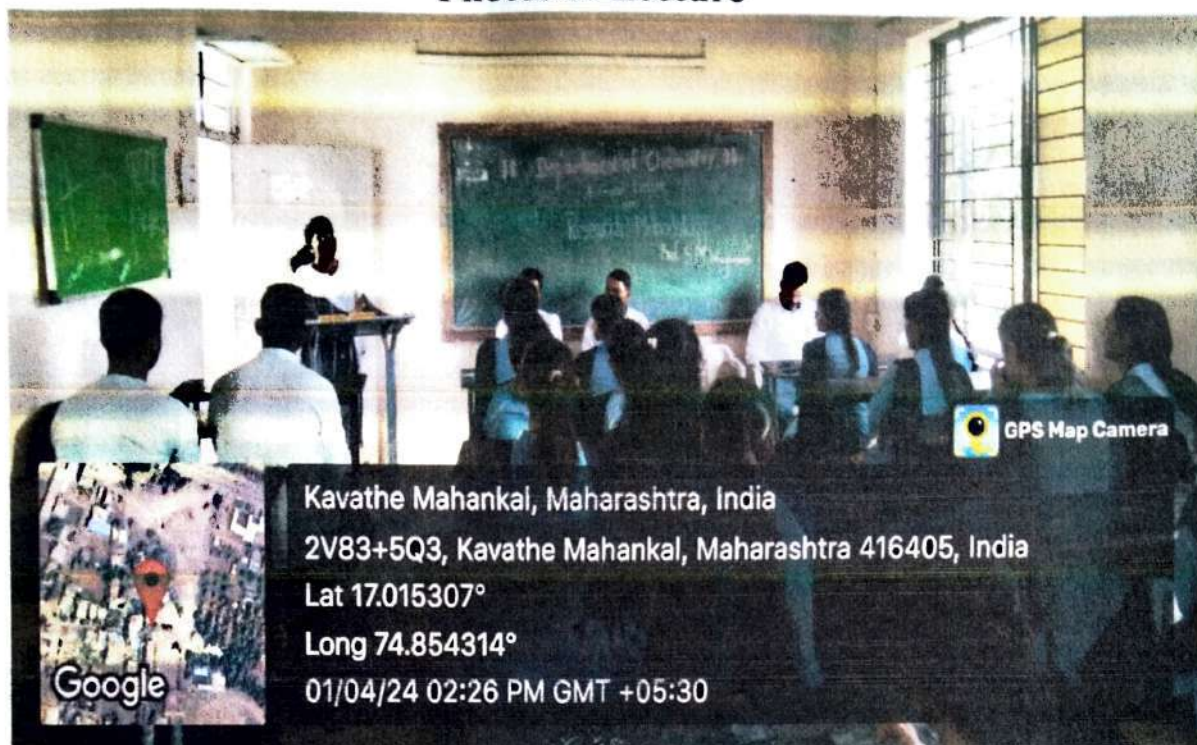


Yours,

PRINCIPAL,

Padmabhushan Vasantraodada Patil
Mahavidyalaya, K. Mahankal, Dist- Sangli

Photos of Lecture



Shikshan Prasarak Sanstha's
Padmabhushan Vasantaoada Patil Mahavidyalaya, Kavathe Mahankal

Department of Chemistry

A guest lecture under faculty exchange program

On

"Research Methodology"

01/04/2024

Attendance

Sr.no.	Name of Student	Class	Sign
1)	Vaibhavi Balasaheb Limkar	BSC - II	<u>Vaibhavi</u>
2)	Vaishnavi Dnyandeo Patil	Bsc - II	<u>Vaishnavi</u>
3)	Prerna Muralidhar Shinde	BSC - II	<u>Prerna</u>
4)	Yash Balkrishna Jankar	B.Sc - II	<u>Yash</u>
5)	Mayuresh Mahadev Yadav	B.Sc II	<u>Mayuresh</u>
6)	Rupesh Shilpi Mawal	B.S.C II	<u>Rupesh</u>
7)	Sachin Ganesh Nalk	Bsc - II	<u>Sachin</u>
8)	Poojisha Hitendra Patil	B.Sc II	<u>Poojisha</u>
9)	Neerata Balasa Kadam	B.Sc II	<u>Neerata</u>
10)	Pranali Baban Shinde	B.Sc (II)	<u>Pranali</u>
11)	Pooja Ashok Putli	B.Sc (II)	<u>Pooja</u>
12)	Arya Ramesh Chavan	Bsc (II)	<u>Arya</u>
13)	Sanika Sampat Patil	B.S.C - II	<u>Sanika</u>
14)	Akanksha Harmanik Nagane	B-SC - II	<u>Akanksha</u>
15)	Aishwarya Dattatraya Bedge	BSc - II	<u>Aishwarya</u>

Sr.no.	Name of Student	Class	Sign
16	Sakshi Sanjay Bedage	Bsc - II	<u>S Bedage</u>
17	Ashwini Vasanthrao Phosale	Bsc - II	<u>A Phosale</u>
18)	Divyaprabha Dilip Bhosale	Bsc - II	<u>D Bhosale</u>
19)	Sonika Dattatraya Bhosale	Bsc - II	<u>S.D. Bhosale</u>
20)	Renuka Suresh Borkar	Bsc - II	<u>R.S. Borkar</u>
21)	Amit Vinayak Chavan	B.Sc - II	<u>Amit</u>
22)	Ganesh Rajaram Chougale	B.Sc - II	<u>Ganesh</u>
23)	Pratapsinh Bhausaheb Deshmukh	B.Sc - II	<u>P.D. Deshmukh</u>
24)	Ritesh Laxman Gaikwad	B.Sc - II	<u>R. Gaikwad</u>
25	Amruta Ramesh Jadhav.	B.Sc II	<u>A. Jadhav</u>
26	Sonika Tanaji Jadhav.	B.Sc II	<u>S. Jadhav</u>
27	Vansha Ramdas Jadhav	Bsc - II	<u>V.R. Jadhav</u>
28)	Snehal Dadasa Kadam	Bsc II	<u>S. Kadam</u>
29)	Sayali Sandip Kadam	B.Sc - II	<u>S.S. Kadam</u>
30	Vaishnavi Pradhan Komble	B.Sc - II	<u>V. Komble</u>
31	Shraddha Shrikant Koshli	Bsc - II	<u>S. Koshli</u>
32	Sayee Ganesh Mali	BSC - II	<u>S. Mali</u>
33.	Namdev Dadasaheb Mali	BSC - II	<u>N. Mali</u>
34.	Ashutosh Shankar Patil	BSC - II	<u>A. Patil</u>
35.	Omkar Chagan Punekar	B.Sc - II	<u>O.C. Punekar</u>
36.	Komal Dnyanesh Pawar	B.sc - II	<u>K. Pawar</u>
37.	Pranavi Aijit Salunkhe	Bsc - II	<u>P. Salunkhe</u>
38.	Siddhanath Anand Awalekar	Bsc - II	<u>S. Awalekar</u>
39	Prathamesh Nivautti Sangar	Bsc - II	<u>P.S.</u>

Sr.no.	Name of Student	Class	Sign
40.	Vikram Siddharth Waghmare	B.Sc. III	<u>Vikram</u>
41.	Shubham Sambaji Patil	B.Sc. III	<u>Shubham</u>
42.	Shashikant Subhash Sakate	B.Sc. III	<u>Sakate</u>
43.	Ganesh Appaso Pawar	B.Sc. III	<u>Ganesh</u>
44.	Mane Rushikesh Ashok	B.Sc. III	<u>Mane</u>
45.	Jaydip Uthman Patil	B.Sc. III	<u>Jaydip</u>
46.	Sakshi Arun Savale	B.Sc. III	<u>Sakshi</u>
47.	Mahesh Jalindar Mengudale	B.Sc. III	<u>Mahesh</u>
48.	Omkar Kundlik Rasale	B.Sc. III	<u>Omkar</u>
49.	Samika Rajaram Salunke	B.Sc. III	<u>Samika</u>
50.	Sanket Rangrao Chavan	B.Sc. III	<u>SRE</u>
51.	Gulab Ajay Bhosale	B.Sc. III	<u>Gulab</u>
52.	Dhaneshwari Awarati	B.Sc. III	<u>Dhaneshwari</u>
53.	Vishal Langoda Patil	B.Sc. III	<u>Vishal</u>
54.	Gaurav Ganeshwar Bhosale	B.Sc. III	<u>Gaurav</u>
55.	Poojakta A. Chavan	B.Sc. IV	<u>Poo</u>
56.	Vinayak Pravin Bhosale	B.Sc. III	<u>V Bhosale</u>



**Padmabhushan Vasantodada Patil Mahavidyalaya,
Kavathe Mahankal.**

DEPARTMENT OF COMMERCE

Career Oriented Course in

RESEARCH METHODOLOGY

(2022-23)


Dr. B. H. Mohite
Head
Department of Commerce
Padmabhushan Vasantodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
Padmabhushan Vasantodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli

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From,
Head,
Department of Commerce
P. V. P. College, Kavathe Mahankal,
Dist. Sangli, Maharashtra 416405
Date: 5 /01/2023

To,
The Principal,
Padmabhushan Vasantraodada Patil Mahavidyalaya,
Kavathe Mahankal, Dist. Sangli,
Maharashtra 416405

Subject: Seeking a permission to start the career oriented course in "Research Methodology".

Respected sir,

As per your guidelines we are going to start a career oriented course in "Research Methodology" in Department of Commerce for our college B.com students. This course will be of 30 hours and will be completed during November 2022 to December 2022. The course will be definitely very beneficiary for students.

I request you to give permission to start the above course in the Department.

Thanking you.


Yours faithfully,
Dr. B. N. Mohite
Head
Department of Commerce
Padmabhushan Vasantraodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
Padmabhushan Vasantraodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli

Padmabhushan Vasantnoodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF COMMERCE

Date: 10-01-2023

NOTICE

All the B.Com – III Year students in P. V. P. college, Kavathe Mahankal are informed that, Department of commerce is going to start the career oriented course in “**Research Methodology**”. The interested students are requested to enroll upto 01 November, 2023.


Coordinator


Dr. B. H. Mohite
Head
Department of Commerce
Padmabhushan Vasantnoodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist. Sangli


Acting Principal
Padmabhushan Vasantnoodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist. Sangli

BROCHURE

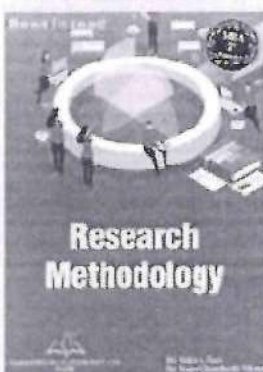
Shikshan Prasarak Sanstha's
Padmabhushan Vasantodada Patil Mahavidyalaya
Kavathe Mahankal, Sangli
Affiliated to Shivaji University, Kolhapur



Department of
Commerce

**RESEARCH
METHODOLOGY**

Starting from
1st Nov
2022


**Research
Methodology**

Duration
30 hrs

Contact
Dr. B.H. Mohite
9822684553

Padmabhushan Vasantnradada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF COMMERCE

“Research Methodology”

Board of Studies

Sr. No.	Name	Designation	Signature
1.	Prof. Dr. M. K. Patil	Acting Principal/ President	
2.	Dr. .B.H. Mohite	Head & Member	
3.	Mr. S.M. Shinde	Member	
4.	Mr.A.M.Mane	Member	


Dr. B. H. Mohite
Head
Department of Commerce
Padmabhushan Vasantnradada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
Padmabhushan Vasantnradada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli

Padmabhushan Vasantnada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF COMMERCE

“Research Methodology”

Objectives:

- To understanding of the fundamental concepts, principles, and terminology of research.
- To learn diverse techniques for collecting data, such as surveys, interviews, observations, and experiments.
- To Cultivate problem-solving skills and effective Communication
- To apply research methods in practical settings, such as academic, industry, or policy research.
- To Contribute to Knowledge by conducting original and meaningful research

Duration:

The course will be completed in 30 hours (3 months).

Eligibility of the student:

Student must have passed H. Sc. Examination.

Course outcomes:

By the end of this course students are expected,

1. To understand the basic ideas and guidelines of research technique.
2. To Recognise and distinguish between distinct paradigms of research, such as qualitative and quantitative methodologies.
3. To create questions and hypotheses for your research those are effective and clear.
4. To expertise in research study design, including sample strategies and data collection methodologies.
5. To Present study findings in clear, written reports and oral presentations.

Evaluation Method:

The examination will be conducted in one part – Theory. Theory examination will consist of 25 multiple choice questions of 2 marks each (50 marks) which will be conducted in B.com classroom at the end of the course.


Dr. B. H. Mohite
Head
Department of Commerce
Padmabhushan Vasantnada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
Padmabhushan Vasantnada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli.

Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF COMMERCE

“Research Methodology”

Syllabus

Objectives and course outcomes:

The main objective of this course is to acquaint students with some basic concepts in Research. They will be introduced to some basic knowledge of Research Methodology. By the end of this course students are expected to be able,

1. To learn and conduct research in their chosen field.
2. To create questions and hypotheses for your research those are effective and clear.
3. To expertise in research study design, including sample strategies and data collection methodologies.

