ShikshanPrasarakSanstha's

PADMABHUSHANVASANTRAODADAPATILMAHAVIDYALAYA,

KavatheMahankal,Dist.-Sangli

DepartmentofChemistry

(AcademicYear2023-24)

Vision

The Chemistry Department is committed to prepare competitive and professional graduates within an innovative and intellectually stimulating environment, support other academic programs by offering quality chemistry learning experiences, conduct basic and applied research of national and international impact, build proactive partnerships with industry and offer effective training and educational and technical services to the society. To achieve excellence in teaching and research.

Mission

- EnhancethebasicandappliedresearchframeworkintheChemistryDepartment.
- To empowerthroughknowledgeandinformation.
- Todevelop, enhance, andimprovethequalityofhumanresources.
- Tocultivateresolutemoralandethicalvaluesthroughgoodchemicalpractices.
- Tomeetcontemporaryregionalandnationalneedsandanticipatefuturesocialandeconomic development.
- Buildpartnershipswiththeindustrytoincreaseemployabilityskills.

ProgramOutcomes(Pos)

Aftercompletionofthisprogramstudentwillbeableto,

PO1:	Facilitatethecoordinationbetweenclassicalacademicsandsocietalneeds
PO2:	Applypracticalknowledgetoindustrialapplicationandfor developing methods
PO3:	Copeup withthechallenges andtheadvances inthescience
PO4:	Acquiretheabilityofcriticalanalysisofdifferentissues.

ProgramSpecificOutcomes(PSO's)

Aftercompletionofthisprogramstudentwillbeableto,

PSO1:	Catertheneedsandthechallengesofchemicalandmetallurgicalindustries.
PSO2:	Handlesophisticatedinstrumentsusedfordifferentanalysis.
PSO3:	Workinpharmaceuticalindustries
PSO4:	Copeupforhighereducationsuchaspost-graduationandresearch

Courseoutcomes(CO's)

B.Sc.I(SemI)

DSC-3A-CourseI(Inorganicchemistry)

After completingthecoursestudentswillableto,

CO-1.1	Fostertheabilityandtoaquiretheknowledgeofterms,facts,conceptprinciplesofatomicstructureand ionicbonding
CO-1.2	Developtheproperaptitudeandinteresttowardstheconceptsofinorganicchemistrylike VBTandMOT

DSC-4ACourseII(OrganicChemistry)

CO:2.1	Learnfundamentalsofchemistrystereochemicalaspectsandnomenclatureofstereoisomers.
CO:2.2	UnderstoodconceptofaromaticityPreparationreactionsofcycloalkanescycloalkenesandalkadienes.

B.Sc.I(SemII)

DSC-3B:CourseIII(PhysicalChemistry)

CO:3.1	Understandthebasicconceptsofthermodynamicsthermochemistryandfreeenergychangeinchemical reaction.
CO:3.2	Understanddifferenttheoryofgasesfactorsaffectingrateofreactionsandtheoriesofreactionrates

DSC-4B-CourseIV(AnalyticalChemistry)

CO:4.1	Understand thebasicmethodsofanalysistechniquesofsamplingbasicprincipleofchromatographyand importantaspectoftitrimetricanalysis.
CO:4.2	Acquiretheknowledgeaboutphysicalmethodsofwateranalysischemicalmethodsofwateranalysis alongwithbasicaspectsoffertilizers.

CourseVLaboratorycourse(practical)

CO:5.1	Understoodthekineticsofvariousreaction
CO:5.2	Acquiretheknowledgeofanalysisoforganiccompounds
CO:5.3	Acquiretheknowledgeofsimpletechniquessuchaspaperchromatography,quantitativeanalysis
CO:5.4	Determinethestrengthofmineralacid

B.Sc. II(SemIII)

DSC-C3-CourseVI(PhysicalChemistry)

CO:6.1	Understandconductivity,transportnumberoftheaqueoussolutionswithdifferentapplicationssurface tensionviscosityrefractiveindexandsurfacephenomena atheterogeneoussurfaces.
CO:6.2	Learnthevariousnuclearphenomenatechniquesofmeasurementofnuclearradiationsandthirdorder reaction

