

R C Patel Institute of Technology

SELF ASSESSMENT REPORT(TIER - I) FOR Computer Engineering

Part A : Institutional Information

1 Name and Address of the Institution

R C Patel Institute of Technology,
Near Nimzari Naka, Shahada Road, Shirpur - 425405, Dist: Dhule (MS)

2 Type of the Institution:

<input type="radio"/> Deemed to be University	<input checked="" type="radio"/> Autonomous
<input type="radio"/> University	<input type="radio"/> Non-Autonomous (Affiliated)
<input type="radio"/> Institute of National Importance	<input type="radio"/> Any Other(Please Specify)

3 Year of establishment of the Institution:

2001

4 Ownership Status:

<input type="radio"/> Central Government	<input type="checkbox"/> Any Other(Please Specify)
<input type="radio"/> State Government	
<input type="radio"/> Government Aided	
<input checked="" type="radio"/> Self financing	

5 Name and Address of Affiliating University(if any)

Dr. Babasaheb Ambedkar Technological University, Lonere, Tal- Mangaon, Dist – Raigad. Maharashtra (India). Pin: 402103

6 Other Academic Institutions of the Trust/Society/Company etc., if any

Name of Institutions	Year of Establishment	Programs of Study	Location
R. C. Patel Institute of Phar	1992	Pharmacy	Shirpur
R.C. Patel Institute of Pharr	2003	Pharmacy	Shirpur
H.R.Patel Institute of Pharr	2004	Pharmacy	Shirpur
H.R.Patel Institute of Pharr	2006	Pharmacy	Shirpur
R.C.Patel College of Engine	2016	Engineering	Shirpur
R.C.Patel College of Educa	1990	BEd	Shirpur
SMT H.R.Patel Arts Mahila	1990	Arts	Shirpur

7 Details of all the programs being offered by the Institution under consideration:

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Computer Engineering	UG	2001	2017	60	Yes	180	Applying first time	--	--		4

Sanctioned Intake for Last Five Years for the Computer Engineering

Academic Year	Sanctioned Intake
2025-26	180
2024-25	180
2023-24	180
2022-23	180
2021-22	180
2020-21	180

8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Computer Engineering
2	Under Graduate	Engineering & Technology	Mechanical Engineering
3	Under Graduate	Engineering & Technology	Electronics and Telecommunication Engineering

Table No. A8.2

S No	Name of the Department	Name of the Program	Name of Allied Departments/Cluster	Name of Allied Program
1	Computer Engineering	Computer Engineering	Computer Science and Engineering (Data Science)	Computer Science and Engineering (Data Science)
2	Computer Engineering	Computer Engineering	Information Technology	Information Technology
3	Computer Engineering	Computer Engineering	Artificial Intelligence and Data Science	Artificial Intelligence and Data Science
4	Computer Engineering	Computer Engineering	Artificial Intelligence and Machine Learning	Artificial Intelligence and Machine Learning

9 Total Number of Faculty Members in Various Departments:

ID	Department Name	Number of faculty members in the Department (UG and PG)											
		2025-26 (CAY)				2024-25 (CAYm1)				2023-24 (CAYm2)			
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members
1	Computer Engineering	3	9	16	28	3	1	24	28	4	3	24	31
2	Electronics and Telecommunication	4	4	13	21	4	3	14	21	4	4	15	23
3	Mechanical Engineering	2	3	8	13	1	1	18	20	1	1	18	20
4	Computer Science Engineering (Data Science)	1	3	10	14	1	1	8	10	1	1	9	11
5	Electrical Engineering	1	3	7	11	1	1	10	12	1	0	13	14
6	Civil Engineering	1	3	8	12	1	2	11	14	0	1	13	14
7	Artificial Intelligence and Machine learning	1	3	7	11	1	1	7	9	0	0	6	6
8	Artificial Intelligence and Data Science	0	0	6	6	0	0	0	0	0	0	0	0
9	Information Technology	0	0	4	4	0	0	0	0	0	0	0	0
10	Applied Science and Humanities	2	2	20	24	2	2	20	24	2	2	15	19

10 Total Number of Engineering Students in Various Departments:

ID	Department Name	Number of students in the Department (UG and PG)		
		2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)
1	Computer Engineering	778	787	756
2	Electronics and Telecommunication	498	514	460
3	Mechanical Engineering	229	221	267
4	Computer Science Engineering (Data Science)	389	327	263
5	Electrical Engineering	246	258	217
6	Civil Engineering	220	215	212
7	Artificial Intelligence and Machine learning	258	248	183
8	Artificial Intelligence and Data Science	254	124	0
9	Information Technology	254	125	0

11 Vision of the Institution:

To become a leading Institute in Technical education fostering innovation, research, ethical values, and sustainable development for the betterment of society.

12 Mission of the Institution:

To impart high quality Technical Education through:

M1: Innovative and Interactive learning process and high quality, globally recognized instructional programs.

M2: Fostering a collaborative scientific temper among students with ethical responsibility towards the society.

M3: Preparing students from diverse backgrounds to have aptitude for employment, entrepreneurship and research with a spirit of professionalism.

M4: To contribute to the nation's sustainable development.

13 Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution	
Name	Prof. Dr. Jayantrao Bhaurao Pe
Designation	Director
Mobile No.	9923466699
Email ID	director@rcpit.ac.in

NBA Coordinator, If Designated

Name	Dr. Dharmaraj Rajaram Patil
Designation	Head and Professor
Mobile No.	9420404470
Email ID	dharmaraj.patil@rcpit.ac.in

PART B: Criteria Summary

Criteria No.	Criteria	Total Marks	Institute Marks
1	OUTCOME-BASED CURRICULUM	120	120.00
2	OUTCOME-BASED TEACHING LEARNING	120	120.00
3	OUTCOME-BASED ASSESSMENT	120	120.00
4	STUDENTS' PERFORMANCE	120	97.31
5	FACULTY INFORMATION	100	68.72
6	FACULTY CONTRIBUTIONS	120	97.00
7	FACILITIES AND TECHNICAL SUPPORT	100	100.00
8	CONTINUOUS IMPROVEMENT	80	80.00
9	STUDENT SUPPORT AND GOVERNANCE	120	116.00
	Total	1000	919

Part B : Criteria Summary

1 OUTCOME-BASED CURRICULUM (120)

Total Marks 120.00

1.1 Vision, Mission and Program Educational Objectives (PEOs) (35)

Total Marks 35.00

1.1.1 State the Vision and Mission of the Institute and the Department (5)

Institute Marks : 5.00

Vision of the institute	To become a leading Institute in Technical education fostering innovation, research, ethical values, and sustainable development for the betterment of society.									
Mission of the institute	<p>To impart high quality Technical Education through:</p> <p>M1: Innovative and Interactive learning process and high quality, globally recognized instructional programs.</p> <p>M2: Fostering a collaborative scientific temper among students with ethical responsibility towards the society.</p> <p>M3: Preparing students from diverse backgrounds to have aptitude for employment, entrepreneurship and research with a spirit of professionalism.</p> <p>M4: To contribute to the nation's sustainable development.</p>									
Vision of the Department	To provide high quality Computer Engineering education with socio-moral values.									
Mission of the Department	<table border="1"> <thead> <tr> <th data-bbox="235 927 352 1003">Mission No.</th> <th data-bbox="352 927 1024 1003">Mission Statements</th> </tr> </thead> <tbody> <tr> <td data-bbox="235 1003 352 1049">M1</td> <td data-bbox="352 1003 1024 1049">To provide state-of-the-art ICT based teaching-learning process.</td> </tr> <tr> <td data-bbox="235 1049 352 1125">M2</td> <td data-bbox="352 1049 1024 1125">To groom the students to become professionally sound computer engineers to meet emerging needs of industry and society.</td> </tr> <tr> <td data-bbox="235 1125 352 1200">M3</td> <td data-bbox="352 1125 1024 1200">To make the students employable professional by inculcating ethical values.</td> </tr> </tbody> </table>		Mission No.	Mission Statements	M1	To provide state-of-the-art ICT based teaching-learning process.	M2	To groom the students to become professionally sound computer engineers to meet emerging needs of industry and society.	M3	To make the students employable professional by inculcating ethical values.
Mission No.	Mission Statements									
M1	To provide state-of-the-art ICT based teaching-learning process.									
M2	To groom the students to become professionally sound computer engineers to meet emerging needs of industry and society.									
M3	To make the students employable professional by inculcating ethical values.									

1.1.2 State PEOs of the Program (5)

Institute Marks : 5.00

PEO No.	Program Educational Objectives Statements
PEO1	Graduates will have technical proficiency, lifelong learning skills for advancing their careers being a professional, entrepreneur and leader.
PEO2	Graduates will function effectively in diverse cultural and professional environments, respecting societal perspectives and inclusive practices.
PEO3	To foster ethical and social values to be socially responsible human beings.

1.1.3 Process of Defining Vision, Mission and PEOs (10)

Institute Marks : 10.00

The Program Assessment Committee (PAC), chaired by the Head of the Department, is responsible for defining, validating, and periodically reviewing the Vision, Mission, and Program Educational Objectives (PEOs) of the department. The process is systematic, participative, iterative, and cyclic, ensuring alignment with institutional goals and stakeholder expectations. The Program Coordinator collects stakeholder views and feedback periodically from students, faculty members, alumni, employers, industry professionals, and parents through feedback, meetings, discussions, and interactions. All related records, such as feedback analysis, minutes of meeting, draft documents, and approvals are systematically maintained for transparency and verification. The process of defining Vision, Mission and PEOs shown in Figure 1.1.3.1 and steps are as follows.

Step 1: Reference to Institute Vision and Mission

The process begins with reference to the Vision and Mission of the Institute, which serve as the guiding framework for developing the department Vision, Mission, and PEOs. These ensure consistency with the long-term strategic direction of the Institute.

Step 2: Stakeholder Views and Feedback

Simultaneously, stakeholders' views and feedback are collected and analyzed. Inputs focus on:

- Academic expectations
- Industry and employability requirements
- Professional ethics and societal needs
- Emerging technologies and future career paths

These inputs act as a critical foundation for formulation.

Step 3: Preparation of Draft through Department Brainstorming

Based on the Institute Vision, Mission, and analyzed stakeholder feedback, the department conducts brainstorming sessions involving faculty members. During these sessions:

- Strategic priorities are discussed
- Academic and industry relevance is evaluated
- Alignment with Program Outcomes (POs) is ensured

Following this, a preliminary draft of the Vision, Mission, and PEOs is prepared.

Step 4: Formulation by Program Assessment Committee

The PAC formally formulates the Vision, Mission, and PEOs based on:

- Draft prepared after brainstorming
- Stakeholder feedback
- Academic, industry, and national priorities

The draft emphasizes clarity, discipline relevance, employability, higher education, research orientation, ethical values, innovation, and societal contribution.

Step 5: Validation by Department Advisory Board (DAB)

The formulated Vision, Mission, and PEOs are presented to the DAB for validation.

- If DAB does not validate the statements, the process loops back to the draft preparation stage, and revisions are carried out based on DAB suggestions.
- If DAB validates the statements, the process proceeds to finalization.

This validation ensures external academic and industry perspectives are incorporated.

Step 6: Finalization by PAC

Upon successful validation by the DAB, the PAC finalizes the Vision, Mission, and PEOs of the department.

Step 7: Revision Requirement Check

The finalized statements are examined to determine whether any further revision is required:

- If revision is required, the process loops back for modification and revalidation.
- If no revision is required, the statements are approved for publication.

Step 8: Publication and Dissemination

Once finalized and approved, the Vision, Mission, and PEOs are published and disseminated to stakeholders through:

- Institute Website and Department Webpage
- Display Boards
- Faculty–Student Interactions
- Official Communication Platforms

Step 9: Periodic and Cyclic Review

The entire process is cyclic in nature. The PAC periodically reviews the Vision, Mission, and PEOs to ensure continued relevance with:

- Technological advancements
- Industry trends
- Academic developments

Any required changes follow the same structured process, ensuring continual improvement and alignment with stakeholder expectations.

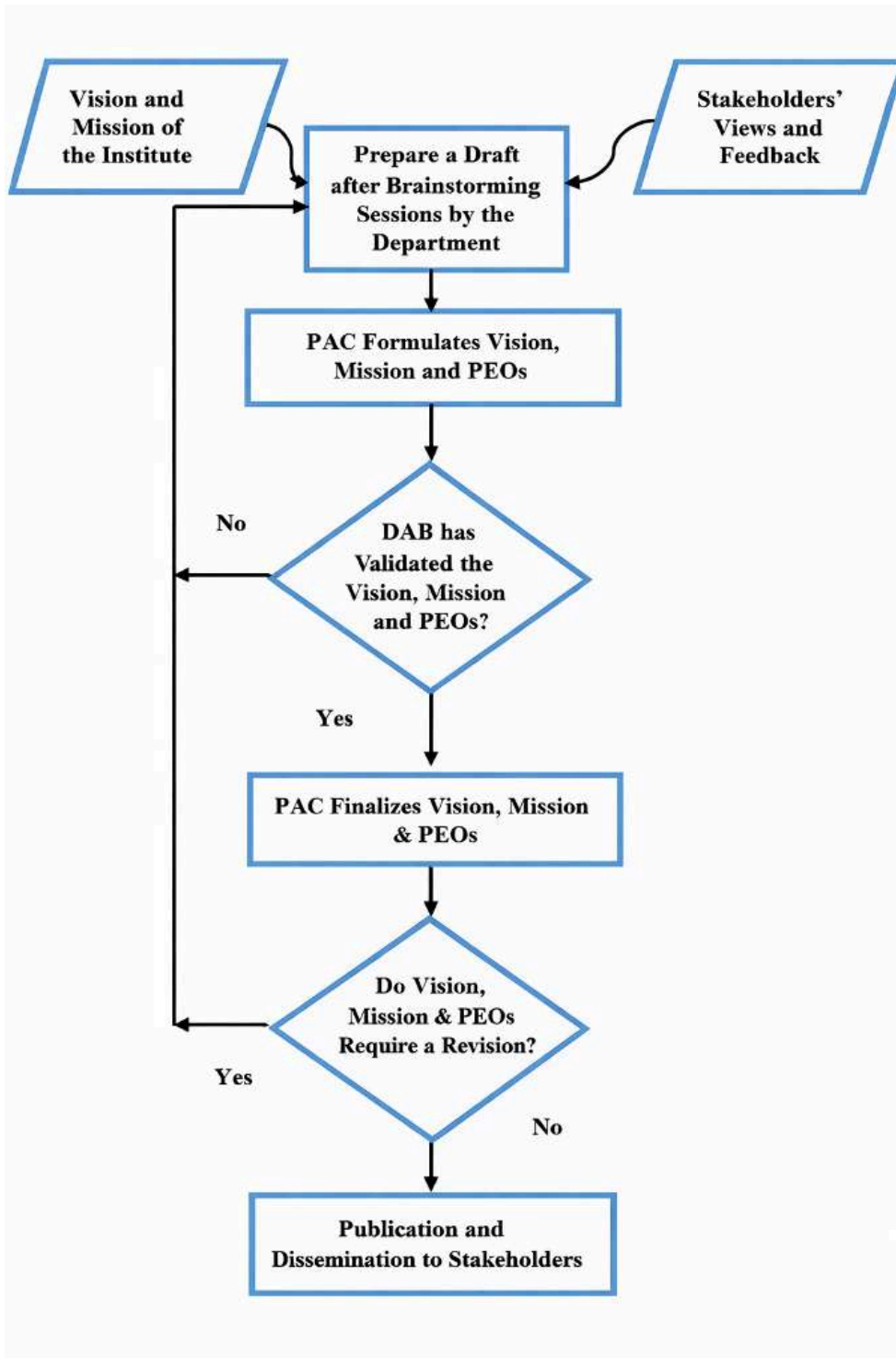


Figure 1.1.3.1: Process of Defining the Program Vision, Mission and PEOs

1.1.4 Dissemination of Vision, Mission and PEOs (5)

Institute Marks : 5.00

The Vision and Mission of the Institute are published and disseminated among stakeholders as illustrated in Table 1.1.4.1.

Table 1.1.4.1: Publication and Dissemination of Vision, Mission and PEOs of the Institute

Publication of Vision and Mission of the Institute		Stakeholders
Mediums of Publication	<ul style="list-style-type: none"> · Institute Website · Social Media Platforms · Institute Newsletter · Institute Magazine · Institute Information Booklet · Training and Placement (T&P) Activity Report 	Internal and External Stakeholders
	<ul style="list-style-type: none"> · Student Files and Reports · Laboratory Manuals 	Internal Stakeholders
Methods of Display	<ul style="list-style-type: none"> · Director's Office · Administrative Office · Auditorium Hall · T&P Office · Canteen and Hostel 	Internal and External Stakeholders
	<ul style="list-style-type: none"> · Central Facilities and Workshop · Classrooms and Laboratories · Notice Boards 	Internal Stakeholders
Methods of Dissemination	<ul style="list-style-type: none"> · Induction Program · Alumni Meetings · Governing Body Meetings · Academic Council and Internal Quality Assurance Cell (IQAC) Meetings · Letters and Correspondence · Employer Meetings during Placement Drives 	Internal and External Stakeholders

The Vision, Mission and PEOs of the department are published and disseminated among stakeholders as mentioned in Table 1.1.4.2.

Table 1.1.4.2: Publication and dissemination of Vision, Mission and PEOs of the Department

Publication of Vision, Mission and PEOs of the Department	Stakeholders
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Mediums of Publication	<ul style="list-style-type: none"> · Department Webpage · Department Activity Report · Department Newsletter and Magazine 	Internal and External Stakeholders
	<ul style="list-style-type: none"> · Student Files and Reports · Laboratory Manuals · Faculty Diary 	Internal Stakeholders
Methods of Display	<ul style="list-style-type: none"> · Head of Department (HoD) Cabin · Faculty Cabin · Prominent Places in the Department 	Internal and External Stakeholders
	<ul style="list-style-type: none"> · Department Library · Notice Boards · Classrooms · Laboratories 	Internal Stakeholders
Methods of Dissemination	<ul style="list-style-type: none"> · Alumni Interaction · PAC Meetings · DAB Meetings · Board of Studies meetings · Emails, Letters, and Correspondence · Parent-Teacher Meet · Local Guardian Meeting with Students 	Internal and External Stakeholders

The Process of Dissemination of the Vision, Mission and PEOs among Stakeholders:

Online presence:

The Institute and the Department maintain a virtual presence through their websites and Social Media Platforms.

Physical Displays in Campus:

The Vision, Mission, and PEOs are displayed prominently throughout the campus. Displays can be found in the office, classrooms, laboratories, library, notice boards, corridors, etc.

Internal and External Communication:

The Vision, Mission, and PEOs are disseminated via different means of communication, such as Laboratory Manuals, Project and Internship Reports. Parents know about them from letters and Institute Website. Alumni, industry professionals, management, training partners and other people who engage with the Institute know about the Vision, Mission, and PEOs through formal interactions.

Meetings:

Every year, newly admitted students and their parents come to know about Vision, Mission and PEOs during an induction program. Formal and informal meetings that take place on a variety of occasions are another effective way to disseminate vision, mission, and PEOs through Parents and Teachers, Management, Governing Body, DAB, and BoS meetings.

Employers are our external stakeholders, and we communicate Vision, Mission, and PEOs to them through online and in-person meetings. Our employers visit campus in person during the placement drive. Faculty members use email signatures with the department vision and mission when communicating with external stakeholders.

PEO Statements	M1	M2	M3
Graduates will have technical proficiency, lifelong learning skills for advancing their careers being a professional, entrepreneur and leader.	3 ▾	3 ▾	2 ▾
Graduates will function effectively in diverse cultural and professional environments, respecting societal perspectives and inclusive practices.	2 ▾	3 ▾	2 ▾
To foster ethical and social values to be socially responsible human beings.	2 ▾	2 ▾	3 ▾

The justification and rationale behind the mapping of PEOs with the Department Mission statements are presented in Table No. 1.1.5.1, which explains how each PEO supports and contributes toward the fulfillment of the department's mission.

Table 1.1.5.1: Justification and Rationale of the Mapping of PEOs with Mission Statements.

Mapping Program Educational Objectives (PEOs)	Mission Statements of Program		
	M1: To provide state-of-the-art ICT based teaching-learning process.	M2: To groom the students to become professionally sound computer engineers to meet emerging needs of industry and society.	M3: To make the students employable professionals by inculcating ethical values.
PEO1 Graduates will have technical proficiency, lifelong learning skills to become a professional, entrepreneur and leader.	3-HIGH: The department promotes innovative and interactive learning through activities such as Smart India Hackathon, Encrypt Mania, Nodevember 2.0, The React Cohort Training, V-Lab, and Cyber Dhamaka enhance ICT exposure and promote self-learning and problem-solving abilities. PEO1 strongly supports M1.	3-HIGH: For this department conducts Skill and industry-oriented activities like Strategic Engineering Roadmap Session, Startup Mantra, Coding Contests, Avishkar, Women's Hackathon, R3Sys Training, Expert Lectures, and Value Added Courses develop technical strength, leadership, and entrepreneurial mindset. PEO1 strongly supports M2.	2-Medium: Programs such as Suicide Prevention & Mental Wellness Talk, Computer Literacy Programs, NSS Camp, and social outreach initiatives strengthen ethical values and prepare students to become responsible professionals. PEO1 moderately supports M3.
PEO2 Graduates will function effectively in diverse cultural and professional environments, respecting societal perspectives and inclusive practices.	2-Medium: Hands-on technical events like Hackathons, workshops, seminars, internships, and certifications (NPTEL/Coursera) improve adaptability, teamwork, and multicultural exposure. PEO2 moderately supports M1.	3-HIGH: Activities such as coding competitions, group activities, Parents Meet, Alumni Interactions, AI Club Events, and Nodevember cultivate communication, team collaboration, leadership, and professional readiness. PEO2 strongly supports M2.	2-Medium: Social responsibility is strengthened through Blood Donation Camps, Tree Plantation, Cleanliness Drive, outreach by GDG Clubs, and participation in societal problem-solving events like Avishkar and Hackathons. PEO2 moderately supports M3.

<p>PEO3 To foster ethical and social values to be socially responsible human beings.</p>	<p>2-Medium: Courses on professional ethics, Universal Human Values, social impact projects, and community-driven ICT programs establish ethical awareness. PEO3 moderately supports M1.</p>	<p>2-Medium: Alumni mentoring, expert talks, entrepreneurship sessions, student club activities, and industry-driven workshops instill professionalism and ethical conduct in real-world environments. PEO3 moderately supports M2.</p>	<p>3-HIGH: Ethical and social responsibility is reinforced through NSS activities, Blood Donation Camps, Tree Plantation, Cleanliness Drives, Mental Wellness Sessions, and societal outreach campaigns. PEO3 strongly supports M3.</p>
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1.2 Curriculum Structure and Features (30)

Total Marks 30.00

1.2.1 State the Process for Developing/Revising the Program Curriculum (10)

Institute Marks : 10.00

The program curriculum is developed and periodically revised through a systematic, outcome based and participative mechanism involving internal and external stakeholders. The process ensures alignment with PEOs, PSOs and POs, while addressing emerging industry needs, technological advancements, societal expectations, national educational reforms, and academic standards. All related documents - including feedback summaries, minutes of meetings, gap analysis reports, benchmarking records, and approval resolutions - are maintained for transparency and verification. The overall workflow adopted for curriculum development and revision is illustrated in Figure 1.2.1.1.

A. Committees Involved in Curriculum Development

To ensure academic consistency and industry relevance, curriculum revision follows a multi-level review involving:

Program Assessment Committee:

- Collects stakeholder feedback, analyses data, and identifies curriculum enhancement needs.
- Reviews attainment levels of POs and PSOs to ensure Outcome Based Education (OBE) alignment.

Department Advisory Board:

- Includes senior academicians, employers, alumni, and industry members.
- Reviews PAC recommendations and provides industry-oriented inputs.

Board of Studies (BoS):

- Statutory body including external academic and industry experts.
- Evaluates academic depth, credit structure, and regulatory compliance.

Academic Council:

- Academic Council is responsible for final confirmation and authorization for implementation.

B. Step-by-Step Curriculum Revision Process

The development and revision process as outlined below:

Step 1: Feedback Collection & Gap Identification

Structured feedback is collected from Students, Alumni, Employers, Faculty Members, Parents, exit feedback, and academic meetings. Inputs help identify gaps related to industry expectations, technological advancements, employability requirements, skill development, and higher education needs.

Step 2: Analysis by Program Assessment Committee

PAC reviews feedback outcomes along with PO/PSO attainment results. A detailed Gap Analysis and Curriculum Revision Report is prepared by comparing with:

- AICTE Model Curriculum
- Syllabus of premier institutions
- Autonomous colleges/universities

This benchmarking ensures academic depth, contemporary relevance, and national competitiveness.

The curriculum structure is also reviewed for alignment with the National Credit Framework (NCRF) to support academic mobility, multidisciplinary progression, and flexibility in credit distribution.

Step 3: Review by Department Advisory Board

The DAB validates PAC recommendations and suggests additions related to recent technologies, skill requirements, industry tools, professional competencies, and employability.

Based on consolidated findings, a Revised Curriculum Proposal is drafted.

Step 4: Approval by Board of Studies

The Revised Curriculum Proposal is presented to the BoS for evaluation. The BoS assesses:

- Academic consistency and learning depth
- Course relevance
- Credit structure and load distribution

- OBE mapping with POs/PSOs
- Alignment with AICTE/University/NCrF norms

Upon approval, the updated syllabus and curriculum structures are finalized.

Step 5: Confirmation by Academic Council

The BoS-approved curriculum is forwarded to the Academic Council for final confirmation and implementation authority. Once approved, it becomes operational.

Step 6: Implementation and Monitoring

The revised curriculum is delivered through classroom teaching, laboratory sessions, internships, project-based learning and skill-based activities. PAC periodically evaluates its effectiveness based on attainment results and feedback trends. Further revisions follow the same structured process. Further revisions follow the same structured process as depicted in Figure 1.2.1.1.

C. Curriculum Review Frequency

Curriculum review is conducted:

- As per University/BoS/AICTE guidelines, or
- When major technological or industry shifts occur, or
- Based on attainment gaps identified through academic analysis.

The identified gaps, missing contents, and corresponding bridging actions proposed in related courses are summarized in Table 1.2.1.1.

