

**Padmabhushan Vasantodada Patil Mahavidyalaya,
Kavathe Mahankal.**

DEPARTMENT OF ZOOLOGY

Career Oriented Course

in

“Vermicomposting”

(2023-24)

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From,
Head,
Department of zoology
P. V. P. College, Kavathe Mahankal,
Dist. Sangli, Maharashtra 416405
Date: 01/07/2022

To,
The Principal,
Padmabhushan Vasanthaodada Patil Mahavidyalaya,
Kavathe Mahankal, Dist. Sangli,
Maharashtra 416405

Subject: Seeking a permission to start the career-oriented course in "Vermicomposting".

Respected sir,

As per your guidelines we are going to start a career-oriented course in "Vermicomposting" in Department of Zoology for our college students. This course will be of 30 hours and will be completed during August 2023 to October 2023. The course will be definitely very beneficiary for students.

I request you to grant us permission for the same.

Thanking you.

Yours faithfully,



Head
Department of Zoology
P.V.P. Mahavidyalaya,
Kavathe Mahankal, Dist.-Sangli.

Padmabhushan Vasanthaodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Date: 2-07-2023

NOTICE

All the students in P. V. P. college, Kavathe Mahankal are hereby informed that, Department of Zoology is going to start the career oriented course in "Vermicomposting". The interested students are requested to enroll upto 31st July, 2023.



Coordinator



Head

Head
Department of Zoology
P.V.P. Mahavidyalaya,
Kavathe Mahankal, Dist.-Sangli.

Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Vermicomposting

Date: 01-08-2023

NOTICE

All the enrolled students are hereby informed that, the lectures of the course will be started from 2nd August, 2023 as per timetable. All the lectures will be conducted at Department of Zoology. All the enrolled students must be remaining present for the same.



Coordinator

Mr. Shivam P. Jaganade.



Head

Head

Department of Zoology
P.V.P. Mahavidyalaya,
Kavathe Mahankal, Dist.-Sangli

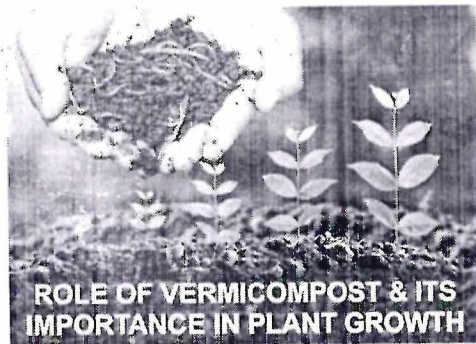
Brochure

Padmbhushan Vasantaoada Patil Mahavidyalaya Kavathe Mahankal

To have basic knowledge
of vermiculture,
vermicomposting and
vermiwash

To develop aptitude for
scientific work and
scientific ability to
develop vermicompost

To aware the peoples of
natural resources and
environment.



Department of Zoology
organizes,

Carrier Oriented Course on,

VERMICOMPOSTING



It helps to create organic manures
which is useful to farmers for
organic farming, by means of
which it helps to provide healthy
food and avoid pollution

Aware students about the
importance of organic manure.




To acquaint students with some
basic concepts of
Vermicomposting

Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Data Analysis using MS Excel

Board of Studies

Sr. No.	Name	Designation	Signature
1.	Prof. (Dr.) Suvarna B. More	President	
2.	Asst. Prof. (Dr.) Reshma A. Sanadi	Member	
3.	Mr. Shivam P. Jaganade	Member	

Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Vermicomposting

Objectives:

1. To acquaint students with some basic concepts of Vermicomposting.
2. To aware students about the importance of organic manure.
3. To know the process of vermicomposting.

Duration:

The course will be completed in 30 hours (3 months).

Eligibility of the student:

1. The student must have the basic knowledge of Farming.
2. Student must have passed H. Sc. Examination.

Course outcomes:

By the end of this course students are expected,

1. To have basic knowledge of vermiculture, vermicomposting and vermiwash.
2. To develop aptitude for scientific work and scientific ability to develop vermicompost.
3. To aware the peoples of natural resources and environment.
4. It helps to create organic manures which is useful to farmers for organic farming, by means of which it helps to provide healthy food and avoid pollution.