Unit I: Research Aptitude - Research: Meaning, Types, and Characteristics - Positivism and Post-positivistic approach to research - Methods of Research: Experimental, Descriptive, Historical, Qualitative, and Quantitative methods - Steps of Research - Thesis and Article writing: Format and styles of referencing - Application of ICT in research - Research ethics. **(10 Hours)**

Unit II: Communication - Communication: Meaning, types, and characteristics of communication - Effective communication: Verbal and Non-verbal, Inter-Cultural and group communications, Classroom communication - Barriers to effective communication. **(10 Hours)**

Unit III: Data Interpretation - Sources, acquisition, and classification of Data - Quantitative and Qualitative Data - Graphical representation (Bar-chart, Histograms, Pie-chart, Table-chart, and Line-chart) and mapping of Data - Data Interpretation - Data Presentation- Findings and Conclusion. **(10 Hours)**


Dr. B. H. Mehite
Head
Department of Commerce
Padmabhushan Vasantodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
Padmabhushan Vasantodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli

TIMETABLE FOR CERTIFICATE COURSE IN “Research Methodology”

B.com III (2022-23)

Day	Lecturer: Dr.B.H.Mohite	
Monday		07-11-22
Tuesday	01-11-22	***
Wednesday	02-11-22	09-11-22
Thursday	03-11-22	10-11-22
Friday	04-11-22	11-11-22
Saturday	05-11-22	12-11-22

Day	Lecturer: Mr.A.M.MANE	
Monday	14-11-22	21-11-22
Tuesday	15-11-22	22-11-22
Wednesday	16-11-22	23-11-22
Thursday	17-11-22	24-11-22
Friday	18-11-22	25-11-22
Saturday	***	***

Day	Lecturer: Mr.A.M.MANE	
Monday	28-11-22	05-12-22
Tuesday	29-11-22	06-12-22
Wednesday	30-11-22	07-12-22
Thursday	01-12-22	08-12-22
Friday	02-12-22	09-12-22
Saturday	***	***


Dr. B. H. Mohite
 Head

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Padmabhushan Vasantnoodada Patil Mahavidyalaya, Kavathe Mahankal.

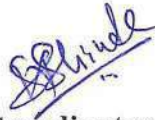
DEPARTMENT OF COMMERCE

“Research Methodology”

Date: 21-10-2022

NOTICE

All the enrolled students are informed that, the lectures of the course will be start from 01 November, 2022 as per timetable. All the lectures will be conducted in B.com classroom no 57 of department of commerce.


Coordinator


Dr. B. H. Mohite
Head
Department of Commerce
Padmabhushan Vasantnoodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


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Padmabhushan Vasanttraodada Patil Mahavidyalaya, Kayathe Mahankal.

DEPARTMENT OF COMMERCE
“Research Methodology”
Attendance sheet

Sr. No.	Name of the Student	01-11-2022	02-11-2022	03-11-2022	04-11-2022	05-11-2022	07-11-2022	09-11-2022
1	Salunkhe Prajakta Hanamant	H.Sajkta	H.Sajkta	H.Sajkta	H.Sajkta	H.Sajkta	H.Sajkta	H.Sajkta
2	Chavan Hemant Sanjay	H.S.Chavan	H.S.Chavan	H.S.Chavan	H.S.Chavan	H.S.Chavan	H.S.Chavan	H.S.Chavan
3	Patole Pramod Mohan	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole
4	Udale Shruti Shamrao	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti
5	Mali Vikas Tatyaso	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali
6	Pawar Vaishnavi Himmatrao	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar
7	Bandgar Amruta Bhauso	Amruta	Amruta	Amruta	Amruta	Amruta	Amruta	Amruta
8	Bhandare Kajal Keshav	K.K.Bhandare	K.K.Bhandare	K.K.Bhandare	K.K.Bhandare	K.K.Bhandare	K.K.Bhandare	K.K.Bhandare
9	Bhosale Rutuja Shankar	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja
10	Madane Akshay Sanjay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay
11	Shinde Rupali Ashok	R.Shinde	R.Shinde	R.Shinde	R.Shinde	R.Shinde	R.Shinde	R.Shinde
12	Kadam Swati Laxman	Swati	Swati	Swati	Swati	Swati	Swati	Swati
13	Anuse Shraddha Bayaji	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse
14	Sawant Sanchita Sanjay	Sanchita	Sanchita	Sanchita	Sanchita	Sanchita	Sanchita	Sanchita
15	Kadam Sarika Kakaso	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika
16	Patil Ankita Jagannath	Ajpatil	Ajpatil	Ajpatil	Ajpatil	Ajpatil	Ajpatil	Ajpatil
17	Pathan Sohail Balu	Sohail	Sohail	Sohail	Sohail	Sohail	Sohail	Sohail
18	Chavan Sandesh Dattatraya	S.D.C	S.D.C	S.D.C	S.D.C	S.D.C	S.D.C	S.D.C
19	Rayban Shruti Babasaheb	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti
20	Kadam Rushikesh Shivaji	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh
21	Borade Sanjivani Tanaji	S.T.B	S.T.B	S.T.B	S.T.B	S.T.B	S.T.B	S.T.B
22	Chavan Neha Sitaram	N.S.Chavan	N.S.Chavan	N.S.Chavan	N.S.Chavan	N.S.Chavan	N.S.Chavan	N.S.Chavan
23	Khot Sarita Balaso	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K
24	Khot Pramila Bharat	P.B.K	P.B.K	P.B.K	P.B.K	P.B.K	P.B.K	P.B.K
25	Khot Anjali Arjun	Anjali	Anjali	Anjali	Anjali	Anjali	Anjali	Anjali
26	Rasale Rushikesh Tanaji	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R
27	Mane Ramesh Ashok	Rmane	Rmane	Rmane	Rmane	Rmane	Rmane	Rmane
28	Waghmode Pankaj Bharat	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W

Sr. No.	Name Of The Student	01-11-2022	02-11-2022	03-11-2022	04-11-2022	05-11-2022	07-11-2022	09-11-2022
29	Khot Aishwarya Ramdas	~~Ashot~~	~~Ashot~~	~~Ashot~~		~~Ashot~~	~~Ashot~~	~~Ashot~~
30	Patil Vasanti Balasaheb	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~
31	Kadam Shivani Balaso	~~Bkadam~~		~~Bkadam~~	~~Bkadam~~	~~Bkadam~~	~~Bkadam~~	
32	Kamble Ruchita Suraj	R.S.K	R.S.K		R.S.K			R.S.K
33	Patil Sagar Shahaji	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~	~~Patil~~
34	Sutar Mayuresh Anil	~~Ashtur~~	~~Ashtur~~	~~Ashtur~~	~~Ashtur~~	~~Ashtur~~	~~Ashtur~~	
35	Kadam Sandip Tanaji	~~Chavur~~	~~Chavur~~	~~Chavur~~	~~Chavur~~	~~Chavur~~	~~Chavur~~	~~Chavur~~
36	Chavan Nikita Mohan	~~Nikita~~	~~Nikita~~		~~Nikita~~		~~Nikita~~	~~Nikita~~
37	Shende Rupali Appasaheb	~~Shende~~	~~Shende~~	~~Shende~~	~~Shende~~	~~Shende~~		~~Shende~~
38	Koli Pooja Bharat	~~Bkoli~~	~~Bkoli~~		~~Bkoli~~	~~Bkoli~~	~~Bkoli~~	~~Bkoli~~
39	Shende Ankita Anil	~~Shende~~	~~Shende~~	~~Shende~~	~~Shende~~	~~Shende~~	~~Shende~~	~~Shende~~
40	Pawar Pooja Appaso	P.P.A	P.P.A	P.P.A		P.P.A	P.P.A	P.P.A
41	Patil Shweta Dnyandev	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~	
42	Tamboli Khatija Salim	~~Salim~~	~~Salim~~		~~Salim~~		~~Salim~~	~~Salim~~
43	Mali Dipali Anandrao	~~Mali~~	~~Mali~~	~~Mali~~	~~Mali~~	~~Mali~~	~~Mali~~	~~Mali~~
44	Karpe Madhuri Suresh	~~Karpe~~	~~Karpe~~	~~Karpe~~	~~Karpe~~	~~Karpe~~	~~Karpe~~	~~Karpe~~
45	Dhere Ayush Dinkar	~~Ayush~~		~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~
46	Sargar Supriya Natha	~~Sargar~~	~~Sargar~~		~~Sargar~~	~~Sargar~~	~~Sargar~~	~~Sargar~~
47	Tamboli Nilofar Ismail	~~Dutash~~	~~Dutash~~	~~Dutash~~	~~Dutash~~	~~Dutash~~		~~Dutash~~
48	Pawar Akshay Sarjerao	~~PAS~~	~~PAS~~	~~PAS~~	~~PAS~~	~~PAS~~		~~PAS~~
49	Karpe Dipak Uttam	~~K.P.U~~	~~K.P.U~~	~~K.P.U~~	~~K.P.U~~	~~K.P.U~~	~~K.P.U~~	~~K.P.U~~
50	Shejul Pooja Subhash	~~P.S.S~~	~~P.S.S~~		~~P.S.S~~	~~P.S.S~~	~~P.S.S~~	~~P.S.S~~
51	Mulani Toufik Anis	~~T.A.M~~	~~T.A.M~~	~~T.A.M~~	~~T.A.M~~	~~T.A.M~~	~~T.A.M~~	~~T.A.M~~
52	Shinde Pravin Maruti	~~Prashinde~~	~~Prashinde~~	~~Prashinde~~	~~Prashinde~~	~~Prashinde~~		~~Prashinde~~
53	Patil Snehal Sampat	~~Smpat~~	~~Smpat~~	~~Smpat~~		~~Smpat~~	~~Smpat~~	~~Smpat~~
54	Bajbale Manisha Ganesh		~~B.M.G~~	~~B.M.G~~	~~B.M.G~~	~~B.M.G~~	~~B.M.G~~	~~B.M.G~~
55	Gidde Kishor Himmatrav	~~G.K.H~~	~~G.K.H~~	~~G.K.H~~		~~G.K.H~~	~~G.K.H~~	~~G.K.H~~
56	Datar Rakesh Mohan	~~D.R.M~~	~~D.R.M~~	~~D.R.M~~		~~D.R.M~~	~~D.R.M~~	~~D.R.M~~
57	Patil Sandip Namdev	~~Smpat~~	~~Smpat~~	~~Smpat~~	~~Smpat~~		~~Smpat~~	
58	Kothavale Chitrali Shital	~~Koth~~	~~Koth~~	~~Koth~~	~~Koth~~	~~Koth~~	~~Koth~~	~~Koth~~
59	Chougule Priya Chandrakant	~~Chougule~~	~~Chougule~~		~~Chougule~~	~~Chougule~~	~~Chougule~~	~~Chougule~~
60	Hange Ayush Rajaram	~~Ayush~~	~~Ayush~~		~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~
61	Suryawanshi Prajval Dilip	~~Srip~~	~~Srip~~	~~Srip~~		~~Srip~~	~~Srip~~	~~Srip~~
62	Raste Varsha Govind	~~V.G.R~~	~~V.G.R~~		~~V.G.R~~	~~V.G.R~~	~~V.G.R~~	
63	Kadam Rupali Laxman	~~R.L.K~~	~~R.L.K~~	~~R.L.K~~	~~R.L.K~~		~~R.L.K~~	~~R.L.K~~
64	Kore Priyanka Annaso	~~KPA~~	~~KPA~~	~~KPA~~	~~KPA~~	~~KPA~~	~~KPA~~	~~KPA~~

Sr. No.	Name Of The Student	01-11-2022	02-11-2022	03-11-2022	04-11-2022	05-11-2022	07-11-2022	09-11-2022
65	Hande Namdev Laxman	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L
66	Jadhav Rutuksha Suresh	JRS	JRS	JRS	JRS	JRS	JRS	JRS
67	Shejul Arti Subhash	S.A.S	S.A.S	S.A.S	S.A.S	S.A.S	S.A.S	S.A.S
68	Deshmukh Priyanka Gundappa	PDG	PDG	PDG	PDG	PDG	PDG	PDG
69	Bansode Purvakshi Sugat	Bb	Bb	Bb	Bb	Bb	Bb	Bb
70	Nalawade Pratibha Uttam	P	P	P	P	P	P	P
71	Chavan Yashwantrao Bapu	YBC	YBC	YBC	YBC	YBC	YBC	YBC
72	Nikam Shambhurahe Bharat	N.S.B	N.S.B	N.S.B	N.S.B	N.S.B	N.S.B	N.S.B
73	Shejul Dnyaneshwar Sambhaji	DSS	DSS	DSS	DSS	DSS	DSS	DSS
74	Kadam Prashant Prakash	P.Prak	P.Prak	P.Prak	P.Prak	P.Prak	P.Prak	P.Prak
75	Narale Sujata Rajesh	SJM	SJM	SJM	SJM	SJM	SJM	SJM
76	Jadhav Sujata Sachin	JS	JS	JS	JS	JS	JS	JS
77	Kothavale Shraddha Sanjay	KSS	KSS	KSS	KSS	KSS	KSS	KSS
78	Mulani Samina Husen	SMH	SMH	SMH	SMH	SMH	SMH	SMH
79	Borigidde Pratiksha Ashok	BPK	BPK	BPK	BPK	BPK	BPK	BPK
80	Patil Dattatray Ganapati	PDG	PDG	PDG	PDG	PDG	PDG	PDG
81	Kadam Arati Sambhaji	Arak	Arak	Arak	Arak	Arak	Arak	Arak
82	Vedpathak Vaibhavee Shivdas	VSV	VSV	VSV	VSV	VSV	VSV	VSV
83	More Mayuri Manik	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri
84	Patil Ashwini Bhaskar	AB	AB	AB	AB	AB	AB	AB
85	Wandare Amar Vitthal	AW	AW	AW	AW	AW	AW	AW
86	Chavan Shweta Bapusaheb	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta
87	Karpe Dhanashri Punappa	DPK	DPK	DPK	DPK	DPK	DPK	DPK
88	Nandiwale Komal Maneshwar	NKM	NKM	NKM	NKM	NKM	NKM	NKM
89	Jadhav Shubhangi Prakash	SPT	SPT	SPT	SPT	SPT	SPT	SPT
90	Bhosale Abhayraj Sanjay	B.A.S	B.A.S	B.A.S	B.A.S	B.A.S	B.A.S	B.A.S
91	Patil Rohit Sunil	RS	RS	RS	RS	RS	RS	RS
92	Nikam Prathmesh Shrikant	NS	NS	NS	NS	NS	NS	NS
93	Ghodake Shivbhushan Sunil	SG	SG	SG	SG	SG	SG	SG
94	Patil Swapnali Hemant	SPH	SPH	SPH	SPH	SPH	SPH	SPH
95	Sawant Vinayak Tukaram	SVT	SVT	SVT	SVT	SVT	SVT	SVT
96	Patil Vaibhav Muralidhar	VM	VM	VM	VM	VM	VM	VM
97	Zure Onkar Arjun	ZA	ZA	ZA	ZA	ZA	ZA	ZA
98	Nanavare Akash Prakash	AK	AK	AK	AK	AK	AK	AK
99	Mane Utkarsh Vinayak	UV	UV	UV	UV	UV	UV	UV
100	Jadhav Ramesh Ravasaheb	RJ	RJ	RJ	RJ	RJ	RJ	RJ