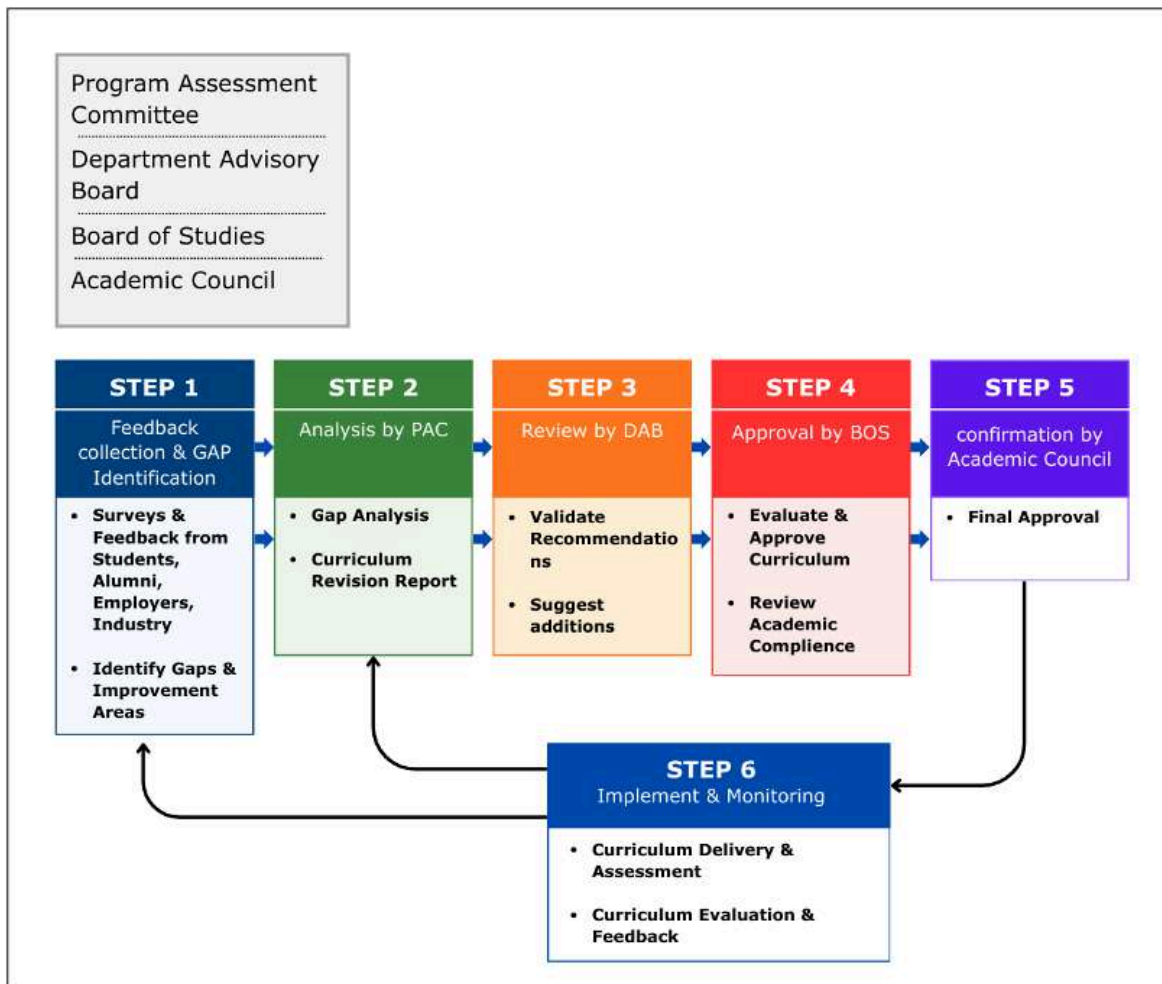


Figure 1.2.1.1: Process for Developing/Revising the Program Curriculum

Table 1.2.1.1: Identified Gap / Missing Content with related courses and Bridging Action Proposed

Sr. No.	Stakeholder Feedback Source	Identified Gap / Missing Content	Related Courses	PO / PSO Not Addressed / Weak	Gap Type (Knowledge / Skills / Tools / Attitude)	Bridging Action Proposed	Activity Conducted
1	Student Feedback	Students faced difficulty in coding	Online Coding Platform	PO1, PO2, PO5, PSO1	Skill Gap	Hands on practice on Codechef online coding platform	Implemented during semester

2	Employer Feedback	Skill sets required in IT Industry as a Computer Engineer	Full Stack Development	PO3, PO5, PO10, PSO1	Knowledge + Skills Gap	Industry Training in Institute premises	Industry Experts Training
3	Exit Survey	Limited team collaboration experience	All Project Courses	PO9	Attitude/Soft Skill Gap	Interdisciplinary Project Introduction	Implemented in 2024
4	Industry Expert Talk	Basics of Interview Skill and Personality Development	Soft Skill Program	PO8, PO10	Skill Gap	Summer Training program	Summer Training program Organized by Mahindra Naandi Foundation
5	Alumni Interaction	Requirement of Foreign Language Training	Japanese German	PO8, PO10, PO12	Knowledge Gap	Japanese German Training	In-house Japanese German Training conducted by Professionals
6	Academic Result Analysis	Students faced difficulty in understanding core concepts of some subjects	--	PO1, PO2	Knowledge Gap	Remedial classes conducted to strengthen fundamental concepts	Remedial classes conducted

Edit

ID	Course Code	Course Title	Classroom Instruction (CI) (in hours per semester)		Lab Instruction (LI) (in hours per semester)	Term Work (TW) and Self Learning (SL) (TW+ SL) (in hours per semester)	Total no. of Hours per semester	Total Credits (C)* (Total Hours/30)
			L	T	P	SL		
1	C101	Engineering Mathematics-I	56	14	0	80	150	5.00
2	C102	Engineering Physics-I	28	0	0	32	60	2.00
3	C103	Engineering Chemistry-I	28	0	0	32	60	2.00
4	C104	Engineering Mechanics	42	14	0	64	120	4.00
5	C105	Basic Electrical Electronics Engineering	42	0	0	48	90	3.00
6	C106	Engineering Science-I Laboratory	0	0	28	2	30	1.00
7	C107	Engineering Mechanics Laboratory	0	0	28	2	30	1.00
8	C108	Basic Electrical Electronics Engineering Laboratory	0	0	28	2	30	1.00
9	C109	Language Proficiency- English	0	0	28	2	30	1.00
10	C110	Workshop	0	0	28	2	30	1.00
11	C111	Engineering Mathematics-II	56	14	0	80	150	5.00
12	C112	Engineering Physics-II	28	0	0	32	60	2.00
13	C113	Engineering Chemistry-II	28	0	0	32	60	2.00
14	C114	Engineering Graphics	28	0	0	32	60	2.00
15	C115	Computer Programming	42	0	0	48	90	3.00
16	C116	Effective Communication Skill	28	0	0	32	60	2.00
17	C117	Engineering Science -II Laboratory	0	0	28	2	30	1.00

18	C118	Engineering Graphics Laboratory	0	0	28	2	30	1.00
19	C119	Computer Programming Laboratory	0	0	28	2	30	1.00
20	C120	Effective Communication Skills Laboratory	0	0	28	2	30	1.00
21	C201	Engineering Mathematics-III	42	14	0	64	120	4.00
22	C202	Data Structures	42	0	0	48	90	3.00
23	C203	Data Structures Laboratory	0	0	28	2	30	1.00
24	C204	Discrete Structures	42	14	0	64	120	4.00
25	C205	Database Management Systems	42	0	0	48	90	3.00
26	C206	Database Management Systems Laboratory	0	0	28	2	30	1.00
27	C207	Digital Electronics	42	0	0	48	90	3.00
28	C208	Digital Electronics Laboratory	0	0	28	2	30	1.00
29	C209	Programming Laboratory-I(Java)	0	0	56	4	60	2.00
30	C210	Semester Project-I	0	0	28	2	30	1.00
31	C211	Engineering Mathematics-IV	42	14	0	64	120	4.00
32	C212	Formal Language and Automata Theory	42	14	0	64	120	4.00
33	C213	Operating System	42	0	0	48	90	3.00
34	C214	Operating System Laboratory	0	0	28	2	30	1.00
35	C215	Analysis of Algorithms	42	0	0	48	90	3.00
36	C216	Analysis of Algorithms Laboratory	0	0	28	2	30	1.00
37	C217	Computer Networks	42	0	0	48	90	3.00
38	C218	Computer Networks Laboratory	0	0	28	2	30	1.00

39	C219	Universal Human Values	28	0	0	32	60	2.00
40	C220	Semester Project-II	0	0	28	2	30	1.00
41	C221	Employability Skill Development Program-I	0	0	28	2	30	1.00
42	C301	Data Mining and Warehouse	42	0	0	48	90	3.00
43	C302	Data Mining and Warehouse Laboratory	0	0	28	2	30	1.00
44	C303	Processor Organization and Architecture	42	0	0	48	90	3.00
45	C304	Processor Organization and Architecture Laboratory	0	0	28	2	30	1.00
46	C305	Artificial Intelligence	42	0	0	48	90	3.00
47	C306	Artificial Intelligence Laboratory	0	0	28	2	30	1.00
48	C307	Advanced Database Management System	42	0	0	48	90	3.00
49	C308	Advanced Database Management System	0	0	28	2	30	1.00
50	C309	Programming Laboratory-II (Python)	0	0	56	4	60	2.00
51	C310	Professional and Business Communication	28	0	0	32	60	2.00
52	C311	Semester Project-III	0	0	28	2	30	1.00
53	C312	Employability Skill Development Program-II	0	0	28	2	30	1.00
54	C313	Software Engineering	42	0	0	48	90	3.00
55	C314	Software Engineering Laboratory	0	0	28	2	30	1.00
56	C315	Advanced Algorithms	42	0	0	48	90	3.00
57	C316	Advanced Algorithms Laboratory	0	0	28	2	30	1.00
58	C317	Information Security	42	0	0	48	90	3.00
59	C318	Information Security Laboratory	0	0	28	2	30	1.00

60	C319	Internet of Things	42	0	0	48	90	3.00
61	C320	Internet of Things Laboratory	0	0	28	2	30	1.00
62	C321	Machine Learning	42	0	0	48	90	3.00
63	C322	Machine Learning Laboratory	0	0	28	2	30	1.00
64	C323	Project Stage-I	0	0	28	2	30	1.00
65	C401	Digital Signal Processing and Applications	42	0	0	48	90	3.00
66	C402	Digital Signal Processing and Applications Laboratory	0	0	28	2	30	1.00
67	C403	Distributed Computing	42	0	0	48	90	3.00
68	C404	Distributed Computing Laboratory	0	0	28	2	30	1.00
69	C405	Deep Learning	42	0	0	48	90	3.00
70	C406	Deep Learning Laboratory	0	0	28	2	30	1.00
71	C407	Research Methodology	42	0	0	48	90	3.00
72	C408	Project Stage-II	0	0	112	8	120	4.00
73	C409	Cloud Computing	42	0	0	48	90	3.00
74	C410	NPTEL Course - Cloud Computing	0	0	0	00	0	0.00
75	C411	Software Testing and Quality Assurance	42	0	0	48	90	3.00
76	C412	NPTEL Course- Natural Language Processing	0	0	0	00	0	0.00
77	C413	Internship	0	0	280	20	300	10.00
		Total	1512	98	1428	1942	4980	166.00

1.2.3 Components of Curriculum (5)

Institute Marks : 5.00

Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
Basic Sciences	17	840.00	28.00
Basic Engineering	13	630.00	21.00
Humanities and Social Scie	6	300.00	10.00
Program Core	38	1920.00	64.00
Program Electives	13	660.00	22.00
Open Electives	2	90.00	3.00
Project(s)	5	240.00	8.00
Internships/Seminars	6	300.00	10.00
Any other (Please specify)	0	28.00	0.00
Total number of Credits			166.00

1.2.4 Strategies for Education Reforms (5)

Institute Marks : 5.00

The Government of Maharashtra, in consonance with the National Education Policy (NEP) 2020, has resolved to implement transformative reforms in higher and technical education to strengthen India's position as a global knowledge hub. Recognizing the urgent need to equip students with multidisciplinary competencies, critical thinking, and industry-ready skills, the GR dated 4 July 2023 outlines directives for restructuring undergraduate engineering programmes across autonomous institutions and universities.

The reforms emphasize a **four-year multidisciplinary UG framework** with multiple entry and exit options, ensuring flexibility, inclusivity, and lifelong learning pathways. By integrating **vocational skill enhancement, internships, community engagement, Indian Knowledge Systems, and value education**, the curriculum seeks to balance academic consistency with holistic development.

The credit framework, aligned with the National Credit Framework and AICTE guidelines, enables horizontal and vertical mobility, fostering innovation, entrepreneurship, and research orientation.

This initiative embeds several strategic reforms, summarized in Figure 1.2.4.1, which collectively support the effective implementation of NEP-2020 aligned education reforms:

- Curricular restructuring to promote multidisciplinary learning and employability.
- **Skill integration** through internships and experiential projects.
- **Flexibility and mobility** via credit transfer, online learning, and open electives.
- **Ethical and societal orientation** through value education, community projects, and co-curricular engagement.
- **Research and innovation focus** with honours and research tracks in the final year.

Through these reforms, institute aims to ensure uniformity, quality, and global competitiveness in engineering education, thereby nurturing graduates who are socially responsible, technologically adept, and prepared for emerging challenges in industry and research.

Maharashtra State Government Resolution Link: Click Here (<http://www.rcpit.ac.in/files/NEP-2020-GR-Technical-4th-July-2023-030326.pdf>)

<https://www.rcpit.ac.in/files/NEP-2020-GR-Technical-4th-July-2023-030326.pdf>

R. C. Patel Institute of Technology, Shirpur, Maharashtra, is a premier Autonomous Institute committed to excellence in technical education, research, and innovation. Established with the vision of nurturing competent professionals and responsible citizens, the institute has consistently upheld high academic standards and quality assurance practices.

Earlier affiliated with Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere, R. C. Patel Institute of Technology, Shirpur has now attained autonomous status, enabling it to design and implement a dynamic curriculum aligned with national priorities, industry needs, and global trends. The autonomy empowers the institute to introduce multidisciplinary and interdisciplinary programs, adopt outcome-based education frameworks, and integrate flexible credit systems such as the Academic Bank of Credits (ABC) and Automated Permanent Academic Account Registry (APAAR).

With a strong emphasis on innovation, transparency, and stakeholder engagement, R. C. Patel Institute of Technology, Shirpur continues to evolve as a center of academic excellence, preparing graduates who are industry-ready, socially responsible, and globally competent.

The institute demonstrates commitment to educational reforms through structured strategies aligned with NEP 2020. The following aspects are emphasized:

Multidisciplinary and Interdisciplinary Curriculum Design

- Integration of open electives across engineering, sciences, humanities, and management.
- Promotion of interdisciplinary projects, hackathons, and research initiatives.
- Mapping of courses to Program Outcomes (POs) and Program Specific Objectives (PSOs).

Academic Bank of Credits (ABC)

- Adoption of ABC framework to allow accumulation, transfer, and redemption of credits.
- Facilitation of credit transfer from MOOCs, NPTEL, SWAYAM, and other recognized platforms.
- Ensures flexibility and lifelong learning opportunities.

APAAR (Automated Permanent Academic Account Registry)

- Registration of students under APAAR for unique academic identity.
- Transparent tracking of credits, achievements, and mobility across institutions.
- Strengthens accountability and recognition of academic progress.

Outcome-Based Mapping of Activities

- All curricular and co-curricular activities mapped to COs, POs, and PSOs.

- Continuous monitoring of attainment levels through direct and indirect assessment tools.
- Evidence-based reporting for accreditation compliance.

Skill Development and Industry Linkages

- Collaboration with industries for internships and training.
- Organization of interdisciplinary hackathons, innovation challenges, and entrepreneurship programs.
- Focus on employability, innovation, and societal impact.
- Introduction of value-added courses in emerging areas.

Digital and Flexible Learning Initiatives

- Integration of MOOCs, and online platforms.
- Credit transfer from digital courses under ABC.
- Regular feedback from students, alumni, faculty, and industry experts.
- Curriculum reforms aligned with emerging technologies and societal needs.
- Participatory governance ensuring inclusivity and transparency.
- Continuous review through IQAC and Academic Council.



Figure 1.2.4.1: Strategies for Education Reforms

The curriculum design incorporates various educational reforms such as multidisciplinary and interdisciplinary learning approaches, implementation of the ABC, integration of skill-based courses, and recognition of prior learning to enhance flexibility and learner-centric education.

The mapped activities reflecting the implementation of these reforms within the curriculum design are presented in Table 1.2.4.1.

Table 1.2.4.1: Mapped Activities in Curriculum Design

Name of the Course/ Activity	Aligned with NEP Component	Details
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Health and Wellness-Mind and Body Management	Liberal Learning	In 1 st Semester
Indian Knowledge System	Humanities and Social Science	In 2 nd Semester
Community Engagement Service	Experiential Learning	In 3 rd Semester
Digital Electronics	Multidisciplinary	In 3 rd Semester
Universal Human Values	Humanities and Social Science	In 3 rd Semester
Design Thinking Laboratory	Humanities and Social Science	In 3 rd Semester
Formal Languages and Automata Theory	Multidisciplinary	In 4 th Semester
IoT-Centric Processor Organization and Architecture	Multidisciplinary	In 5 th Semester
Semester Project-I, II, III	Vocational and Skill Enhancement Course	In 3 rd Semester to 5 th Semester
Security in IOT Ecosystem	Multidisciplinary	In 6 th Semester
Environmental Science	Humanities and Social Science	In 6 th Semester
Project Stage 1 & 2	Skill Enhancement Course	In 6 th & 7 th Semester
Internship	Internship	In 8 th Semester

1.3 PO, PSO and their Mapping with Courses (20)

Total Marks 20.00

1.3.1 POs and PSOs (5)

:

PSO1	Apply programming principles, algorithms, and data structures to design efficient software solutions and intelligent systems using structured, object-oriented, and emerging technologies.
PSO2	Design, develop, and deploy responsive web and mobile applications integrated with databases and cloud platforms, leveraging modern frameworks and tools for digital transformation.

1.3.2 Mapping between the Courses and POs/PSOs (15)

Institute Marks : 15.00

PO:

PO Number	List of Courses
PO1	C101, C102, C103, C104, C105, C106, C107, C108, C110, C111, C112, C113, C114, C115, C117, C118, C119, C201, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO2	C101, C102, C103, C104, C105, C106, C107, C108, C110, C111, C112, C113, C114, C115, C117, C118, C119, C201, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO3	C102, C103, C104, C105, C106, C107, C108, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C120, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C310, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO4	C101, C102, C103, C104, C105, C106, C107, C108, C110, C111, C112, C113, C114, C115, C117, C118, C119, C202, C203, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO5	C101, C103, C104, C106, C107, C110, C111, C113, C114, C115, C117, C118, C119, C202, C203, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C310, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO6	C103, C106, C110, C113, C117, C205, C206, C219, C301, C302, C305, C306, C307, C308, C309, C310, C312, C313, C314, C317, C318, C319, C320, C321, C322, C323, C401, C402, C405, C406, C408, C409, C410, C411, C412, C413
PO7	C103, C106, C113, C115, C116, C117, C119, C120, C210, C212, C219, C301, C302, C305, C306, C310, C311, C312, C313, C314, C317, C318, C321, C322, C323, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO8	C104, C107, C109, C110, C114, C115, C116, C118, C119, C120, C210, C212, C219, C220, C221, C301, C302, C305, C306, C309, C310, C311, C312, C313, C314, C319, C320, C323, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO9	C102, C103, C104, C105, C106, C107, C108, C109, C110, C112, C113, C114, C115, C116, C117, C118, C119, C120, C202, C203, C205, C206, C207, C208, C209, C210, C212, C213, C214, C219, C220, C221, C301, C302, C305, C306, C309, C310, C311, C312, C313, C314, C317, C318, C319, C320, C323, C401, C402, C405, C406, C407, C408, C409, C410, C411, C412, C413
PO10	C102, C103, C106, C109, C110, C112, C114, C115, C116, C117, C118, C119, C120, C210, C219, C220, C221, C301, C302, C305, C306, C307, C308, C309, C310, C311, C313, C314, C323, C408, C411, C412, C413
PO11	C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C120, C201, C202, C203, C204, C205, C206, C209, C210, C211, C212, C213, C214, C215, C216, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C310, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413

PSO:

PO Number	List of Courses
PSO1	C101, C102, C106, C110, C111, C112, C113, C114, C115, C117, C118, C119, C201, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C310, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413
PSO2	C114, C115, C118, C119, C202, C203, C204, C205, C206, C209, C210, C212, C213, C214, C217, C218, C219, C220, C221, C301, C302, C303, C304, C305, C306, C307, C308, C309, C310, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C403, C404, C407, C408, C409, C410, C411, C412, C413

1.4 Course Outcomes and Course Articulation Matrix (30)

Total Marks 30.00

No. of Core Courses : 6	C2 : 2	C3 : 2	C4 : 2
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Note : Number of Outcomes for a Course is expected to be around 6.

Course Code :	C202	Semester :	3
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Course Outcome	Statements
C202.1	Explain Different Searching and Sorting Techniques
C202.2	Demonstrate Various Operations on Linear and Non-Linear Data Structures.
C202.3	Apply Linear Data Structures for Different Applications.
C202.4	Illustrate Use of Non-Linear Data Structures in Various Applications
C202.5	Apply appropriate hashing techniques for efficient data access and retrieval

Course Code :	C213	Semester :	4
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Course Outcome	Statements
C213.1	Summarize basic functions of Operating System
C213.2	Analyze process scheduling algorithms and IPC mechanisms.
C213.3	Illustrate various memory management and page replacement algorithms
C213.4	Explain and interpret File and I/O management techniques
C213.5	Differentiate the functionalities of different operating systems

Course Code :	C301	Semester :	5
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Course Outcome	Statements
C301.1	Interpret Data Warehouse fundamentals and data mining principles
C301.2	Design data warehouse with dimensional modelling
C301.3	Interpret ETL process and apply OLAP operations
C301.4	Apply appropriate pre-processing techniques
C301.5	Use appropriate data mining algorithms to solve real world problems
C301.6	Compare and evaluate different data mining techniques like classification, clustering and association rule mining

Course Code :	C315	Semester :	6
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Course Outcome	Statements
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C315.1	Analyze the chosen algorithm
C315.2	Use appropriate data structure and algorithm for given problem statement
C315.3	Design the algorithm

Course Code :	C401	Semester :	7
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Course Outcome	Statements
C401.1	Explain the concepts of Digital Signal Processing and its applications
C401.2	Classify and analyze discrete time signals and systems
C401.3	Apply the efficient computing algorithms of DFT and FFT in finding the response of the system
C401.4	Use the enhancement techniques for digital Image Processing
C401.5	Apply digital image processing techniques for edge detection

Course Code :	C411	Semester :	8
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Course Outcome	Statements
C411.1	Explain various software testing techniques, quality factors, and evaluation criteria
C411.2	Identify role of quality assurance in the software development and its impact on overall product quality
C411.3	Apply various Software testing techniques to produce quality software
C411.4	Analyse views of Software quality, quality Factors and Criteria

1.4.2 Course Articulation Matrix (15)

:

1 . course name : C2C202

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C2C202.1	Explain Diff	2 ▾	3 ▾	2 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C202.2	Demonstrat	2 ▾	3 ▾	2 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C202.3	Apply Linee	2 ▾	3 ▾	2 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C202.4	Illustrate Us	2 ▾	3 ▾	2 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C202.5	Apply appr	2 ▾	3 ▾	2 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
Average		2.00	3.00	2.00	3.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00

2 . course name : C2C213

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C2C213.1	Summarize	2 ▾	1 ▾	1 ▾	- ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C213.2	Analyze prc	3 ▾	3 ▾	2 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C213.3	Illustrate va	2 ▾	3 ▾	2 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C213.4	Explain anc	2 ▾	3 ▾	2 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
C2C213.5	Differentiat	2 ▾	2 ▾	1 ▾	- ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	1 ▾
Average		2.20	2.40	1.60	1.80	1.60	0.00	0.00	0.00	1.00	0.00	1.00

3 . course name : C3C301

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C3C301.1	Interpret Da	3 ▾	1 ▾	1 ▾	1 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	2 ▾
C3C301.2	Design dat	2 ▾	2 ▾	1 ▾	2 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3 ▾
C3C301.3	Interpret E1	2 ▾	2 ▾	2 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3 ▾
C3C301.4	Apply appr	3 ▾	1 ▾	1 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	1 ▾	3 ▾
C3C301.5	Use approp	3 ▾	3 ▾	2 ▾	3 ▾	3 ▾	3 ▾	3 ▾	3 ▾	2 ▾	3 ▾	3 ▾
C3C301.6	Compare a	3 ▾	3 ▾	2 ▾	2 ▾	2 ▾	3 ▾	3 ▾	3 ▾	2 ▾	3 ▾	3 ▾
Average		2.66	2.00	1.50	2.33	2.33	1.00	1.00	1.00	1.00	1.50	2.83

4 . course name : C3C315

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C3C315.1	Analyze the	3	3	-	3	-	-	-	-	-	-	3
C3C315.2	Use approp	3	3	3	-	1	-	-	-	-	-	2
C3C315.3	Design the	3	3	3	-	3	-	-	-	-	-	3
Average		3.00	3.00	2.00	1.00	1.33	0.00	0.00	0.00	0.00	0.00	2.66

5 . course name : C4C401

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C4C401.1	Explain the	3	1	1	-	-	2	-	-	1	-	3
C4C401.2	Classify an	3	2	1	1	-	-	-	-	1	-	3
C4C401.3	Apply the e	3	3	2	3	3	2	-	-	1	-	3
C4C401.4	Use the ent	3	3	2	3	3	3	-	-	1	-	3
C4C401.5	Apply digita	3	3	2	3	3	3	-	-	1	-	3
Average		3.00	2.40	1.60	2.00	1.80	2.00	0.00	0.00	1.00	0.00	3.00

6 . course name : C4C411

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C4C411.1	Explain var	2	2	2	3	1	3	3	-	3	-	3
C4C411.2	Identify role	2	1	2	1	1	3	3	3	3	3	3
C4C411.3	Apply vario	3	3	3	3	3	2	3	3	3	3	3
C4C411.4	Analyse vie	2	3	3	3	2	3	3	-	3	-	3
Average		2.25	2.25	2.50	2.50	1.75	2.75	3.00	1.50	3.00	1.50	3.00