Evaluation Method:

The examination will be conducted in two parts – theory and practical. Theory examination will consist of 25 multiple choice questions which will be conducted online/offline and Practical examination will be of 25 marks which will be at the Department of Zoology at end of the course.

Padmabhushan Vasantraodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Vermicomposting

Syllabus

Objectives and course outcomes:

1. To acquaint students with some basic concepts of Vermicomposting.
2. To aware students about the importance of organic manure.
3. To know the process of vermicomposting.

Unit 1: Vermiculture

(08 hours)

1.1 Introduction: Vermireources, Annelids useful for man and environment

1.2 Systemic position of Earthworm: Species diversity (Endemic and exotic), Classification of Earthworm, Study of various species of Earthworms, Region. wise distribution of Earthworm in India.

1.3 Habit and Habitat: Habits of Earthworm, Habitat and Habitat diversity, Seasonal dynamics, Study of various environmental factors affecting the habits (Soil type, pH, temperature, water, atmospheric gases etc)

1.4 External characters: Study of external characters and segmentation-a) Body division of Earthworm, b)size,shape and colouration, c)segmentation

1.5 Study of gut microflora: Study of various Microorganisms found in gut of earthworm, Classification of useful and harmful microbes, Role of earthworm in dispersal of beneficial and harmful microorganisms.

1.6 Setting of composting small units : Study of various composting materials (cattle dung, leaf litter, various agricultural byproducts, domestic sewage, vegetable wastes etc), Study of small composting units- a)Collection and preparation of composting material, b)construction of compost beds, various types i)simple polythene bed, ii) Composite cement bed, d)various types of productive shades- size, shape, height, width etc.

2 Unit 2: Vermicomposting

(7 hours)

A. Vermitechnology

I. Vermiculture

- i. Introduction
- ii. Applications or potentials of Earthworm in various fields like
 - a) Waste decomposer

- b) Biofertilizer manufacturer
 - c) Land recliner
 - d) Protein producer
 - e) Food source
 - f) Drug source
 - g) Vitamin source
 - h) Natural detoxicant
 - i) As a bait.
- iii. Study of various species of Earthworms
- i. Introduction
 - ii. Brief introduction about species diversity
 - iii. Epigeic species
 - iv. Endogenic species
 - v. Anecic species
 - vi. Varieties of Earthworm
 - a) Night crawlers
 - b) Field worms
 - c) Manure worms
 - d) Red worms
- iv. Culturing of Earthworms

B. Vermicomposting

I. Introduction

II. Types of Earthworms suitable for vermicomposting.

III. Shed construction

IV. Various methods of Vermicomposting

- i. Heap method
- ii. Pit method
- iii. Bed method
- iv. Daily maintenance method
- v. Harvesting of vermicomposting
- vi. Screening {filtration} and packing

V. Study of Raw Materials for vermicomposting

- i. Introduction
- ii. Food preference by earthworms
- iii. Various types of raw materials
Eg. Organic product, vegetables, F.Y.M, Leaf litter, byproduct of agriculture after crop-harvesting etc.

VI. Applications of Vermicompost in Agri & Horticulture

VII. Major ingredients and their percentage in vermicompost

VIII. Effect of vermicompost on soil fertility.

IX. Setting of a large vermicomposting unit

- i. Introduction
- ii. Basic requirements designing and planning
- iii. Size, shape & infrastructure [Space required]
- iv. Protective measures
- v. Various equipments like screen, packing bags, packing machine, weight balance etc.
- vi. Water management
- vii. Economics

X. Vermiwash

- i. Introduction
- ii. Methods of preparation & collection
- iii. It's chemical composition & its uses

XI. Benefits of Vermicomposting

- i. Waste & pollution management
- ii. Production of superior quality manure from inferior wastes.
- iii. It's field applications & better results