Sr. No.	Name Of The Student	01-11-2022	02-11-2022	03-11-2022	04-11-2022	05-11-2022	07-11-2022	09-11-2022
101	Shinde Avishkar Madhukar	~~Seem~~	~~Seem~~	~~Seem~~	~~Seem~~	~~Seem~~	~~Seem~~	~~Seem~~
102	Mujawar Tofik Khwajaso	~~Tum~~	~~Tum~~	~~Tum~~	~~Tum~~	~~Tum~~	~~Tum~~	~~Tum~~
103	Kadam Akash Balasaheb	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~		~~ABR~~
104	Sankpal Bhausaheb Nitin	~~BNS~~	~~BNS~~	~~BNS~~	~~BNS~~	~~BNS~~	~~BNS~~	~~-~~
105	Mali Santosh Raju	~~smm~~	~~smm~~	~~smm~~	~~smm~~	~~smm~~	~~smm~~	~~smm~~
106	Suryavanshi Ashutosh Arun	~~SD~~	~~SD~~	~~SD~~	~~-~~	~~SD~~	~~SD~~	~~-~~
107	Daund Sushant Balaso	~~-~~	~~-~~	~~sm~~	~~sm~~	~~sm~~	~~-~~	~~-~~
108	Bansode Devdas Sambhaji	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
109	Bandgar Divya Nanasaheb	~~-~~	~~-~~	~~sm~~	~~sm~~	~~sm~~	~~sm~~	~~sm~~
110	Nandiwale Vikas Sanjay	~~Vas~~	~~Vas~~	~~Vas~~	~~Vas~~	~~Vas~~	~~Vas~~	~~Vas~~
111	Kilekar Vishal Arvind	~~KVP~~	~~KVP~~	~~KVP~~	~~-~~	~~-~~	~~KVP~~	~~KVP~~
112	Jadhav Amit Sachin	~~Amt~~	~~Amt~~	~~Amt~~	~~Amt~~	~~Amt~~	~~Amt~~	~~Amt~~
113	Jadhav Aniket Ramesh	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~-~~
114	Jadhav Aniket Chandrakant	~~ABR~~	~~ABR~~	~~ABR~~		~~ABR~~	~~ABR~~	~~-~~
115	Mohite Karan Krushnadev	~~M.K.K~~	~~M.K.K~~	~~M.K.K~~	~~M.K.K~~	~~M.K.K~~	~~M.K.K~~	~~M.K.K~~
116	Sutar Vishvijit Tatyaso	~~SUT~~	~~SUT~~	~~SUT~~	~~SUT~~	~~SUT~~	~~SUT~~	~~SUT~~
117	Khot Purushottam Mahadeo	~~KPM~~	~~KPM~~	~~KPM~~	~~KPM~~	~~KPM~~	~~KPM~~	~~KPM~~
118	Jamadar Samina Maksud	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
119	Dhaygude Ananda Tanaji	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
120	Sutar Ranjit Tatyaso	~~smm~~	~~smm~~	~~smm~~	~~smm~~	~~smm~~	~~smm~~	~~smm~~
121	Suryawanshi Mahesh Sanjay	~~Mas~~	~~Mas~~	~~Mas~~	~~Mas~~	~~Mas~~	~~Mas~~	~~Mas~~
122	Bhosale Akshay Shivaji	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
123	Jagtap Rahul Sahadev	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
124	Kokare Pandurang Shrirang	~~Purk~~	~~Purk~~	~~Purk~~	~~Purk~~	~~Purk~~	~~Purk~~	~~Purk~~
125	Koli Akash Shankar	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
126	Patil Rushikesh Daji	~~Rush~~	~~Rush~~	~~Rush~~	~~Rush~~	~~Rush~~	~~Rush~~	~~Rush~~
127	Jadhav Indrajit Shrikant	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
128	Raste Pradnya Ramchandra	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~
129	Ghadge Shubham Bharat	~~Shubh~~	~~Shubh~~	~~Shubh~~	~~Shubh~~	~~Shubh~~	~~Shubh~~	~~Shubh~~
130	Suryawanshi Devaki Avinash	~~Devki~~	~~Devki~~	~~Devki~~	~~Devki~~	~~Devki~~		~~Devki~~
131	Gurav Abhishek Avinash	~~Abhi~~	~~Abhi~~	~~Abhi~~	~~Abhi~~	~~Abhi~~	~~Abhi~~	~~Abhi~~
132	Kadam Shubham Kundliik	~~KSK~~	~~KSK~~	~~KSK~~	~~KSK~~	~~KSK~~	~~KSK~~	~~KSK~~
133	Jadhav Pratik Tukaram	~~PTJ~~	~~PTJ~~	~~PTJ~~	~~PTJ~~	~~PTJ~~	~~PTJ~~	~~PTJ~~
134	Dubule Shrikant Bhaskar	~~Shrikant~~	~~Shrikant~~	~~Shrikant~~	~~Shrikant~~	~~Shrikant~~	~~Shrikant~~	~~Shrikant~~
135	Kadam Pradip Pandurang	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~
136	Chavan Sampat Balaso	~~CB~~	~~CB~~	~~CB~~	~~CB~~	~~CB~~		~~CB~~
137	Athani Prasad Annasaheb	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~	~~ABR~~

Sr. No.	Name Of The Student	01-11-2022	02-11-2022	03-11-2022	04-11-2022	05-11-2022	07-11-2022	09-11-2022
138	Rasale Rohan Subhash	Rg	Rss	Rss	Rss	Rg	Rss	Rss
139	Gurav Dhiraj Shankar	dhiraj	dhiraj	dhiraj	dhiraj	dhiraj	dhiraj	dhiraj
140	Patil Sima Sanjay	Simasp	—	Simasp	Simasp	Simasp	Simasp	Simasp
141	Jamadar Simran Maksud	JS	—	—	—	—	JS	JS
142	Dombale Dadasaheb Bhagawan	Ddb	Ddb	Ddb	—	Ddb	Ddb	—
143	Chavan Shweta Navanath	CSN	CSN	CSN	CSN	CSN	SS	CSN
144	Patil Akanksha Anil	A-A-P	AAP	—	A-A-P	A-A-P	A-A-P	A-A-P
145	Dubule Vaibhav Shahaji	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S
146	Raste Hanmant Chandrakant	RHC	RHC	RHC	RHC	RHC	RHC	RHC


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**DEPARTMENT OF COMMERCE
"Research Methodology"**

Attendance sheet

Sr. No.	Name of the Student	10-11-2022	11-11-2022	12-11-2022	14-11-2022	15-11-2022	16-11-2022	17-11-2022
1	Salunkhe Prajakta Hanamant	Hprajakta	Hprajakta	Hprajakta	Hprajakta	Hprajakta	Hprajakta	Hprajakta
2	Chavan Hemant Sanjay	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan
3	Patole Pramod Mohan	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole
4	Udale Shruti Shamrao	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti
5	Mali Vikas Tatyaso	V.T.Mali		V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali
6	Pawar Vaishnavi Himmatrao	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar
7	Bandgar Amruta Bhauso	ABandgar	ABandgar	ABandgar		ABandgar	ABandgar	ABandgar
8	Bhandare Kajal Keshav	KKbhandare	KKbhandare	KKbhandare	KKbhandare	KKbhandare	KKbhandare	KKbhandare
9	Bhosale Rutuja Shankar	R.Bhosale	R.Bhosale	R.Bhosale	R.Bhosale	R.Bhosale		R.Bhosale
10	Madane Akshay Sanjay	AKshay		AKshay		AKshay	AKshay	
11	Shinde Rupali Ashok	R.Shinde	R.Shinde	R.Shinde	R.Shinde	R.Shinde	R.Shinde	R.Shinde
12	Kadam Swati Laxman	SKadam	SKadam	SKadam	SKadam	SKadam	SKadam	SKadam
13	Anuse Shraddha Bayaji	S.B.Anuse	S.B.Anuse		S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse
14	Sawant Sanchita Sanjay	S.S.S	S.S.S	S.S.S	S.S.S	S.S.S	S.S.S	S.S.S
15	Kadam Sarika Kakaso		S.Sarika	S.Sarika	S.Sarika	S.Sarika		S.Sarika
16	Patil Ankita Jagannath	Ajpatil	Ajpatil		Ajpatil		Ajpatil	Ajpatil
17	Pathan Sohail Balu	SP	SP	SP	SP	SP		SP
18	Chavan Sandesh Dattatraya	Sandesh	Sandesh		Sandesh	Sandesh		Sandesh
19	Rayban Shruti Babasaheb	Shruti	Shruti	Shruti		Shruti	Shruti	Shruti
20	Kadam Rushikesh Shivaji	R.S.K	R.S.K	R.S.K	R.S.K	R.S.K	R.S.K	R.S.K
21	Borade Sanjivani Tanaji	S.T.B	S.T.B	S.T.B	S.T.B		S.T.B	S.T.B
22	Chavan Neha Sitaram	N.Chavan	N.Chavan	N.Chavan	N.Chavan		N.Chavan	N.Chavan
23	Khot Sarita Balaso	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K
24	Khot Pramila Bharat	P.Khot	P.Khot	P.Khot		P.Khot		P.Khot
25	Khot Anjali Arjun	AjKhot		Anjali	Anjali	Anjali	Anjali	
26	Rasale Rushikesh Tanaji	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R
27	Mane Ramesh Ashok	R.mane	R.mane		R.mane	R.mane		R.mane
28	Waghmode Pankaj Bharat	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W		

Sr. No.	Name Of The Student	10-11-2022	11-11-2022	12-11-2022	14-11-2022	15-11-2022	16-11-2022	17-11-2022
29	Khot Aishwarya Ramdas	~~Akhot~~	~~Akhot~~	~~Akhot~~	~~Akhot~~		~~Akhot~~	~~Akhot~~
30	Patil Vasanti Balasaheb	~~VPatil~~	~~VPatil~~	~~VPatil~~	~~VPatil~~	~~VPatil~~	~~VPatil~~	~~VPatil~~
31	Kadam Shivani Balaso	~~Bkadam~~	~~Bkadam~~	~~Bkadam~~	~~Bkadam~~	~~Bkadam~~		~~Bkadam~~
32	Kamble Ruchita Suraj	R.S.K	R.S.K		R.S.K	R.S.K		R.S.K
33	Patil Sagar Shahaji	~~Fatil~~	~~Fatil~~	~~Fatil~~	~~Fatil~~		~~Fatil~~	~~Fatil~~
34	Sutar Mayuresh Anil	~~Asutar~~	~~Asutar~~	~~Asutar~~	~~Asutar~~	~~Asutar~~	~~Asutar~~	
35	Kadam Sandip Tanaji	~~CSKadam~~	~~CSKadam~~	~~CSKadam~~	~~CSKadam~~	~~CSKadam~~	~~CSKadam~~	~~CSKadam~~
36	Chavan Nikita Mohan	~~Nikita~~	~~Nikita~~		~~Nikita~~		~~Nikita~~	~~Nikita~~
37	Shende Rupali Appasaheb	~~RShende~~	~~RShende~~	~~RShende~~		~~RShende~~	~~RShende~~	~~RShende~~
38	Koli Pooja Bharat	~~Pkoli~~	~~Pkoli~~	~~Pkoli~~	~~Pkoli~~	~~Pkoli~~		~~Pkoli~~
39	Shende Ankita Anil	~~AS~~	~~AS~~		~~AS~~	~~AS~~	~~AS~~	~~AS~~
40	Pawar Pooja Appaso	P.P.A	P.P.A	P.P.A	P.P.A		P.P.A	
41	Patil Shweta Dnyandev	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~	~~P.S.D~~		~~P.S.D~~
42	Tamboli Khatija Salim	~~Salim~~	~~Salim~~		~~Salim~~		~~Salim~~	~~Salim~~
43	Mali Dipali Anandrao	~~DMali~~	~~DMali~~	~~DMali~~	~~DMali~~	~~DMali~~	~~DMali~~	~~DMali~~
44	Karpe Madhuri Suresh	~~KKarpe~~	~~KKarpe~~	~~KKarpe~~	~~KKarpe~~	~~KKarpe~~	~~KKarpe~~	~~KKarpe~~
45	Dhere Ayush Dinkar	~~Ayush~~	~~Ayush~~	~~Ayush~~		~~Ayush~~	~~Ayush~~	~~Ayush~~
46	Sargar Supriya Natha	~~SS~~	~~SS~~	~~SS~~	~~SS~~		~~SS~~	~~SS~~
47	Tamboli Nilofar Ismail	~~Nilofar~~	~~Nilofar~~		~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~
48	Pawar Akshay Sarjerao	~~PAS~~	~~PAS~~	~~PAS~~		~~PAS~~	~~PAS~~	~~PAS~~
49	Karpe Dipak Uttam	K.P.V	K.P.V	K.P.V	K.P.V	K.P.V	K.P.V	K.P.V
50	Shejul Pooja Subhash	P.S.S	P.S.S	P.S.S		P.S.S	P.S.S	P.S.S
51	Mulani Toufik Anis	~~T.A.M~~	~~T.A.M~~	~~T.A.M~~		~~T.A.M~~	~~T.A.M~~	~~T.A.M~~
52	Shinde Pravin Maruti	~~PShinde~~	~~PShinde~~		~~PShinde~~	~~PShinde~~	~~PShinde~~	~~PShinde~~
53	Patil Snehal Sampat	~~SPatil~~	~~SPatil~~	~~SPatil~~	~~SPatil~~	~~SPatil~~		~~SPatil~~
54	Bajbale Manisha Ganesh	~~B.M.G~~		~~B.M.G~~	~~B.M.G~~	~~B.M.G~~	~~B.M.G~~	~~B.M.G~~
55	Gidde Kishor Himmatrav	~~G.K.H~~	~~G.K.H~~	~~G.K.H~~	~~G.K.H~~	~~G.K.H~~		~~G.K.H~~
56	Datar Rakesh Mohan	~~D.R.M~~	~~D.R.M~~	~~D.R.M~~		~~D.R.M~~	~~D.R.M~~	~~D.R.M~~
57	Patil Sandip Namdev	~~SPatil~~	~~SPatil~~	~~SPatil~~	~~SPatil~~		~~SPatil~~	~~SPatil~~
58	Kothavale Chitrali Shital	~~KKotha~~	~~KKotha~~	~~KKotha~~	~~KKotha~~	~~KKotha~~	~~KKotha~~	~~KKotha~~
59	Chougule Priya Chandrakant	~~CP~~	~~CP~~		~~CP~~	~~CP~~	~~CP~~	~~CP~~
60	Hange Ayush Rajaram	~~Ayush~~	~~Ayush~~	~~Ayush~~		~~Ayush~~	~~Ayush~~	~~Ayush~~
61	Suryawanshi Prajval Dilip	~~SP~~	~~SP~~		~~SP~~	~~SP~~		~~SP~~
62	Raste Varsha Govind	R.V.G	R.V.G	V.G.R	R.V.G		R.V.G	V.G.R
63	Kadam Rupali Laxman	R.L.K	R.L.K		R.L.K	R.L.K	R.L.K	
64	Kore Priyanka Annaso	~~KKore~~	~~KKore~~	~~KKore~~	~~KKore~~	~~KKore~~		~~KKore~~