1 . Course Name : C2C202

Course	PSO1	PSO2
C2C202.1	3 ▾	1 ▾
C2C202.2	3 ▾	1 ▾
C2C202.3	3 ▾	1 ▾
C2C202.4	3 ▾	1 ▾
C2C202.5	3 ▾	1 ▾
Average	3.00	1.00

2 . Course Name : C2C213

Course	PSO1	PSO2
C2C213.1	- ▾	1 ▾
C2C213.2	3 ▾	1 ▾
C2C213.3	3 ▾	1 ▾
C2C213.4	3 ▾	1 ▾
C2C213.5	- ▾	1 ▾
Average	1.80	1.00

3 . Course Name : C3C301

Course	PSO1	PSO2
C3C301.1	1 ▾	1 ▾
C3C301.2	1 ▾	1 ▾
C3C301.3	2 ▾	1 ▾
C3C301.4	3 ▾	1 ▾
C3C301.5	3 ▾	1 ▾
C3C301.6	2 ▾	1 ▾
Average	2.00	1.00

4 . Course Name : C3C315

Course	PSO1	PSO2
C3C315.1	1 ▾	2 ▾
C3C315.2	2 ▾	2 ▾
C3C315.3	2 ▾	1 ▾
Average	1.66	1.66

5 . Course Name : C4C401

Course	PSO1	PSO2
C4C401.1	1 ▾	- ▾
C4C401.2	1 ▾	- ▾
C4C401.3	3 ▾	- ▾
C4C401.4	- ▾	- ▾
C4C401.5	- ▾	- ▾
Average	1.00	0.00

6 . Course Name : C4C411

Course	PSO1	PSO2
C4C411.1	1 ▾	- ▾
C4C411.2	1 ▾	- ▾
C4C411.3	3 ▾	3 ▾
C4C411.4	1 ▾	- ▾
Average	1.50	0.75

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C101	3	2	0	1.2	1	0	0	0	0	0	1
C102	2.25	2	1	1	0	0	0	0	1.75	1	1
C103	2	1.75	1	1	1	2.25	2	0	1	1.5	1
C104	2	2	1	1	1	0	0	1	1	0	1
C105	3	2	1	2	0	0	0	0	1	0	1
C106	2.13	1.88	1	1	0.5	1.13	1	0	1.38	1.25	1
C107	2	2	1	1	1	0	0	1	1	0	1
C108	3	2	1	2	0	0	0	0	1	0	1
C109	0	0	0	0	0	0	0	1	1	1	1
C110	2	2.8	2	2.8	1.4	1	0	1	1	1	2
C111	3	2	1	1.2	1	0	0	0	0	0	1
C112	2	2	1	1	0	0	0	0	1.75	1	1
C113	2	1.25	1	1	1.25	2.5	2	0	1	0	1
C114	2	1.25	1.2	1.2	1.5	0	0	1	1.8	1	2
C115	2	1.83	1.4	2.17	1.33	0	2	1	1	1	1
C116	0	0	1	0	0	0	1.33	1	1	1	1
C117	2	1.63	1	1	0.63	1.25	1	0	1.38	0.5	1
C118	2	1.25	1.2	1.2	1.5	0	0	1	1.8	1	2
C119	2	1.83	1.4	2.17	1.33	0	2	1	1	1	1
C120	0	0	1	0	0	0	1.33	1	1	1	1
C201	2	1	0	0	0	0	0	0	0	0	1
C202	2	3	2	3	1	0	0	0	1	0	1
C203	2	3	2	3	1	0	0	0	1	0	1
C204	3	3	3	0	0	0	0	0	0	0	3
C205	2	2.67	2.17	2.67	3	1.5	0	0	1	0	1.67
C206	2	2.67	2.17	2.67	3	1.5	0	0	1	0	1.67
C207	2	2.33	1.6	3	1	0	0	0	1	0	0
C208	2	2.33	1.6	3	1	0	0	0	1	0	0
C209	2	3	1.17	1	1.33	0	0	0	1	0	1.83
C210	2	1.75	2.33	1.33	3	0	3	3	3	2.6	2.2

C211	2.25	1.25	1	3	1	0	0	0	0	0	1
C212	2	2.4	1.2	2.4	1.25	0	3	2.67	2.4	0	3
C213	2.2	2.4	1.6	3	1.6	0	0	0	1	0	1
C214	2.2	2.4	1.6	3	1.6	0	0	0	1	0	1
C215	2	2.8	1	2	0	0	0	0	0	0	1
C216	2	2.8	1	2	0	0	0	0	0	0	1
C217	2.5	2.17	2.25	0	0	0	0	0	0	0	0
C218	2.5	2.17	2.25	0	0	0	0	0	0	0	0
C219	1	1	1	1	0	1.97	2.4	1.5	1	1	1
C220	1	1	1	1	0	0	0	1	1	1	1
C221	1.67	1.17	1.4	2	2.33	0	0	1	1	1	2.5
C301	2.67	2	1.5	2.33	2.33	3	3	3	1.5	1.8	2.83
C302	2.67	2	1.5	2.33	2.33	3	3	3	1.5	1.8	2.83
C303	2	1.8	1.33	3	3	0	0	0	0	0	3
C304	2	1.8	1.33	3	3	0	0	0	0	0	3
C305	2	1.33	1	2	1	2	3	1	1	1	1
C306	2	1.33	1	2	1	2	3	1	1	1	1
C307	2.17	2	2.17	2.6	2.5	1.92	0	0	0	1.67	2.33
C308	2.17	2	2.17	2.6	2.5	1.92	0	0	0	1.67	2.33
C309	1.25	1.25	1.25	1	1	1.5	0	3	1	1	1.2
C310	0	0	1	0	2	1.25	3	2.5	3	1	1
C311	2	1.75	2.33	1.33	3	0	3	3	3	2.6	2.2
C312	1	2.67	2.33	3	3	2.25	3	2.33	2.25	0	3
C313	2	3	3	3	3	1.5	3	3	3	3	3
C314	2	3	3	3	3	1.5	3	3	3	3	3
C315	3	3	3	3	2	0	0	0	0	0	2.67
C316	3	3	3	3	2	0	0	0	0	0	2.67
C317	2	2.5	2.2	2.6	2.6	2.67	3	0	1	0	3
C318	2	2.5	2.2	2.6	2.6	2.67	3	0	1	0	3
C319	2.33	2.33	2.4	1.67	1.33	3	0	3	3	0	3
C320	2.33	2.33	2.4	1.67	1.33	3	0	3	3	0	3

C321	2	1	1	2	1	1.5	3	0	0	0	0
C322	2	1	1	2	1	1.5	3	0	0	0	0
C323	2.25	2.5	2.2	2.2	3	3	3	3	2	2.33	3
C401	3	2.4	1.6	2.5	3	2.5	0	0	1	0	3
C402	3	2.4	1.6	2.5	3	2.38	0	0	1	0	3
C403	2.4	2.2	1	3	2	0	0	0	0	0	1
C404	2.4	2.2	1	3	2	0	0	0	0	0	1
C405	2	2.8	2.4	3	3	3	3	1.67	3	0	1.67
C406	2	2.8	2.4	3	3	3	3	1.67	3	0	1.67
C407	2	1.5	1	1.25	1	0	3	1	1	0	1
C408	2.25	2.5	2.2	2.2	3	3	3	3	2	2.33	3
C409	2	2.6	1.6	2.4	3	2.84	3	3	1.67	0	2.8
C410	2	2.6	1.6	2.4	3	2.84	3	3	1.67	0	2.8
C411	2.25	2.25	2.5	2.5	1.75	2.75	3	3	3	3	3
C412	2.8	2.6	2.8	2.6	2.6	2	3	3	3	1.6	2.4
C413	3	2	1.67	1.5	3	3	3	2.6	2.6	2.33	1.5

Course Code	PSO1	PSO2
C101	1	0
C102	1	0
C103	0	0
C104	0	0
C105	0	0
C106	0.5	0
C107	0	0
C108	0	0
C109	0	0
C110	1	0
C111	1	0
C112	1	0
C113	1	0

C114	1.2	1
C115	2.33	1.17
C116	0	0
C117	1	0
C118	1.2	1
C119	2.33	1.17
C120	0	0
C201	1	0
C202	3	1
C203	3	1
C204	3	1.2
C205	1.8	1
C206	1.8	1
C207	1	0
C208	1	0
C209	2.33	1.5
C210	2.75	1.75
C211	1	0
C212	1.6	1
C213	3	1
C214	3	1
C215	1	0
C216	1	0
C217	1.5	1.2
C218	1.5	1.2
C219	1	1
C220	1	1
C221	2.6	1
C301	2	1
C302	2	1
C303	1.33	1

C304	1.33	1
C305	3	1.67
C306	3	1.67
C307	1	1
C308	1	1
C309	1	1.5
C310	1	1
C311	2.75	1.75
C312	2.33	1
C313	3	3
C314	3	3
C315	1.67	1.67
C316	1.67	1.67
C317	1.75	1
C318	1.75	1
C319	1.25	1
C320	1.25	1
C321	1.5	1
C322	1.5	1
C323	1.8	1.8
C401	1.67	0
C402	1.67	0
C403	1	1
C404	1	1
C405	3	0
C406	3	0
C407	1	1
C408	1.8	1.8
C409	2.6	2
C410	2.6	2
C411	1.5	3

C412	2.6	2.6
C413	2	3

2 OUTCOME-BASED TEACHING LEARNING (120)

Total Marks 120.00

2.1 Describe Processes Followed to Ensure Quality of Teaching & Learning (20)

Total Marks 20.00

We at R. C. Patel Institute of Technology, Shirpur implemented a structured framework to ensure quality in teaching and learning, aligned with Outcome-Based Education (OBE), regulatory mandates, and stakeholder expectations. Curriculum design is governed by the Board of Studies (BOS) and Academic Council (AC), incorporating industry inputs, stakeholder feedback, and NEP 2020 guidelines.

Teaching methodologies emphasize learner-centric approaches such as flipped classrooms, experiential learning, interdisciplinary projects, and Information and Communication Technology (ICT) enabled instructions. Faculty members undergo regular training through Faculty Development Programs (FDP), Peer Mentoring, and Pedagogical Workshops. Academic Calendars and Teaching Plans are accurately prepared, implemented, and monitored.

Term Test (TT) evaluation, activity-based evaluation, and rubric-based evaluation are components of continuous assessment (CA). Students, Faculties, Alumni, and Employers participate in feedback channels, and course changes are driven by actionable insights. The Internal Quality Assurance Cell (IQAC) fosters continuous improvement, monitors COs-POs attainment, and performs academic audits.

Digital tools such as virtual labs, MOOCs, and e-contents enhance accessibility and engagement. Student support is ensured through mentoring systems, remedial classes, and career guidance. Industry interaction is fostered via internships, guest lectures, and collaborative projects. Quality is further reinforced through benchmarking, strategic planning, and monitoring. This integrated approach ensures academic excellence, regulatory alignment, and holistic development of learners.

A. Curriculum Design and Revision

The Computer Engineering curriculum is systematically framed and periodically revised by the Board of Studies (BoS) and approved by the Institute Academic Council. Figure 2.1.1 shows that the curriculum design process ensures alignment with Program Outcomes (POs), Program Specific Outcomes (PSOs), and evolving industry requirements, in accordance with the principles of Outcome-Based Education (OBE).

Key Features of the Curriculum Design Process:

- **Stakeholder Involvement:** The curriculum revision is a participative process involving feedback and suggestions from diverse stakeholders.
- **Industry Experts:** To integrate recent trends and technologies such as Internet of Things (IoT), Cloud Computing, Artificial Intelligence (AI), Information Security, Natural Language Processing, and Machine Learning for enhancing industry relevance.
- **Alumni:** To incorporate current professional practices, research trends, and employability skills expected in global market.
- **Faculty Members:** To introduce research-driven and academically enriching content supporting innovation and advanced learning.
- **Students:** To collect inputs through structured feedback mechanisms regarding curriculum relevance, delivery methods, and skill-based learning.

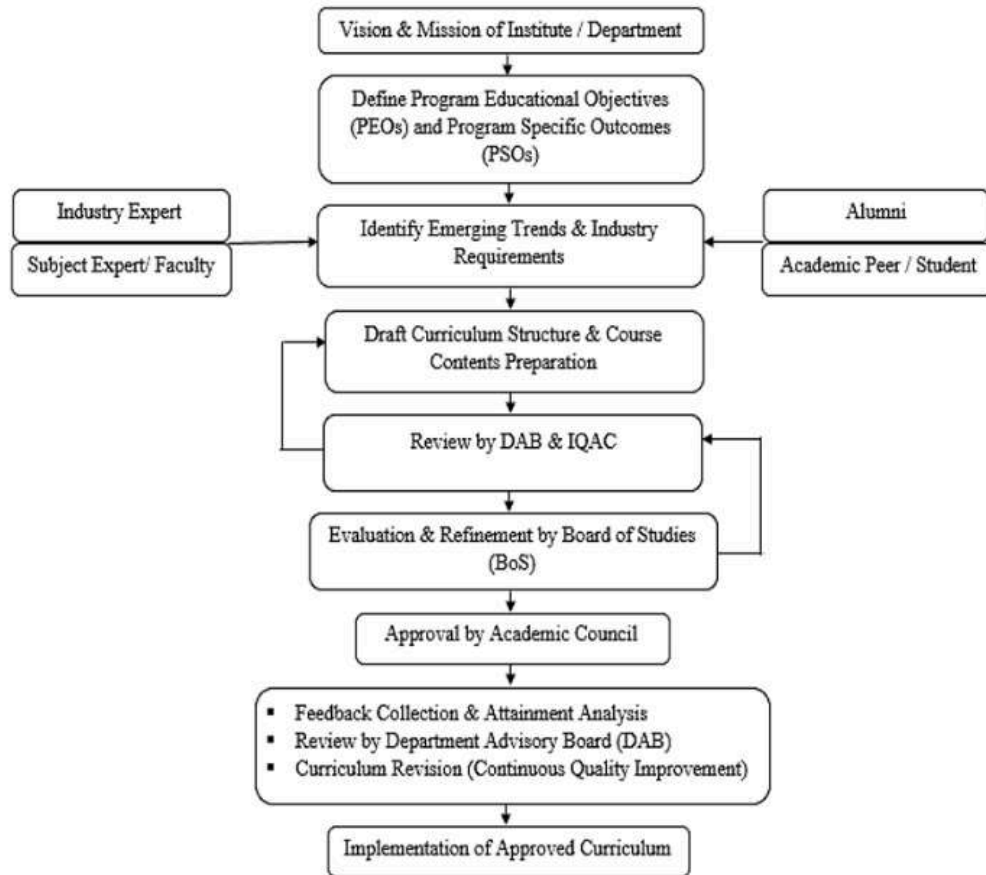


Figure 2.1.1: Process Flowchart for Curriculum Design and Revision

Curriculum Structure and Content: The curriculum maintains an appropriate balance among:

- Structured core courses cover essential and advanced Computer domains, ensuring strong theoretical and technical foundations.
- Integrated laboratories and Mini projects (semester projects) strengthen practical skills, design ability, and hands-on competency.
- Electives and Emerging Technologies: A range of electives in AI/ML, Cloud Computing, Cybersecurity and Advanced Networking technologies support specialization and flexibility.
- Internship and Capstone Project: Industry internship and final-year projects build problem-solving skills, teamwork, innovation, and professional readiness.
- Contemporary and Societal Aspects: The Curriculum includes sustainability, safety, ethics, and professional practices to promote responsible and socially aware engineering graduates.

Periodic Review and Continuous Improvement: The Computer Engineering program adopts a systematic and continuous review mechanism to ensure curriculum relevance, quality enhancement, and effective attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs). The process is driven by academic audits, stakeholder feedback, and recommendations from statutory bodies, enabling continuous improvement in teaching–learning and assessment practices.

- Review of technological advancements and emerging trends in Computer Engineering.
- Assessment of industrial developments and evolving professional skill requirements.
- Collection and analysis of feedback from industry experts, alumni, faculty and students (if required).
- Evaluation of academic audit outcomes and COs–POs and PSOs attainment analysis.

- Implementation of recommendations from the Board of Studies (BoS), IQAC, and Academic Council.

As a result of the systematic review and continuous improvement process, the curriculum remains updated and relevant through the effective integration of emerging technologies and industry-driven practices. The outcome-based curriculum design, supported by enhanced laboratory work, projects, and practical exposure, significantly improves students' employability and professional competence.

Continuous interaction with industry and incorporation of research-oriented activities strengthen the linkage between academics, industry, and research, thereby fostering innovation, experiential learning, and problem-solving skills.

Furthermore, structured curriculum mapping, regular assessment, and continuous evaluation ensure effective attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs), contributing to sustained quality enhancement of the academic program.

B. Outcome-Based Education (OBE)

The Department of Computer Engineering follows the principles of Outcome-Based Education (OBE) to ensure that graduates acquire the knowledge, skills, and professional competencies required by industry, society, and higher studies.

COs–POs/PSOs Mapping and Attainment for the Program

Each course offered by the Department has clearly defined Course Outcomes (COs) that are aligned with the Program Outcomes (POs) and Program Specific Outcomes (PSOs). COs–POs and PSOs mapping is carried out using a defined correlation scale (Low/Medium/High) to ensure effective linkage between COs and POs.

This systematic mapping ensures curriculum coherence, eliminates redundancy, and strengthens alignment with graduate attributes. It helps the Department verify that students progressively achieve program competencies related to engineering knowledge, design skills, communication, ethics, teamwork, and modern tool usage.

Attainment of COs is evaluated through direct and indirect assessment tools and the aggregated COs attainment is used to determine POs and PSOs attainment at the program level.

Assessment and Attainment Tracking

A structured assessment process is adopted to measure student performance and outcome attainment. Direct assessment includes Continuous Assessments (CA), End Semester Examinations, Laboratory Evaluations, Mini-projects, Seminars, and Capstone Projects.

Indirect assessment is carried out through Course Exit Surveys and Program Exit Surveys. Attainment levels are calculated using predefined targets, and the results are analyzed to identify gaps.

Regular tracking of attainment provides measurable evidence of student learning and academic effectiveness. It enables early identification of learning gaps, supports data-driven academic decisions, and enhances student performance through timely remedial actions, mentoring, and curriculum enrichment.

Corrective and preventive actions are implemented through curriculum enrichment, teaching–learning improvements, and academic support mechanisms.

Tools and Documentation

The Computer Department maintains systematic documentation to support OBE implementation and review. Standard tools such as COs–POs/PSOs mapping matrices, attainment calculation sheets, rubrics, assessment records, survey/exit forms, and analysis reports are used.

Digital tools and spreadsheets are employed for efficient data collection, analysis, and tracking of attainment. All records are periodically reviewed by the Departmental Committee and academic bodies to ensure transparency, compliance, and continuous quality improvement in the teaching–learning process.

C. Teaching-Learning Process

The overall teaching-learning process is classified as Planning, Execution and Analysis Stages. The Department follows a structured planning process to ensure effective delivery of the curriculum shown in Figure 2.1.2.

C.1 Planning Phase:

The process begins with the preparation of the Institute Academic Calendar and the Autonomy Syllabus.

Course Choice and Load Distribution:

- Faculty members submit a Course Choice Form prior to the commencement of the semester to ensure that Course distribution is aligned with their areas of expertise.
- Based on these inputs, the Teaching Load Distribution is finalized to ensure balanced workload, effective course delivery, and improved attainment of COs.

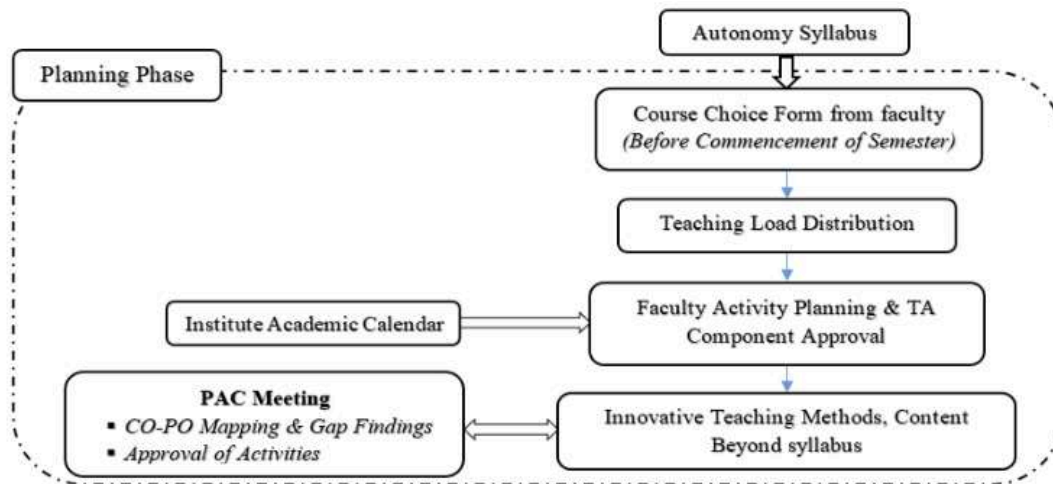


Figure 2.1.2: Planning Phase in Teaching–Learning Process

Faculty Activity Planning and Approval:

- Faculty members prepare detailed lecture-wise Teaching Plan.
- Teacher's Assessment (TA) components are decided to ensure effective course delivery and evaluation.
- Course content based Individual Presentation (PR), Group Discussion (GD), Mock Interviews (MI), Think-Pair-Share (TPS) and many more activities are used.
- These plans are reviewed and approved by the Department to maintain alignment with Course Outcomes (COs) and facilitate continuous improvement in the teaching–learning process.

Innovative Teaching Methods and Content Beyond Syllabus:

- Faculty members integrate innovative pedagogical practices (e.g., Interdisciplinary Projects, project-based learning, collaborative learning, case studies and ICT tools).
- Innovative Component, Virtual lab, CodeChef, Add-on Courses and additional content beyond the syllabus is integrated to boost students learning and prepare them for industry demands.

PAC (Program Assessment Committee) Meeting:

- COs–POs Mapping and Gap Analysis: Course Outcomes (COs) are systematically mapped to POs and PSOs to ensure alignment with the program objectives.
- Gap analysis is performed to identify areas where students may not be achieving the desired outcomes, and corrective measures are implemented.
- Review and Approval of Activities: All academic and co-curricular activities, including teaching plans, assessments, and student support initiatives, are periodically reviewed by faculty and approved by the Module Coordinator / Head of Department / Dean Academics.
- This ensures alignment with course outcomes and continuous improvement in teaching–learning processes.

C.2 Execution Phase:

The Department implements the curriculum through a systematic execution process covering theory, practical/tutorials and monitoring mechanisms as illustrated in Figure 2.1.3.

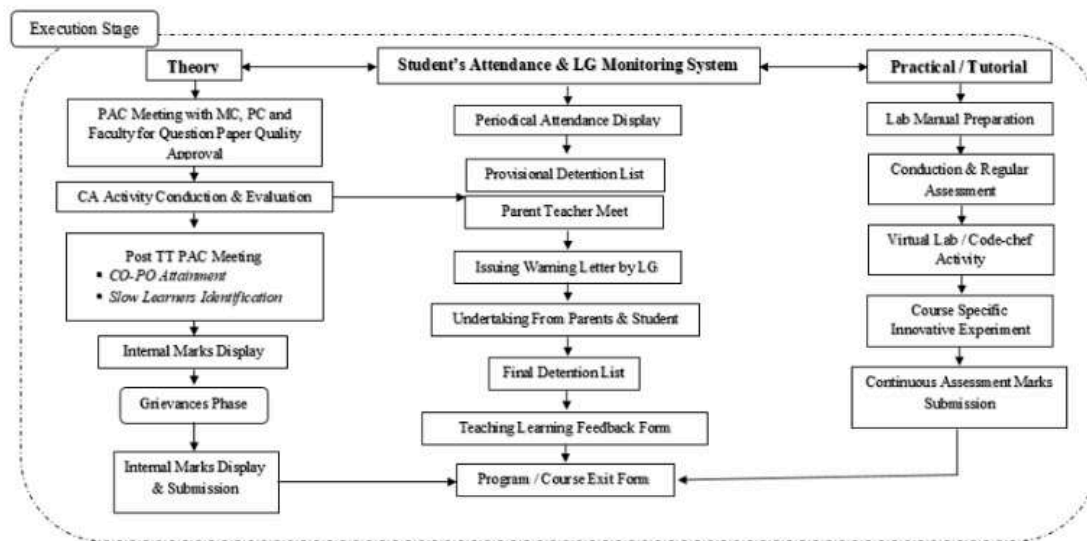


Figure 2.1.3: Execution Phase in Teaching Learning Process

Theory Component:

- PAC meetings with Module Coordinator (MC), Program Coordinator (PC) and Course Faculty are conducted for Term Test question paper quality approval.
- Question papers for the Term Test are designed according to Blooms Taxonomy levels.
- Term Tests (TT-1 and TT-2) and teacher's assessment components are conducted through continuous evaluation to effectively monitor and enhance student learning outcomes.
- After the Term Test, Program Assessment Committee (PAC) meetings are conducted to review COs–POs attainment, identify slow learners for targeted academic support, and evaluate the effectiveness of teaching–learning strategies to ensure continuous improvement.
- The program supports advanced learners through value-added courses, projects, and certifications, and assists slow learners through remedial classes, mentoring, and continuous feedback, ensuring effective attainment of COs, POs, and PSOs.
- Internal marks are displayed transparently, with a grievance redressal phase before final submission.

Practical / Tutorial Component

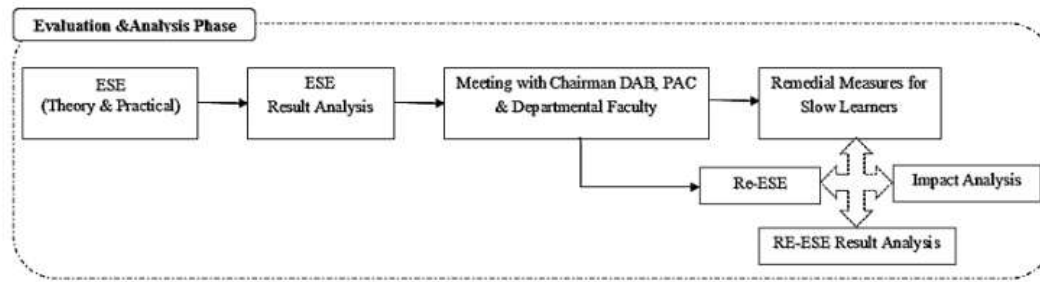
- Faculty members prepare lab manuals and conduct regular assessments.
- Students engage in virtual labs, coding platforms, and innovative experiments beyond curriculum.