DSC-C4-CourseVII(IndustrialChemistry)

CO:7.1	UnderstoodthebasicconceptsinIndustrialChemistryandelectroplating
CO:7.2	AcquiretheknowledgeofIndianpaperindustry, SoapsandDetergents

B.Sc. II(SemIV)

DSC-D3-CourseVIII(Inorganicchemistry)

CO:8.1	Understoodthemeaningofterminologies, conceptsof coordinationchemistryandchelation
CO:8.2	UnderstoodtheperiodicityofPblock,3dserieselementsandinorganicqualitativeanalysis

DSC-D4-CourseIX(OrganicChemistry)

CO:9.1	ToimpartknowledgeaboutPreparationsynthesisreactivityandapplicationsofcarboxylicacids carbohydratesAminesandDiazoniumSalts
CO:9.2	Understoodthebasicknowledgeconformationalanalysisoforganiccompoundsnomenclatureand reactivityofaldehydesandketones

CourseXLaboratorycourse(practical)

CO:10.1	Understoodthekinetics ofvariousreactionanduseofinstrumentsfordifferentanalyticalapplication
CO:10.2	AcquiretheknowledgeofPreparation,analysisoforganiccompoundsandmixture.
CO:10.3	Fostertheknowledgeofextraction,purificationofvariousmetalsandtheanalysisofinorganic compoundsandmixture.
CO:10.4	Performthequantitativeanalysisofvarious analytes

B.Sc.III(SemV)

DSE-ES-CourseXI(InorganicChemistry)

CO:11.1	AcquiretheknowledgeofAcidsbasesandbondingintransitionmetalcomplexes
CO:11.2	Understoodthemetals,semiconductor,superconductors,organometalliccompoundsandcatalysis

DSE-E6-CourseXII(OrganicChemistry)

CO:12.1	Understandtheenergyassociatedparameterschromophore,auxochrome,calculationofAmax, vibrationaltransitions,regionsofIRspectrumandfunctionalgrouprecognition.
CO:12.2	Get the knowledge of magnetic non-magnetic nuclei, shielding-deshelling, chemical shift, splittingpattern molecular ion, fragmentation pattern and different types of ions produced. Also, able to solve problemsbasedonUV-Vis,IR,NMR,Mass Spectraldataandpredictthestructureoforganiccompound withthehelpofprovidedspectral data

DSE-E7-CourseXIII(PhysicalChemistry)

CO:13.1	UnderstandelementaryquantummechanicsquantumChemistryandspectroscopyKnowledge
CO:13.2	LearndifferentaspectsofPhotochemistrysolutionsandelectrochemistry

DSC-E8-CourseXIV(AnalyticalChemistry)

CO:14.1	Learnthetechniquesofgravimetricanalysispotentiometrictitrationsandacquiretheknowledgeof instrumentalanalysisofalkaliandalkalineearthelementsbyusingflamephotometry
CO:14.2	UnderstandworkingapplicationsofopticalmethodsasananalyticaltoolandQualitycontrolpracticesin analyticalindustries/laboratories

B.Sc.III(SemVI)

DSC-F-5-CourseXV(InorganicChemistry)

CO.15.1	ImparttheadvancesincoordinationChemistry,Nuclearchemistryanditssocietalapplications
CO:15.2	UnderstoodtheChemistryof f blockElements, extractionof ironandsteelandRoleof various metals in Bio inorganic chemistry

DSE-F6-Course-XVI(OrganicChemistry)

CO:16.1	Knowledgeofdifferentorganicreactionsreagentsusedinorganictransformationsandretrosynthesisof someorganiccompounds.
CO:16.2	Learnelectrophilic additionto>C-C<CCbondandgetknowledgeof alkaloidsandterpenoidsunderstand chemistryofsomepharmaceuticaldrugs

DSE-F7-CourseXVII(PhysicalChemistry)

CO:17.1	KnowPhaseequilibria, phaserule, Thermodynamicsandsolid-statechemistry
CO:17.2	LearnChemicalkineticsandunderstandingtheknowledgeofdistributionlaw

DSC-F-8-CourseXVIII(Industrialchemistry)