XII. Environmental assessment

- i. The benefits of vermicompost in environment
- ii. Best methods for pollution control
- iii. Proper use of various biodegradable wastes
- iv. To keep the environment clean & healthy

XIII. Marketing & Economy output.

PRACTICAL

(08 hours)

Paper I- Vermiculture

- I. Systemic position and external characteristic
- II. Dissection of digestive system
- III. Dissection of nervous system
- IV. Dissection of reproductive system
- V. Study of Cloaca
- VI. Observation of Gut Microflora
 - i. Preparation of material
 - ii. Preparation of slide
 - iii. Staining and Observation
 - iv. Identification of Microorganisms
- VII. Preparation of Protective shade
 - i. Observation of various types of material used for shade construction
- VIII. Arranging different types of composting unit
 - i. Study & observation of various compost materials
 - ii. Preparation of compost beds
- IX. Collection and packing of vermicompost
- X. Collection of Vermi-wash
- XI. Various uses of vermi-wash

Paper II- Vermicomposting

- I. Identification of various species
 - a. Epigic
 - b. Anecic
 - c. Endogenic
- II. Dissection of Reproductive system and Mounting of ovary, testes, spermatheca
- III. Observation of cocoon
- IV. Various methods and materials required for the vermicomposting
 - i. Shed construction
 - ii. Materials required
- V. Study of various composting methods
 - i. Heap methods
 - ii. Pit methods
 - iii. Bed methods

VI. Preparation of material for composting

- i. Collecting of material
- ii. Processing of material
- iii. Removal of unwanted material
- iv. Slurry Preparation

VII. Study of various types of wastes

- i. Organic wastes
- ii. Dry wastes
- iii. Field waste

VIII. Methods of reducing size of wastes

IX. Microbial Inoculation

X. Methods of harvesting and packing of vermicompost

XI. Insitu application of vermicompost for potted and observation of result

XII. Setting of small scale composting units

XIII. Preparation of vermiwash and its applications

XIV. Comparative study of vermicompost and chemically fertilized agricultural lands.


**TIMETABLE FOR CERTIFICATE COURSE IN Vermiculture and
vermicomposting technology (2023-24)**

B. Sc. II and B.Sc. III

Lecturer: Prof. (Dr.) S. B. More					
Day					
Monday	***	07-08-2023	14-08-2023	***	
Tuesday	***	08-08-2023	***	***	
Wednesday	02-08-2023	***	23-08-2023	***	
Thursday	03-08-2023	***	24-08-2023	31-08-2023	
Friday	04-08-2023	11-08-2023	***	***	
Saturday	***	12-08-2023	***	***	

Lecturer: Dr. R. A. Sanadi					
Day					
Monday	***	04-09-2023	***	18-09-2023	***
Tuesday	***	***	***		***
Wednesday	***	***	13-09-2023	20-09-2023	***
Thursday	***	***	***	***	***
Friday	***	08-09-2023	15-09-2023	***	29-09-2023
Saturday	02-09-2023	09-09-2023	***	***	30-09-2023

Lecturer: Mr. S. P. Jaganade					
Day					
Monday	***	***	***	23-10-2023	
Tuesday	03-10-2023	10-10-2023	***	***	***
Wednesday	04-10-2023	11-10-2023	***	***	***
Thursday	***	***	19-10-2023	***	***
Friday	06-10-2023	***	20-10-2023	***	***
Saturday	***	14-10-2023	***	***	***


 Head
 Department of Zoology
 P.V.P. Mahavidyalaya,
 Kavathe Mahankal, Dist.-Sangli.