Student Attendance and LG (Local Guardian) Monitoring System: Student attendance is monitored and displayed periodically, with provisional detention lists prepared for non-compliant students. Parent–teacher meetings and warning letters are employed to ensure timely corrective actions for students with low attendance. Students, along with their parents need to submit formal undertakings when attendance falls below the required threshold.

C.3 Evaluation and Analysis Phase:

Department Evaluation and Analysis phase involved in Teaching learning Process is briefly explained in Figure 2.1.4

ESE Examination (Theory and Practical): Students undergo End Semester Examinations (both theory and practical) as a measure of attainment of COs and POs.



Figure

2.1.4: Evaluation and Analysis Phase in Teaching-Learning Process

Result Analysis: ESE results are analyzed to assess the level of COs attainment. The analysis identifies advanced learners, slow learners, and area of improvement in the curriculum or teaching methods.

Review Meetings: Meetings are conducted with the Director, Controller of Examinations (COE), Program Assessment Committee (PAC), IQAC, and Departmental faculty. The purpose is to analyze the results, identify gaps in COs-POs attainment, and plan appropriate corrective measures.

Remedial Measures for Slow Learners: Based on analysis and faculty discussions, remedial classes are organized to support slow learners, ensuring inclusive learning and enhancement of COs attainment improvement.

Re-ESE (Supplementary Exam): Students who are eligible for re-attempt are given the opportunity to improve their performance through a re-examination ensuring equality and continuous learning.

Impact Analysis: Post Re-ESE, results are analyzed to measure the effectiveness of remedial actions and re-examination in improving COs attainment. Feedback from this analysis informs curriculum refinement, teaching methodology improvement, and continuous quality improvement.

The process forms a feedback loop, ensuring systematic evaluation, identification of learning gaps, corrective actions, and improved COs-POs attainment over time.

D. Outcome-Based Education (OBE) Implementation:

Based on two and half decades of teaching-learning experience, the Computer Engineering Department has adopted the following approaches as shown in Figure 2.1.5. The Department adopts a structured Outcome-Based Education approach where teaching-learning activities are aligned with COs and POs.

Academic planning, delivery, and assessments are designed to ensure students progressively achieve the expected competencies. Continuous review and improvement mechanisms are followed to maintain effectiveness.

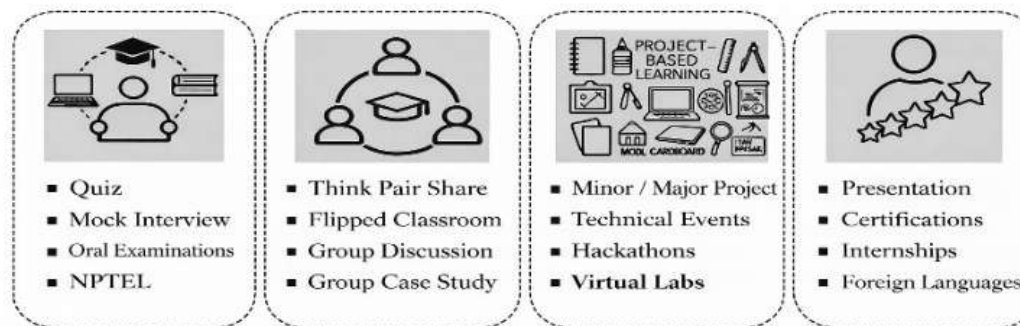


Figure 2.1.5: Pedagogical Approaches in the Teaching-Learning Process

Collaborative Learning Practices: Collaborative learning is encouraged through group-centric academic tasks that promote peer interaction, shared problem-solving and active participation. These practices help to enhance communication skills, teamwork, and a cooperative learning environment within the Department.

Project-Based Learning Integration: Project-Based Learning is included as part of regular teaching-learning activities to provide hands-on exposure. Students engage in project work that supports concept reinforcement, innovation, and the development of analytical and design thinking skills relevant to Computer engineering.

Competency and Skill Development: The teaching-learning process emphasizes the development of essential competencies required for engineering practice. Students are encouraged to build technical proficiency, professional behavior, and problem-solving abilities through structured academic activities that complement classroom learning.

E. Faculty Development and Training

Faculty Development and Training programs have strengthened the Department's capability to deliver high-quality education aligned with current trends in Computer Engineering. Through FDPs, workshops, industry trainings, and certification courses, faculty members have enhanced their proficiency in advanced domains such as Artificial Intelligence, Machine Learning, Cybersecurity, Cloud Computing and modern pedagogical practices as shown in Table 2.1.1. This improved expertise directly contributes to improved curriculum delivery, enriched laboratory experiences, and the adoption of innovative teaching-learning methods. As a result, students gain stronger conceptual understanding, improved practical exposure, and stronger attainment of COs and POs.

Table No.2.1.1: FDP/STTP/QIP/ Workshop Attended by Faculty

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
1	24-25	Empowering Innovations Comprehensive Approaches to Research and Development	10	A. G. Patil Institute of Technology, Solapur	1 Week	Strengthened innovation-driven research planning and development approaches.
2	24-25	Next-Gen AI: Innovations in ML, DL and Generative Models	9	M. M. Mandal's Institute of Technology, Pune	1 Week	Enhanced understanding of advanced AI paradigms and generative models.
3	24-25	Machine Learning	5	SkillDzire in Collaboration with AICTE and SWAYAM Plus	1 Month	Improved knowledge of machine learning algorithms and applications.
4	24-25	Ethical Issues in Research Writing	5	Regional College for Education and Technology, Jaipur	1 Week	Strengthened awareness of research ethics and responsible scholarly writing.
5	24-25	AI for Sustainable Development	4	VIIT, Pune	5 Days	Enhanced application of AI techniques for sustainable development goals.
6	24-25	Generative AI and its Multidomain Use Cases	4	VIT Pune	5 Days	Improved understanding of generative AI applications across multiple domains.
7	24-25	Imminent Innovations for Interdisciplinary Application using AI	3	A. G. Patil Institute of Technology, Solapur	1 Week	Promoted interdisciplinary problem-solving using AI-driven approaches.
8	24-25	Mastering AI Tools for Faculty Excellence	3	VIIT, Pune	5 Days	Enhanced faculty competency in using AI tools for teaching and research.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
9	24-25	Exploring Computational Intelligence In Deep Learning	3	Kamraj College of Engineering, Virudhunagar	5 Days	Strengthened understanding of computational intelligence techniques in deep learning.
10	24-25	AI for Healthcare: Innovation, Application and Future Trends	2	VIIT, Pune	5 Days	Improved awareness of AI-driven solutions in healthcare applications.
11	24-25	Cybersecurity	2	Skill Dzire and AICTE	1 Month	Enhanced understanding of Cybersecurity threats and protection mechanisms.
12	24-25	Database Solutions Expert	2	Wipro Certified Faculty Program TalentNext	3 Weeks	Improved proficiency in advanced database design and management solutions.
13	24-25	Exploring Artificial Intelligence: Trending Technologies	2	DMI College of Engineering, Chennai	5 Days	Updated knowledge of emerging AI technologies and trends.
14	24-25	Gen AI and Chat GPT Application in the Industry	3	Chaitanya Bharathi Institute of Technology, Hyderabad	5 Days	Enhanced understanding of industrial applications of generative AI tools.
15	24-25	Generative AI and Prompt Engineering	2	Bharti Vidyapeeth COE, Pune.	5 Days	Improved skills in prompt design for effective generative AI usage.
16	24-25	Generative AI: Transforming Innovation in Technology and Education	2	NMIMS Indore	5 Days	Enhanced integration of generative AI in technology development and education.
17	24-25	Harnessing Intelligence: Deep Dive into Machine Learning	2	Suman Ramesh Tulsiani Technical Campus Kamshet	5 Days	Strengthened practical and conceptual understanding of machine learning techniques.
18	24-25	Recent Trends in AI and ML	2	Global Academy of Technology, Bengaluru	5 Days	Updated awareness of current research and industry trends in AI and ML.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
19	24-25	Advanced Techniques in AI and Machine Learning	1	College of Engineering, Cherthala	5 Days	Enhanced expertise in advanced AI and machine learning methodologies.
20	24-25	AI/ML for Geodata Analysis	1	ISRO	5 Days	Improved application of AI/ML techniques for geospatial data analysis.
21	24-25	ATAL FDP High Performance Computing Foundations, Parallel Programming and GPU Acceleration	1	Lovely Professional University	5 Days	Strengthened understanding of high-performance computing and parallel processing techniques.
22	24-25	Blockchain and Web3	1	Dr. Vithalrao Vikhe Patil COE, Ahilyanagar, Maharashtra	5 Days	Enhanced knowledge of blockchain technologies and Web3 applications.
23	24-25	Communication, Signal Processing and Recent technologies for Different Applications	1	Budge Institute of Technology Kolkata	1 Week	Improved understanding of modern communication and signal processing technologies.
24	24-25	Deep learning	1	SkillDzire in Collaboration with AICTE	2 Weeks	Strengthened knowledge of deep learning architectures and applications.
25	24-25	Exploring Advance Data Science Tools Techniques and Trends, ATAL FDP	1	Anand Institute of Technology, Kazhipattur	1 Week	Enhanced competency in modern data science tools and analytical techniques.
26	24-25	Exploring IoT and 5G using AI and ML	1	Ajeenkya DY Patil School of Engineering, Pune	1 Week	Improved understanding of AI/ML-enabled IoT and 5G technologies.
27	24-25	FDP on Machine Learning	1	Skill DZire	4 Weeks	Enhanced teaching and research capability in machine learning concepts.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
28	24-25	Foundation of Prompt Engineering	1	IEEE Pune Section	2 Weeks	Strengthened foundational skills in prompt engineering for AI systems.
29	24-25	Gen-AI and Prompt Engineering Using Microsoft Co-Pilot	1	D.Y. Patil Technical University Talsande – Maharashtra	5 Days	Improved hands-on experience with generative AI tools using Microsoft Copilot.
30	24-25	Generative AI and Cloud Synergy: Empowering Faculty for Future Ready Education	1	MIT-ADT University Pune	2 Weeks	Enhanced integration of cloud platforms and generative AI in education.
31	24-25	Hands-On AI Tools: Elevate Your Creative Research Writing	1	Radhakrishna Institute of Technology Bhubaneswar	5 Days	Improved research writing efficiency using AI-assisted tools.
32	24-25	Health care and MedTech for Swastha Bharat Using AI	1	ATAL Academy (AICTE)	1 Week	Enhanced understanding of AI applications in healthcare and medical technology.
33	24-25	Leveraging Interdisciplinary Synergies: Engineering Symposium for Cross-Domain Breakthroughs	1	AMITY University, Kolkata	5 Days	Promoted cross-disciplinary collaboration and innovation in engineering research.
34	24-25	Machine Learning and Artificial Intelligence	1	Pimpri Chinchwad College of Engineering and Research, Ravet, Pune	5 Days	Strengthened integrated understanding of AI and machine learning techniques.
35	24-25	Niche Areas of Sustainable Development ISNASD' 24	1	PVG's COET and GKPIOM, Pune.	5 Days	Enhanced awareness of specialized research areas in sustainable development.
36	24-25	OBE and Application of Generative AI in Teaching and Research	1	St. Mary's College, Thrissur, Kerala	1 Week	Improved implementation of OBE with AI-supported teaching and research practices.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
37	24-25	Research and Innovation Trends in Large Language Models	1	D. J. Sanghvi COE, Mumbai	1 Week	Enhanced understanding of LLM-based research and innovation trends.
38	24-25	Research Methodology	1	Kamla Nehru Mahavidyalaya, Nagpur	1 Week	Strengthened research design, data analysis, and experimentation skills.
39	24-25	Revolutionizing Education with Generative AI: Teaching and Learning Strategies	1	Narasaraopeta Engineering College, AP	1 Week	Enhanced adoption of generative AI for innovative teaching and learning practices.
40	23-24	National FDP on Grant Writing, IPR, and Publication Strategies	13	NMIMS Indore	1 Week	Strengthened grant proposal writing skills, IPR awareness, and publication strategies.
41	23-24	Data Mining	5	NITTTR, Chennai	5 Days	Enhanced ability to extract meaningful patterns and knowledge from large datasets.
42	23-24	Cloud Infrastructure (AWS)	12	Brainovision Solution India Pvt. Ltd.	1 Week	Improved understanding of cloud infrastructure and AWS deployment services.
43	23-24	Recent Trends in Multidisciplinary Research (Session- 3)	15	VIIT, Pune	1 Week	Improved interdisciplinary research perspective and collaborative research approach.
44	23-24	AWS Cloud Fundamental and Services	5	Sinhgad Institute of Technology, Lonavala	1 Week	Enhanced foundational knowledge of AWS cloud services and architectures.
45	23-24	Advancements and Recent Application Trends in JAVA	3	Sinhgad Institute of Technology and Science	2 Weeks	Updated knowledge of modern Java technologies and application development trends.
46	23-24	Research Methodology, Intellectual Property Rights and Quality Education and Assessment	2	Universal School of Administration	1 Week	Strengthened research methodology skills and understanding of quality education frameworks.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
47	23-24	Use of AI in Technical Education	2	NITTR, Bhopal	3 Days	Improved integration of AI tools and techniques in technical teaching-learning processes.
48	23-24	Recent Trends in ML and AI	2	Sanmati College of Engineering, Washim	1 Week	Updated understanding of current advancements in machine learning and artificial intelligence.
49	23-24	Current Practices, Research Trends in Machine learning and Deep Learning	3	NMIMS Indore	5 Days	Enhanced awareness of contemporary ML and deep learning research practices.
50	23-24	Outcome based Education	2	Meerut Institute of Technology	3 Days	Improved curriculum design and assessment aligned with OBE principles.
51	23-24	Data Science for Business	2	VIIT, Pune	5 Days	Enhanced ability to apply data science techniques for business decision-making.
52	23-24	Data Visualization Using Tableau	2	Mohan Babu University, Tirupati	5 Days	Improved skills in data visualization and analytical reporting using Tableau.
53	23-24	Advances in Astronomy: Integrating Technology in Astronomy Research	2	VIIT, Pune	5 Days	Enhanced understanding of technology-driven approaches in astronomical research.
54	23-24	Data Mining	1	NTTTR, Chennai	5 Days	Strengthened analytical skills for data preprocessing and pattern discovery.
55	23-24	IPR and Publication Strategies	1	NMIMS Indore	1 Week	Improved awareness of intellectual property rights and effective publication planning.
56	23-24	Advanced Teaching Methods	1	NITTR, Bhopal	5 Days	Enhanced adoption of innovative and learner-centric teaching methodologies.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
57	23-24	Applied Cloud Computing for Full Stack Web Development	1	TechSaksham, AICTE	1 Week	Improved skills in developing and deploying full-stack applications using cloud platforms.
58	23-24	Blockchain: Security, Privacy and Applications	1	GHRIEM, Jalgaon	1 Week	Enhanced understanding of blockchain technology with focus on security and privacy.
59	23-24	Cybersecurity and Privacy	1	IIT, Madras (NPTEL)	12 Weeks	Strengthened awareness of cybersecurity threats and data privacy mechanisms.
60	23-24	Innovation, Research and IPR - Journey Towards excellence	1	Sardar Patel College of Engineering, Mumbai	1 Week	Promoted innovation-driven research culture and effective IPR utilization.
61	23-24	Internet of Things (IoT)	1	Pantech -e Learning	4 Weeks	Improved understanding of IoT architectures and real-world IoT applications.
62	23-24	NoSQL using MongoDB	1	GH Raison Institute of Technology, Nagpur	1 Week	Enhanced skills in NoSQL database design and data management using MongoDB.
63	23-24	Research-The Journey from Inception to Publishing	1	Dhanaraj Baid Jain College, Thoraipakkam Chennai	5 Days	Strengthened end-to-end research process understanding from idea generation to publication.
64	23-24	Recent Trends in Teaching and Learning Pedagogy	1	Yashoda Technical Campus, Satara	5 Days	Improved teaching effectiveness through contemporary pedagogical practices.
65	22-23	Applications of Machine Learning	4	Yashoda Technical Campus, Satara,	5 Days	Enhanced ability to apply machine learning techniques to real-world problem solving.
66	22-23	Current Trend in Information Technology Sector	7	Yashoda Technical Campus, Satara	5 Days	Improved awareness of emerging technologies and industry-driven IT practices.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
67	22-23	Innovation Research and IPR Journey Towards Excellence	10	Shri. Sant Gadge Baba College of Engineering, Bhusawal	5 Days	Strengthened innovation-oriented research practices and awareness of intellectual property rights.
68	22-23	Recent trends in Computer Science and Engineering	6	Fabtech Technical Campus, Sangola	1 Week	Updated knowledge of recent advancements in computer science and engineering domains.
69	22-23	Scilab	6	SVKM IOT, Dhule	2 Weeks	Improved proficiency in numerical computing and simulation using Scilab tools.
70	22-23	Building Resilience at Workplace	3	Amity University, Mumbai	3 Days	Enhanced professional resilience, adaptability, and stress management skills.
71	22-23	Machine Learning	3	Sinhgad Institute of Technology, Lonavala	5 Days	Strengthened understanding of machine learning algorithms and predictive modeling techniques.
72	22-23	Data Science 2.0 Master Class	3	Pantech e-Learning	4 Weeks	Advanced competency in modern data science workflows and analytical methodologies.
73	22-23	Recent Trends in Cognitive Science and its Applications	2	VVJIT and Oriental University, Indore	1 Week	Improved understanding of cognitive science concepts and their applications in intelligent systems.
74	22-23	Mathematics for Data Science and Machine Learning	2	Gopalan College of Engineering, Bangalore	5 Days	Strengthened mathematical foundations required for data science and machine learning models.
75	22-23	Applications of Computer Vision using Deep Learning	1	Seshadri Rao Gudlavalluru Engineering College, Andhra Pradesh	5 Days	Enhanced skills in deep learning-based computer vision techniques and applications.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
76	22-23	Applications of AI and ML in Research and Innovation	1	Regional College for Education Technology, Jaipur	5 Days	Improved application of AI and ML techniques in research-oriented and innovative solutions.
77	22-23	Artificial Intelligence Machine Learning and Deep Learning	1	NIT, Warangal	1 Week	Strengthened conceptual and practical knowledge of AI, ML, and deep learning technologies.
78	22-23	Data Science	1	K J College of Engineering, Pune	1 Week	Improved data analysis, visualization, and data-driven decision-making skills.
79	22-23	Data Science and Machine Learning	1	Godavari College of Engineering Jalgaon	5 Days	Enhanced integration of data science techniques with machine learning models.
80	22-23	Emerging Technologies in Machine Learning	1	D. J. Sanghvi COE, Mumbai	1 Week	Updated knowledge of emerging tools and techniques in machine learning.
81	22-23	Ethical Hacking	1	Blackbucks and KKR and KSR Institute of Technology Guntur	1 Week	Enhanced awareness of Cybersecurity threats, vulnerabilities, and ethical hacking practices.
82	22-23	Machine Learning for Data Science using Python	1	Department of CSE, NIT Warangal	15 Days	Improved hands-on skills in implementing machine learning models using Python.
83	22-23	Recent Trends in AI, Machine Learning and Data Science	1	SVKM IOT, Dhule	1 Week	Updated understanding of current trends and research directions in AI and data-driven technologies.
84	22-23	Recent Trends in Applications of Emerging Technologies	1	VVIT, Nambur, Guntur	1 Week	Improved awareness of practical applications of emerging technologies.
85	22-23	Research Methodology: The Practical Approach	1	Sinhgad Academy of Engineering, Pune,	5 Days	Strengthened research design, experimentation, and data analysis skills.

Sr. No	A.Y.	Program Name / Topic	No. of Faculty	Conducted By	Duration	Outcome / Impact
86	22-23	Research Paper Writing and Publishing	1	Dr. Babasaheb Ambedkar Technological University, Lonere	5 Days	Improved scholarly writing skills and understanding of publication ethics and processes.
87	22-23	Smart Tools and Methodologies for Academic Research	1	Department of ECE, Mahatma	1 Week	Enhanced use of digital tools and methodologies for effective academic research.
88	22-23	Wipro Certified Faculty Program- Java Full Stack Development	1	Wipro Limited	4 Weeks	Strengthened industry-aligned skills in Java full stack application development.

During the assessment period, faculty members actively participated in more than 80 FDPs, workshops, industry training, and certification programs covering emerging and core areas of Computer Engineering.

These programs, conducted by reputed academic institutions and industry bodies, enhanced faculty technical competency, pedagogical effectiveness and research orientation.

Impact of Faculty Development Programs such as:

- Enhanced faculty competency in emerging and core Computer domains, enabling effective curriculum delivery aligned with industry and research trends.
- Exposure to advanced tools and laboratory practices resulted in enriched experiments and improved practical sessions.
- Training in modern pedagogical practices and OBE strengthened teaching–learning methodologies and assessment strategies.
- Improved research capability enhanced project guidance, publications, and interdisciplinary research activities.
- Industry-oriented FDPs strengthened industry–academia linkage and relevance of student projects.

F. Academic Calendar and Planning

The Academic Calendar at R. C. Patel Institute of Technology, Shirpur is prepared through a structured process aligned with OBE as shown in Figure 2.1.6.

- **Inputs and Data Sources:** DBATU Academic Calendar, Holiday Circular, Controller of Examinations guidance, IQAC reviews, and Departmental/event plans ensure synchronization with academic requirements.

Process for Preparation of Academic Calendar

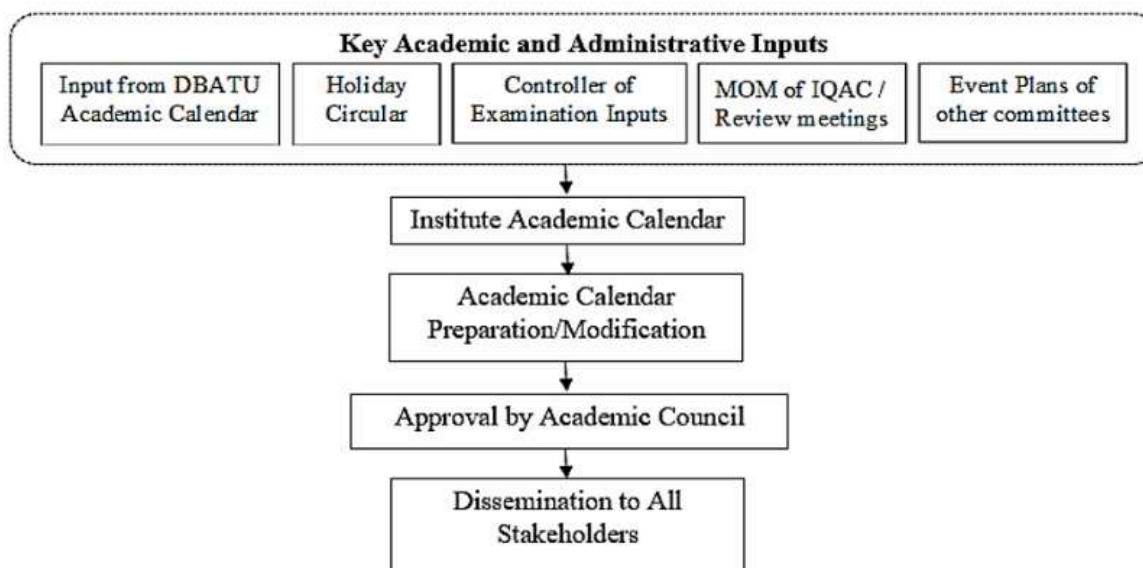


Figure 2.1.6: Academic Calendar Preparation Process Flow.

- **Institute-Level Calendar:** An institute academic calendar is drafted to ensure uniformity, coherent planning, and timely execution of activities.
- **Approval and Finalization:** The draft is reviewed by the Director and finalized by the Academic Committee, ensuring alignment with academic objectives and Program Outcomes (POs).

The approved academic calendar is disseminated to all HoDs and faculty to facilitate systematic planning of lectures, assessments, and co-/extra-curricular activities. The calendar outlines teaching days, TA schedules, examination schedules, holidays, workshops, seminars and co-curricular activities.

Table 2.1.2 summarizes the planned and conducted academic activities for AY 2025–26 (Odd Semester), highlighting any deviations and the reasons for the same to ensure effective academic monitoring and implementation.

Table No.2.1.2: Academic Calendar Compliance and Deviations

(AY 2025-26, SEM-I)

AY 2025-26				Odd SEM	
Sr. No	Activity / Event	Planned Date	Conducted Date	Deviation (if any)	Reason for Deviation / Action Taken
1	Commencement of Classes	14/07/25	14/07/25	NA	
2	Term Test-I	15-17/9/25	15-17/9/25	NA	
3	Term Test-II	13-15/11/25	15-19/11/25	2 days Later	Syllabus completion to assess the intended course outcomes.

AY 2025-26				Odd SEM	
Sr. No	Activity / Event	Planned Date	Conducted Date	Deviation (if any)	Reason for Deviation / Action Taken
4	Project Monitoring- I	13/9/25	13/9/25	NA	
	Project Monitoring- II	11/10/25	11/10/25	NA	
	Project Monitoring- III	8/11/25	8/11/25	NA	
5	Presentations/ Group Discussion	8-10/9/25	8-10/9/25	NA	
6	Parent Meet	22/9/25	04/10/25	12 days Later	Rescheduled to ensure higher parent participation.
7	Mock Interview	25-28/10/25	25-28/10/25	NA	
8	Laboratory Completion	22/11/25	22/11/25	NA	
9	End of Classes	22/11/25	22/11/25	NA	
10	ESE (TH and PR) Conduction	2nd Week to Last Week of December	2nd Week to Last Week of December	NA	

Faculty prepare Teaching–Learning Plans aligned with the academic calendar, including weekly lecture plans, practical schedules, assignments and internal assessments. Implementation is monitored through periodic Departmental Academic Review meetings and necessary adjustments are made to ensure timely syllabus completion. This process ensures a uniform teaching schedule, timely conduct of assessments, and improved student performance with smooth execution of semester activities.

All academic activities, including classes, tests, labs, project monitoring, parents meet and examinations were executed as per planning. Structured project monitoring and assessments enhanced COs-POs attainment, practical skills, and student engagement, while stakeholder involvement and timely evaluation improved feedback and overall learning outcomes.

G. Assessment and Evaluation

The institute implements a structured Continuous Assessment (CA) mechanism as presented in Table 2.1.3 to systematically evaluate students' academic performance and measure the COs attainment.