Sr. No.	Name Of The Student	10-11-2022	11-11-2022	12-11-2022	14-11-2022	15-11-2022	16-11-2022	17-11-2022
65	Hande Namdev Laxman	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L
66	Jadhav Rutuksha Suresh	JRS	JRS	JRS	JRS	JRS	JRS	JRS
67	Shejul Arti Subhash	S.A.S	S.A.S		S.A.S	S.A.S	S.A.S	S.A.S
68	Deshmukh Priyanka Gundappa	PDE	PDE	PDE	PDE	PDE	PDE	PDE
69	Bansode Purvakshi Sugat	Bb	—	Bb	Bb	Bb	Bb	Bb
70	Nalawade Pratibha Uttam	A	—	A	A	A	A	A
71	Chavan Yashwantrao Bapu	YB	YB	YB	YB	YB	YB	YB
72	Nikam Shambhurahe Bharat	NKB	NKB	NKB	NKB	NKB	NKB	NKB
73	Shejul Dnyaneshwar Sambhaji	DSB	DSB	DSB	DSB	DSB	DSB	DSB
74	Kadam Prashant Prakash	PKP	PKP	PKP	PKP	PKP	PKP	—
75	Narale Sujata Rajesh	SRN	SRN	SRN	SRN	SRN	SRN	SRN
76	Jadhav Sujata Sachin	SSJ	SSJ	SSJ	SSJ	SSJ	—	—
77	Kothavale Shraddha Sanjay	SKS	SKS	SKS	SKS	SKS	SKS	SKS
78	Mulani Samina Husen	SHM	SHM	SHM	SHM	SHM	SHM	—
79	Borigidde Pratiksha Ashok	BPA	BPA	BPA	BPA	BPA	BPA	BPA
80	Patil Dattatray Ganapati	DGP	DGP	DGP	DGP	DGP	DGP	DGP
81	Kadam Arati Sambhaji	ARB	ARB	ARB	ARB	ARB	ARB	ARB
82	Vedpathak Vaibhavee Shivdas	VSV	VSV	VSV	VSV	VSV	VSV	VSV
83	More Mayuri Manik	MM	MM	MM	MM	MM	MM	—
84	Patil Ashwini Bhaskar	ABP	ABP	ABP	ABP	ABP	ABP	ABP
85	Wandare Amar Vitthal	AWV	AWV	AWV	AWV	AWV	AWV	—
86	Chavan Shweta Bapusaheb	CSB	CSB	CSB	CSB	CSB	CSB	CSB
87	Karpe Dhanashri Punappa	KPK	KPK	KPK	KPK	KPK	KPK	KPK
88	Nandiwale Komal Maneshwar	KMK	KMK	KMK	KMK	KMK	KMK	—
89	Jadhav Shubhangi Prakash	SJ	SJ	SJ	SJ	SJ	SJ	SJ
90	Bhosale Abhayraj Sanjay	BSB	BSB	BSB	BSB	BSB	BSB	BSB
91	Patil Rohit Sunil	RP	RP	RP	RP	RP	RP	RP
92	Nikam Prathmesh Shrikant	PSN	PSN	PSN	PSN	PSN	PSN	—
93	Ghodake Shivbhushan Sunil	SGS	SGS	SGS	SGS	SGS	SGS	SGS
94	Patil Swapnali Hemant	PHS	PHS	PHS	PHS	PHS	PHS	PHS
95	Sawant Vinayak Tukaram	VVS	VVS	VVS	VVS	VVS	VVS	VVS
96	Patil Vaibhav Muralidhar	PVM	PVM	PVM	PVM	PVM	PVM	PVM
97	Zure Onkar Arjun	ZO	ZO	ZO	ZO	ZO	ZO	ZO
98	Nanavare Akash Prakash	NA	NA	NA	NA	NA	NA	NA
99	Mane Utkarsh Vinayak	MV	MV	MV	MV	MV	MV	MV
100	Jadhav Ramesh Ravasaheb	RRT	RRT	RRT	RRT	RRT	RRT	RRT

Sr. No.	Name Of The Student	10-11-2022	11-11-2022	12-11-2022	14-11-2022	15-11-2022	16-11-2022	17-11-2022
101	Shinde Avishkar Madhukar	Seem	Seem	Seem	Seem	Seem	Seem	Seem
102	Mujawar Tofik Khwajaso	Tum	Tum	Tum	Tum	Tum	Tum	Tum
103	Kadam Akash Balasaheb	ABR	ABR	ABR	ABR	ABR	ABR	ABR
104	Sankpal Bhausaheb Nitin	bns	bns	bns	bns	bns	bns	bns
105	Mali Santosh Raju	smm	smm	smm	smm	smm	smm	smm
106	Suryavanshi Ashutosh Arun	ssd	ssd	ssd	ssd	ssd	ssd	ssd
107	Daund Sushant Balaso	DSB	DSB	DSB	DSB	DSB	DSB	DSB
108	Bansode Devdas Sambhaji	DSB	DSB	DSB	DSB	DSB	DSB	DSB
109	Bandgar Divya Nanasahab	onh	onh	onh	onh	onh	onh	onh
110	Nandiwale Vikas Sanjay	van	van	van	van	van	van	van
111	Kilekar Vishal Arvind	vek	vek	vek	vek	vek	vek	vek
112	Jadhav Amit Sachin	—	—	—	—	—	—	—
113	Jadhav Aniket Ramesh	art	art	art	art	art	art	art
114	Jadhav Aniket Chandrakant	art	art	art	art	art	art	art
115	Mohite Karan Krushnadev	mkk	mkk	mkk	mkk	mkk	mkk	mkk
116	Sutar Vishvijit Tatyaso	ustar	ustar	ustar	ustar	ustar	ustar	ustar
117	Khot Purushottam Mahadeo	pmk	pmk	pmk	pmk	pmk	pmk	pmk
118	Jamadar Samina Maksud	smj	smj	smj	smj	smj	smj	smj
119	Dhaygude Ananda Tanaji	ard	ard	ard	ard	ard	ard	ard
120	Sutar Ranjit Tatyaso	smj	smj	smj	smj	smj	smj	smj
121	Suryawanshi Mahesh Sanjay	msj	msj	msj	msj	msj	msj	msj
122	Bhosale Akshay Shivaji	ard	ard	ard	ard	ard	ard	ard
123	Jagtap Rahul Sahadev	art	art	art	art	art	art	art
124	Kokare Pandurang Shrirang	ard	ard	ard	ard	ard	ard	ard
125	Koli Akash Shankar	ard	ard	ard	ard	ard	ard	ard
126	Patil Rushikesh Daji	ard	ard	ard	ard	ard	ard	ard
127	Jadhav Indrajit Shrikant	ard	ard	ard	ard	ard	ard	ard
128	Raste Pradnya Ramchandra	ard	ard	ard	ard	ard	ard	ard
129	Ghadge Shubham Bharat	ard	ard	ard	ard	ard	ard	ard
130	Suryawanshi Devaki Avinash	ard	ard	ard	ard	ard	ard	ard
131	Gurav Abhishek Avinash	ard	ard	ard	ard	ard	ard	ard
132	Kadam Shubham Kundliik	ard	ard	ard	ard	ard	ard	ard
133	Jadhav Pratik Tukaram	ard	ard	ard	ard	ard	ard	ard
134	Dubule Shrikant Bhaskar	ard	ard	ard	ard	ard	ard	ard
135	Kadam Pradip Pandurang	ard	ard	ard	ard	ard	ard	ard
136	Chavan Sampat Balaso	ard	ard	ard	ard	ard	ard	ard
137	Athani Prasad Annasaheb	ard	ard	ard	ard	ard	ard	ard

Sr. No.	Name Of The Student	10-11-2022	11-11-2022	12-11-2022	14-11-2022	15-11-2022	16-11-2022	17-11-2022
138	Rasale Rohan Subhash	—	Res	Res	Res	—	Res	Res
139	Gurav Dhiraj Shankar	—	—	—	DSG	—	—	—
140	Patil Sima Sanjay	Sinasp	Sinasp	Sinasp	Sinasp	Sinasp	Sinasp	—
141	Jamadar Simran Maksud	~~Sinas~~	~~Sinas~~	~~Sinas~~	~~Sinas~~	~~Sinas~~	~~Sinas~~	~~Sinas~~
142	Dombale Dadasaheb Bhagawan	Delb	Delb	Delb	Delb	Delb	Delb	Delb
143	Chavan Shweta Navanath	Sec	Sec	Sec	Sec	Sec	Sec	Sec
144	Patil Akanksha Anil	A.A.P	A.A.P	—	A.A.A	A.A.P	A.A.P	—
145	Dubule Vaibhav Shahaji	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S
146	Raste Hanmant Chandrakant	Hancr	Hancr	Hancr	Hancr	Hancr	—	Hancr


Dr. B. M. Mohite
 Head
 Department of Commerce
 Padmabhushan Vasantodada Patil
 Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
 Padmabhushan Vasantodada Patil
 Mahavidyalaya, Kavathe Mahankal, Dist: Sangli.

Padmabhushan Vasanttraodada Patil Mahavidyalaya, Kavathe Mahankal.

**DEPARTMENT OF COMMERCE
"Research Methodology"**

Attendance sheet

Sr. No.	Name of the Student	18-11-2022	21-11-2022	22-11-2022	23-11-2022	24-11-2022	25-11-2022	28-11-2022
1	Salunkhe Prajakta Hanamant	H.prajakta	H.prajakta	H.prajakta	H.prajakta	H.prajakta	H.prajakta	H.prajakta
2	Chavan Hemant Sanjay	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan
3	Patole Pramod Mohan	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole	P.P.Patole
4	Udale Shruti Shamrao	S.shruti	S.shruti	S.shruti	S.shruti	S.shruti	S.shruti	S.shruti
5	Mali Vikas Tatyaso	V.T.mali	V.T.mali	V.T.mali	V.T.mali	V.T.mali	V.T.mali	V.T.mali
6	Pawar Vaishnavi Himmatrao	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar
7	Bandgar Amruta Bhauso	A.Bandgar	A.Bandgar	A.Bandgar	A.Bandgar	A.Bandgar	A.Bandgar	A.Bandgar
8	Bhandare Kajal Keshav	K.Bhandare	K.Bhandare	K.Bhandare	K.Bhandare	K.Bhandare	K.Bhandare	K.Bhandare
9	Bhosale Rutuja Shankar	R.bhosale	R.bhosale	R.bhosale	R.bhosale	R.bhosale	R.bhosale	R.bhosale
10	Madane Akshay Sanjay	A.madane	A.madane	A.madane	A.madane	A.madane	A.madane	A.madane
11	Shinde Rupali Ashok	R.AS	R.AS	R.AS	R.AS	R.AS	R.AS	R.AS
12	Kadam Swati Laxman	S.swati	S.swati	S.swati	S.swati	S.swati	S.swati	S.swati
13	Anuse Shraddha Bayaji	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse
14	Sawant Sanchita Sanjay	S.sanchita	S.sanchita	S.sanchita	S.sanchita	S.sanchita	S.sanchita	S.sanchita
15	Kadam Sarika Kakaso	S.sarika	S.sarika	S.sarika	S.sarika	S.sarika	S.sarika	S.sarika
16	Patil Ankita Jagannath	A.patil	A.patil	A.patil	A.patil	A.patil	A.patil	A.patil
17	Pathan Sohel Balu	S.pathan	S.pathan	S.pathan	S.pathan	S.pathan	S.pathan	S.pathan
18	Chavan Sandesh Dattatraya	S.DC	S.DC	S.DC	S.DC	S.DC	S.DC	S.DC
19	Rayban Shruti Babasaheb	S.shruti	S.shruti	S.shruti	S.shruti	S.shruti	S.shruti	S.shruti
20	Kadam Rushikesh Shivaji	R.S.K	R.S.K	R.S.K	R.S.K	R.S.K	R.S.K	R.S.K
21	Borade Sanjivani Tanaji	S.borade	S.borade	S.borade	S.borade	S.borade	S.borade	S.borade
22	Chavan Neha Sitaram	N.chavan	N.chavan	N.chavan	N.chavan	N.chavan	N.chavan	N.chavan
23	Khot Sarita Balaso	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K	S.B.K
24	Khot Pramila Bharat	P.bkhot	P.bkhot	P.bkhot	P.bkhot	P.bkhot	P.bkhot	P.bkhot
25	Khot Anjali Arjun	A.khot	A.khot	A.khot	A.khot	A.khot	A.khot	A.khot
26	Rasale Rushikesh Tanaji	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R	R.T.R
27	Mane Ramesh Ashok	R.mane	R.mane	R.mane	R.mane	R.mane	R.mane	R.mane
28	Waghmode Pankaj Bharat	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W