DEPARTMENT OF ZOOLOGY

Vermicomposting

Attendance (B. Sc. III)

Theory

Sr. No.	Name	2-9-23	4-9-23	7-9-23	12-9-23	24-9-23	4-9-23	9-9-23	13-9-23	18-9-23	27-9-23	30-9-23	3-10-23	11-10-23	19-10-23	20-10-23
1.	Patil Rutuja Ashok	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
2.	Salunkhe Sanika Kailas	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
3.	Phakade Pratibha Mohan	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
4.	Shirke Ashwini Shivaji	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
5.	Jadhav Pornima Sanjay	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
6.	Kharade Rupali Ramchandra	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
7.	Kshirsagar Anisha Anil	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
8.	Bhosale Sanika Sanjay	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
9.	Mane Rutuja Anil	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
10.	Bhosale Sandhyarani Amol	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
11.	Kambale Rohan Rajesh	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
12.	Kambale Shridhar Mohan	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
13.	Chavan Bhushan Rajendra	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
14.	Bansode Sagar Sambhaji	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
15.	Mane Vishwajeet Santosh	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present

Anvika
Co-ordinator.

[Signature]
Head
Department of Zoology
P.V.P. Mahavidyalaya
Kavathe Mahankal Dist-Sangli

DEPARTMENT OF ZOOLOGY

Vermicomposting

Attendance (B. Sc. III) *Practical*

Sr. No.	Name	3-9-23	8-8-23	11-8-23	14-8-23	23-8-23	31-8-23	2-9-23	9-9-23	15-9-23	20-9-23	29-9-23	6-10-23	10-10-23	14-10-23	23-10-23
1.	Patil Rutuja Ashok	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
2.	Salunkhe Sanika Kailas	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe
3.	Phakade Pratibha Mohan	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade	Phakade
4.	Shirke Ashwini Shivaji	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke	Shirke
5.	Jadhav Pornima Sanjay	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav
6.	Kharade Rupali Ramchandra	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade	Kharade
7.	Kshirsagar Anisha Anil	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar	Kshirsagar
8.	Bhosale Sanika Sanjay	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale
9.	Mane Rutuja Anil	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane
10.	Bhosale Sandhyarani Amol	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale
11.	Kambale Rohan Rajesh	Kambale	Kambale	Kambale	AB	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale
12.	Kambale Shridhar Mohan	Kambale	Kambale	AB	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale	Kambale
13.	Chavan Bhushan Rajendra	Chavan	Chavan	Chavan	Chavan	Chavan	AB	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan
14.	Bansode Sagar Sambhaji	AB	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode	Bansode
15.	Mane Vishwajeet Santosh	Mane	AB	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane	Mane

Arvind
Co-ordinator.

[Signature]
Head
Department of Zoology
P.V.P. Mahavidyalaya
Kavathe Mahankal Dist-Sangli

DEPARTMENT OF ZOOLOGY

Vermicomposting

Attendance (B. Sc. II)

Theory

Sr. No.	Name	2-8-23	4-9-23	7-8-23	12-9-23	24-9-23	4-9-23	9-9-23	13-9-23	18-9-23	27-9-23	30-9-23	3-10-23	11-10-23	19-10-23	20-10-23
1.	Jadhav Sanika Tanaji	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
2.	Patil Shruti Snajay	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
3.	Zure Shruti Shankar	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
4.	Patil Pooja Ashok	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
5.	Jadhav Varsha Ramdas	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
6.	Bhosale Ashwini Vasant	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
7.	Jadhav Amruta Ravsaheb	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
8.	Nagane Akanksha Hanmant	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
9.	Bhosale Sanika Dattatray	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
10.	Salunkhe Snehal Uttam	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
11.	Jankar Yash Balkrushna	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
12.	Shinde Pranav Murlidhar	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
13.	Naik Sachin Ganesh	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
14.	Kshirsagar Rutesh Ganesh	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
15.	Patil Sudhir Pratap	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB

Anam
Co.ordinator

[Signature]
Head
Department of Zoology
P.V.P. Mahavidyalaya
Kavathe Mahankal Dist-Sangli