Table No.2.1.3: Term Test Evaluation and Additional Component

Components	Description	Additional Component and Description
Term Tests (15)	TT-I = 30 Marks	Certification Course – 05 Marks per course
	TT-II =30 Marks	Maximum 02 Course Certifications.

The Institute follows a various Teachers Assessment methods as shown in Table 2.1.4. TA-I engages students in activity-based learning such as presentations, group discussions, Moodle quizzes, or virtual labs, enhancing conceptual understanding and communication skills.

Table No.2.1.4: Contribution of Assessment Methods to Attainment of POs and PSOs

Assessment Type	Outcome / Impact
Certification Course	Enhances PO1 (Engineering Knowledge); promotes PO12 (Lifelong Learning); improves analytical skills.
Presentation	Improves PO10 (Communication) and PO9 (Teamwork).
Moodle Quiz	Strengthens PO1 (Engineering Knowledge) and PO2 (Problem Analysis).
Group Discussion	Enhances PO9 (Teamwork) and PO8 (Ethics).
Virtual Lab	Improves PO1, PO2 and PSOs related to practical skills.
Mock Interview	Enhances PO10 (Communication), PO9 (Teamwork), and PO8 (Professional Ethics).
Innovative Component	Encourages PO3 (Design/Development), improves PO2 and PO5 (Problem-solving/Modern Tools), supports subject PSOs.
Skill Enhancement	Develops PO6–PO9, PO11, PO12 (Societal, Teamwork, Project Management, Lifelong Learning); real-world exposure.

TA-II builds professional readiness through mock interviews, TA-III encourages innovation via pre-approved creative tasks, and TA-IV enhances skills through coding platforms and short-term internships, strengthening computational thinking and industry exposure. Aptitude Tests assess analytical, reasoning, and quantitative abilities through standardized tests for each semester.

H. Conduction of Laboratory Experiments

Laboratory experiments are a vital component of the Undergraduate Computer Engineering curriculum, providing students with essential hands-on experience to reinforce theoretical concepts and develop professional engineering skills. Well-structured experiments enable learners to gain practical proficiency in Programming, Data Structures, Database Systems, Computer Networks, Operating Systems, Software Engineering Practices and Modern Computing tools.

- Continuous assessment (CA) through practical performance, post lab viva-voce, assignments which ensures effective outcome attainment.
- Along with conventional laboratories, the department integrates Virtual Laboratories to enhance experiential learning through simulation-based experiments, offering flexibility, repeated practice and exposure to advanced systems beyond hardware limitations.
- Additionally, subject-specific innovative experiments promote creativity, design thinking, and application-oriented learning aligned with emerging industry trends and societal needs.
- Regular feedback and corrective measures strengthen conceptual clarity, practical competence, and overall student performance.

Overall, the Teachers Assessment framework ensures a balanced development of knowledge, innovation, communication, and professional skills, supporting COs attainment and reinforcing outcome-based education and continuous improvement.

I. Feedback Mechanism

Stakeholder's feedback is systematically analyzed and used to improve curriculum content, teaching methodologies, assessment strategies, laboratory practices, and learning resources.

The feedback has led to curriculum enrichment, inclusion of industry-relevant topics, adoption of active learning methods, improved infrastructure, and enhanced student support, thereby strengthening attainment of COs, POs and PSOs.

The Department regularly collects structured feedback from key stakeholders to support continuous improvement. Employer feedback assesses graduates' technical competence and industry readiness, faculty feedback reviews curriculum adequacy and teaching-learning effectiveness, alumni feedback evaluates curriculum relevance to careers and higher studies, and parent feedback reflects student progress, discipline, and institutional support. The analysis of this feedback directly contributes to curriculum enhancement, improved delivery, and better attainment of POs.

Collected feedback is analyzed by the Feedback Coordinator and all records and action-taken reports are documented and verified by IQAC.

J. Monitoring and Audit

The institute has established a comprehensive monitoring mechanism to ensure effective implementation of academic processes and continuous quality improvement. Table 2.1.5 outlines the frequency, scope, and outcomes of various internal and external monitoring practices aimed at strengthening teaching learning processes and enhancing COs–POs attainment.

Table No.2.1.5: Internal Quality Assurance and Monitoring Activities

Monitoring Mechanism	Frequency	Scope / Activities	Outcome / Impact
Internal Academic Audits	Per Semester	Syllabus coverage, Teaching–Learning and Assessment Plans, CA/ESE records	§ Ensures academic plan adherence, § identifies gaps, corrective actions
Peer Reviews	Continuous Per Semester	Lecture and lab observations, project supervision, feedback on teaching- learning	§ Improves teaching- learning effectiveness, aligns with COs
IQAC-Led Monitoring	Three Per Year	Academic calendar adherence, course delivery, CA/ESE oversight, project evaluation	§ Ensures teaching- learning quality and transparent assessment, § Systematic improvement in COs–POs attainment
External Academic Audit	Once Per Year	Audit by external experts on syllabus coverage, course files	§ Ensures impartial review, validates academic quality.

These processes review syllabus coverage, teaching plans, assessments, and project progress, resulting in improved course delivery, transparent evaluation, and enhanced faculty performance. The impact is evident in better COs–POs attainment, higher student engagement, and continuous quality improvement.

K. Student Support and Mentoring

The Computer Department has a well-structured mechanism to identify and support students based on their learning abilities. The process shown in Figure 2.1.7 begins with continuous student feedback, which is collected through multiple sources such as:

- Course Coordinator and Class Teacher observations
- Local Guardian (LG) interactions
- Performance in TT and TAActivities

All these inputs help in assessing student's comprehension level, academic progress and learning challenges. Based on this assessment, students are broadly categorized into two groups:

- Slow Learners
- Advanced Learners

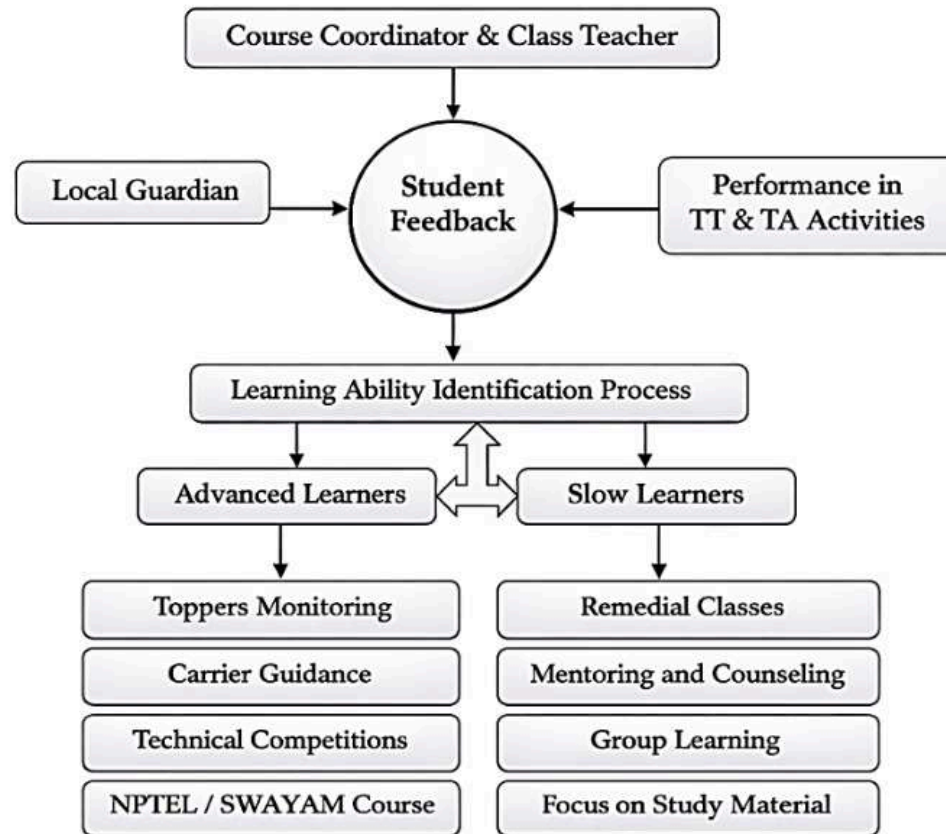


Figure 2.1.7: Learning Ability Identification and Student Support Mechanism

Students who consistently demonstrate higher academic performance, strong conceptual understanding and active participation are identified as Advanced Learners. Students are identified based on strong academic performance, active participation and faculty recommendations. They are supported through research projects, NPTEL/SWAYAM courses, certifications, technical competitions and focused mentorship. These initiatives foster research orientation, strengthen problem-solving skills, and prepare students for higher studies and professional excellence, leading to improved achievements, publications, and employability.

Students who require additional academic support or demonstrate average to slower conceptual clarity are identified as slow learners based on poor performance in internal assessments, low attendance or engagement, faculty and LG feedback. These students are supported through remedial classes for difficult subjects, one-to-one mentoring, peer and group learning mechanisms and simplified study materials with additional practice sessions.

The primary objectives are to bridge learning gaps, strengthen conceptual understanding, enhance confidence, and reduce failure or dropout rate. As a result, students show improved academic performance, better participation in learning activities, increased motivation, and enhanced course outcome attainment. Overall, this structured learning ability identification process ensures personalized, student-centric support, provides growth opportunities for advanced learners, timely assistance for slow learners, and leads to overall improvement in COs and POs.

L. Use of ICT and Quality of Classroom Teaching

The Computer Engineering Department effectively integrates ICT and digital tools to enhance the quality of teaching–learning and to ensure better attainment of COs and POs as shown in Table 2.1.6. Faculty members adopt a blended teaching approach using multimedia, simulation platforms, online resources, and digital assessment tools.

Table No.2.1.6: Use of ICT and Digital Tools in Teaching Learning Process

Aspect	Description
Purpose	The Department integrates ICT and digital tools to enhance teaching- learning quality.
Teaching Approach	Blended teaching using multimedia presentations, animations, smart boards, and digital resources.
Lab Tools	Python, Java, C/C++, Jupyter Notebook, Eclipse, VS Code, MySQL, MongoDB, Oracle, TensorFlow, PyTorch, Wireshark, Cisco Packet Tracer, Cloud platforms and virtual lab platforms for Programming, Machine Learning, Computer Networks, Databases, Operating Systems, and Software Engineering
Online Learning Resources	NPTEL/SWAYAM videos, e-books, digital repositories
Digital Content Delivery Platforms	Google Classroom, MS Teams, Moodle for assignments, notes, announcements and communication.
Project and Publication Support	Plagiarism Checking, Paraphrase Tools, and Open-source tools for IoT, Machine Learning, and Network applications.

ICT-based learning enhances the teaching–learning process by improving conceptual understanding through simulations and multimedia tools, increasing student engagement, providing 24×7 access to learning resources, enabling transparent digital assessments.

M. Industry Interaction and Exposure

The Department ensures continuous industry interaction to enhance practical knowledge, professional skills, and employability of students.

- Conducted on-campus training and interaction sessions by industry professionals to bridge the gap between academic learning and industry requirements.
- Conducted guest lectures, expert talks, and technical sessions delivered by professionals from industry and research organizations.
- Facilitated short-term and semester-long internships in reputed industries, startups, and research organizations to gain hands-on experience.
- Promoted industry-oriented projects, participation in Hackathons and technical activities to encourage problem-solving and innovation.
- Encouraged students to pursue industry-recognized certifications and skill-based training programs aligned with emerging technologies.

N. Research and Innovation Promotion

Students actively participate in Hackathons and national-level competitions such as Smart India Hackathons (SIH), which significantly enhance creativity, teamwork, design thinking, and problem-solving abilities, thereby contributing to POs attainment related to innovation, teamwork, and modern tool usage

In addition, activities conducted through the Institution's Innovation Council (IIC) and Entrepreneurship Cell fosters an entrepreneurial mind-set by encouraging idea generation, start-up development, and innovation-driven projects. These initiatives strengthen POs related to entrepreneurship, leadership, and lifelong learning.

The Department actively promotes research, innovation, and experiential learning through structured institutional platforms such as the ACM Student Chapter, Akatsuki Coding Club, Google Developer Groups on Campus (GDGoC), Glitchverse Gaming Tech Club and Unstop Igniters Club. These platforms provide students with opportunities for interdisciplinary collaboration, leadership development, and innovation-oriented engagement beyond the classroom. Through workshops, technical sessions, expert talks, project exhibitions, outreach activities, and research-focused initiatives, students are encouraged to explore emerging technologies and address real-world engineering challenges.

Active participation in these clubs enhances students' research aptitude, analytical thinking, and problem-solving skills, while also strengthening professional competencies such as teamwork, communication, ethical responsibility, and lifelong learning. The gained exposure supports the development of innovative project ideas, research publications, competitive participation, and community-oriented technological solutions.

Overall, the activities contribute significantly to the attainment of POs related to engineering knowledge, design and development of solutions, modern tool usage, teamwork, communication, and societal responsibility.

O. Quality Improvement Initiatives

The Computer Department implements well-defined quality improvement initiatives to strengthen the teaching–learning process and ensure sustained academic excellence.

These initiatives are aligned with Outcome-Based Education (OBE) principles and are systematically reviewed through data-driven analysis, stakeholder feedback.

Continuous monitoring of academic outcomes enables the Department to enhance curriculum delivery, assessment methods, and overall student learning experience.

Key Quality Improvement Initiatives and their impact on teaching–learning process are

COs–POs Attainment Analysis:

- Regular analysis of COs and POs attainment using direct and indirect assessment tools.
- Identification of learning gaps and weak outcome areas at course and program levels.
- This leads to improvement in teaching strategies, focused remedial actions, better assessment approaches, and enhanced student performance.

Benchmarking Practices.

- Comparison of curriculum structure, course content, and laboratory practices, with peer institutions.
- Adoption of best practices such as innovative teaching methods, modern tools, and industry-relevant content.
- Ensures curriculum relevance, improves instructional quality, and enhances student employability and practical competence.

Continuous Improvement through IQAC:

- Active participation in IQAC academic audits, feedback analysis, and quality reviews.
- Promotes structured academic planning, consistency in teaching–learning processes, accountability, and a culture of continuous quality enhancement.

Overall, these initiatives result in a more effective, student-centric teaching–learning environment, improved outcome attainment and quality assurance in the Computer Engineering program.

According to the curriculum, the Capstone Project is divided into two stages: Project Stage-I (Semester-VI) and Project Stage-II (Semester-VII). Table 2.2.1 outlines the activities to be completed in each stage as per the curriculum.

Table No.2.2.1:Project Stages and Activities

Project Stage	Activities / Description
<p>Project Stage-I: [Sem-VI] Problem Identification and System Design</p>	<ul style="list-style-type: none"> ▪ Preparation of a concise abstract and detailed introduction covering the problem domain, objectives, scope, relevance, and a comprehensive literature review of existing systems. ▪ Design of the proposed system detailing architecture, and proposed methodology. ▪ Development of a Stage-II implementation plan including selected tools and an execution timeline.
<p>Project Stage-II: [Sem-VII] System Development and Evaluation</p>	<ul style="list-style-type: none"> ▪ Implementation of the proposed system using appropriate tools and platforms. ▪ Testing, validation, and performance evaluation with comparative analysis. ▪ Conclusion and future scope identification based on results. ▪ Preparation and submission of a project report.

The Department of Computer Engineering follows the procedure as shown in Figure 2.2.1 for Identification of projects and allocation methodology to faculty members.

A. Identification of Projects and Allocation Methodology

The project development process at R. C. Patel Institute of Technology, Shirpur is systematically designed in line with the OBE framework to ensure effective planning, execution and evaluation of student projects.

The Head of the Department appoints a Project Coordinator to systematically manage, supervise, and monitor all project-related activities. Students are then required to form project groups and submit three proposed project topics along with concise abstracts for review, ensuring appropriate evaluation and approval before project initiation.

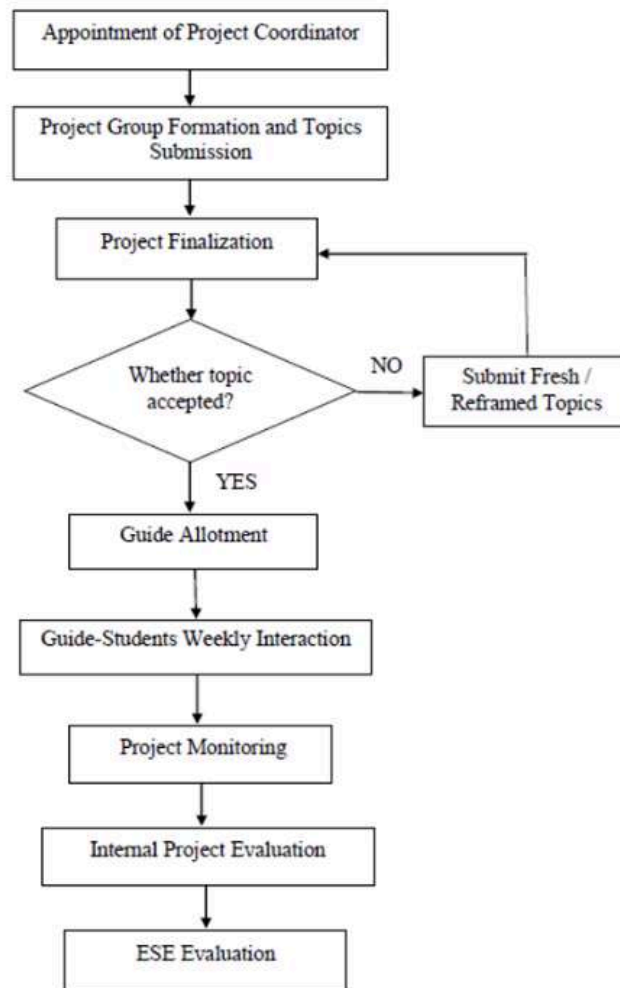


Figure 2.2.1: Process Flow for Project Topic Approval, Execution and Evaluation

- **Topic Finalization by Department:** Proposed project topics are rigorously evaluated based on relevance, innovation and technical depth. Topics not meeting the criteria are refined and resubmitted, while approved topics proceed to execution.
- **Guide Allocation:** Department Head and Project Coordinator allocate faculty as guides based on domain expertise, ensuring effective technical guidance, mentoring, and outcome-oriented supervision.
- **Weekly Interaction and Monitoring:** Structured weekly meetings during scheduled project hours facilitate continuous progress monitoring, technical discussion, and timely resolution of challenges.
- **Project Review and Internal Evaluation:** Periodic reviews during regular monitoring, presentations, and internal assessments are conducted to evaluate innovation, methodology and implementation quality.
- **Final Evaluation by External Examiner:** The project is assessed by an external expert using predefined rubrics, focusing on technical competence and originality.

B. Project Monitoring and Assessment

The project progress is systematically monitored through three monitoring stages. Each stage evaluates predefined activities such as documentation, literature review, requirement analysis, planning, implementation, and testing. Progress is assessed using clear parameters (Complete/Incomplete) to ensure timely execution, quality compliance, and readiness for subsequent project phases shown in Table 2.2.2.

Table No.2.2.2: Continuous Monitoring of Project Stage-I (Semester-VI)

Monitoring Stage	Activities
Monitoring –I (Project Initiation and Study)	<ul style="list-style-type: none"> ▪ Status of log book up to Monitoring–I ▪ Introduction and problem definition with objectives ▪ Literature review and analysis of existing systems
Monitoring –II (System Design)	<ul style="list-style-type: none"> ▪ Status of log book up to Monitoring–II ▪ Designing system block diagram / architecture ▪ Implementation plan for Project Stage–II
Monitoring –III (Partial Implementation and Documentation)	<ul style="list-style-type: none"> ▪ Status of log book up to Monitoring–III ▪ Partial implementation (20–25%) ▪ Submission of soft copy of Project Stage-I report

Each project is assessed through CA and graded based on project quality and consistent work progress. Table 2.2.3 presents the continuous assessment rubrics for Project Stage-I.

Table No.2.2.3: Continuous Assessment Rubrics for Project Stage-I

Attendance	Logbook Maintenance	Literature Survey	Depth of Understanding	Report	Total
05	05	05	05	05	25

Final Project demonstration and the report is evaluated by a panel of external examiners. ESE evaluation for Project Stage–I (Semester VI) is structured to assess multiple aspects of the project, as outlined in Table 2.2.4.

Table No.2.2.4: ESE Assessment Rubrics for Project Stage-I

Project Topic Selection	Design / Simulation / Logic	Programming	Result	Presentation	Total
05	05	05	05	05	25

- Project stage–I is continued as Project stage–II in Semester VII, focusing on completing the remaining implementation as per the approved abstract shown in Table 2.2.5.
- Students plan and execute the project systematically to ensure completion within the semester timeline.

Table No.2.2.5: Continuous Monitoring of Project Stage-II (Semester-VII)

Monitoring Stage	Activities
Monitoring –I	<ul style="list-style-type: none"> • Verification of log book up to Monitoring–I • System Implementation up to 40%
Monitoring –II	<ul style="list-style-type: none"> • Verification of log book up to Monitoring–II • System Implementation up to 70%

Monitoring Stage	Activities
Monitoring –III	<ul style="list-style-type: none"> • Verification of log book up to Monitoring–III • System Implementation 100% • Submission of complete project report

- Project stage –II emphasizes design, development, experimentation, testing, data analysis, and documentation. The CA and ESE Assessment Rubrics for Project Stage-II are shown in Table 2.2.6 and Table 2.2.7 respectively.

Table No.2.2.6: Continuous Assessment Rubrics for Project Stage-II

Attendance	Logbook Maintenance	Implementation	Testing	Report	Total
05	05	05	05	05	25

Table No.2.2.7: ESE Assessment Rubrics for Project Stage-II

Depth of Understanding	Implementation	Testing	Report	Presentation	Total
05	05	05	05	05	25

- Each group maintains a project logbook and submits a hard-bound project report at the end of Semester VII.
- Relevant domain knowledge beyond the core syllabus is applied for effective project implementation.

C. Capstone Project Timeline

A well-defined project timeline ensures systematic planning, timely execution and effective monitoring of Project Stage–I and Stage–II as elaborated in Table 2.2.8 and Table 2.2.9 respectively.

Table No.2.2.8: Timeline for Project Stage -I (Semester-VI)

Sr. No.	Activity	Tentative Period
1	Project registration and submission of three probable topics with abstract	Third week of January
2	Scrutiny, topic finalization, and guide allocation by the Head of Department and project coordinator.	Last week of January
3	Introduction, literature review, and requirement analysis	Second week of February
4	Project planning and scheduling	Last week of February
5	Monitoring–I of Project Stage-I	First week of March
6	System design and architecture	Second week of March
7	Implementation plan for Project Stage-II	Third week of March
8	Monitoring–II of Project Stage-I	First week of April
9	Completion of Project Stage-I with report submission (as per guide approval)	Second week of April
10	Monitoring–III of Project Stage-I	First week of May

Table No.2.2.9: Timeline for Project Stage –II (Semester-VII)

Sr. No.	Activity	Tentative Period
1	System Implementation up to 40%.	Third Week of August
2	Monitoring–I of Project Stage-II	Second week of September
3	System Implementation up to 70%.	Third week of September
4	Monitoring–II of Project Stage-II	Second week of October
5	System Implementation up to 100%.	Last week of October
6	Monitoring–II of Project Stage-II	First week of November
7	Completion of Project Stage-II along with the report in prescribed format by the approval of concerned guide	Third week of November

It facilitates structured progress from topic selection to implementation and evaluation, promotes optimal utilization of time and resources, enhances coordination between students and guides, and supports continuous assessment.

D. Domain-wise Categorization of Student Projects

Capstone Projects are designed to integrate theoretical knowledge with practical implementation, enabling students to solve real-world engineering problems. These projects promote innovation, research aptitude, interdisciplinary learning and industry readiness. To ensure focused development and domain expertise, Capstone Projects are broadly categorized into the following domains:

- Artificial Intelligence and Intelligent Systems
- Web and Application Development
- Data Science, Analytics and Machine Learning
- Cybersecurity, Blockchain and Data Privacy
- Automation Tools and Utility Systems
- Healthcare Systems and Applications
- Internet of Things (IoT) Systems and Applications

The following Table 2.2.10 presents the year-wise distribution of capstone projects across various technical domains along with their corresponding POs and PSOs mapping, demonstrating the department's commitment towards OBE.

Table No.2.2.10: Domain-wise Categorization of Capstone Projects

Sr. No.	Project Areas	No. of Capstone projects			Mapping with POs	Mapping with PSOs
		25-26	24-25	23-24		
1	Artificial Intelligence and Intelligent Systems	13	8	12	PO1 to PO12	PSO 1, PSO 2
2	Web and Application Development	14	22	19	PO1 to PO12	PSO 1, PSO 2
3	Data Science, Analytics and Machine Learning	10	8	6	PO1 to PO12	PSO 1, PSO 2

Sr. No.	Project Areas	No. of Capstone projects			Mapping with POs	Mapping with PSOs
		25-26	24-25	23-24		
4	Cybersecurity, Block chain and Data Privacy	3	2	3	PO1 to PO12	PSO 1, PSO 2
5	Automation Tools and Utility Systems	3	3	3	PO1 to PO12	PSO 1, PSO 2
6	Healthcare Systems and Applications	5	2	4	PO1 to PO12	PSO 1, PSO 2
7	Internet of Things (IoT) Systems and Applications	1	6	5	PO1 to PO12	PSO 1, PSO 2
Total		49	51	52		

Following Table 2.2.11 shows the mapping of sample Capstone projects for the Academic Year 2023-24 to 2025-26.