CO:18.1	Understandtheprocessofmanufactureofsugarindustrialheavychemicalsandsynthesisofvarious polymers
CO:18.2	UnderstandthepetroleumIndustryneedofuseofeco-friendlyfuelsandUnderstanding

CourseXIXLaboratorycourse(practical)

CO:19.1	Applypracticalknowledgetoindustrialapplicationandfor developing methods
CO19.2	Understoodthekineticsofvariousreaction
CO19.3	Handleinstrumentsfordifferentanalyticalapplication.
CO:19.4	Fostertheknowledgeofextraction,purificationofvariousmetalstheanalysisofinorganiccompounds andmixture
CO19.5	Analyzethecommercialsamplessuchastalcumpowder,milksampleetc
CO:19.6	Acquiretheknowledgeofpreparationoforganiccompoundsthoughgreenchemistryapproach
CO19.7	Carryoutqualitativeanalysisoforganic mixture
CO:19.8	Workinchemistryrelatedindustries.

Step 4: Defining relation between Course Outcomes (COs)and POs/PSOs for each course to obtainoverall CO mapping with each POs/PSOs. (Course Articulation Matrix)

In this step, CO's of each course are mapped with PO's & PSO's. A correlation is established between CO's and PO's / PSO's in the scale of 0 to 3. 0 if there is no correlation between CO's and PO's / PSO's, 1 being low, 2 being median and 3 being high.

For example, suppose programXYZ (say) has 4 PO's &4 PSO's. Then, course articulation matrix for a course – 1 (say) with two CO's is as follows.

CO's–PO's&PSO'smappingmatrix(1-low,2-medium,3-high,0-Nocorrelation)

CO's	PO's/PSO's							
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4
CO1.1	2	0	2	1	2	1	1	2
CO1.2	3	2	1	2	2	1	2	3

Inthesamewaywehavecoursearticulationmatricesforallcoursesinthat Program.

CO's–PO's&PSO'smappingmatrix(1-low,2-medium,3-high,0-Nocorrelation)

CO's	PO's/PSO's							
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4
CO 1.1	2	0	2	1	2	1	1	2
CO 1.2	3	2	1	2	2	1	2	3
CO 2.1	2	1	3	2	2	1	3	3
CO 2.2	2	2	2	2	2	1	2	2
CO 3.1	2	2	2	2	1	0	2	3
CO 3.2	1	3	1	2	2	1	1	2
CO 4.1	2	3	2	3	2	3	3	2
CO 4.2	1	3	1	2	2	1	1	2
CO 5.1	2	2	3	2	2	1	3	2
CO 5.2	2	3	2	2	2	1	3	2
CO 5.3	3	2	2	2	1	2	3	2
CO 5.4	2	2	1	2	2	0	1	1
CO 6.1	2	2	1	2	2	2	2	2
CO 6.2	1	2	2	2	0	1	0	2
CO 7.1	2	2	1	1	2	1	1	1
CO 7.2	2	2	1	2	2	1	2	1
CO 8.1	2	2	1	2	2	1	1	2
CO 8.2	3	2	2	2	2	2	1	2
CO 9.1	2	2	2	1	2	1	3	2
CO 9.2	2	2	2	2	1	1	2	2
CO10.1	2	2	3	2	2	2	1	2
CO10.2	2	2	2	2	1	0	3	2
CO10.3	2	2	1	2	2	1	3	2
CO10.4	3	2	1	2	1	1	2	2

CO11.1	2	2	2	2	1	1	1	2
CO11.2	2	2	2	2	2	2	0	2
CO12.1	1	2	2	1	2	1	3	2
CO12.2	1	2	2	2	2	2	3	3
CO13.1	1	1	3	2	1	1	0	2
CO13.2	2	1	1	2	1	2	1	2
CO14.1	3	2	2	2	3	2	1	3
CO14.2	3	2	2	1	2	3	2	2
CO15.1	3	2	2	2	2	1	2	2
CO15.2	2	2	2	2	2	1	1	2
CO16.1	2	2	2	2	2	1	2	2
CO16.2	2	2	2	2	2	1	1	2
CO17.1	1	1	2	1	1	1	1	2
CO17.2	2	2	3	2	2	1	1	2
CO18.1	2	2	2	2	2	2	1	1
CO18.2	2	2	2	2	2	2	0	2
CO19.1	2	3	2	2	2	2	2	2
CO19.2	2	2	3	2	2	2	1	2
CO19.3	2	2	2	2	2	3	2	2
CO19.4	2	2	1	2	2	1	2	2
CO19.5	2	2	1	2	1	1	1	1
CO19.6	2	2	3	2	2	2	2	2
CO19.7	2	2	1	2	1	1	2	2
CO19.8	2	2	2	2	2	2	2	2