DEPARTMENT OF ZOOLOGY

Vermicomposting

Attendance (B. Sc. II) *Practical.*

Sr. No.	Name	3-8-23	8-8-23	11-8-23	14-8-23	23-8-23	31-8-23	2-9-23	8-9-23	15-9-23	20-9-23	04-10-23	6-10-23	10-10-23	14-10-23	23-10-23
1.	Jadhav Sanika Tanaji	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
2.	Patil Shruti Snajay	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
3.	Zure Shruti Shankar	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
4.	Patil Pooja Ashok	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
5.	Jadhav Varsha Ramdas	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
6.	Bhosale Ashwini Vasantao	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
7.	Jadhav Amruta Ravsaheb	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
8.	Nagane Akanksha Hanmant	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
9.	Bhosale Sanika Dattatray	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
10.	Salunkhe Snehal Uttam	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
11.	Jankar Yash Balkrushna	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
12.	Shinde Pranav Murlidhar	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
13.	Naik Sachin Ganesh	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
14.	Kshirsagar Rutesh Ganesh	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
15.	Patil Sudhir Pratap	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB

[Signature]
Co-ordinator.

[Signature]
Head
Department of Zoology
P.V.P. Mahavidyalaya
Kavathe Mahankal Dist-Sangli

15.	Mane Vishwajeet Santosh																			
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Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Vermicomposting

Date: 01-11-2023

NOTICE

All the enrolled students are informed that, the timetable for theory examination and practical examination of the course in "Vermicomposting" is as below,

Examination	Time
Theory and Practical	Tuesday 7 th November 2023 Theory- (10.00 a.m. to 11.00 a.m.) Practical- (12.00 p.m. to 03.00 p.m.)



Co-ordinator



Head

Head

Department of Zoology
P.V.P. Mahavidyalaya,
Kavathe Mahankal, Dist.-Sangli

SHIKSHAN PRASARAK SANSTHA'S
PADMABHUSHAN VASANTRAODADA PATIL MAHAVIDYALAYA, KAVATHE MAHANKAL
DEPARTMENT OF ZOOLOGY

C.O.C. Vermicomposting Theory Question Paper

Name of Student:

Day & Date:

Class:

Total Marks: 50

Que. Choose Correct Answer of the following.

1. The highly decomposed organic matter rich in minerals like nitrogen, phosphorus, and potassium, in particular, produced from the activity of earthworms is called _____.

- (a) Humus (b) Vermicompost (c) Worm casting (d) Compost bedding

2. Which of the following chemicals is used for protecting vermi-bed from ants?

- (a) DDT (b) Griseofulvin (c) Chloramphenicol (d) Chlorpyriophosphate

3. Vermicompost is used as a biofertilizer because it is rich in _____.

- (a) Calcium (b) Nitrogen (c) Phosphorus (d) All of the above

4. Which of the following are the best worms used for composting?

- (a) Maggots (b) Pink worms (c) Red wigglers (d) All of the above

5. The maximum temperature required for vermicomposting is _____.

- (a) 20°C to 25°C (b) 25°C to 30°C (c) 30°C to 35°C (d) 35°C to 40°C

6. Which of the following is not raw material required for preparing composts?

- (a) Cow dung (b) Weed biomass (c) Dry straw and leaves (d) All of the above

7. The moisture level required for vermicomposting should be between _____.

- (a) Below 30 % (b) 40 and 50 % (c) 70 and 80 % (d) Above 90 %

8. Which of the following is not a drawback of vermicomposting?

- (a) Time-consuming process (b) Require regular monitoring
(c) Require minimum temperature (d) Enriches soil with microorganisms

9. Which of the following is true about vermicompost?

- (a) Vermicompost is red in colour (b) Vermicompost is black in colour
(c) Vermicompost is white in colour (d) Vermicompost is brown in colour

10. Which of the following products cannot be used for vermicomposting?

- (a) Cow dung (b) Plant materials (c) Animal Wastes (d) All of the above

11. Which of the following is not a major objective of Vermicomposting?

- a) To elevate the value of original material b) To accelerate the rate of degradation
c) To obtain toxic products d) To obtain products free of any pollutants