Table No.2.2.11: Sample Capstone projects Domain-wise POs, PSOs and SDGs Mapping

Domain Name: Artificial Intelligence and Intelligent Systems					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Developing a solution for Gesture enabled commands for operating Laptops for frequently used operations on daily basis.	Safety, Ethics	Product	PO1 to PO12 PSO1, PSO2	SDG 4
2024-2025	Deepfake Detection in Online Media Using Advanced Algorithm	Safety, Ethics	Research	PO1 to PO12 PSO1, PSO2	SDG 16
2024-2025	Real-time Speech to Indian Sign Language Translation for Deaf Persons	Safety, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 10, SDG 3
2025-2026	An AI-driven Framework for Predicting Groundwater Levels and Supporting Sustainable Water Resources using Machine Learning and Geospatial Analysis.	Environment, Cost	Research	PO1 to PO12 PSO1, PSO2	SDG 6,SDG 13, SDG 11

Domain Name: Artificial Intelligence and Intelligent Systems					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2025-2026	Conversational Image Recognition Chatbot	Ethics, Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 4,SDG 9

Domain Name: Web and Application Development					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	App-Based Solution to Identify and Solve Disease in Plants and Crops.	Environment	Application	PO1 to PO12 PSO1, PSO2	SDG 11
2024-2025	Developing a Software for Translation of Single Audio of English Language to Indian Regional Language	Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 10, SDG 4, SDG 9
2024-2025	Multilingual Railway Information Dissemination System	Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 4
2025-2026	Real-Time Doubt Resolution and Alumni Networking Platform	Ethics, Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 4, SDG 17
2025-2026	Sustainable Fertilizer Usage Optimizer for Higher Yield	Environment	Application	PO1 to PO12 PSO1, PSO2	SDG 2

Domain Name: Cybersecurity, Blockchain and Data Privacy					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Voting System Using Ethereum Blockchain, Smart Contract and MetaMask	Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 10
2024-2025	Graphical Password Authentication using Blockchain	Safety, Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 16, SDG 9
2025-2026	DDoS Protection System for Cloud: Architecture and Tool	Ethics, Safety, Cost	Product	PO1 to PO12 PSO1, PSO2	SDG 9
2025-2026	Implementation of Secure Communication System Using Classical Cryptographic Techniques for Sender-Receiver Communication Android Application	Safety, Ethics	Product	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 16
2025-2026	Land Registration using Blockchain	Ethics, Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 16

Domain Name: Internet of Things (IoT) Systems and Applications					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	To Build Robot for Grass Cutting	Environment, Safety, Cost	Product	PO1 to PO12 PSO1, PSO2	SDG 12, SDG 8
2024-2025	Air and Water Quality Index and Environment Monitoring	Environment, Safety, Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 13, SDG 6

Domain Name: Internet of Things (IoT) Systems and Applications					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2024-2025	Smart Courier Lift Box	Safety, Cost	Product	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 12, SDG 9
2024-2025	IoT-Based Solar Tracking and Monitoring System for Enhanced Energy Harvesting	Environment, Cost	Product	PO1 to PO12 PSO1, PSO2	SDG 12, SDG 7, SDG 9
2025-2026	The Smart Car Parking System with IoT	Environment, Safety, Cost	Product	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 11

Domain Name: Data Science, Analytics and Machine Learning					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Prediction of Oil Spills Events at Sea	Environment, Safety	Research	PO1 to PO12 PSO1, PSO2	SDG 13, SDG 14
2024-2025	Identification of Regions Prone to Boat Overturning	Environment, Safety	Research	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 3
2024-2025	Smoke Detection and Localization in Video Surveillance Application Based on Efficient Deep CNN	Safety, Ethics	Research	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 13, SDG 15
2025-2026	Semantic Analysis of Personality Test Items using LLM Embeddings	Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 3, SDG 9
2025-2026	Fake Social Media Accounts Detection	Ethics, Safety	Research	PO1 to PO12 PSO1, PSO2	SDG 16, SDG 9

Domain Name: Healthcare Systems and Applications					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Mental health and well-being surveillance, assessment, and tracking solution among children	Safety, Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 3
2024-2025	AI Assisted Tele-Medicine KIOSK	Safety, Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 10, SDG 3, SDG 9
2024-2025	Dhwani Sarthi: An Android App for App Based Digital Audiometer	Safety, Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 3
2025-2026	Online testing and monitoring of quality of medicines and consumables	Ethics, Safety	Product	PO1 to PO12 PSO1, PSO2	SDG 3, SDG 9, SDG 12
2025-2026	AI-Enhanced Drug Discovery Assistant	Safety, Ethics	Research	PO1 to PO12 PSO1, PSO2	SDG 3

Domain Name: Automation Tools and Utility Systems					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Student Feedback System for RCPIT	Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 4
2024-2025	Kalanirmata: Developing an Efficient Automatic Timetable Generator for Colleges	Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 4, SDG 9

Domain Name: Automation Tools and Utility Systems					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2025-2026	Development of Map-Matching Algorithm using AI-ML techniques to distinguish Vehicular Movement on Highway and Service Roads	Safety	Research	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 11
2025-2026	Binary Particle Swarm Optimization with an improved genetic algorithm to solve multi-document semantics problems of Hindi documents.	Ethics, Cost	Research	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 4
2025-2026	Compiler Visualizer	Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 4

Internship and Industrial Training provide Computer Engineering students with practical industry exposure, enabling them to apply theoretical knowledge to real-world engineering problems and understand professional practices and emerging technologies. These programs enhance technical skills, problem-solving ability, teamwork, and industry readiness, thereby improving employability and contributing effectively to POs/PSOs attainment.

A. Process of Internship/ Industrial Training for Students:

The internship process at our institute is designed to ensure a smooth and systematic placement and training experience for students. Figure 2.3.1 presents the detailed steps involved in the internship process.

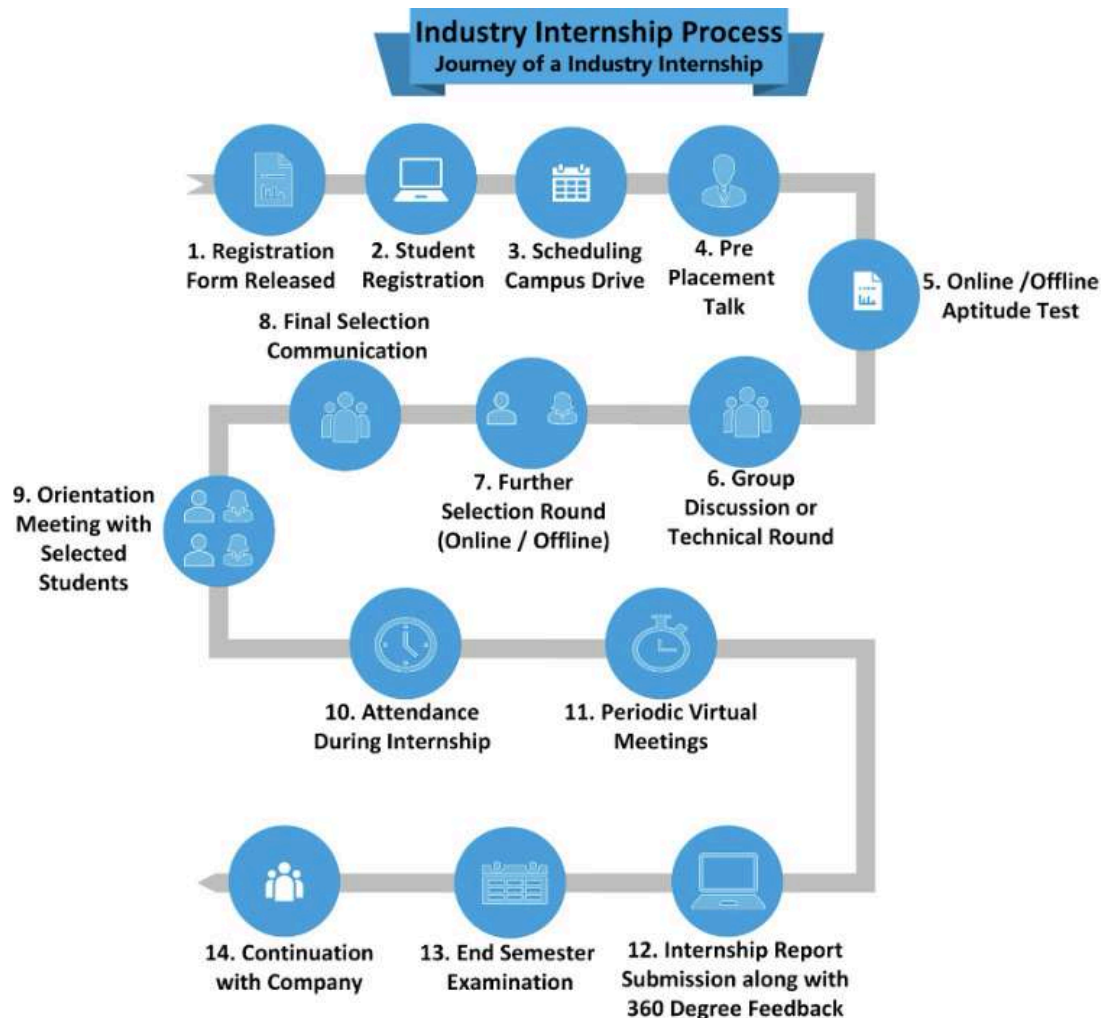


Figure 2.3.1: Flowchart of Industry Internship Process

Step 1: Registration Form Release: The Training and Placement (TandP) Department floats the internship registration form based on the eligibility criteria provided by the recruiting company. This form contains all necessary details regarding eligibility and requirements.

Step 2: Student Registration: Students who meet the eligibility criteria must register themselves by submitting the completed registration form within the stipulated deadline communicated by the TandP Department.

Step 3: Scheduling of Campus Drive: The campus drive date is finalized through discussions and coordination between the TandP Department and the company officials.

Step 4: Pre-Placement Talk: The Company conducts a pre-placement talk by introducing the working domain, organizational culture, promotion policies, bond or service agreement terms, internship or training duration, stipend details, and other relevant information to the students.

Step 5: Aptitude Test Round: Most companies begin the selection process with an aptitude test to evaluate students' problem-solving skills, logical reasoning, and quantitative aptitude.

Step 6: Group Discussion (GD) or Technical Round: Students who clear the aptitude test are shortlisted for the next round, which may be either a group discussion or a technical interview, depending on the company's recruitment process.

Step 7: Further Selection Rounds: Based on the availability of technical experts or panel members, the company decides whether subsequent rounds will be conducted in an online/offline mode.

Step 8: Final Selection Communication: After completion of all rounds, the company sends the final selection list to the Training and Placement Officer (TPO), who then officially communicates the results to the selected students.

Step 9: Orientation Meeting for Selected Students: Upon receiving the final selection list, the TandP Department conducts a meeting with the selected students to provide important instructions regarding the internship start and end dates, attendance policies, and other guidelines.

Step 10: Attendance during Internship: Students undergoing the internship are permitted to attend their regular college examinations scheduled during the internship period without any hindrance.

Step 11: Periodic Virtual Meetings: The TandP Department organizes monthly virtual meetings with the students and their assigned mentors or trainers to discuss progress, address concerns, and ensure the smooth conduct of the internship. These meetings are scheduled based on the availability of mentors/trainers.

Step 12: Internship Report Submission: At the end of the internship, students are required to submit a comprehensive internship report in the prescribed format provided by the institute.

Step 13: End Semester Examination (ESE): Finally, after the completion of the internship, all students must appear for the End Semester Examination (ESE) as per the academic schedule.

Step 14: Continuation of Students: After the ESE, students whose performance is good as per Company officials they can resume their duty as per said timeline given by company officials.

B. Mapping of Internship/ Industrial Training with POs and PSOs:

Table 2.3.1 summarizes the details of student internships, highlighting the skills gained and their relevance to POs and PSOs.

Table No.2.3.1: Summary of Student Internship, Skill Development and POs–PSOs Mapping

A.Y. 2022-23

Name of the Company	No. of Student Benefitted	Duration	Skill Gained	Relevance to POs and PSOs
Netwin	02	03 Month	Web application development (HTML, CSS, JavaScript)	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
Weblines	11	03 to 04 Month	Full Stack Development (HTML, CSS, JavaScript, PHP)	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
Rheal Software	03	03 Month	Software Development (Core JAVA, Advanced JAVA)	PO1, PO2, PO3, PO5, PO9, PO12, PSO1

RecruitCRM	01	03 Month	Software Testing (Automation Testing)	PO2, PO4, PO5, PO8, PO12, PSO1
Clover	09	04 Month	Database Administration, System Administration	PO1, PO2, PO5, PO12, PSO2
Code Quotient	02	04 Month	Software Development, Web Development (MERN Stack, MEAN Stack)	PO1, PO2, PO3, PO5, PO9, PO12 PSO1, PSO2
Amity Software	01	03 Month	Software Development	PO1, PO2, PO3, PO5, PO9, PO12 PSO1
Gridlogics	02	03 Month	Software Development	PO1, PO2, PO3, PO5, PO9, PO12 PSO1

A.Y. 2023-24

Name of the Company	No. of Student Benefitted	Duration	Skill Gained	Relevance to POs and PSOs
TSS	09	03 Month	Software Development (.Net)	PO1, PO2, PO3, PO5, PO9, PO12 PSO1
Netwin	05	03 Month	Web application development (HTML, CSS, JavaScript)	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
RecruitCRM	01	03 Month	Software Testing (Automation Testing)	PO2, PO4, PO5, PO8, PO12, PSO1
CasePoint	05	05 Month	Software Development (Core Java, Advanced Java)	PO1, PO2, PO3, PO5, PO9, PO12 PSO1
Quality Kiosk	27	04 Month	Software Testing (Manual and Automation Testing)	PO2, PO4, PO5, PO8, PO12, PSO1
Rheal Software	04	03 Month	Software Development (Core JAVA, Advanced JAVA)	PO1, PO2, PO3, PO5, PO9, PO12 PSO1
CapitalVIA	01	03 Month	Tech Support	PO6, PO7, PO8, PO10, PO11, PO12, PSO2
FinoFY	01	03 Month	Software Development (Java)	PO1, PO2, PO3, PO5, PO9, PO12 PSO1

Zitics	07	03 Month	Software Development (Core and Advanced Java)	PO1, PO2, PO3, PO5, PO9, PO12 PSO1
eSamyak	03	03 Month	Software Development (Core and Advanced Java)	PO1, PO2, PO3, PO5, PO9, PO12, PSO1
Segitec Solutions	01	03 Month	Web Development (MERN Stack)	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
Vinsys IT Solutions	04	03 Month	Cloud Security	PO1, PO2, PO5, PO6, PO7, PO12, PSO2
Marketing Mantra	01	03 Month	Software Development (Java)	PO1, PO2, PO3, PO5, PO12, PSO1
Patseer	03	03 Month	Software Development (Java)	PO1, PO2, PO3, PO5, PO12, PSO1

A.Y. 2024-25

Name of the Company	No. of Student Benefitted	Duration	Skill Gained	Relevance to POs and PSOs
Agent1o1	01	03 Month	Artificial Engineering (Chat-bot Development)	PO1, PO2, PO4, PO5, PO7, PO12, PSO1
AISOLO	01	03 Month	AI Engineer	PO1, PO2, PO4, PO5, PO7, PO12, PSO1
ApMoSys	10	03 Month	Software Testing (Automation Testing) Web Development	PO2, PO4, PO5, PO8, PO12, PSO1
Bit2Sky	01	03 Month	Software Development (Core Java, Advanced Java)	PO1, PO2, PO3, PO5, PO12, PSO1
BuildINT	07	04 Month	Software Testing (Manual and Automation Testing)	PO2, PO4, PO5, PO8, PO12, PSO1
VinSys IT	21	03 Month	Cloud App Developer	PO1, PO2, PO5, PO6, PO7, PO11, PO12, PSO1, PSO2
Code Quotient	02	04 Month	Software Development, Web Development (MERN Stack, MEAN Stack)	PO1, PO2, PO3, PO5, PO12, PSO1, PSO2

Eagle Byte	05	03 Month	Software Development (Java)	PO1, PO2, PO3, PO5, PO12, PSO1,
Flynaut SaaS	01	03 Month	Software Development (Core and Advanced Java)	PO1, PO2, PO3, PO5, PO12, PSO1
FSD	15	03 Month	Web Development (HTML, CSS, JavaScript)	PO1, PO3, PO5, PO7, PO10, PO12, PSO1
Humming Byte	01	03 Month	Web Development (MERN Stack)	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
Mallikas Art and Production	01	03 Month	Digital Marketing	PO6, PO7, PO8, PO10, PO11, PO12, PSO2
Microdynamics S/W Solution	01	03 Month	React Developer	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
MSBSVET	02	03 Month	.Net Developer	PO1, PO2, PO3, PO5, PO12, PSO1
Nebula Technology	01	03 Month	Software Developer (Java)	PO1, PO2, PO3, PO5, PO12, PSO1
NullClass Edtech	01	03 Month	Data Science (Python)	PO1, PO2, PO4, PO5, PO7, PO12, PSO1
NTech Solutions	01	03 Month	Software Developer (Java)	PO1, PO2, PO3, PO5, PO12, PSO1
Numetry Solutions	06	03 Month	Software Developer (Java)	PO1, PO2, PO3, PO5, PO12, PSO1
Primus Tech System	04	06 Month	Web Development	PO1, PO3, PO5, PO7, PO10, PO12, PSO2
Patseer	01	04 Month	Software Development	PO1, PO2, PO3, PO5, PO12, PSO1
Quality Kiosk	07	04 Month	Software Testing	PO2, PO4, PO5, PO8, PO12, PSO1
R3Sys	01	03 Month	Web Development	PO1, PO2, PO3, PO5, PO12, PSO1
Recruit CRM	01	03 Month	Software Testing	PO2, PO4, PO5, PO12, PSO1
Rheal Software	03	03 Month	Software Developer	PO1, PO2, PO3, PO5, PO12, PSO1
Scriptacode	01	03 Month	Web Development	PO1, PO2, PO3, PO5, PO12, PSO2

Sushilaa Web Development	01	03 Month	Web Development	PO1, PO2, PO3, PO5, PO12, PSO2
Temple Packaging Pvt. Ltd.	01	04 Month	Testing	PO2, PO4, PO8, PO12, PSO1
Transform Automation India PVT LTD	01	06 Month	Full Stack Development	PO1, PO2, PO3, PO5, PO9, PO12, PSO1, PSO2
TSS	04	06 Month	Software Development	PO1, PO2, PO3, PO5, PO12, PSO1
Weblines India	01	06 Month	Full Stack Development	PO1, PO2, PO3, PO5, PO9, PO12, PSO1, PSO2
WebTech	03	06 Month	Windows Programming Web Development	PO1, PO2, PO3, PO5, PO12, PSO1, PSO2

C. Feedback:

A systematic mechanism is implemented to monitor and evaluate student learning outcomes during industrial training. Weekly progress and learnings are recorded through a Weekly Log Record, while discipline and internship duration compliance are ensured via an Attendance Sheet. The Industry Supervisor Evaluation Form provides an objective assessment of professional conduct, technical skills, communication, and work performance. Further, the Student Feedback Form captures reflections on skill development, practical application of theory, and career readiness, supporting continuous improvement and outcome as shown in Table 2.3.2.

Table No.2.3.2: Industrial Training Monitoring and Outcome Assessment Mechanism

Document Used	Nature of Data Collected	Parameters Analyzed	Method of Analysis	Outcome
Weekly Log Record	Weekly tasks, activities performed, key learning's,	Level of learning, practical exposure, skill development	Compare tasks assigned vs. tasks completed and learning outcomes achieved	Measures attainment of practical and technical skills
Attendance Sheet	Daily presence, holidays, absences	Regularity, discipline	Calculate attendance percentage and identify irregular students	Ensures compliance with internship duration and participation
Supervisor Evaluation Form	Ratings on dependability, teamwork, initiative, technical skills, communication, professionalism	Work performance, employability skills	Convert ratings into scores and classify performance (Excellent/Good/Satisfactory/ Needs Improvement)	Used to judge professional competency and industry readiness

Document Used	Nature of Data Collected	Parameters Analyzed	Method of Analysis	Outcome
Student Feedback Form	Self-assessment on skills, learning, career relevance, satisfaction	Student perception of learning and relevance to curriculum	Analyze responses to identify strengths, weaknesses, and improvement areas	Supports continuous improvement and curriculum relevance
Overall Internship Record	Diary, attendance, evaluation, feedback	Overall effectiveness of internship	Correlate supervisor ratings with attendance and student feedback	Helps validate internship outcomes and quality assurance

2.4 Seminar and Mini/Micro Projects (10)

Total Marks 10.00

To enhance experiential learning and practical application of theoretical concepts, Semester Projects are introduced in Semesters III, IV, and V. These projects strengthen students' technical skills, problem-solving ability, teamwork, and presentation skills, while fostering design thinking and implementation capabilities. Each project concludes with a Semester Project Report submitted as part of requirements, following a Departmental format to ensure academic rigor and uniformity.

A. Identification of Projects and Guide Allocation

The project development process at Institute follows the OBE framework and is implemented in the same structured manner as the capstone project.

The Head of the Department appoints a Project Coordinator to oversee planning, execution, and monitoring. Students form project groups and submit multiple project proposals with brief abstracts, which are evaluated based on relevance, innovation, technical depth and feasibility. Approved topics proceed for implementation, while others are refined and resubmitted.

B. Process for Monitoring and Evaluation

Weekly meetings are conducted between project groups and their respective guides during scheduled project hours to review progress and ensure systematic documentation through a Project Log Book maintained from project initiation to completion.

In addition, the department organizes three formal project monitoring evaluated by a faculty panel appointed by the Head of the Department.

Table No.2.4.1: Continuous Assessment of Semester Project-I, II and III

Attendance	Logbook Maintenance	Literature survey	Depth of Understanding	Report	Total
05	05	05	05	05	25

Each project is evaluated according to their project quality and work done regularly. Table 2.4.1 shows rubrics for Continuous Assessment for all Semester Projects.

- Reviews cover key stages such as problem definition, literature survey, requirement analysis, design, and feasibility.
- Each group submits a Project Completion Report at the end of the semester in the prescribed format, verified by the project guide.
- CA is carried out by the Departmental panel, including the project guide, based on defined rubrics.
- The working prototype demonstration, report, and final viva are evaluated by the guide and panel of examiners using a structured project grading sheet as shown in Table 2.4.2.

Table No.2.4.2: ESE Evaluation of Semester Project- I, II and III

Project Topic Selection	Design / Simulation / Logic	Hardware / Programming	Result	Presentation	Total
05	05	05	05	05	25

C. Domain-wise Categorization of Semester Project

All semester projects are a key component of Outcome-Based Education, enabling students to apply core engineering knowledge (PO1) and perform effective requirement analysis and problem definition (PO2) for real-world applications. Through structured project work, students develop skills in system design, block diagrams, and architecture (PO3), as well as experimentation, testing, and debugging (PO4). Effective use of software and modern engineering tools such as Python, Java, SQL, cloud platforms (AWS/Azure), Web development frameworks (PO5) is reinforced, while attention to social, environmental, and sustainability aspects (PO6, PO7) ensures responsible engineering practice. Students are trained to uphold safety, ethics, and data privacy (PO8), collaborate effectively in teams (PO9), and prepare thorough documentation, presentations, and oral reports (PO10). Project management, cost analysis, and resource planning (PO11) are also emphasized. Finally, the projects encourage lifelong learning and adaptation to new technologies (PO12).

The following Table 2.4.3, Table 2.4.4 and Table 2.4.5 represents year-wise distribution of Semester Project-I, II and III respectively.

Table No.2.4.3: Domain-wise Categorization of Semester Project-I and POs–PSOs Mapping

Sr. No.	Project Areas	No. of Capstone projects			Mapping with POs	Mapping with PSOs
		25-26	24-25	23-24		
1	Artificial Intelligence and Intelligent Systems	8	5	8	PO1 to PO12	PSO 1, PSO 2
2	Web and Application Development	30	28	16	PO1 to PO12	PSO 1, PSO 2
3	Data Science, Analytics and Machine Learning	4	4	3	PO1 to PO12	PSO 1, PSO 2
4	Cybersecurity, Block chain and Data Privacy	4	2	2	PO1 to PO12	PSO 1, PSO 2
5	Automation Tools and Utility Systems	3	10	24	PO1 to PO12	PSO 1, PSO 2
6	Healthcare Systems and Applications	2	1	0	PO1 to PO12	PSO 1, PSO 2
7	Internet of Things (IoT) Systems and Applications	2	1	1	PO1 to PO12	PSO 1, PSO 2
Total		53	51	54		

Table No.2.4.4: Domain-wise Categorization of Semester Project-II and POs-PSOs Mapping

Sr. No.	Project Areas	No. of Capstone projects			Mapping with POs	Mapping with PSOs
		24-25	23-24	22-23		
1	Artificial Intelligence and Intelligent Systems	10	5	5	PO1 to PO12	PSO 1, PSO 2
2	Web and Application Development	25	30	19	PO1 to PO12	PSO 1, PSO 2
3	Data Science, Analytics and Machine Learning	4	2	6	PO1 to PO12	PSO 1, PSO 2
4	Cybersecurity, Block chain and Data Privacy	3	2	5	PO1 to PO12	PSO 1, PSO 2
5	Automation Tools and Utility Systems	4	8	11	PO1 to PO12	PSO 1, PSO 2
6	Healthcare Systems and Applications	3	4	0	PO1 to PO12	PSO 1, PSO 2

Sr. No.	Project Areas	No. of Capstone projects			Mapping with POs	Mapping with PSOs
		24-25	23-24	22-23		
7	Internet of Things (IoT) Systems and Applications	3	0	4	PO1 to PO12	PSO 1, PSO 2
Total		52	51	50		

Table No.2.4.5: Domain-wise Categorization of Semester Project–III and POs–PSOs Mapping

Sr. No.	Project Areas	No. of Capstone projects			Mapping with POs	Mapping with PSOs
		25-26	24-25	23-24		
1	Artificial Intelligence and Intelligent Systems	20	11	4	PO1 to PO12	PSO 1, PSO 2
2	Web and Application Development	19	16	32	PO1 to PO12	PSO 1, PSO 2
3	Data Science, Analytics and Machine Learning	5	13	3	PO1 to PO12	PSO 1, PSO 2
4	Cybersecurity, Block chain and Data Privacy	2	5	3	PO1 to PO12	PSO 1, PSO 2
5	Automation Tools and Utility Systems	3	2	3	PO1 to PO12	PSO 1, PSO 2
6	Healthcare Systems and Applications	2	2	3	PO1 to PO12	PSO 1, PSO 2
7	Internet of Things (IoT) Systems and Applications	1	0	0	PO1 to PO12	PSO 1, PSO 2
Total		52	49	48		

Through these experiences, students strengthen PSO-1, reinforcing programming, algorithmic, and software design fundamentals, and PSO-2, enhancing competencies in web, mobile, database, and cloud-based application development. Overall, semester projects ensure comprehensive POs–PSOs attainment, practical competence, and readiness for higher-level projects or professional challenges.