Sr. No.	Name Of The Student	18-11-2022	21-11-2022	22-11-2022	23-11-2022	24-11-2022	25-11-2022	28-11-2022
29	Khot Aishwarya Ramdas	Akhot	Akhot	Akhot	Akhot	Akhot	Akhot	Akhot
30	Patil Vasanti Balasaheb	Patil		Patil	Patil	Patil	Patil	Patil
31	Kadam Shivani Balaso	Bkadam	Bkadam	Bkadam	Bkadam	Bkadam	Bkadam	Bkadam
32	Kamble Ruchita Suraj	R.S.K	R.S.K	R.S.K			R.S.K	R.S.K
33	Patil Sagar Shahaji	Patil	Patil	Patil	Patil		Patil	
34	Sutar Mayuresh Anil	Ashturke	Ashturke	Ashturke	Ashturke	Ashturke	Ashturke	
35	Kadam Sandip Tanaji	Patil	Patil	Patil	Patil	Patil	Patil	Patil
36	Chavan Nikita Mohan	Nikita	Nikita	Nikita		Nikita		
37	Shende Rupali Appasaheb	Rashende	Rashende	Rashende	Rashende		Rashende	Rashende
38	Koli Pooja Bharat	Poojakoli	Poojakoli	Poojakoli	Poojakoli	Poojakoli		Poojakoli
39	Shende Ankita Anil	AAS	AAS	AAS		AAS	AAS	AAS
40	Pawar Pooja Appaso	P.P.A	P.P.A	P.P.A	P.P.A	P.P.A	P.P.A	
41	Patil Shweta Dnyande	P.S.D	P.S.D	P.S.D	P.S.D		P.S.D	P.S.D
42	Tamboli Khatija Salim	Salim	Salim		Salim		Salim	Salim
43	Mali Dipali Anandrao	Mali	Mali	Mali	Mali	Mali	Mali	Mali
44	Karpe Madhuri Suresh	Karpe	Karpe	Karpe		Karpe	Karpe	Karpe
45	Dhere Ayush Dinkar	Ayush	Ayush		Ayush	Ayush	Ayush	Ayush
46	Sargar Supriya Natha	Sargar	Sargar	Sargar	Sargar	Sargar		Sargar
47	Tamboli Nilofar Ismail	Tamboli	Tamboli	Tamboli		Tamboli	Tamboli	Tamboli
48	Pawar Akshay Sarjerao	PAS	PAS	PAS	PAS	PAS	PAS	
49	Karpe Dipak Uttam	K.P.U	K.P.U	K.P.U	K.P.U	K.P.U	K.P.U	K.P.U
50	Shejul Pooja Subhash	P.S.S	P.S.S	P.S.S		P.S.S	P.S.S	P.S.S
51	Mulani Toufik Anis	T.A.M	T.A.M	T.A.M		T.A.M		T.A.M
52	Shinde Pravin Maruti	Prashinde	Prashinde	Prashinde		Prashinde	Prashinde	Prashinde
53	Patil Snehal Sampat	Patil	Patil	Patil	Patil		Patil	Patil
54	Bajbale Manisha Ganesh	B.M.G	B.M.G	B.M.G	B.M.G		B.M.G	B.M.G
55	Gidde Kishor Himmatrav	G.K.H	G.K.H	G.K.H	G.K.H	G.K.H	G.K.H	G.K.H
56	Datar Rakesh Mohan	D.R.M	D.R.M	D.R.M	D.R.M	D.R.M		D.R.M
57	Patil Sandip Namdev	Patil		Patil	Patil	Patil	Patil	Patil
58	Kothavale Chitrali Shital	Koth	Koth	Koth	Koth	Koth	Koth	Koth
59	Chougule Priya Chandrakant	Chougule	Chougule		Chougule	Chougule	Chougule	Chougule
60	Hange Ayush Rajaram	Ayush	Ayush		Ayush		Ayush	Ayush
61	Suryawanshi Prajval Dilip	Prjval	Prjval		Prjval	Prjval	Prjval	Prjval
62	Raste Varsha Govind	V.G.R		V.G.R		V.G.R		V.G.R
63	Kadam Rupali Laxman	R.L.K	R.L.K		R.L.K		R.L.K	
64	Kore Priyanka Annaso	K.P.A	K.P.A	K.P.A	K.P.A		K.P.A	K.P.A

Sr. No.	Name Of The Student	18-11-2022	21-11-2022	22-11-2022	23-11-2022	24-11-2022	25-11-2022	28-11-2022
65	Hande Namdev Laxman	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L	H.N.L
66	Jadhav Rutuksha Suresh	JRS	JRS	JRS	JRS	JRS	JRS	JRS
67	Shejul Arti Subhash	S.A.S	S.A.S	S.A.S		S.A.S	S.A.S	S.A.S
68	Deshmukh Priyanka Gundappa	PDG	PDG	PDG	PDG	PDG	PDG	PDG
69	Bansode Purvakshi Sugat	BK	BK	BK	BK		BK	BK
70	Nalawade Pratibha Uttam	B	B	B		B	B	B
71	Chavan Yashwantrao Bapu	YBC	YBC	YBC	YBC	YBC	YBC	
72	Nikam Shambhurahe Bharat	S.N	S.N	S.N	S.N	S.N	S.N	S.N
73	Shejul Dnyaneshwar Sambhaji	D.S	D.S	D.S	D.S	D.S	D.S	D.S
74	Kadam Prashant Prakash	P.Prk	P.Prk	P.Prk	P.Prk	P.Prk	P.Prk	P.Prk
75	Narale Sujata Rajesh	S.R	S.R	S.R	S.R	S.R	S.R	S.R
76	Jadhav Sujata Sachin	S.Sachin	S.Sachin	S.Sachin	S.Sachin	S.Sachin	S.Sachin	S.Sachin
77	Kothavale Shraddha Sanjay	S.SR	S.SR	S.SR	S.SR	S.SR		
78	Mulani Samina Husen	S.H		S.H	S.H	S.H	S.H	S.H
79	Borigidde Pratiksha Ashok	B.A	B	B	B	B	B	B
80	Patil Dattatray Ganapati	D.P	D.P	D.P	D.P	D.P	D.P	D.P
81	Kadam Arati Sambhaji	A.S	A.S	A.S	A.S	A.S	A.S	A.S
82	Vedpathak Vaibhavee Shivdas	V.S	V.S	V.S	V.S	V.S	V.S	V.S
83	More Mayuri Manik	M.M	M.M	M.M	M.M	M.M	M.M	M.M
84	Patil Ashwini Bhaskar	A.B	A.B	A.B	A.B		A.B	A.B
85	Wandare Amar Vitthal	A.W	A.W	A.W	A.W	A.W	A.W	A.W
86	Chavan Shweta Bapusaheb	B	B	B	B	B		B
87	Karpe Dhanashri Punappa	P	P	P	P	P	P	P
88	Nandiwale Komal Maneshwar	K	K	K	K	K		K
89	Jadhav Shubhangi Prakash	JSP	JSP	JSP	JSP	JSP	JSP	JSP
90	Bhosale Abhayraj Sanjay	A.SB	A.SB	A.SB	A.SB	A.SB	A.SB	
91	Patil Rohit Sunil	R	R	R	R	R	R	R
92	Nikam Prathmesh Shrikant	N.S	N.S	N.S	N.S	N.S	N.S	N.S
93	Ghodake Shivbhushan Sunil	S.S	S.S	S.S	S.S	S.S	S.S	S.S
94	Patil Swapnali Hemant	S.H	S.H		S.H	S.H	S.H	S.H
95	Sawant Vinayak Tukaram	V.T	V.T	V.T	V.T	V.T	V.T	V.T
96	Patil Vaibhav Muralidhar	V.M	V.M	V.M	V.M	V.M	V.M	V.M
97	Zure Onkar Arjun	Z	Z	Z	Z		Z	Z
98	Nanavare Akash Prakash	A.P	A.P	A.P	A.P	A.P	A.P	A.P
99	Mane Utkarsh Vinayak	U.V	U.V	U.V	U.V	U.V	U.V	U.V
100	Jadhav Ramesh Ravasaheb	R.R	R.R	R.R	R.R	R.R	R.R	R.R

Sr. No.	Name Of The Student	18-11-2022	21-11-2022	22-11-2022	23-11-2022	24-11-2022	25-11-2022	28-11-2022
101	Shinde Avishkar Madhukar	~~Avish~~		~~Avish~~	~~Avish~~	~~Avish~~	~~Avish~~	~~Avish~~
102	Mujawar Tofik Khwajaso	~~To~~	~~To~~	~~To~~	~~To~~	~~To~~	~~To~~	
103	Kadam Akash Balasaheb	ABK	ABK	ABK	ABK	ABK		ABK
104	Sankpal Bhausaheb Nitin	Sb	SB	Sb	Sb	Sb	Sb	
105	Mali Santosh Raju	malh	malh	malh		malh		malh
106	Suryavanshi Ashutosh Arun	SD	SD	SD	SD	SD	SD	SD
107	Daund Sushant Balaso	DSb	DSb	DSb	DSb		DSb	DSb
108	Bansode Devdas Sambhaji	DBS	DBS	DBS	DBS	DBS	DBS	
109	Bandgar Divya Nanasaheb	Dias	Dias	Dias	Dias	Dias	Dias	
110	Nandiwale Vikas Sanjay	VSN	VSN	VSN	VSN		VSN	VSN
111	Kilekar Vishal Arvind	V	V	V	V	V	V	V
112	Jadhav Amit Sachin	AS	AS	AS	AS	AS		AS
113	Jadhav Aniket Ramesh	~~JAR~~	~~JAR~~	~~JAR~~		~~JAR~~		~~JAR~~
114	Jadhav Aniket Chandrakant	ACT	ACT	ACT	ACT	ACT	ACT	ACT
115	Mohite Karan Krushnadev	Mohit	Mohite	Mohit	Mohit	Mohit		Mohit
116	Sutar Vishvjit Tatyaso	VTS	VTS	VTS	VTS	VTS	VTS	VTS
117	Khot Purushottam Mahadeo	Ph	Ph	Ph	Ph	Ph	Ph	Ph
118	Jamadar Samina Maksud	SM	SM	SM	SM	SM	SM	SM
119	Dhaygude Ananda Tanaji	ATD	ATD	ATD	ATD	ATD	ATD	
120	Sutar Ranjit Tatyaso	SR		SR	SR	SR		SR
121	Suryawanshi Mahesh Sanjay	MS	MS	MS	MS	MS	MS	MS
122	Bhosale Akshay Shivaji	AB	AB	AB	AB	AB	AB	AB
123	Jagtap Rahul Sahadev	RS	RS	RS	RS	RS	RS	RS
124	Kokare Pandurang Shrirang	PR	PR	PR	PR	PR	PR	PR
125	Koli Akash Shankar	KS	KS	KS	KS	KS	KS	KS
126	Patil Rushikesh Daji	RS	RS	RS	RS	RS	RS	
127	Jadhav Indrajit Shrikant	IS	IS	IS	IS	IS	IS	IS
128	Raste Pradnya Ramchandra	PR	PR	PR	PR	PR	PR	PR
129	Ghadge Shubham Bharat	Sh	Sh	Sh	Sh	Sh	Sh	Sh
130	Suryawanshi Devaki Avinash	DS	DS	DS	DS	DS	DS	
131	Gurav Abhishek Avinash	AS	AS	AS	AS	AS	AS	
132	Kadam Shubham Kundliik	KSK	KSK	KSK	KSK	KSK	KSK	KSK
133	Jadhav Pratik Tukaram	PT	PT	PT	PT	PT	PT	
134	Dubule Shrikant Bhaskar	SB	SB	SB	SB	SB	SB	SB
135	Kadam Pradip Pandurang	PPK	PPK	PPK	PPK	PPK	PPK	PPK
136	Chavan Sampat Balaso	CB	CB	CB	CB	CB	CB	CB
137	Athani Prasad Annasaheb	AP	AP	AP	AP	AP	AP	AP

Sr. No.	Name Of The Student	18-11-2022	21-11-2022	22-11-2022	23-11-2022	24-11-2022	25-11-2022	28-11-2022
138	Rasale Rohan Subhash	Res	Res	Res	Res	—	Res	—
139	Gurav Dhiraj Shankar	CSN	CSN	CSN	—	CSN	CSN	—
140	Patil Sima Sanjay	Simasp	Simasp	Simasp	—	Simasp	Simasp	Simasp
141	Jamadar Simran Maksud	Simran	Simran	Simran	Simran	Simran	Simran	Simran
142	Dombale Dadasaheb Bhagawan	Ddb	Ddb	Ddb	Ddb	Ddb	Ddb	Ddb
143	Chavan Shweta Navanath	CSN	CSN	CSN	CSN	CSN	CSN	CSN
144	Patil Akanksha Anil	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P	—
145	Dubule Vaibhav Shahaji	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S	D.V.S.
146	Raste Hanmant Chandrakant	RHC	RHC	RHC	RHC	RHC	RHC	RHC