12. Which among the following is not a major reason for choosing earthworms for Vermicomposting?

- a) Low incubation time b) Digestion rate c) Adaptability d) Low growth rate

13. Which of the following species of earthworms is not suitable for Vermicomposting?

- a) Epifilis b) Endogens c) Aneciques d) Plasmodium

14. Which of the following species is most stable in Indian conditions?

- a) Perionyx b) Epifilis c) Endogens d) Aneciques

15. Earthworms subsidize to the burial of wastes?

- a) True b) False

16. Which of the following is not a method of worm cast harvesting or manufacturing?

a) Homogenization b) Active feeding

c) Drying under adequate light d) Separation of cocoons

17. What is the major advantage of three-tire vermi-culture technology?

a) It can be applied to both solid and liquid wastes

b) It cannot be applied to both solid and liquid wastes

c) It involves chemical treatment

d) It can degrade organic wastes

18. Meat involved in composting?

a) Beetle b) Leech c) Snail d) Earthworm

19. Vermicomposting is a natural process of

a) Producing compost b) Waste management creates it

c) Producing worms d) Destroying worms

20. In earthworms, typhlosole is a

a) Fold of intestine b) Formation of the circulatory system

c) Defence mechanism d) Excretory structure

21. Which of the following is not the main reason for choosing Vermicomposting worms?

a) Low incubation time b) Digestion rate c) Adaptability d) Low growth rate

22. Which of the following is a mixture of ingredients used to fertilize and improve the soil?

a) Phosphatic fertilizers b) Mycelium c) Compost d) Alfa-alfa

23. Which of the following form the first layer of compost?

a) Branches and twigs b) Leaves c) Grass clipping d) Kitchen scraps

24. What is the width of the second layer of compost?

a) 4-6 inches b) 4-10 inches c) 6-10 inches d) 3-15 inches

25. What type of bin is best for vermicomposting?

a) Plastic b) Wood c) Metal d) All of these

PadmabhushanVasatraodadaPatilMahavidyalaya, KavatheMahankal.

DEPARTMENT OF ZOOLOGY

Data Analysis using MS Excel

Practical Examination

Duration: 3 Hours

Total Marks :50

Instructions: 1) All questions are compulsory

Que1. Preparation of Vermibeds	20M
Que 2. Identification and release of earthworm specoies for preparation of vermicompost	10M
Que 3. Economic Importance of Vermicompost and Vermiwash	10M
Que 4. Viva voce	10M

Photos:

Theory Examination



Practical Examination



Padmabhushan Vasanttraodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY.


Data Analysis using MS Excel

Result

Sr. No	Name	Class	Marks			Remark
			Theory	Practical	Total	
1.	Jadhav Sanika Tanaji	B. Sc. II	44	46	90	O
2.	Patil Shruti Sanjay	B. Sc. II	AB	AB	AB	ABSENT
3.	Zure Shruti Shankar	B. Sc. II	38	42	80	A
4.	Patil Pooja Ashok	B. Sc. II	40	46	86	A
5.	Jadhav Varsha Ramdas	B. Sc. II	42	43	85	A
6.	Bhosale Ashwini Vasanttrao	B. Sc. II	44	45	89	A
7.	Jadhav Amruta Ravsaheb	B. Sc. II	42	46	88	A
8.	Nagane Akanksha Hanmant	B. Sc. II	42	44	86	A
9.	Bhosale Sanika Dattatrya	B. Sc. II	44	44	88	A
10.	Salunkhe Snehal Uttam	B. Sc. II	46	43	89	A
11.	Jankar Yash Balkrurushna	B. Sc. II	42	45	87	A
12.	Shinde Pranav Murlidhar	B. Sc. II	40	46	86	A
13.	Naik Sachin Ganesh	B. Sc. II	42	46	88	A
14.	Kshirsagar Rutesh Ganesh	B. Sc. II	44	43	87	A
15.	Patil Sudhir Pratap	B. Sc. II	38	47	85	A
16.	Patil Rutuja Ashok	B. Sc. III	46	48	94	O
17.	Salunkhe Sanika Kailas	B. Sc. III	44	47	91	O