The projects under various domains are aimed at providing students with practical exposure to real-world problem solving using modern engineering tools and technologies. Through these projects, students effectively apply core engineering knowledge, analytical skills, and design principles, leading to the attainment of relevant POs and PSOs. Consideration of safety, ethical responsibility, environmental impact, and cost effectiveness ensures socially responsible engineering solutions. Table 2.4.6 shows project aligned with appropriate Sustainable Development Goals (SDGs), demonstrating their relevance to societal needs and sustainable development in line with the OBE

Table No.2.4.6: Sample Semester Project - III Domain-wise POs, PSOs and SDG Mapping

Domain Name: Artificial Intelligence and Intelligent Systems					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	VGPT an AI WebApp	Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 4
2024-2025	Traffic Sign Detection and Recognition	Safety,	Application	PO1 to PO12 PSO1, PSO2	SDG 9
2024-2025	Python based Compression of Sentences using Meaning Analysis	Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 4, SDG 9
2025-2026	AI-Based Intrusion Detection System (IDS)	Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 9
2025-2026	Women Safety Tracking Alert System	Safety	Product	PO1 to PO12 PSO1, PSO2	SDG 5, SDG 9, SDG 16

Domain Name : Web and Application Development					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Online Examination System	Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 4
2024-2025	Social Media Platform	Ethics, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 16
2024-2025	Online Hotel Reviews Analysis using AI	Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 8, SDG 9

Domain Name : Web and Application Development					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2025-2026	AgroMart: Farm Equipment Rental System	Cost	Product	PO1 to PO12 PSO1, PSO2	SDG 2, SDG 8, SDG 9, SDG 12
2025-2026	CityConnect: Local Event Booking System	Safety Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 11, SDG 9

Domain Name : Cybersecurity, Blockchain and Data Privacy					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	DNS Resolver Extension and WEB Security	Safety, Ethics	Product	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 16
2024-2025	Organic Food Traceability using Blockchain	Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 12
2024-2025	Blockchain based Land Registration System	Safety, Cost	Application	PO1 to PO12 PSO1, PSO2	SDG 8, SDG 9
2025-2026	A Centralized Tool For Cybersecurity Beginners	Safety, Ethics,	Product	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 16
2025-2026	Digital Voting System	Safety, Ethics,	Application	PO1 to PO12 PSO1, PSO2	SDG 16

Domain Name : Data Science, Analytics and Machine Learning					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Sports Data Analysis using Python	Ethics	Research	PO1 to PO12 PSO1, PSO2	SDG 8, SDG 9
2024-2025	Movie Recommendation System	Cost	Research	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 12
2024-2025	Identification of Spam Email	Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 16
2025-2026	English text Sentiment Analysis	Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 9, SDG 16
2025-2026	RoadSafe: Accident Reporting and Blackspot Mapping	Safety	Product	PO1 to PO12 PSO1, PSO2	SDG 3, SDG 9, SDG 11,

Domain Name : Healthcare Systems and Applications					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Diabetes Predictor	Cost, Ethics	Research	PO1 to PO12 PSO1, PSO2	SDG 3, SDG 9
2024-2025	Blood Bank for Pets	Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 3
2024-2025	Skin Cancer Detection	Safety, Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 3, SDG 9

Domain Name : Healthcare Systems and Applications					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2025-2026	AI in Healthcare: Disease Diagnosis from Medical Images.	Safety, Ethics	Research	PO1 to PO12 PSO1, PSO2	SDG 3
2025-2026	Alzheimers Disease Progression Prediction using AI	Safety, Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 3, SDG 9

Domain Name : Automation Tools and Utility Systems					
Academic Year	Project Name	Key Factors (Environment / Safety / Ethics / Cost)	Type of Project	POs and PSOs Mapping	Mapping to SDG
2023-2024	Automatic Question paper Generation and Weightage Assignment	Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 4
2024-2025	Android Attendance System App	Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 4, SDG 9
2024-2025	Harddisk Health Monitoring Tool	Ethics, Safety	Application	PO1 to PO12 PSO1, PSO2	SDG 8
2025-2026	Womens Safety App.	Safety, Ethics	Application	PO1 to PO12 PSO1, PSO2	SDG 5, SDG 11, SDG 16
2025-2026	Screen Recording Platform	Ethics	Product	PO1 to PO12 PSO1, PSO2	SDG 4, SDG 9

At the same time, these projects enhance PSO-1 by applying programming principles, algorithms, and software design concepts, and strengthen PSO-2 through proficiency in web, mobile, database, and cloud-based application development, thereby improving industry readiness and system-level competence. The domain-wise student projects enhance the attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs) by applying engineering knowledge, problem analysis, solution design, and modern computing tools to real-world challenges.

These projects contribute to sustainable development by supporting digital innovation, smart and sustainable systems, resource-efficient computing, health and well-being, and technological advancement, thereby aligning with relevant Sustainable Development Goals (SDGs) and improving industry readiness and societal impact.

D. Seminar / Presentation Activity

The Presentation Activity is a key component of continuous learning and assessment in the Department. It is conducted for 2–3 subjects as a key component of teacher assessment, this activity aims to enhance students’ technical knowledge, communication skills, confidence, and professional presentation abilities.

Students are assigned topics from core subjects or interdisciplinary areas aligned with COs, POs, and PSOs. Students prepare a PowerPoint presentation through research and analysis of credible academic and industry sources, fostering self-learning and awareness of technological advancements.

Process for Conducting the Activity:

- Announce the activity in the academic calendar and notify students.
- Assign topics aligned with curriculum and program outcomes.
- Share evaluation rubric and marking criteria with students.
- Communicate dress code and presentation etiquette.
- Confirm panel members and schedule.
- Panel evaluates and records scores immediately after QandA.
- Compute final marks as the average of panel scores.

Presentations are evaluated by a faculty panel using rubrics covering organization, clarity, delivery, visual aids, technical knowledge, and audience engagement. This activity not only reinforces engineering concepts but also develops critical soft skills such as teamwork, analytical thinking, and public speaking. Suggestions from panel members contributes to improve the presentation skills.

Overall, the Presentation Activity bridges theoretical knowledge and practical application, preparing students for professional presentations, project defenses and future academic or industry roles. The following Table 2.4.7 shows the rubrics for the presentation activity and Table 2.4.8 highlights the course-wise presentation topics along with their corresponding POs and PSOs mapping.

Table No.2.4.7: Evaluation of Presentation Activity

Organization and content of Presentation	Clarity and Delivery	Use of Visual aids	Technical Knowledge	Engagement with Audience	Total
05	05	05	05	05	25
The total marks are then Scale down to 5					

Table No.2.4.8: Sample Mapping of Presentation Topics for A.Y. 2024-25

Presentation Topic	Course	POs Mapping	PSOs Mapping
Test Tools and Automation	Software Testing and Quality Assurance	PO1, PO2, PO5, PO10, PO12	PSO1
Comparison of Testing Techniques	Software Testing and Quality Assurance	PO1, PO2, PO4, PO10	PSO1
Role of Testing	Software Testing and Quality Assurance	PO1, PO6, PO8, PO10	PSO1

Presentation Topic	Course	POs Mapping	PSOs Mapping
Cloud for Small Businesses and Startups	Cloud Computing	PO3, PO6, PO7, PO10, PO11	PSO2
Cloud Computing in E-commerce	Cloud Computing	PO3, PO5, PO6, PO10, PO11	PSO2
Cloud Storage Solutions: S3, Azure Blob, Google Cloud Storage	Cloud Computing	PO1, PO5, PO10, PO12	PSO2
Virtual Machines vs. Compilers: JVM and CLR	Compiler Design	PO1, PO2, PO5, PO10	PSO1
Cloud-Based Compilation: Challenges and Opportunities	Compiler Design	PO3, PO5, PO10, PO11, PO12	PSO2
Compiler Optimizations for GPUs	Compiler Design	PO1, PO2, PO4, PO5, PO12	PSO1

2.5 Case Studies and Real-Life Examples (10)

Total Marks 10.00

Case studies and real-life examples support the Outcome-Based Education (OBE) framework by effectively linking theoretical concepts with practical applications. They enhance students engineering knowledge, problem analysis, and solution design while promoting the use of modern engineering tools. Such activities foster critical thinking, ethical awareness, teamwork, communication, and project management skills.

Table 2.5.1 presents a comprehensive overview of Interdisciplinary Projects, Deployable Projects, and Universal Human Values (UHV) course case studies, showcasing the systematic integration of technical education with ethical understanding and real-world applications. The table 2.5.1 captures sample activities implemented across academic years, covering diverse domains such as web and application development, agriculture technology, smart transportation, IoT, artificial intelligence, healthcare, sustainability, social harmony, and professional ethics. Each activity is explicitly mapped to relevant Program Outcomes (POs) Program Specific Outcomes (PSOs) demonstrating strong alignment with the Departments Outcome-Based Education (OBE) framework.

Table 2.5.1 reflects how curriculum-embedded projects and Universal Human Values course case studies contribute to:

- PO and PSO attainment: Reinforcing core engineering competencies and course objectives.
- Industry and societal relevance: By applying theoretical knowledge to real-life scenarios and interacting with relevant industries or organizations.
- Ethical and human value development: Universal Human Values course case studies through role plays, posters, and debates, cultivate honesty, integrity, justice, compassion, environmental responsibility, and harmonious living.
- Hands-on learning and innovation: Students gain practical exposure to modern tools and technologies such as AI, IoT, data analytics, intelligent systems, and web platforms, along with deployable and demonstration-ready solutions.
- Holistic education and social impact: The combined focus on interdisciplinary technical projects and Universal Human Values case studies ensures balanced development of technical competence, ethical awareness, and social responsibility.
- Sustainable Development Goals (SDGs): The projects and Universal Human Values case studies support SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 16 (Peace, Justice and Strong Institutions) through technology-driven, sustainability-focused, and ethics-oriented learning initiatives.

Table No.2.5.1: Sample Real-Life and Case Study Examples Domain-wise with POs and PSOs

Sr No	Topic	Course Name and Code	POs and PSOs Mapped	Description of Case / Real life Example	Industry / Organization Involved	Application Area / Domain	Learning Outcome / Insight	Assessment Method Used	Reference / Source
1	Student Feedback System for RCPIT	Project Stage-II (C408), Software Engineering (C313)	PO1 to PO12 PSO1, PSO2	An online system where students give anonymous feedback, which is stored and reviewed to improve teaching and courses	R. C. Patel Institute of Technology, Shirpur	Application: Online collection of student feedback on courses, and faculty Domain: Web and Application Development	Students gain skills in web application development, problem analysis, teamwork, multidisciplinary integration, and technical documentation.	Project evaluation and demo	Institute feedback guidelines, SDLC, user requirements, and software references
2	Business Website for Kartar Group	Project Stage-II (C408), Cloud Computing (C409)	PO1 to PO12 PSO1, PSO2	Development of a business website to present Kartar Group's services and profile.	Kartar Group, Pune	Web and Application Development	Students gain skill in website design, development, and deployment for real clients.	Project evaluation and demo	Business requirements and standard web documentation

Sr No	Topic	Course Name and Code	POs and PSOs Mapped	Description of Case / Real life Example	Industry / Organization Involved	Application Area / Domain	Learning Outcome / Insight	Assessment Method Used	Reference / Source
3	Converges Website	Project Stage-II (C408), Computer Networks (C217)	PO1 to PO12 PSO1, PSO2	A website to manage event details, registrations, and updates.	R. C. Patel Institute of Technology, Shirpur	Web and Application Development	Students will build a responsive website to share event details, handle registrations, and provide updates	Evaluation based on website usability, accuracy, reliability, and user feedback.	Similar kind of websites and its working and suggestions and feedback by stakeholders
4	Agricard Website	Semester Project-II (C219), Artificial Intelligence (C305)	PO1 to PO12 PSO1, PSO2	Digital platform providing farmers with crop, scheme, soil, and market information	R. C. Patel Institute of Technology, Shirpur	Web and Application Development	Problem analysis, user-centric design, social impact	Demo, evaluation, report, presentation	Research papers, govt. portals, web docs
5	Automated Bus Scheduling and Route Optimization Platform	Semester Project-III (312), Machine Learning (C321)	PO1 to PO12 PSO1	Smart system optimizing bus routes and schedules using real-time data	R. C. Patel Institute of Technology, Shirpur	Data Science, Analytics and Machine Learning	Optimization, data-driven decisions, sustainability	Demo, evaluation, report, presentation	Route optimization studies, smart city cases
6	Smart Disposal Bin	Semester Project-II (C219), Internet of Things (C319)	PO1 to PO12 PSO1	IoT-based waste management with automated collection alerts	R. C. Patel Institute of Technology, Shirpur	IoT Systems and Applications	IoT deployment, sustainability, teamwork	Demo, evaluation, report, presentation	Waste management studies, IoT manuals
7	Real-Time Ingredient and Chemical Measurement with Agent speaker	Semester Project-III (312), Deep Learning (C405)	PO1 to PO12 PSO1	Real-time chemical/ingredient measurement with intelligent voice agent	R. C. Patel Institute of Technology, Shirpur	Artificial Intelligence and Intelligent Systems	Sensor integration, ethical AI, real-time systems	Demo, evaluation, report, presentation	AI monitoring systems, sensor and speech docs
8	Act on Honesty	Universal Human Values (C219)	PO6, PO8	Role Play	R. C. Patel Institute of Technology, Shirpur	Healthcare Services and Applications, Professional Ethics	Importance of honesty and integrity in professional life.	Role Play	UHV Textbook, AICTE Ethics Module
9	Understanding the needs of I and Body	Universal Human Values (C219)	PO6, PO8	Differentiation between physical needs and needs of self for holistic well-being.	R. C. Patel Institute of Technology, Shirpur	Healthcare Services and Applications, Self-awareness	Students understand balance between body and self.	Poster presentation and viva	UHV Textbook, AICTE Ethics Module

The Department of Computer Engineering at R. C. Patel Institute of Technology (RCPIT), Shirpur actively promotes SWAYAM, NPTEL, and other recognized MOOC certifications as an integral component of the academic ecosystem. The following Table 2.6.1 presents the module-wise skill development framework and its alignment with POs and PSOs. These certifications are encouraged not only for knowledge enhancement but also as an alternative mechanism for evaluating students Term Test performance as per institutional academic policies.

Table No.2.6.1: Curriculum Modules, Skills Acquired, and Mapping to POs and PSOs

Sr. No.	Name of the Module	Skill Gained	Relevance to POs and PSOs
1	Algorithms (AL)	Algorithm design, problem-solving, data structures, computational thinking	PO1, PO2, PO3, PO4, PO12; PSO1
2	Computer Networks (CN) and Computer Architecture	Network configuration, routing, packet analysis, system organization, performance understanding	PO1, PO2, PO3, PO5, PO11, PO12; PSO2
3	Operating Systems and System Software	Process scheduling, memory management, file systems, system-level programming, Assemblers, loaders, linkers, OS utilities, Linux administration	PO1, PO2, PO3, PO4; PSO1
4	Database Systems (DBMS)	Database design, SQL queries, data modeling, transaction handling	PO1, PO2, PO3; PSO1
5	Theory of Computation	Finite automata, grammars, computation models, formal problem analysis	PO1, PO2, PO3; PSO1
6	Software Engineering, Programming and Software Development	Programming logic, SDLC, agile practices, application development, version control	PO1, PO2, PO3, PO4, PO12; PSO1, PSO2
7	Electronics, Signal Processing	Basic electronics, signal analysis, system interfacing, computational signal processing	PO1, PO2, PO3; PSO1
8	Mathematics	Logical reasoning, numerical methods, statistical foundations, analytical thinking	PO1, PO2, PO4; PSO1
9	Humanities and Skills	Communication skills, ethics, societal awareness, professional responsibility	PO6, PO8, PO12; PSO2
10	Artificial Intelligence and Machine Learning	Intelligent agents, reasoning, search techniques, decision-making systems, GenAI basics, Supervised and unsupervised learning, model training, evaluation, ML tools	PO1, PO2, PO3, PO5, PO6, PO11, PO12; PSO1; PSO2
11	Cyber Security	Threat analysis, vulnerability assessment, secure communication, cyber tools	PO1, PO2, PO3, PO11; PSO2

Sr. No.	Name of the Module	Skill Gained	Relevance to POs and PSOs
12	IoT, Blockchain, HCI	Embedded systems, smart applications, distributed ledgers, UI/UX principles	PO1, PO2, PO3, PO4, PO5, PO11; PSO1, PSO2
13	Data Science and Data Analytics	Data preprocessing, visualization, analytics, ML pipelines, business insights	PO1, PO2, PO3, PO5, PO12; PSO1
14	Professional Skills	Resume writing, interview preparation, teamwork, workplace readiness	PO6, PO10, PO11; PSO2
15	Distributed and Cloud Systems	Cloud architecture, virtualization, deployment, monitoring, automation	PO1, PO2, PO3, PO5; PSO1
16	Management and Finance	MIS concepts, business analytics, financial and managerial decision-making	PO1, PO2, PO3, PO6, PO11; PSO2
17	Governance and Policy	Regulatory awareness, ethics, data privacy, societal impact of technology	PO6, PO8, PO11; PSO2
18	Research and Innovation	Research methodology, hypothesis testing, data analysis, technical reporting	PO1–PO4, PO10; PSO1, PSO2

Table 2.6.2 Statistics shows academic year-wise participation of UG students in SWAYAM/NPTEL/MOOC and other online certification courses. Participation increased steadily over the years, with a significant rise in AY 2024–25 due to systematic promotion of certifications and their acceptance as an option for term test performance evaluation.

Table No.2.6.2: Year wise Certification by Students

Academic Year	2022-23	2023-24	2024-25	2025-26
No. of Certifications	102	145	1378	526

This initiative has strengthened self-learning, technical competency, and outcome attainment among students.

Scope for Self-Learning and Facilities and Its Use

The Computer Engineering Department provides a strong ecosystem to promote self-learning and continuous professional development among students.

A Platform such as CodeChef is actively used to enhance students' problem-solving ability, programming skills, and algorithmic thinking through regular practice, contests, and peer learning, directly supporting analytical and computational competencies.

The Central Library with DELNET access offers extensive digital and print resources, including e-books, e-journals, research articles, theses, and conference proceedings, enabling students to engage in independent learning, literature surveys, and research-oriented activities.

Additionally, the ACM Student Chapter facilitates self-learning through technical talks, workshops, coding events, webinars, and professional networking, exposing students to emerging technologies and best industry practices. Collectively, these facilities effectively support Outcome-Based Education (OBE) and foster lifelong learning.

The Virtual Laboratory (VLAB) facilities to strengthen the scope of self-learning beyond regular classroom and laboratory hours. Virtual Labs allow students to independently perform simulated experiments, visualize complex concepts, and practice laboratory procedures at their own pace, thereby reinforcing theoretical understanding through hands-on learning. The effective use of this facility enhances students' experimentation skills, analytical and problem-solving abilities, and familiarity with modern engineering tools.

2.7 Solving Complex Engineering Problems Incorporating Sustainability Goals (20)

Total Marks 20.00

Solving complex engineering problems incorporating sustainability goals strongly supports the Outcome-Based Education (OBE) framework by effectively connecting theoretical concepts with practical implementation. Such activities enhance engineering knowledge, problem analysis, solution design, and the use of modern engineering tools, while fostering critical thinking, ethical awareness, teamwork, communication, and project management skills. Overall, they strengthen PO and PSO attainment, improve industry readiness, and promote lifelong learning. The following Table 2.7.1 presents Sample Projects for Solving Complex Engineering Problems.

Table 2.7.1: Sample Projects for Solving Complex Engineering Problems

Problem Title / Scenario	Course Name and Code	POs Mapped	SDG	Description of Problem	Engineering Approach / Methodology	Tools / Technologies Used	Solution Proposed	Impact on Society / Environment	Assessment Method
Land registration using blockchain	Block-Chain	PO1 to PO12	SDG 16	The project uses Ethereum and Solidity smart contracts for secure land registration, with Meta-Mask for user access and Ganache for testing.	A blockchain-based decentralized land registration system where smart contracts automate property registration and ownership transfer, ensuring transparency, security, and immutability without intermediaries.	Ethereum, Solidity, Meta-Mask, Ganache, Web3, Smart Contracts.	A secure blockchain-based land registration system with automated ownership transfer and tamper-proof records.	Reduces fraud, ensures transparency, and enables faster and paperless property transactions at lower cost.	Project report evaluation Demonstration Performance analysis
The Smart Car Parking System with IoT	IoT	PO1 to PO12	SDG 9 SDG 11	Rapid urbanization has increased vehicles, causing parking shortages, congestion, fuel wastage, and pollution due to lack of real-time monitoring.	The project uses IoT with sensors, microcontrollers, and cloud connectivity to monitor parking in real time, showing availability via a web/mobile app with automated entry and exit.	Ultrasonic sensors, ESP32/ESP8266, cloud platform, Blynk app, web dashboard, motors, Arduino programming, IoT protocols.	An IoT-based Smart Parking System that shows real-time slot availability, automates entry/exit with motorized barriers, and enables centralized monitoring for efficient parking management.	Reduces parking-related congestion, saves fuel, cuts emissions, and supports smart, efficient urban mobility.	Project report evaluation Working Model Demonstration Performance analysis

Problem Title / Scenario	Course Name and Code	POs Mapped	SDG	Description of Problem	Engineering Approach / Methodology	Tools / Technologies Used	Solution Proposed	Impact on Society / Environment	Assessment Method
IoT-Based Solar Tracking and Monitoring System for Enhanced Energy Harvesting	IoT	PO1 to PO12	SDG 7 SDG 9 SDG 12	Fixed solar panels have reduced efficiency due to static orientation, changing sunlight, and environmental variations.	The project uses IoT sensors and adaptive algorithms to track sunlight, adjust panels, and enable real-time cloud monitoring.	IoT sensors, Arduino/Raspberry Pi, motors, Wi-Fi/MQTT, cloud, ML algorithms, Python, Embedded C.	An IoT-based solar tracker using real-time sensing, adaptive control, and cloud monitoring with ML to maximize energy generation.	Enhances solar efficiency, reduces emissions, and enables smart energy management.	Project report evaluation Working Model Demonstration Performance analysis
Dak Ghar Niryat Kendra	Web Programming	PO1 to PO12	SDG 8 SDG 10	Small traders and MSMEs face barriers to international trade due to high costs, complex regulations, and limited digital access.	The solution is two integrated platforms—an e-commerce portal and seller support system—with secure integration, simple workflows, and optimized logistics.	Interactive Voice Response System (IVRS), Chat-bot frameworks	A multilingual platform delivering railway announcements via audio and digital interfaces for clear passenger communication.	Enhances accessibility, safety, and passenger experience via multilingual railway communication.	Project report evaluation Demonstration Performance analysis
Institute Journal Website-IJFES (International Journal of Frontiers of Engg and Sciences)	Web Programming	PO1 to PO12	SDG 4 SDG 9	Design and development of a web-based journal management system with structured workflows for article submission, review display, publication, and archival access.	Development of the IJFES journal website using the MERN stack with secure submission, review management, and cloud-based deployment.	React.js, Node.js, Express.js, MongoDB - For database storage, Cloudinary and Vercel integration for file storage.	Design and development of a web-based journal management system with modules for submission, review, editorial processing, and online publication, supported by a structured database.	Promotes research culture, ensures transparent publication, and enhances institutional visibility.	Evaluation based on website usability, accessibility of journal content, correctness of publication details.

The Department has taken consistent efforts to strengthen Industry–Institute interaction by bridging academic learning with real-world industrial practices. Through collaborations with industries, start-ups, and professional bodies, students are provided opportunities for internships, industry-oriented projects, expert lectures, and hands-on training. These initiatives shown in Table 2.8.1 help students to gain practical exposure to emerging technologies, enhance technical and professional skills, and improve employability, while enabling faculty to align teaching–learning processes with current industry requirements.

A. Industry-Led Technical Training and Visits

The Computer Engineering Department has established active Memoranda of Understanding (MOUs) with reputed industries, training organizations, and CSR partners to strengthen industry–academia interaction. MOUs strengthen outcome-based education by enabling industry-relevant technical training, internships, live projects, expert interactions, and placement-focused skill development for students

Table No.2.8.1: MoU-Supported Industry Interaction and Training Programs

Name of the Industry	MOU for	Activities Conducted
Case Point Private Limited	<ul style="list-style-type: none"> ▪ Collaboration for training students in relevant technologies ▪ Providing skill-based training, workshops, assessments ▪ Recruitment support based on company requirements ▪ Confidentiality, IP protection, termination clauses included. 	<ul style="list-style-type: none"> ▪ Technical and skill-based training for students. ▪ Periodic assessments and assignments. ▪ Recruitment/interview process for shortlisted candidates.
E-Samyak Software Pvt. Ltd	<ul style="list-style-type: none"> ▪ Collaboration for training students in relevant technologies ▪ Providing skill-based training, workshops, assessments ▪ Recruitment support based on company requirements ▪ Confidentiality, IP protection, termination clauses included. 	<ul style="list-style-type: none"> ▪ Technical and skill-based training for students. ▪ Periodic assessments and assignments. ▪ Recruitment/interview process for shortlisted candidates.
Eagle-Byte Solutions Pvt Ltd	<ul style="list-style-type: none"> ▪ Industrial training for students and faculty ▪ Guest lectures from industry experts ▪ Internships for TE and BE students ▪ Participation in technical events, workshops, symposiums ▪ Summer/Winter training opportunities ▪ 3-year MoU validity. ▪ Sponsored live projects for 3rd and final-year students 	<ul style="list-style-type: none"> ▪ Expert sessions and workshops on emerging tech ▪ Live project execution and mentoring ▪ Summer/Winter internship programs ▪ Technical events participation ▪ Career guidance and placement support.

Name of the Industry	MOU for	Activities Conducted
Code Quotient Pvt. Ltd.	<ul style="list-style-type: none"> ▪ Access to Code Quotient Platform /courses online to all the students and teachers of the partner. ▪ Online/On-Campus Training ▪ Industrial training (Summer/Winter) to selected students ▪ Internship/Jobs to the selected students 	<ul style="list-style-type: none"> ▪ Enabled continuous learning and self-paced skill development through curated programming courses. ▪ Conducted expert-led training sessions both online and on-campus covering key programming languages, software development practices, and emerging technologies.
Campus Credential	<ul style="list-style-type: none"> ▪ Aptitude and Technical Training ▪ Pre-placement expert lectures (seminars/webinars). ▪ Career guidance sessions. ▪ Training students for placement. ▪ Employability skills enhancement 	<ul style="list-style-type: none"> ▪ Aptitude Training Program and Assessment ▪ Technical Placement Training and Assessment ▪ Webinars/Seminars by experts. ▪ Career Guidance Workshops. ▪ LMS for placement preparation ▪ Assessment of students for company
RPG Foundation	<ul style="list-style-type: none"> ▪ Employability Skills Development under CSR initiative ▪ Technical, soft skills and domain-based training. ▪ Real-time case study-based training (Cloud, DevOps, Robotics, Agile, etc.). ▪ Provide trainers, assessments and course content. ▪ Institute provides infrastructure, staff, and batch coordination. ▪ MoU renewed yearly (confirmed for AY 2023–24). 	<ul style="list-style-type: none"> ▪ Employability Training (Technical + Soft Skills). ▪ Cloud Computing, Agile, DevOps Modules. ▪ Industry Case-Based Training. ▪ Student Assessments. ▪ Continuous feedback and progress review.