Step5:Development ofoverallCO's-PO's mapping matrixforallcourses(ProgramArticulation Matrix).

The CO levels corresponding to each PO/PSO in course articulation matrix are averaged to obtain overall level of relation of course with each PO & PSO. For example, the overall relation of course – 1 (say) are reported the following matrix.

CO's	PO's/PSO's							
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4
CO1.1	2	0	2	1	2	1	1	2
CO1.2	3	2	1	2	2	1	2	3
Average ($X_{1,.,l}$)	2.5	1	1.5	1.5	2	1	1.5	2.5

Similarly, the overall level of relation of all the courses in the program is established. These levels are reported in the matrix form and this matrix is called as the program articulation matrix. For example, if the programXYZ has 19 courses then the programarticulation matrix will be as follows.

ProgramArticulationMatrix

ID	Coursename	$X_{i,.,1}$	$X_{i,.,2}$	$X_{i,.,3}$	$X_{i,.,4}$	$X_{i,.,5}$	$X_{i,.,6}$	$X_{i,.,7}$	$X_{i,.,8}$
C_1	Course_1	2.5	1	1.5	1.5	2	1	1.5	2.5
C_2	Course_2	2	1.5	2.5	2	2	1	2.5	2.5
C_3	Course_3	1.5	2.5	1.5	2	1.5	0.5	1.5	2.5
C_4	Course_4	1.5	3	1.5	2.5	2	2	2	2
C_5	Course_5	2.25	2.25	2	2	1.75	1	2.5	1.75
C_6	Course_6	1.5	2	1.5	2	1	1.5	1	2
C_7	Course_7	2	2	1	1.5	2	1	1.5	1
C_8	Course_8	2.5	2	1.5	2	2	1.5	1	2
C_9	Course_9	2	2	2	1.5	1.5	1	2.5	2
C_{10}	Course_10	2.25	2	1.75	2	1.5	1	2.25	2
C_{11}	Course_11	2	2	2	2	1.5	1.5	0.5	2
C_{12}	Course_12	1	2	2	1.5	2	1.5	3	2.5
C_{13}	Course_13	1.5	1	2	2	1	1.5	0.5	2
C_{14}	Course_14	3	2	2	1.5	2.5	2.5	1.5	2.5
C_{15}	Course_15	2.5	2	2	2	2	1	1.5	2
C_{16}	Course_16	2	2	2	2	2	1	1.5	2
C_{17}	Course_17	1.5	1.5	2.5	1.5	1.5	1	1	2
C_{18}	Course_18	2	2	2	2	2	2	0.5	1.5
C_{19}	Course_19	2	2.125	1.875	2	1.75	1.75	1.75	1.875

Step6:Methodologyfor measuringofCourseOutcomes(CO's),ProgramSpecific Outcomes

(PSO's) andProgramOutcomes(PO's) andsetting upthetargetlevel.

Inthisstep,methodologyformeasuringthe attainment leveloflearningoutcomesisdefined and the target levels for the batch are defined.

- **Methodologyfortheattainmentoflearning outcomesforthis year:**

Detailsofaprogram:

- NameoftheProgram:XYZ
- Programhasn_1PO's,say,PO_1,PO_2,...,PO_{n1}
- Programhasn_2PSO's,say,PSO_1,PSO_2,...,PSO_{n2}

Letn=n_1+n_2,totalnumberofPO'sand PSO's.