Dr. B. H. Mohite
 Head
 Department of Commerce
 Padmabhushan Vasantgadada Patil
 Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
 Padmabhushan Vasantgadada Patil
 Mahavidyalaya, Kavathe Mahankal, Dist: Sangli

Sr. No.	Name Of The Student	29-11-2022	30-11-2022	01-12-2022	02-12-2022	05-12-2022	06-12-2022	07-12-2022	08-12-2022	09-12-2022
1	Salunkhe Prajakta Hanamant	Hanajakta		Hanajakta	Hanajakta		Hanajakta	Hanajakta	Hanajakta	Hanajakta
2	Chavan Hemant Sanjay		H.S.chavan	H.S.chavan		H.S.chavan	H.S.chavan	H.S.chavan	H.S.chavan	
3	Patole Pramod Mohan	P.P.Patole	P.P.Patole	P.P.Patole		P.P.Patole		P.P.Patole		P.P.Patole
4	Udale Shruti Shamrao	Shruti		Shruti	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti
5	Mali Vikas Tatyaso	V.T.Mali		V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali	V.T.Mali
6	Pawar Vaishnavi Himmatrao	V.H.Pawar		V.H.Pawar	V.H.Pawar		V.H.Pawar	V.H.Pawar	V.H.Pawar	V.H.Pawar
7	Bandgar Amruta Bhauso	Amruta	Amruta	Amruta		Amruta	Amruta	Amruta	Amruta	Amruta
8	Bhandare Kajal Keshav	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal	Kajal
9	Bhosale Rutuja Shankar	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja
10	Madane Akshay Sanjay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay
11	Shinde Rupali Ashok	Rupali		Rupali	Rupali	Rupali	Rupali		Rupali	
12	Kadam Swati Laxman	Swati	Swati	Swati	Swati	Swati		Swati	Swati	Swati
13	Anuse Shraddha Bayaji	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse	S.B.Anuse
14	Sawant Sanchita Sanjay	Sanchita	Sanchita	Sanchita		Sanchita	Sanchita	Sanchita		Sanchita
15	Kadam Sarika Kakaso	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	
16	Patil Ankita Jagannath	Ajpatil	Ajpatil	Ajpatil		Ajpatil	Ajpatil		Ajpatil	Ajpatil
17	Pathan Sohel Balu	Sohel	Sohel	Sohel	Sohel	Sohel	Sohel	Sohel	Sohel	Sohel
18	Chavan Sandesh Dattatraya	Sandesh		Sandesh		Sandesh		Sandesh	Sandesh	
19	Rayban Shruti Babasaheb	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti		Shruti	Shruti
20	Kadam Rushikesh Shivaji	Rushikesh	Rushikesh	Rushikesh		Rushikesh		Rushikesh	Rushikesh	
21	Borade Sanjivani Tanaji	S.T.Borade	S.T.Borade	S.T.Borade	S.T.Borade	S.T.Borade		S.T.Borade	S.T.Borade	S.T.Borade
22	Chavan Neha Sitaram	Neha	Neha		Neha	Neha	Neha	Neha	Neha	Neha
23	Khot Sarita Balaso	S.B.K	S.B.K	S.B.K	S.B.K		S.B.K	S.B.K	S.B.K	S.B.K
24	Khot Pramila Bharat	P.B.Khot	P.B.Khot	P.B.Khot	P.B.Khot	P.B.Khot	P.B.Khot	P.B.Khot	P.B.Khot	P.B.Khot
25	Khot Anjali Arjun	Anjali	Anjali		Anjali	Anjali	Anjali		Anjali	Anjali
26	Rasale Rushikesh Tanaji	R.T.R	R.T.R	R.T.R			R.T.R	R.T.R	R.T.R	R.T.R
27	Mane Ramesh Ashok	R.A.Mane	R.A.Mane	R.A.Mane	R.A.Mane	R.A.Mane	R.A.Mane	R.A.Mane	R.A.Mane	R.A.Mane
28	Waghmode Pankaj Bharat	P.B.W		P.B.W	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W	P.B.W
29	Khot Aishwarya Ramdas	A.Khot	A.Khot		A.Khot	A.Khot	A.Khot	A.Khot	A.Khot	A.Khot
30	Patil Vasanti Balasaheb	V.B.Patil	V.B.Patil	V.B.Patil	V.B.Patil		V.B.Patil	V.B.Patil	V.B.Patil	V.B.Patil
31	Kadam Shivani Balaso	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani
32	Kamble Ruchita Suraj	Ruchita	Ruchita	Ruchita	Ruchita	Ruchita	Ruchita			
33	Patil Sagar Shahaji	Sagar	Sagar	Sagar			Sagar	Sagar		Sagar

Sr. No.	Name Of The Student	29-11-2022	30-11-2022	01-12-2022	02-12-2022	05-12-2022	06-12-2022	07-12-2022	08-12-2022	09-12-2022
34	Sutar Mayuresh Anil	~~MAS~~		~~MAS~~	~~MAS~~	~~MAS~~	~~MAS~~		~~MAS~~	~~MAS~~
35	Kadam Sandip Tanaji		STKadam	STKadam	STKadam	STKadam		STKadam	STKadam	
36	Chavan Nikita Mohan	~~Nikita~~	~~Nikita~~	~~Nikita~~	~~Nikita~~	~~Nikita~~	~~Nikita~~	~~Nikita~~	~~Nikita~~	~~Nikita~~
37	Shende Rupali Appasaheb	S.R.A	S.R.A	S.R.A	S.R.A	S.R.A	S.R.A	S.R.A	S.R.A	S.R.A
38	Koli Pooja Bharat	K.P.B		K.P.B	K.P.B	K.P.B		K.P.B		K.P.B
39	Shende Ankita Anil		~~Ankita~~	~~Ankita~~	~~Ankita~~	~~Ankita~~	~~Ankita~~	~~Ankita~~	~~Ankita~~	~~Ankita~~
40	Pawar Pooja Appaso	~~Pawar~~	~~Pawar~~		~~Pawar~~	~~Pawar~~	~~Pawar~~	~~Pawar~~		~~Pawar~~
41	Patil Shweta Dnyandev	S. patil	S. Patil	S. patil		S. patil	S. patil	S. patil	S. patil	
42	Tamboli Khatija Salim	~~Khatija~~	~~Khatija~~	~~Khatija~~	~~Khatija~~	~~Khatija~~	~~Khatija~~	~~Khatija~~	~~Khatija~~	~~Khatija~~
43	Mali Dipali Anandrao	~~Dipali~~	~~Dipali~~	~~Dipali~~	~~Dipali~~	~~Dipali~~	~~Dipali~~	~~Dipali~~	~~Dipali~~	~~Dipali~~
44	Karpe Madhuri Suresh	M. karpe	M. karpe		M. karpe	M. karpe	M. karpe	M. karpe	M. karpe	M. karpe
45	Dhere Ayush Dinkar	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~
46	Sargar Supriya Natha	S.S.N	S.S.N	S.S.N	S.S.N	S.S.N	S.S.N	S.S.N	S.S.N	S.S.N
47	Tamboli Nilofar Ismail	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~	~~Nilofar~~
48	Pawar Akshay Sarjerao	~~ASP~~		ASP	ASP	ASP	ASP		ASP	ASP
49	Karpe Dipak Uttam	~~D.U. Karpe~~	~~D.U. Karpe~~	~~D.U. Karpe~~	~~D.U. Karpe~~	~~D.U. Karpe~~		~~D.U. Karpe~~	~~D.U. Karpe~~	~~D.U. Karpe~~
50	Shejul Pooja Subhash	S.P.S	S.P.S	S.P.S		S.P.S	S.P.S	S.P.S	S.P.S	S.P.S
51	Mulani Toufik Anis	~~T. Mulani~~	~~T. Mulani~~		~~T. Mulani~~	~~T. Mulani~~	~~T. Mulani~~		~~T. Mulani~~	~~T. Mulani~~
52	Shinde Pravin Maruti	~~Pravin~~	~~Pravin~~	~~Pravin~~	~~Pravin~~	~~Pravin~~		~~Pravin~~	~~Pravin~~	~~Pravin~~
53	Patil Snehal Sampat	~~Snehal~~	~~Snehal~~	~~Snehal~~	~~Snehal~~	~~Snehal~~	~~Snehal~~	~~Snehal~~	~~Snehal~~	~~Snehal~~
54	Bajbale Manisha Ganesh	~~Manisha~~	~~Manisha~~	~~Manisha~~	~~Manisha~~	~~Manisha~~	~~Manisha~~	~~Manisha~~	~~Manisha~~	~~Manisha~~
55	Gidde Kishor Himmatrav	K.H.Gidde	K.H.Gidde	K.H.Gidde	K.H.Gidde		K.H.Gidde	K.H.Gidde	K.H.Gidde	K.H.Gidde
56	Datar Rakesh Mohan	D.R.M	D.R.M		D.R.M	D.R.M	D.R.M	D.R.M	D.R.M	D.R.M
57	Patil Sandip Namdev	S.N. Patil	S.N. Patil		S.N. Patil	S.N. Patil	S.N. Patil	S.N. Patil	S.N. Patil	S.N. Patil
58	Kothavale Chitrali Shital	~~Chitrali~~	~~Chitrali~~	~~Chitrali~~	~~Chitrali~~		~~Chitrali~~	~~Chitrali~~	~~Chitrali~~	~~Chitrali~~
59	Chougule Priya Chandrakant	~~Priya~~	~~Priya~~	~~Priya~~	~~Priya~~		~~Priya~~	~~Priya~~	~~Priya~~	~~Priya~~
60	Hange Ayush Rajaram	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~	~~Ayush~~
61	Suryawanshi Prajval Dilip	P.D.S	P.D.S	P.D.S		P.D.S	P.D.S	P.D.S	P.D.S	P.D.S
62	Raste Varsha Govind	~~Varsha~~	~~Varsha~~	~~Varsha~~		~~Varsha~~	~~Varsha~~	~~Varsha~~	~~Varsha~~	~~Varsha~~
63	Kadam Rupali Laxman	K.R.L	K.R.L		K.R.L	K.R.L	K.R.L	K.R.L	K.R.L	K.R.L
64	Kore Priyanka Annaso	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~	~~Priyanka~~
65	Hande Namdev Laxman	~~Namdev~~	~~Namdev~~	~~Namdev~~	~~Namdev~~	~~Namdev~~	~~Namdev~~	~~Namdev~~	~~Namdev~~	~~Namdev~~
66	Jadhav Rutuksha Suresh	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~	~~R.S. Jadhav~~
67	Shejul Arti Subhash.	A.S.S	A.S.S	A.S.S	A.S.S	A.S.S		A.S.S	A.S.S	A.S.S

Sr. No.	Name Of The Student	29-11-2022	30-11-2022	01-12-2022	02-12-2022	05-12-2022	06-12-2022	07-12-2022	08-12-2022	09-12-2022
68	Deshmukh Priyanka Gundappa	D.P.G	D.P.G	D.P.G	D.P.G	D.P.G	D.P.G	D.P.G	D.P.G	D.P.G
69	Bansode Purvakshi Sugat	Purvakshi	Purvakshi	Purvakshi	Purvakshi	Purvakshi	Purvakshi	Purvakshi	Purvakshi	Purvakshi
70	Nalawade Pratibha Uttam	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha
71	Chavan Yashwantrao Bapu	C.Y.B	C.Y.B	C.Y.B	C.Y.B	C.Y.B	C.Y.B	C.Y.B	C.Y.B	C.Y.B
72	Nikam Shambhurahe Bharat	S.B.Nikam	S.B.Nikam	S.B.Nikam	S.B.Nikam	S.B.Nikam	S.B.Nikam	S.B.Nikam	S.B.Nikam	S.B.Nikam
73	Shejul Dnyaneshwar Sambhaji	Shejul	Shejul	Shejul	Shejul	Shejul	Shejul	Shejul	Shejul	Shejul
74	Kadam Prashant Prakash	Prashant	Prashant	Prashant	Prashant	Prashant	Prashant	Prashant	Prashant	Prashant
75	Narale Sujata Rajesh	Sujata	Sujata	Sujata	Sujata	Sujata	Sujata	Sujata	Sujata	Sujata
76	Jadhav Sujata Sachin	S.Jadhav	S.Jadhav	S.Jadhav	S.Jadhav	S.Jadhav	S.Jadhav	S.Jadhav	S.Jadhav	S.Jadhav
77	Kothavale Shraddha Sanjay	S.S.K	S.S.K	S.S.K	S.S.K	S.S.K	S.S.K	S.S.K	S.S.K	S.S.K
78	Mulani Samina Husen	Mulani	Mulani	Mulani	Mulani	Mulani	Mulani	Mulani	Mulani	Mulani
79	Borigidde Pratiksha Ashok	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha
80	Patil Dattatray Ganapati	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P
81	Kadam Arati Sambhaji	Arati	Arati	Arati	Arati	Arati	Arati	Arati	Arati	Arati
82	Vedpathak Vaibhavee Shivdas	Vaibhavee	Vaibhavee	Vaibhavee	Vaibhavee	Vaibhavee	Vaibhavee	Vaibhavee	Vaibhavee	Vaibhavee
83	More Mayuri Manik	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri
84	Patil Ashwini Bhaskar	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini
85	Wandare Amar Vitthal	Amar	Amar	Amar	Amar	Amar	Amar	Amar	Amar	Amar
86	Chavan Shweta Bapusaheb	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta
87	Karpe Dhanashri Punappa	Dhanashri	Dhanashri	Dhanashri	Dhanashri	Dhanashri	Dhanashri	Dhanashri	Dhanashri	Dhanashri
88	Nandiwale Komal Maneshwar	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal	Komal
89	Jadhav Shubhangi Prakash	S.P.J	S.P.J	S.P.J	S.P.J	S.P.J	S.P.J	S.P.J	S.P.J	S.P.J
90	Bhosale Abhayraj Sanjay	Abhayraj	Abhayraj	Abhayraj	Abhayraj	Abhayraj	Abhayraj	Abhayraj	Abhayraj	Abhayraj
91	Patil Rohit Sunil	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit	Rohit
92	Nikam Prathmesh Shrikant	P.Nikam	P.Nikam	P.Nikam	P.Nikam	P.Nikam	P.Nikam	P.Nikam	P.Nikam	P.Nikam
93	Ghodake Shivbhushan Sunil	S.S.G	S.S.G	S.S.G	S.S.G	S.S.G	S.S.G	S.S.G	S.S.G	S.S.G
94	Patil Swapnali Hemant	Swapnali	Swapnali	Swapnali	Swapnali	Swapnali	Swapnali	Swapnali	Swapnali	Swapnali
95	Sawant Vinayak Tukaram	V.Sawant	V.Sawant	V.Sawant	V.Sawant	V.Sawant	V.Sawant	V.Sawant	V.Sawant	V.Sawant
96	Patil Vaibhav Muralidhar	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav
97	Zure Onkar Arjun	Onkar	Onkar	Onkar	Onkar	Onkar	Onkar	Onkar	Onkar	Onkar
98	Nanavare Akash Prakash	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash
99	Mane Utkarsh Vinayak	Utkarsh	Utkarsh	Utkarsh	Utkarsh	Utkarsh	Utkarsh	Utkarsh	Utkarsh	Utkarsh
100	Jadhav Ramesh Ravasaheb	R.R.J	R.R.J	R.R.J	R.R.J	R.R.J	R.R.J	R.R.J	R.R.J	R.R.J
101	Shinde Avishkar Madhukar	S.A.M	S.A.M	S.A.M	S.A.M	S.A.M	S.A.M	S.A.M	S.A.M	S.A.M
102	Mujawar Tofik Khwajaso	Tofik	Tofik	Tofik	Tofik	Tofik	Tofik	Tofik	Tofik	Tofik