18.	Phakade Pratibha Mohan	B. Sc. III	40	47	87	A
19.	Shirke Ashwini Shivaji	B. Sc. III	42	47	89	A
20.	Jadhav Pornima Sanjay	B. Sc. III	46	46	92	O
21.	Kharade Rupali Ramchandra	B. Sc. III	44	48	92	O
22.	Kshirsagar Anisha Anil	B. Sc. III	48	48	96	O
23.	Bhosale Sanika Sanjay	B. Sc. III	44	46	90	O
24.	Mane Rutuja Anil	B. Sc. III	38	46	84	A
25.	Bhosale Sandhyarani Amol	B. Sc. III	40	44	84	A
26.	Kambale Rohan Rajesh	B. Sc. III	36	45	81	A
27.	Kambale Shridhar Mohan	B. Sc. III	40	46	86	A
28.	Chavan Bhushan Rajendra	B. Sc. III	40	47	87	A
29.	Bansode Sagar Sambhaji	B. Sc. III	42	48	90	O
30.	Mane Vishwajeet Santosh	B. Sc. III	32	48	80	A

(*A – Satisfactory **O – Outstanding)


Head
Department of Zoology
P.V.P. Mahavidyalaya,
Kavathe Mahankal, Dist.-Sangli.



Shikshan Prasarak Sanstha's
Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal
Affiliated to Shivaji University, Kolhapur

DEPARTMENT OF ZOOLOGY

C E R T I F I C A T E

This is to certify that Mr./Miss/Mrs. *Patil Rutuja Ashok* of Class **B.Sc. III** has successfully completed the Short Term Career Oriented Certificate Course entitled 'Vermicomposting', and secured grade O during the academic year 2023-24.

Course Co-Ordinator
Mr. S. P. Jaganade

Head
Department of ZOOLOGY
Prof. (Dr.) S. B. More

Principal
Prof. (Dr.) M. K. Patil

Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Report on Career Oriented Course in "Vermicomposting"

Title	Career Oriented Course in "Vermicomposting"
Duration	2 nd August 2023 to 30 th October 2023
Organizer	Department of Zoology, P.V.P. Mahavidyalaya Kavathe Mahankal
Funding	--
BOS / Faculty	Prof. Dr. Suvarna B. More Dr. Reshma A. Sanadi Mr. Shivam. P. Jaganade
Coordinator	Mr. Shivam. P. Jaganade
Background	Now a days, students must have some knowledge of Organic farming by using Organic manures like vermicompost. So this course is intended.
Objective	<ol style="list-style-type: none">1. To acquaint students with some basic concepts of Vermicomposting.2. To aware students about the importance of organic manure.3. To know the process of vermicomposting.
Outcomes	<ol style="list-style-type: none">1. To have basic knowledge of vermiculture, vermicomposting and vermiwash.2. To develop aptitude for scientific work and scientific ability to develop vermicompost.3. To aware the peoples of natural resources and environment.4. It helps to create organic manures which is useful to farmers for organic farming, by means of which it helps to provide healthy food and avoid pollution.

Conclusion	Students got sufficient knowledge about the vermitechnology, Preparation of vermicompost and vermiwash. It helps to community to reduce pollution and to got healthy future by organic farming and organic food. The course creates interest in students for preparation of vermicompost by using domestic waste and garbage from each community. “So Garbage is nothing but Gold. Thus this course is fruitful and motivational for participated students.
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Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF ZOOLOGY

Career Oriented Course in “Vermicomposting”

Brief Summary

Sr. No.	Organizing department	Department of Zoology		
		1	Type of Activity	Career Oriented Course in “Vermicomposting”
2	Duration of Activity	2 nd August 2023 to 31 st October 2023		
3	Venue	Department of Zoology		
4	Participation			
	Students	Male	Female	Total
	B. Sc. II	10	5	15
	B. Sc. III	10	5	15
	Total	20	10	30
5	Result	A-Grade	O-Grade	Total
	B. Sc. II	13	01	14
	B. Sc. III	07	08	15
	Total	20	9	29



Coordinator



Head
Department of Zoology
P.V.P. Mahavidyalaya,
Kavathe Mahankal, Dist.-Sangli