- Forconvenience,letusdenotethePO's&PSO's PO_1,PO_2,...,PO_{n1},PSO_1,PSO_2,...,PSO_{n2}byP_1,P_2,...,P_n
- Programhasmcourses,say,C_1,C_2,...,C_m
- Each course $C_i$has k course outcomes (CO's) denoted as $CO_{i,1}$,$CO_{i,2}$,...,$CO_{i,k}$,i = 1,2,...,m. and k represents the number of outcomes particularly that of course.

Coursearticulationmatricesandprogramarticulationmatrixareobtainedasdiscussedin previoussteps.Let$X_{i,j,l}$bethelevelofcorrelationof$CO_{i,j}$with$P_l$where,i=1,2,...,m,j = 1,2,... ,k,l=1,2,... , n.Then,theoverallCOlevelswithPO's&PSO'sofcourse$C_i$iscomputed as$X_{i.l} = \frac{1}{k}\sum_{j=1}^{k} X_{ijl}$ Here k be the number of outcomes in the average course take

AttainmentofCOs:

TheCOattainment levelsare measuredbasedonthe resultsofthe internalassessment andexternal examination conducted by the university. The CO attainment level based on internal assessment and external assessment are computed separately.

Attainment levelsbasedoninternal/externalassessmentmethodaredefinedasfollows:

Level1: Average ofstudent marks belongs to the class 0% - 20% for that assessment method

Level2:Averageofstudent marksbelongstotheclass20% -40%forthatassessment method

Level3:Averageofstudent marksbelongstothe class40% -60%forthatassessment method

Level4:Averageofstudent marksbelongstotheclass60% -80%forthatassessment method

Level5:Averageofstudentmarksbelongstotheclass80%-100% forthatassessmentmethod

Let $ALC_E$and ALC_Ibe the CO attainment levelofthe course based on externalassessment and internal assessment respectively. The overall CO attainment of the course is calculated by taking100% weightage to external assessment.

$$ALC = ALC_E.$$

Let $ALC_1, ALC_2, \ldots, ALC_m$betheattainment levels ofthecourses $C_1, C_2, \ldots, C_m$respectively. The

overall course attainment levels are categorized as below,

Level 1: Poor – if $0 < ALC_i \leq 1$,

Level2: Average– if$1 < ALC_i \leq 2$,

Level 3: Good – if $2 < ALC_i \leq 3$,

Level4: VeryGood –if$3 < ALC_i \leq 4$, Level5:

Excellent– if$4 < ALC_i \leq 5$.

Forevery course,wehavesetGood–Attainedastargetlevel thatiswareaimingminimumlevel 3 (good) and how the course status is attained in the performance of abilities of students.

Attheendwewillhaveattainmentlevelsofallthecourses,

ID	Coursename	ALC_i	Level	Status
C_1	Course_1	3	Good	Attained
C_2	Course_2	3	Good	Attained
C_3	Course_3	3	Good	Attained
C_4	Course_4	3	Good	Attained
C_5	Course_5	4	VeryGood	Attained
C_6	Course_6	3	Good	Attained
C_7	Course_7	3	Good	Attained
C_8	Course_8	3	Good	Attained
C_9	Course_9	3	Good	Attained
C_{10}	Course_10	4	Very good	Attained
C_{11}	Course_11	3	Good	Attained
C_{12}	Course_12	3	Good	Attained
C_{13}	Course_13	2	Average	Not Attained
C_{14}	Course_14	3	Good	Attained
C_{15}	Course_15	3	Good	Attained
C_{16}	Course_16	3	Good	Attained
C_{17}	Course_17	2	Average	Not Attained
C_{18}	Course_18	3	Good	Attained
C_{19}	Course_19	5	Excellent	Attained

Step7:CalculationofattainmentlevelsofPO'sandPSO's.

- **AttainmentofPO's& PSO's:**

The attainment of PO's & PSO's are calculated using direct method. In direct method the attainment of PO's & PSO's are calculated through the attainment levels of courses. The course attainment values (ALC_i, i= 1, 2, 3, ….., m.) and the overall level ofrelation ofcourse with each PO and PSO($X_{i,.,l}$, i=1, 2, 3, ….., m, l= 1, 2, 3,….., n.) areusedto compute direct attainment levelof each PO and PSO.