Sr. No.	Name Of The Student	29-11-2022	30-11-2022	01-12-2022	02-12-2022	05-12-2022	06-12-2022	07-12-2022	08-12-2022	09-12-2022
103	Kadam Akash Balasaheb	~~Adham~~	~~Adham~~	~~Adham~~		~~Adham~~		~~Adham~~	~~Adham~~	~~Adham~~
104	Sankpal Bhausaheb Nitin	~~Thchs~~	~~Thchs~~	~~Thchs~~	~~Thchs~~	~~Thchs~~	~~Thchs~~	~~Thchs~~		~~Thchs~~
105	Mali Santosh Raju	~~Gnoli~~	~~Gnoli~~		~~Gnoli~~		~~Gnoli~~	~~Gnoli~~	~~Gnoli~~	~~Gnoli~~
106	Suryavanshi Ashutosh Arun	~~SAA~~	~~SAA~~	~~SAA~~	~~SAA~~	~~SAA~~	~~SAA~~	~~SAA~~	~~SAA~~	~~SAA~~
107	Daund Sushant Balaso	~~DSB~~	~~DSB~~	~~DSB~~	~~DSB~~	~~DSB~~		~~DSB~~	~~DSB~~	~~DSB~~
108	Bansode Devdas Sambhaji	~~CS~~	~~CS~~		~~CS~~		~~CS~~	~~CS~~	~~CS~~	~~CS~~
109	Bandgar Divya Nanasaheb	~~Dmya~~	~~Dmya~~	~~Dmya~~	~~Dmya~~	~~Dmya~~	-	~~Dmya~~	~~Dmya~~	~~Dmya~~
110	Nandiwale Vikas Sanjay	~~NVS~~	~~NVS~~	~~NVS~~	~~NVS~~	~~NVS~~	-	~~NVS~~	~~NVS~~	~~NVS~~
111	Kilekar Vishal Arvind	~~Aut.~~	~~Aut.~~		~~Aut.~~	~~Aut.~~	-	~~Aut.~~	~~Aut.~~	~~Aut.~~
112	Jadhav Amit Sachin	~~ASJ~~	~~ASJ~~	~~ASJ~~	~~ASJ~~	~~ASJ~~	-	-	~~ASJ~~	~~ASJ~~
113	Jadhav Aniket Ramesh	~~ANK~~	~~ANK~~	~~ANK~~	~~ANK~~	~~ANK~~	-	-	-	-
114	Jadhav Aniket Chandrakant	~~Aniket~~	~~Aniket~~		~~Aniket~~		~~Aniket~~		~~Aniket~~	~~Aniket~~
115	Mohite Karan Krushnadev	~~KKM~~	~~KKM~~	~~KKM~~	-	~~KKM~~	~~KKM~~	~~KKM~~	~~KKM~~	-
116	Sutar Vishvjit Tatyaso	~~Buloe~~	~~Buloe~~	~~Buloe~~	-	~~Buloe~~	~~Buloe~~		~~Buloe~~	~~Buloe~~
117	Khot Purushottam Mahadeo	~~Pmk~~	~~Pmk~~	~~Pmk~~	-	~~Pmk~~	~~Pmk~~	~~Pmk~~	-	~~Pmk~~
118	Jamadar Samina Maksud	~~Vamdar.~~	~~Vamdar.~~	~~Vamdar.~~	-	~~Vamdar.~~	-	~~Vamdar.~~	~~Vamdar.~~	~~Vamdar.~~
119	Dhaygude Ananda Tanaji	~~ATD~~	~~ATD~~	~~ATD~~	~~ATD~~	~~ATD~~	~~ATD~~	~~ATD~~	~~ATD~~	~~ATD~~
120	Sutar Ranjit Tatyaso									
121	Suryawanshi Mahesh Sanjay	~~Ganjay.~~	~~Ganjay.~~	~~Ganjay.~~	~~Ganjay.~~	~~Ganjay.~~		~~Ganjay.~~		~~Ganjay.~~
122	Bhosale Akshay Shivaji	~~Akshay~~	~~Akshay~~		~~Akshay~~		~~Akshay~~	~~Akshay~~	~~Akshay~~	~~Akshay~~
123	Jagtap Rahul Sahadev	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~	~~Ricarp~~
124	Kokare Pandurang Shrirang	~~PSK~~	~~PSK~~	~~PSK~~	~~PSK~~	~~PSK~~	~~PSK~~	~~PSK~~	-	-
125	Koli Akash Shankar	~~ASK~~	~~ASK~~	~~ASK~~	~~ASK~~	~~ASK~~	~~ASK~~	~~ASK~~	~~ASK~~	-
126	Patil Rushikesh Daji	~~RDP~~	~~RDP~~	~~RDP~~	~~RDP~~	~~RDP~~	~~RDP~~	~~RDP~~	~~RDP~~	-
127	Jadhav Indrajit Shrikant	~~IS~~	~~IS~~	~~IS~~	~~IS~~	~~IS~~	~~IS~~	~~IS~~	~~IS~~	~~IS~~
128	Raste Pradnya Ramchandra	~~Raste~~	~~Raste~~	~~Raste~~	~~Raste~~	~~Raste~~	-	~~Raste~~	~~Raste~~	~~Raste~~
129	Ghadge Shubham Bharat	~~Sbg~~	~~Sbg~~	~~Sbg~~	~~Sbg~~	~~Sbg~~	~~Sbg~~	~~Sbg~~	~~Sbg~~	~~Sbg~~
130	Suryawanshi Devaki Avinash	~~A.D.S.~~	~~A.D.S.~~	~~A.D.S.~~	~~A.D.S.~~		~~A.D.S.~~		~~A.D.S.~~	~~A.D.S.~~
131	Gurav Abhishek Avinash	~~A.A.G~~	~~A.A.G~~	~~A.A.G~~		~~A.A.G~~	~~A.A.G~~	~~A.A.G~~	~~A.A.G~~	~~A.A.G~~
132	Kadam Shubham Kundliik	~~SKB~~	~~SKB~~	~~SKB~~	~~SKB~~	~~SKB~~	~~SKB~~	~~SKB~~	~~SKB~~	~~SKB~~
133	Jadhav Pratik Tukaram	~~Tukaram~~	~~Tukaram~~	~~Tukaram~~	~~PTJ~~	~~Tukaram~~	~~Tukaram~~	~~Tukaram~~	~~Tukaram~~	~~Tukaram~~
134	Dubule Shrikant Bhaskar	~~Sbd~~	~~Sbd~~	~~Sbd~~	~~Sbd~~	~~Sbd~~	~~Sbd~~	~~Sbd~~	~~Sbd~~	~~Sbd~~
135	Kadam Pradip Pandurang	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~	~~PPK~~
136	Chavan Sampat Balaso	~~Schavan~~	~~Schavan~~	~~Schavan~~	~~Schavan~~	~~Schavan~~	~~Schavan~~	~~Schavan~~	~~Schavan~~	~~Schavan~~
137	Athani Prasad Annasaheb	~~Apr~~	~~Apr~~	~~Apr~~	~~Apr~~	~~Apr~~	~~Apr~~	~~Apr~~		~~Apr~~
138	Rasale Rohan Subhash	~~Rohan~~	~~Rohan~~	~~Rohan~~	~~Rohan~~	~~Rohan~~	~~Rohan~~	-	~~Rohan~~	-
139	Gurav Dhiraj Shankar	~~Gurav~~	~~Gurav~~	-	~~Gurav~~	-	~~Gurav~~	-	~~Gurav~~	~~Gurav~~

Sr. No.	Name Of The Student	29-11-2022	30-11-2022	01-12-2022	02-12-2022	05-12-2022	06-12-2022	07-12-2022	08-12-2022	09-12-2022
140	Patil Sima Sanjay	PSS	PSS	PSS	PSS	PSS	PSS	PSS	PSS	PSS
141	Jamadar Simran Maksud	JMS	JMS	JMS	JMS	JMS	JMS	JMS	JMS	JMS
142	Dombale Dadasaheb Bhagawan	DBM	DBM	DBM	DBM	DBM	DBM	DBM	DBM	DBM
143	Chavan Shweta Navanath	SNC	SNC	SNC	SNC	SNC	SNC	SNC	SNC	SNC
144	Patil Akanksha Anil	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P	A.A.P
145	Dubule Vaibhav Shahaji	VSD	VSD	VSD	VSD	VSD	VSD	VSD	VSD	VSD
146	Raste Hanmant Chandrakant	RHC	RHC	RHC	RHC	RHC	RHC	RHC	RHC	RHC


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DEPARTMENT OF COMMERCE

“Research Methodology”

Date: 02-01-2023

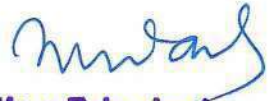
NOTICE

All the enrolled students are informed that, the timetable for theory examination and practical examination of the course in “Research Methodology” is as below,

Examination	Time
Theory	7 th January, 2023 (09.00 a.m. to 11.00 a.m.)


Coordinator


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Research Methodology

Career oriented course

Answer all the Questions

25 MCQs * 2marks = 50 marks

Each MCQs carries Two Marks

1. Research methodology is the process of:

- a) Collecting data
- b) Conducting experiments
- c) Systematic inquiry
- d) Developing theories

2. A hypothesis is:

- a) A proven fact
- b) A tentative explanation
- c) A research method
- d) A qualitative analysis

3. The main purpose of a literature review is to:

- a) Present the findings
- b) Critique the research design
- c) Summarize existing knowledge
- d) Collect primary data

4. Which research approach focuses on understanding meanings and interpretations?

- a) Quantitative research
- b) Qualitative research
- c) Mixed-methods research
- d) Descriptive research

5. What is a research variable?

- a) A constant value
- b) An outcome measure
- c) A factor that can change
- d) A research question

6. Which of the following is NOT a qualitative research method?

- a) Surveys
- b) Interviews
- c) Focus groups
- d) Case studies

7. What is the first step in the research process?

- a) Collecting data
- b) Analyzing data
- c) Formulating a research question
- d) Writing a research report

8. What type of sampling method involves selecting every nth item from a population?

- a) Convenience sampling
- b) Stratified sampling
- c) Systematic sampling
- d) Cluster sampling

9. Which research design involves studying a single individual or entity in-depth?

- a) Experimental design
- b) Longitudinal design
- c) Cross-sectional design
- d) Case study design

10. Which statistical test is used to determine the relationship between two categorical variables?

- a) T-test
- b) ANOVA
- c) Chi-square test
- d) Correlation coefficient

11. A research instrument designed to measure attitudes or opinions is called:

- a) Thermometer
- b) Ruler
- c) Likert scale
- d) Stopwatch

12. Which type of validity refers to the extent to which the findings can be generalized to a larger population?

- a) External validity
- b) Internal validity
- c) Construct validity
- d) Content validity

13. What does the acronym "IRB" stand for in the context of research?

- a) International Research Bureau
- b) Investigational Review Board
- c) Institutional Review Board
- d) Integrated Research Bureau

14. In a research study, the dependent variable is:

- a) Manipulated by the researcher
- b) The variable that is observed or measured

- c) Held constant throughout the study
- d) The variable that causes change in other variables

15. Which research approach aims to establish cause-and-effect relationships?

- a) Descriptive research
- b) Exploratory research
- c) Explanatory research
- d) Observational research

16. What is a null hypothesis?

- a) A hypothesis that is always false
- b) A hypothesis with no statistical significance
- c) A hypothesis that supports the research findings
- d) A hypothesis that predicts an effect

17. What is a sampling frame?

- a) A list of potential participants in a study
- b) The final report of a research study
- c) A graphical representation of data
- d) A type of data analysis technique

18. In experimental research, the group that receives the treatment is called the:

- a) Control group
- b) Experimental group
- c) Sample group
- d) Random group

19. What is a pilot study?

- a) A study conducted with airline pilots
- b) A small-scale test of a research design
- c) A study involving children
- d) A study conducted in an airplane

20. What is a confounding variable?

- a) A variable that is controlled by the researcher
- b) A variable that is correlated with the dependent variable
- c) A variable that is not relevant to the study
- d) A variable that is used to manipulate the independent variable

21. The process of analysing data to identify patterns, relationships, and trends is called:

- a) Data collection
- b) Data synthesis
- c) Data interpretation
- d) Data analysis

22. Which type of research design involves collecting data from the same participants over an extended period?

- a) Cross-sectional design
- b) Experimental design
- c) Longitudinal design
- d) Correlational design

23. What is a research hypothesis?

- a) A statement of fact
- b) A tentative prediction
- c) A summary of findings
- d) A theoretical framework

24. A research design that combines both quantitative and qualitative data collection methods is called:

- a) Experimental design
- b) Longitudinal design
- c) Mixed-methods design
- d) Cross-sectional design

25. What is the purpose of a control group in experimental research?

- a) To receive the treatment
- b) To provide a baseline for comparison
- c) To manipulate the independent variable
- d) To conduct qualitative analysis


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DEPARTMENT OF COMMERCE

“Research Methodology”

Result

Sr.No.	Name of the Student	Class	Total Marks	Remark
1	Salunkhe Prajakta Hanamant	B.com III	45	O
2	Chavan Hemant Sanjay	B.com III	44	A
3	Patole Pramod Mohan	B.com III	42	A
4	Udale Shruti Shamrao	B.com III	40	A
5	Mali Vikas Tatyaso	B.com III	35	A
6	Pawar Vaishnavi Himmatrao	B.com III	38	A
7	Bandgar Amruta Bhauso	B.com III	40	A
8	Bhandare Kajal Keshav	B.com III	36	A
9	Bhosale Rutuja Shankar	B.com III	44	A
10	Madane Akshay Sanjay	B.com III	43	A
11	Shinde Rupali Ashok	B.com III	35	A
12	Kadam Swati Laxman	B.com III	36	A
13	Anuse Shraddha Bayaji	B.com III	38	A
14	Sawant Sanchita Sanjay	B.com III	40	A
15	Kadam Sarika Kakaso	B.com III	32	B
16	Patil Ankita Jagannath	B.com III	30	B
17	Pathan Sohel Balu	B.com III	28	B
18	Chavan Sandesh Dattatraya	B.com III	32	B
19	Rayban Shruti Babasaheb	B.com III	33	B
20	Kadam Rushikesh Shivaji	B.com III	42	A
21	Borade Sanjivani Tanaji	B.com III	40	A
22	Chavan Neha Sitaram	B.com III	36	A
23	Khot Sarita Balaso	B.com III	32	B
24	Khot Pramila Bharat	B.com III	30	B
25	Khot Anjali Arjun	B.com III	28	B
26	Rasale Rushikesh Tanaji	B.com III	25	B
27	Mane Ramesh Ashok	B.com III	35	A
28	Waghmode Pankaj Bharat	B.com III	38	A
29	Khot Aishwarya Ramdas	B.com III	39	A
30	Patil Vasanti Balasaheb	B.com III	40	A
31	Kadam Shivani Balaso	B.com III	42	A
32	Kamble Ruchita Suraj	B.com III	32	B
33	Patil Sagar Shahaji	B.com III	38	A

34	Sutar Mayuresh Anil	B.com III	34	B
35	Kadam Sandip Tanaji	B.com III	36	A
36	Chavan Nikita Mohan	B.com III	28	B
37	Shende Rupali Appasaheb	B.com III	42	A
38	Koli Pooja Bharat	B.com III	40	A
39	Shende Ankita Anil	B.com III	43	A
40	Pawar Pooja Appaso	B.com III	46	O
41	Patil Shweta Dnyandev	B.com III	34	B
42	Tamboli Khatija Salim	B.com III	36	A
43	Mali Dipali Anandrao	B.com III	28	B
44	Karpe Madhuri Suresh	B.com III	46	O
45	Dhere Ayush Dinkar	B.com III	42	A
46	Sargar Supriya Natha	B.com III	46	O
47	Tamboli Nilofar Ismail	B.com III	40	A
48	Pawar Akshay Sarjerao	B.com III	38	A
49	Karpe Dipak Uttam	B.com III	39	A
50	Shejul Pooja Subhash	B.com III	46	O
51	Mulani Toufik Anis	B.com III	32	B
52	Shinde Pravin Maruti	B.com III	32	B
53	Patil Snehal Sampat	B.com III	38	A
54	Bajbale Manisha Ganesh	B.com III	32	B
55	Gidde Kishor Himmatrav	B.com III	30	B
56	Datar Rakesh Mohan	B.com III	34	B
57	Patil Sandip Namdev	B.com III	32	B
58	Kothavale Chitrali Shital	B.com III	34	B
59	Chougule Priya Chandrakant	B.com III	38	A
60	Hange Ayush Rajaram	B.com III	40	A
61	Suryawanshi Prajval Dilip	B.com III	36	A
62	Raste Varsha Govind	B.com III	38	A
63	Kadam Rupali Laxman	B.com III	38	A
64	Kore Priyanka Annaso	B.com III	40	A
65	Hande Namdev Laxman	B.com III	36	A
66	Jadhav Rutuksha Suresh	B.com III	38	A
67	Shejul Arti Subhash	B.com III	39	A
68	Deshmukh Priyanka Gundappa	B.com III	40	A
69	Bansode Purvakshi Sugat	B.com III	39	A
70	Nalawade Pratibha Uttam	B.com III	38	A
71	Chavan Yashwantrao Bapu	B.com III	36	A
72	Nikam Shambhuraje Bharat	B.com III	38	A
73	Shejul Dnyaneshwar Sambhaji	B.com III	37	A
74	Kadam Prashant Prakash	B.com III	39	A
75	Narale Sujata Rajesh	B.com III	40	A

76	Jadhav Sujata Sachin	B.com III	38	A
77	Kothavale Shraddha Sanjay	B.com III	34	B
78	Mulani Samina Husen	B.com III	36	A
79	Borigidde Pratiksha Ashok	B.com III	32	B
80	Patil Dattatray Ganapati	B.com III	39	A
81	Kadam Arati Sambhaji	B.com III	38	A
82	Vedpathak Vaibhavee Shivdas	B.com III	38	A
83	More Mayuri Manik	B.com III	39	A
84	Patil Ashwini Bhaskar	B.com III	40	A
85	Wandare Amar Vitthal	B.com III	36	A
86	Chavan Shweta Bapusaheb	B.com III	35	A
87	Karpe Dhanashri Punappa	B.com III	38	A
88	Nandiwale Komal Maneshwar	B.com III	39	A
89	Jadhav Shubhangi Prakash	B.com III	40	A
90	Bhosale Abhayraj Sanjay	B.com III	38	A
91	Patil Rohit Sunil	B.com III	39	A
92	Nikam Prathmesh Shrikant	B.com III	43	A
93	Ghodake Shivbhushan Sunil	B.com III	41	A
94	Patil Swapnali Hemant	B.com III	46	O
95	Sawant Vinayak Tukaram	B.com III	40	A
96	Patil Vaibhav Muralidhar	B.com III	42	A
97	Zure Onkar Arjun	B.com III	40	A
98	Nanavare Akash Prakash	B.com III	38	A
99	Mane Utkarsh Vinayak	B.com III	39	A
100	Jadhav Ramesh Ravasaheb	B.com III	37	A
101	Shinde Avishkar Madhukar	B.com III	39	A
102	Mujawar Tofik Khwajaso	B.com III	32	B
103	Kadam Akash Balasaheb	B.com III	31	B
104	Sankpal Bhausaheb Nitin	B.com III	38	A
105	Mali Santosh Raju	B.com III	40	A
106	Suryavanshi Ashutosh Arun	B.com III	38	A
107	Daund Sushant Balaso	B.com III	39	A
108	Bansode Devdas Sambhaji	B.com III	33	B
109	Bandgar Divya Nanasaheb	B.com III	35	A
110	Nandiwale Vikas Sanjay	B.com III	36	A
111	Kilekar Vishal Arvind	B.com III	36	A
112	Jadhav Amit Sachin	B.com III	24	C
113	Jadhav Aniket Ramesh	B.com III	25	B
114	Jadhav Aniket Chandrakant	B.com III	28	B
115	Mohite Karan Krushnadev	B.com III	29	B
116	Sutar Vishvjit Tatyaso	B.com III	30	B
117	Khot Purushottam Mahadeo	B.com III	24	C

118	Jamadar Samina Maksud	B.com III	26	B
119	Dhaygude Ananda Tanaji	B.com III	38	A
120	Sutar Ranjit Tatyaso	B.com III	36	A
121	Suryawanshi Mahesh Sanjay	B.com III	38	A
122	Bhosale Akshay Shivaji	B.com III	34	B
123	Jagtap Rahul Sahadev	B.com III	32	B
124	Kokare Pandurang Shrirang	B.com III	34	B
125	Koli Akash Shankar	B.com III	36	A
126	Patil Rushikesh Daji	B.com III	38	A
127	Jadhav Indrajit Shrikant	B.com III	33	B
128	Raste Pradnya Ramchandra	B.com III	28	B
129	Ghadge Shubham Bharat	B.com III	25	B
130	Suryawanshi Devaki Avinash	B.com III	35	A
131	Gurav Abhishek Avinash	B.com III	36	A
132	Kadam Shubham Kundliik	B.com III	37	A
133	Jadhav Pratik Tukaram	B.com III	38	A
134	Dubule Shrikant Bhaskar	B.com III	33	B
135	Kadam Pradip Pandurang	B.com III	39	A
136	Chavan Sampat Balaso	B.com III	40	A
137	Athani Prasad Annasaheb	B.com III	42	A
138	Rasale Rohan Subhash	B.com III	43	A
139	Gurav Dhiraj Shankar	B.com III	41	A
140	Patil Sima Sanjay	B.com III	40	A
141	Jamadar Simran Maksud	B.com III	40	A
142	Dombale Dadasaheb Bhagawan	B.com III	39	A
143	Raste Hanmant Chandrakant	B.com III	32	B

(O – 45-50 Outstanding

A Grade 36-44

B Grade 25-35

C Grade – below 25-18

Fail- Below 18)


Dr. B. H. Mohite
Head
 Department of Commerce
 Padmabhushan Vasantgadade Patel
 Mahavidyalaya, Kavathe Mahankal, Dist: Sangli


Acting Principal
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Shikshan Prasarak Sanstha's
Padmabhushan Vasantodada Patil Mahavidyalaya



Kavathe Mahankal, Sangli

Affiliated to Shivaji University, Kolhapur

DEPARTMENT OF COMMERCE & PLACEMENT CELL



A CAREER ORIENTED CERTIFICATE COURSE on "RESEARCH METHODOLOGY"

Academic Year 2022-23

CERTIFICATE

This is to certify that Mr./ Miss. SALUNKHE PRAJAKTA HANAMANT of Padambhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal, has successfully completed A CAREER ORIENTED CERTIFICATE COURSE on "RESEARCH METHODOLOGY" from Nov 2022 to Dec 2022.

Dr. B. H. Mohite
Head & Co-Ordinator

Dr. D. A. Gade
Placement Cell

S. M. Shinde
Member

A. M. Mane
Member

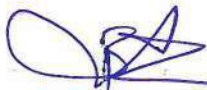
Prof. (Dr.) M. K. Patil
Acting Principal

Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF COMMERCE

Report on Career Oriented Course in “Research Methodology”

Title	Career Oriented Course in “Research Methodology”
Duration	1 st November 2022 to 31 st December 2022
Organizer	Department of Commerce, P.V.P. Mahavidyalaya Kavathe Mahankal
Funding	--
BOS / Faculty	Prof. Dr. M. K. Patil Dr. B.H.Mohite Mr. S.M Shinde Mr. A.M Mane
Coordinator	Mr.S.M Shinde
Background	The systematic method to resolve a research problem through data gathering using various techniques, providing an interpretation of data gathered and drawing conclusions about the research data.
Objective	1. To understanding of the fundamental concepts, principles, and terminology of research. 2. To learn diverse techniques for collecting data, such as surveys, interviews, observations, and experiments. 3. To Cultivate problem-solving skills and effective Communication 4. To apply research methods in practical settings, such as academic, industry, or policy research.
Outcomes	1. To gain some basic knowledge of Research in various areas. 2. The ability to carry out research problem 3. To be able to carry out research analysis. 4. To Enlightening student participants with research methodology to carry out research smoothly
Conclusion	Students got sufficient knowledge about research methodology and they are very excited to make best use research methodology in their future prospects. The course creates interest in students for Research methodology. Thus this course is fruitful and motivational for participated students.


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Padmabhushan Vasanttraodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF COMMERCE

Career Oriented Course in "Research Methodology"

Brief Summary

Sr. No.	Organizing department	Department of Commerce				
1	Type of Activity	Career Oriented Course in "Research Methodology"				
2	Duration of Activity	01 st November 2022 to 31 st December 2022				
3	Venue	B.com classroom no 57, 58, Department of Commerce				
4	Participation Students B. com – I	Male 81	Female 65		Total 146	
5	Result B. com – I	O-Grade	A-Grade	B - Grade	C-Grade	Total
		06	96	39	02	143



Coordinator



Dr. B. H. Mohite
Head

Department of Commerce
Padmabhushan Vasanttraodada Patil
Mahavidyalaya, Kavathe Mahankal, Dist: Sangli



Acting Principal

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