DirectAssessment: Directattainmentlevelofthel^{th}, PO's&PSO'siscalculatedasfollows.

$$DALP_l = \frac{1}{\sum_{i=1}^{m} ALC_i} \sum_{i=1}^{m} x_{i,.l,} * ALC_i \text{ ,l=1,2,…….n.}$$

ID	Coursename	ALCi	$X_{i,.,1}$	$ALC_i * X_{i,.,1}$
C_1	Course_1	3	2.5	7.5
C_2	Course_2	3	2	6
C_3	Course_3	3	1.5	4.5
C_4	Course_4	3	1.5	4.5
C_5	Course_5	4	2.25	9
C_6	Course_6	3	1.5	4.5
C_7	Course_7	3	2	6
C_8	Course_8	3	2.5	7.5
C_9	Course_9	3	2	6

C_{10}	Course_10	4	2.25	9
C_{11}	Course_11	3	2	6
C_{12}	Course_12	3	1	3
C_{13}	Course_13	2	1.5	3
C_{14}	Course_14	3	3	9
C_{15}	Course_15	3	2.5	7.5
C_{16}	Course_16	3	2	6
C_{17}	Course_17	2	1.5	3
C_{18}	Course_18	3	2	6
C_{19}	Course_19	5	2	10
Sum		59		118
			$DALP_1$= 118/59	2

Similarly,wehavetofindattainmentlevelsofallPO'sandPSO's.

Sr.No.	ALC_i	$X_{i,.,1}$	$X_{i,.,2}$	$X_{i,.,3}$	$X_{i,.,4}$	$X_{i,.,5}$	$X_{i,.,6}$	$X_{i,.,7}$	$X_{i,.,8}$
1	3	2.5	1	1.5	1.5	2	1	1.5	2.5
2	3	2	1.5	2.5	2	2	1	2.5	2.5
3	3	1.5	2.5	1.5	2	1.5	0.5	1.5	2.5
4	3	1.5	3	1.5	2.5	2	2	2	2
5	4	2.25	2.25	2	2	1.75	1	2.5	1.75
6	3	1.5	2	1.5	2	1	1.5	1	2
7	3	2	2	1	1.5	2	1	1.5	1
8	3	2.5	2	1.5	2	2	1.5	1	2
9	3	2	2	2	1.5	1.5	1	2.5	2
10	4	2.25	2	1.75	2	1.5	1	2.25	2
11	3	2	2	2	2	1.5	1.5	0.5	2
12	3	1	2	2	1.5	2	1.5	3	2.5
13	2	1.5	1	2	2	1	1.5	0.5	2
14	3	3	2	2	1.5	2.5	2.5	1.5	2.5
15	3	2.5	2	2	2	2	1	1.5	2
16	3	2	2	2	2	2	1	1.5	2
17	2	1.5	1.5	2.5	1.5	1.5	1	1	2
18	3	2	2	2	2	2	2	0.5	1.5
19	5	2	2.125	1.875	2	1.75	1.75	1.75	1.875
Sum	59	37.5	36.875	35.125	35.5	33.5	25.25	30	38.625

Sr.No.	$ALC_i * X_{i,.,1}$	$ALCi * X_{i,.,2}$	$ALCi * X_{i,.,3}$	$ALCi * X_{i,.,4}$	$ALCi * X_{i,.,5}$	$ALCi * X_{i,.,6}$	$ALCi * X_{i,.,7}$	$ALCi * X_{i,.,8}$
1	7.5	3	4.5	4.5	6	3	4.5	7.5
2	6	4.5	7.5	6	6	3	7.5	7.5
3	4.5	7.5	4.5	6	4.5	1.5	4.5	7.5
4	4.5	9	4.5	7.5	6	6	6	6
5	9	9	8	8	7	4	10	7
6	4.5	6	4.5	6	3	4.5	3	6
7	6	6	3	4.5	6	3	4.5	3
8	7.5	6	4.5	6	6	4.5	3	6
9	6	6	6	4.5	4.5	3	7.5	6
10	9	8	7	8	6	4	9	8
11	6	6	6	6	4.5	4.5	1.5	6
12	3	6	6	4.5	6	4.5	9	7.5
13	3	2	4	4	2	3	1	4
14	9	6	6	4.5	7.5	7.5	4.5	7.5
15	7.5	6	6	6	6	3	4.5	6
16	6	6	6	6	6	3	4.5	6
17	3	3	5	3	3	2	2	4
18	6	6	6	6	6	6	1.5	4.5
19	10	10.625	9.375	10	8.75	8.75	8.75	9.375
Sum	118	116.63	108.38	111	104.75	78.75	96.75	119.38
$DALP_I$	2	1.9767	1.8369	1.8814	1.7754	1.3347	1.6398	2.0233

Step8:Comparisonoftargetlevelwithobtained PO attainment.

Inthisstepthetarget levelofPO'sandPSO'sattainmentarecomparedwithobtained $DALP_I$

Attainmentlevelsaredefinedasstatedbelow.

Level 1: Poor – if $0 < ALC_i \leq 1$,

Level2: Average– if $1 < ALC_i \leq 1.5$,

Level 3: Good – if $1.5 < ALC_i \leq 2$,

Level4:VeryGood –if $2 < ALC_i \leq 2.5$,

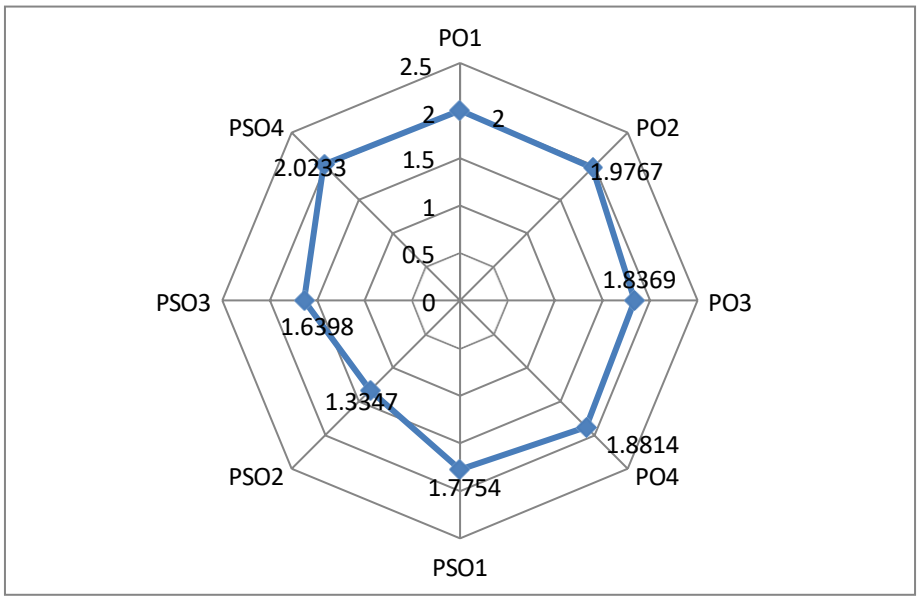
Level5: Excellent– if $2.5 < ALC_i \leq 3$.

ForeveryPO'sandPSO's, wehaveset level3astargetlevelthat isweareaiming minimum level 3 (good) in the performance of abilities of students.

AttainmentlevelofallthePOsandPSOs

PO's	$DALP_l$	Level	Status
PO1	2	Good	Attained
PO2	1.9767	Good	Attained
PO3	1.8369	Good	Attained
PO4	1.8814	Good	Attained
PSO1	1.7754	Good	Attained
PSO2	1.3347	Average	Not Attained
PSO3	1.6398	Good	Attained
PSO4	2.0233	VeryGood	Attained

$P_l$attainmenttargetlevelsay,3, indicatesthat,thedepartment is aiming minimum level-3(good) in the performance of abilities of students.



Step9: Plannedactions:

RemedialActions:

Plannedactions forcourseattainment:Courseshavingcourselevellessthanlevel-3are addressed bydesigning the different remedial measures like assignment/tutorials/remedial teaching.

Plannedactions for programoutcomeattainment:PO's andPSO's withlevelattainment less than level-3areaddressedbyplanningremedialmeasuresforthecorrespondingcourseswithrespecttothanP_l.