Name of the Industry	MOU for	Activities Conducted
Centum Foundation	<ul style="list-style-type: none"> ▪ Orientation, screening and enrolment of students ▪ Training in hybrid mode (300 hrs. total—online and offline) ▪ Creating LMS, assessments, assignments, training reports. ▪ Improving employability skills of beneficiaries. ▪ Confidentiality, IP rights, compliance with law, liability, termination terms ▪ The training program is organized with provisions for the training venue, participant mobilization, trainer support, maintenance of attendance records, and ensuring a safe learning environment. 	<ul style="list-style-type: none"> ▪ Students' orientation and screening ▪ Online/offline skill development training ▪ LMS-based assessments and progress tracking ▪ Placement support for trained beneficiaries ▪ Regular reporting, batch formation, trainer scheduling ▪ Certificates issued after successful completion of Training
R3 Systems India Private Limited	<ul style="list-style-type: none"> ▪ Classroom-based technical training ▪ Workshops, technical sessions, industry-oriented module ▪ Continuous assessment and feedback ▪ Expert sessions and guidance for employability ▪ Joint review committee activities 	<ul style="list-style-type: none"> ▪ Classroom-based technical training ▪ Workshops, technical sessions, industry-oriented modules ▪ Continuous assessment and feedback ▪ Expert sessions and guidance for employability ▪ Joint review committee activities ▪ Internship and Placement Opportunities ▪ Mock Interviews/Resume Preparations for final year students

Name of the Industry	MOU for	Activities Conducted
Infosys Limited (Springboard)	<ul style="list-style-type: none"> ▪ Access to Infosys Springboard digital learning platform ▪ CSR-based training initiative for students and faculty ▪ FDPs on pedagogy, instructional design and emerging technologies ▪ Virtual classrooms, proctored assessments, microsite creation ▪ Non-commercial academic use only ▪ 5-year validity, confidentiality and data privacy agreements. 	<ul style="list-style-type: none"> ▪ Expert sessions and workshops on emerging tech ▪ Live project execution and mentoring ▪ Summer/Winter internship program ▪ Technical events participation ▪ Career guidance and placement support.
CodeChef	<ul style="list-style-type: none"> ▪ Periodic practice sessions and Assessment-based tests (for grading) shall be created by CodeChef for the students and shared regularly with the College. ▪ Monthly report shall be sent to the College about the students' overall performance on CodeChef. 	<ul style="list-style-type: none"> ▪ CodeChef created and shared regular practice sessions and assessment-based coding tests with the college students. ▪ These were designed to challenge students' problem-solving and coding skills periodically and provide a structured learning path.
Effective German Academy	<ul style="list-style-type: none"> ▪ Conduct German Language Training for Institute students. ▪ Prepare students for ALTE German Proficiency Test. ▪ Training schedule: 16 weeks / 180+ Hrs. ▪ Institute to provide classroom availability, holiday calendar, and admin support ▪ One-time study material provide ▪ Webinar for awareness of German Language 	<ul style="list-style-type: none"> ▪ Conducting German Language A1 and A2 classes ▪ Preparation for A1 and A2 proficiency exam. ▪ Regular assessments during training. ▪ Opportunities for internships, advanced training, and German related career guidance

Name of the Industry	MOU for	Activities Conducted
Yen Academy	<ul style="list-style-type: none"> Conduct Japanese Language Training for JLPT N5 and N Prepare Institute students for JLPT N5 and N4 Exam Training duration: 16 weeks / 150+ Hrs. Institute to provide class schedule, holiday calendar, admin support One-time study material provided Webinar for awareness of Japanese Language 	<ul style="list-style-type: none"> Japanese Language N5 and N4 Classes. JLPT N5 and N4 exam preparation sessions. Continuous assessments and study material distribution. Opportunities for internships, advanced training, and Japan related career guidance
Admission Labs Germany	<ul style="list-style-type: none"> Guiding and assisting students interested in pursuing Higher education in Germany. On boarding and free profile evaluation Documentation and application support Assisting VISA documentation etc. 	<ul style="list-style-type: none"> Webinar for parents on Financial Assistance for Overseas Education – Organized by Admission Labs, Germany Online session on Alumni Insights and Success Stories - by Admission Labs, Germany
Powerhouse Global Services	<ul style="list-style-type: none"> To Promote internationalization, academic exchange To establish strategic partnership to deliver TNE program. 	<ul style="list-style-type: none"> Session by COO Mr. Krishna Patil in Converges'25 World Education Fair at Nashik organized by Powerhouse Global Services

Through these collaborations, students gain hands-on exposure, problem-solving ability, professional skills, and familiarity with modern tools and technologies, leading to improved attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs). The following Table 2.8.2 represents the industry collaborations along with their impact analysis and mapping with relevant POs and PSOs.

Table No.2.8.2: Industry Engagements, Outcome Impact, and POs/PSOs Alignment

Industry Name	Impact Analysis	Mapped POs / PSOs
Case Point Pvt. Ltd	The MoU improved technical competence and job readiness through skill-based training.	PO2, PO5, PO11
E-Samyak Software Pvt. Ltd	The MoU strengthened programming proficiency and analytical thinking.	PO1, PO2, PO5, PO12
Eagle-Byte Solutions Pvt. Ltd	The MoU promoted experiential learning through internships and live industry projects.	PO3, PO5, PO9, PSO2
Code Quotient Pvt. Ltd	The MoU enabled continuous learning and coding skill development through online platforms.	PO1, PO5, PO12
Sunrise Mentors Pvt. Ltd (Coding Ninjas)	The MoU enhanced coding ability and placement preparedness.	PO2, PO5, PO11

Industry Name	Impact Analysis	Mapped POs / PSOs
Sorting Hat Technologies Pvt. Ltd (Code Chef)	The MoU improved problem-solving and competitive programming skills through regular assessments.	PO2, PO5, PO12
Campus Credential	The MoU strengthened aptitude, technical skills, and employability.	PO1, PO5, PO10
RPG Foundation	The MoU enhanced employability through industry-relevant technical and soft skill training.	PO6, PO8, PO10, PO12
Centum Foundation	The MoU improved skill development, assessment-based learning, and placement support.	PO5, PO7, PO10
R3 Systems India Pvt. Ltd	The MoU strengthened industry-oriented technical skills and career readiness.	PO1, PO2, PO5, PO9
Infosys Ltd (Springboard)	The MoU promoted digital skills, faculty up skilling, and lifelong learning.	PO5, PO12, PSO
Effective German Academy	The MoU improved global employability through foreign language proficiency.	PO8, PO10, PO12
Yen Academy	The MoU developed Japanese language skills for international career opportunities.	PO8, PO10, PO12
Admission Labs Germany	The MoU facilitated opportunities for higher education abroad through structured guidance.	PO8, PO10
Powerhouse Global Services	The MoU strengthened international exposure and global academic collaboration.	PO8, PO10

B. Industrial Guest Lectures

The Computer Engineering Department organized a series of expert lectures, national-level webinars, and MIC-driven innovation and IPR activities to enhance students' awareness of innovation, entrepreneurship, intellectual property rights, societal responsibilities, and global career opportunities. These activities bridge the gap between academic learning and real-world practices, thereby improving the attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs). Table 2.8.3 represents Impact of Expert Lectures and Resource Person Sessions on POs–PSOs Attainment.

Table No.2.8.3: Impact of Expert Lectures and Resource Person Sessions on POs–PSOs Attainment

Resource Person with Designation	Title/Topic Addressed	Date	Number of Student Participated	Gaps Addressed	Impact Analysis
Mr. Shubham Vora, Mr. Shivang Vora Software Intern	Super-Coder Platform	31/03/2023	150	Lack of competitive programming exposure and real-time coding platforms	Enhanced problem-solving skills and logical thinking (PO1, PO2). Improved coding proficiency and platform-based learning aligned with industry practices (PSO1).

Resource Person with Designation	Title/Topic Addressed	Date	Number of Student Participated	Gaps Addressed	Impact Analysis
Ms.Divya Dhadve HR Executive	Soft Skills Development Programme	03/07/2023	44 (Only for Girls)	Deficiency in communication, confidence, and workplace readiness among girl students	Improved interpersonal communication, self-confidence, and professional behavior (PO9, PO10). Encouraged inclusivity and leadership readiness (PO6).
Ms. Anisha Gaikwad H R Executive	Winjit Techfeast 2024 at Sandip University Nasik	02/02/2024	48	Limited awareness of corporate events and HR expectations	Increased understanding of corporate culture and HR processes (PO6, PO8). Strengthened employability skills and industry exposure (PSO2).
Mr. Pralhad Dhumal General Manager, Recruitment and Services Business	Career opportunity in Automation	17/02/2024	128	Insufficient knowledge of automation career pathways	Provided clarity on automation industry trends and job roles (PO7, PO12). Motivated students towards emerging technologies (PSO1).
Mr. Nandan Malu CEO, Zitics Software PVT LTD. Pune	Fintech and Gen AI	22/04/2024	100	Gap in understanding fintech domain and Generative AI applications	Enhanced knowledge of modern financial technologies and AI-driven solutions (PO1, PO5). Encouraged innovation and multidisciplinary learning (PSO1, PSO2).
Mr.Baliram Bondge Project Manager	FSD/Machine Learning/Dot Net developer Courses	07/06/2024	250	Lack of awareness about full stack, ML, and .NET career skillsets	Improved technical orientation towards in-demand development roles (PO1, PO3). Supported skill-based career planning (PSO1).
Mr. Gurpreet Singh Learning and Development Manager	B4224 Career Readiness Program	08/07/2024	90	Inadequate career readiness and professional grooming	Improved industry preparedness, resume skills, and interview readiness (PO10, PO12). Strengthened employability quotient (PSO2).

Resource Person with Designation	Title/Topic Addressed	Date	Number of Student Participated	Gaps Addressed	Impact Analysis
Mr. Yogesh Soman Platform Program Manager in the Commercial and Off-road vehicles sector in the Product Development vertical at Mahindra and Mahindra, Nashik.	Interpersonal skills — listening, teamwork, dependability, adaptability, emotional intelligence, and empathy	24/08/2024	180	Weak interpersonal and emotional intelligence skills	Developed teamwork, adaptability, empathy, and listening skills (PO9, PO10). Enhanced professional effectiveness in team environments (PSO2).
Dr. Santosh Borde Dean of Training and Placement	Training and Placement strategies	21/09/2024	600	Lack of strategic understanding of placement processes	Improved awareness of placement planning, aptitude preparation, and career strategies (PO10, PO12). Strengthened career decision-making ability (PSO2).
Mr. Balaram Bondge Operation Manager Symbiosis Center for Corporate and Professional Learning	Symbiosis Training	25/09/2024	110	Limited exposure to structured corporate training methodologies	Familiarized students with corporate learning frameworks and professional development paths (PO6, PO12). Improved readiness for corporate roles (PSO2).
Mr. Laxmikant Shaligran, Mrs. Anupama Chandrachood, Mr. Yukinori Harada Industry leader and Deputy Head of Japan delivery center, Head of Japanese language and culture training and Development, Deputy Head of Japan Delivery center	Japanese Language Importance	05/10/2024	65	Low awareness of global opportunities and Japanese work culture	Enhanced global competence and cross-cultural understanding (PO6, PO8). Opened pathways for international careers (PSO2).

Resource Person with Designation	Title/Topic Addressed	Date	Number of Student Participated	Gaps Addressed	Impact Analysis
Mr. Lokesh Mehra, Mr. Vivek Ranjan, Mr. Abhirup Ghosh AWS Educate and RPG Foundation	Zensar/AWS	16/10/2024	710	Skill gap in cloud computing and industry-recognized certifications	Strengthened technical expertise in AWS cloud platforms (PO1, PO5). Improved employability through industry certification exposure (PSO1).
Mr. Akao Nauki, Mr. Kauji Hayashi Director and Principal	Study in Japan	11/11/2024	26	Limited knowledge about higher education opportunities abroad	Provided clarity on international education systems and career growth options (PO7, PO12). Encouraged lifelong learning (PSO2).
Mr. K. B. Rajendra, Mr. Avinash Mishra, Mr. Lakshay Vaidya Finance Procurement and administration, Development and Industry collaboration, Management Intern	AR / VR development Training Program	16/04/2025	83	Lack of hands-on exposure to AR/VR technologies	Improved practical understanding of immersive technologies (PO3, PO5). Promoted innovation and emerging tech skills (PSO1).
Mr. Yogesh Potdar, Mr. Mukesh Rai, Mr. Kaustubh Thanawala, Mr. Rahul Giri, Ms. Arpita Mohanty Senior Manager, Team Lead, Campus Recruiter, Campus Recruiter, Campus Recruiter	Company Recruitment Process	16/05/2025	86	Insufficient understanding of recruitment and selection processes	Enhanced awareness of corporate hiring practices and expectations (PO10). Improved placement preparedness (PSO2).

Resource Person with Designation	Title/Topic Addressed	Date	Number of Student Participated	Gaps Addressed	Impact Analysis
Mr Aniruddha Gohad Associate Director	-Small Talk - Rapport Building - HOTAPE - Pheromones	13/09/2025	40	Gaps in informal communication rapport building, and professional presence	Improved social intelligence, networking skills, and workplace communication (PO9, PO10). Boosted confidence and professional adaptability (PSO2).
Dr. Pradeep Waychal, Dr. Sharad Deogekar Chairperson, Vice President at IRS	Infosys and Career Guidance	26/11/2025	200	Limited clarity on IT industry careers and Infosys ecosystem	Strengthened understanding of IT career paths and professional growth (PO6, PO12). Guided students toward informed career choices (PSO2).

Outcomes of Activities

- Research Orientation: Enhanced understanding of global research challenges and interdisciplinary approaches, improving problem identification and research skills (PO1, PO2, PO4; PSO1, PSO2).
- Innovation and IPR Competence: Improved awareness of patents and IPR processes, strengthening innovation planning, problem-solving, and protection of research outcomes (PO1, PO2, PO4; PSO1, PSO2).
- Lifelong Learning and Career Planning: Increased clarity on overseas education and career pathways, promoting higher studies and self-directed learning (PO12).
- Global Communication Readiness: Improved preparedness for international education and multicultural environments through language and test-prep exposure (PO10, PO12).
- Global Employability Awareness: Motivated students to acquire additional skills and certifications, enhancing adaptability to global industry requirements (PO10, PO12).

C. Pre Placement Talks

Pre-placement talks prepare students for industry expectations by providing insights into recruitment processes, job roles, and required skills, thereby enhancing employability, confidence, and industry readiness while supporting POs and PSOs attainment. Table 2.8.4 represents Industry Awareness, and Training Activities with POs–PSOs Impact.

Table No.2.8.4: Industry Awareness, and Training Activities with POs–PSOs Impact

Name of the Activity	Date	No. of Students	Gaps Addressed	Impact Analysis (POs and PSOs)
DTDC Company Pre Placement Talk	25/03/2023	127	Limited awareness of logistics industry roles	PO1, PO10, PSO2
Overview of Just Dial Company	18/04/2023	40	Lack of exposure to service-based industry	PO1, PO9, PO10

Name of the Activity	Date	No. of Students	Gaps Addressed	Impact Analysis (POs and PSOs)
Netwin Company Orientation	08/12/2023	216	Gap in understanding company expectations	PO9, PO10
AI Driven Patent Search	02/12/2024	150	Lack of exposure to IPR and patents	PO4, PO12, PSO1
Product Based Information	26/02/2024	141	Gap in knowledge of product-based companies	PO10, PSO2
Full Stack and PHP/.NET Training	15/03/2024	75	Skill gap in software technologies	PO5, PO10, PSO2
Pre Placement Talk on TCS NQT	04/03/2024	125	Lack of awareness of recruitment assessments	PO10, PO12
Cyber Security and Data Science Careers	04/05/2024	52	Limited awareness of emerging career domains	PO1, PO12, PSO1
Discussion on Programming Skills	07/05/2024	23	Weak programming fundamentals	PO1, PO2, PSO1
Pool Campus Drive Instructions	15/10/2024	186	Insufficient clarity on recruitment procedures	PO9, PO10
Skill Development Programme	11/08/2024	120	Need for overall skill enhancement	PO9, PO10, PO12
Webtech Company Orientation	01/02/2025	279	Gap in understanding company expectations	PO9, PO10
Coditas Company Orientation	09/11/2025	220	Gap in understanding company expectations	PO9, PO10
Netwin Company Orientation	04/10/2025	100	Gap in understanding company expectations	PO9, PO10

D. Alumni Interaction

Alumni interactions enrich the teaching–learning process by sharing industry experiences, career guidance, and emerging trends, helping students connect theory with practice and improving learning outcomes, employability, and POs–PSOs attainment. Table 2.8.5 represents Alumni Interaction and Its Impact on POs–PSOs Attainment.

Table No.2.8.5: Alumni Interaction and Its Impact on POs–PSOs Attainment

Resource Person	Expertise Domain and Topic	Date	No. of Students	Gaps Addressed	Impact Analysis (PO-PSO Mapping)
Mr. Manas Shukla	Basics of Interview Skill and Personality Development	21/03/2023	150	Lack of confidence during interviews, Poor verbal and non-verbal communication skills	PO9,PO10, PO12,PSO2
Mr. Harshal More	SDLC and Tools used in SDLC	25/03/2023	175	Lack of understanding about end-to-end software development	PO1, PO2, PO3, PO5, PO9, PO11, PO12 PSO1, PSO2
Ms. Kadambari B. Mahajan	Interview Preparation and Corporate Culture	04/05/2023	125	Gap in professional skills	PO2, PO10 PO12
Mr. Pushkar Gujrathi	Skill sets required in IT Industry as a Computer Engineer	03/02/2024	139	Limited global skill awareness	PO5, PO12
Mr. Sandip Thakare	Importance of Programming skills for An Engineer to secure good placement offers	03/09/2024	85	Lack of Programming Skill and Communication	PO9, PO10, PO12, PSO2
Mr. Sandip Thakare	Preparation for Interview	09/11/2024	120	Limited practical exposure	PO2, PO3 PSO1
Mr. Shubham Sughandi	Entrepreneurship and Start-ups	16/01/2025	110	Gap in employability skills	PO9, PO10 PO12
Mr. Rohan Badgujar	Interview preparation	20/01/2025	100	Lack confidence during interviews, Poor verbal and non-verbal communication skills	PO9, PO10, PO12,PSO2
Mr Siddesh Borkar	Orientation of Celebal Technologies	11/04/2025	28	Gap in understanding company expectations	PO9, PO10

Resource Person	Expertise Domain and Topic	Date	No. of Students	Gaps Addressed	Impact Analysis (PO-PSO Mapping)
Mr. Manish Chaudhari, Mr. Kaustubh Sonar, Ms. Vaishnavi Sonawane	About WeblinesIndia Campus Recruitment Process	10/08/2025	180	Gap in understanding company expectations	PO9, PO10

E. Industry Supported Laboratories and Impact Analysis

To enhance industry readiness among students, the Computer Engineering Department implemented industry-oriented training initiatives. The department effectively addressed industry exposure gaps through industry-oriented training programs conducted during summer and winter vacations. These programs focused on current and relevant technologies such as Full Stack Development (FSD), Python, SQL, and related tools widely used in the IT industry. The training enhanced students' practical skills, problem-solving ability, and understanding of real-world applications, thereby bridging the gap between academic learning and industry requirements. Table 2.8.6 represents Sample Summary of Industry-Provided Training and Student Participation and Table 2.8.7 shows Outcome-Based Impact of Industry-Oriented Training.

Table No.2.8.6: Sample Summary of Industry-Provided Training and Student Participation

Name of Training Institute	Training Provided	No. of Students Benefitted	Topics Covered
R3 Systems India Private Limited	Classroom-based technical training, workshops, expert sessions, internship and placement support	100+	<ul style="list-style-type: none"> • Core technical training on FSD • Workshops and technical sessions • Mock interviews and resume preparation • Continuous assessment and feedback
RPG Foundation	Employability skill Development under CSR initiative (Technical + Soft Skills)	100+	<ul style="list-style-type: none"> • JAVA • Python • SQL • Soft skills and domain training
Yen Academy	Japanese Language Training for JLPT N5 and N4	50 to 80	<ul style="list-style-type: none"> • Japanese language fundamentals • JLPT N5 and N4 exam preparation • Grammar, vocabulary and listening skills.

Table No.2.8.7: Outcome-Based Impact of Industry-Oriented Training

Aspect	Description
Gap Addressed	Bridged the gap between academic curriculum and industry requirements through hands-on training in FSD, Python, SQL, and related technologies
Skills Developed	Enhanced practical skills, problem-solving ability, and exposure to real-world applications
Relevance to PO	Contributed to PO1 (Engineering Knowledge), PO3 (Design/Development of Solutions), PO5 (Modern Tool Usage), and PO12 (Life-long Learning)
Relevance to PSO	Strengthened program-specific competencies in software development, data handling, and emerging computing technologies

3 OUTCOME-BASED ASSESSMENT (120)

Total Marks 120.00

3.1 Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term, etc. (10)

Total Marks 10.00

As per the Autonomy curriculum of Institute, for attaining COs, POs and PSOs, Internal Assessment is conducted through Term Tests and Teacher Assessment components. The mark distribution scheme followed for internal and external examination is as shown in Table 3.1.1.

Table 3.1.1: Mark Distribution of Internal and External Examination

Sr. No.	Evaluation Parameter	Marks
Theory (35%- Internal, 65%- External)		
1	Term Test-1 (TT-1) and Term Test-2 (TT-2) are conducted 30 marks each and scaled down to 15	15
2	Teacher Assessment	20
3	End Semester Examination (ESE)	65
Practical (50%- Internal, 50%- External)		
1	Continuous Assessment Laboratory (CA)	25 50
2	End Semester Examination Laboratory (ESE)	25 50

A. Process for Setting and Evaluation of Internal Semester Question Paper

- Combination of summative and Informative assessment enables assessing and evaluating students in periodic intervals improves the impact of estimating performance in terms of outcomes.
- In this context, assessment/evaluation refers to the process of determining the value of the instruction given in the classroom and the degree to which course objectives have been fulfilled.
- The alignment of course outcomes, curriculum, pedagogy, and assessment contributes to the total learning experience for students clearer and more meaningful because assessment/evaluation is blended with teaching-learning pedagogy.
- For efficient learning of students, the institute makes sure that assessment techniques are well-aligned with learning outcomes and ensures measurable attainment.
- **Process to Ensure Quality**
 - o The department wise examination coordinators are appointed to ensure confidentiality and security during the examination.
 - o The departmental examination coordinator for TT-1 and TT-2 (duration: 1 hour) ensures smooth conduction of examination and concerned course teachers frame question banks/papers for the prescribed syllabus. The questions are framed according to
 - The curriculum and assessment frameworks for different courses.
 - The course outcomes and bloom taxonomy levels are mapped. The question paper audit/moderation ensures that all the COs are addressed.
 - Controller of examination prepares Internal Examination Time Table and Dy. Director and Director approves it.

A.1. Term Test Paper Based on Question Bank

For the 2023–24 batch, the following process is adopted:

Preparation of Question Banks

- Course teachers prepare and submit comprehensive question banks to the examination coordinator.
- Each question bank covers the full syllabus decided for Term Test, ensuring an appropriate mix of knowledge-based, analytical, and application-oriented questions as per Bloom's Taxonomy.

- For a course, the question bank comprises of 8-10 questions for each unit.
- Questions are also mapped to the relevant Course Outcomes (COs) for outcome-based evaluation.

Review and Finalization

- The question banks are reviewed by the module coordinator, who checks for syllabus coverage, cognitive level balance, and alignment with COs.
- Suggestions are provided if required, and the finalized version is forwarded to the Head of Department (HOD) for approval.

Selection of Paper for Examination

- During the term test, the Controller of Examinations (COE) selects questions from the approved question banks according to the prescribed paper pattern (including marks distribution).
- The finalized papers are then distributed to students at the time of the examination.

Evaluation Process

- Answer sheets are evaluated by respective course teachers within one week from the completion of test.
- A detailed marking scheme is followed to ensure fairness and consistency.
- Evaluated answer sheets are then shown to students for self-analysis, enabling them to identify strengths and weaknesses.

Documentation

- The entire process, including copies of the question papers, marking schemes, student performance analysis, and CO attainment reports, is maintained in Course Files as evidence for accreditation and quality assurance.
- After every internal assessment test, the course teachers discuss the solution of the questions in the class which enable students to perform well in the final examinations.
- The evaluation process helps in identifying the slow learner students among the class.

Format of Question Bank for TT-1 and TT-2: (Batch 2023-24)

Table 3.1.2: Question Bank Format TT-1 and TT-2

Type of questions per unit	Total No. of questions	No. of questions selected by COE	No. of questions mandatory to attempt	Marks
Short Answer Questions	04 or 05	02	02	02 X 05 = 10
Long Answer Questions	04 or 05	02	02	02 X 10 = 20

A.2. Term Test Paper Based on Question Paper Set(s)

For the 2024–25 batch, the following process is adopted:

Preparation of Question Papers

- Each course teacher prepares and submits two sets of question papers (with solutions and marking schemes) to the Examination Coordinator/Examination Office.
- These papers are designed to ensure adequate syllabus coverage, representation of different cognitive levels as per Bloom's Taxonomy, and alignment with the respective Course Outcomes (COs).

Review and Finalization

- The question papers are reviewed by the module coordinator, who checks for syllabus coverage, cognitive level balance, and alignment with COs.
- Suggestions are provided if required, and the finalized version is forwarded to the Head of Department (HOD) for approval.
- Once finalized, the hard copies/Soft copies of the question papers are submitted to the Examination Department.

Selection of Paper for Examination

- On the day of the test, the COE selects one paper from the two submitted sets.
- This selected paper is then printed, distributed, and administered to students under standard examination protocols.

Evaluation Process

- Answer sheets are evaluated by respective course teachers within one week from the completion of test.
- A detailed marking scheme is followed to ensure fairness and consistency.
- Evaluated answer sheets are then shown to students for self-analysis, enabling them to identify strengths and weaknesses.

Documentation

- The entire process, including copies of the question papers, marking schemes, student performance analysis, and CO attainment reports, is maintained in Course Files as evidence for accreditation and quality assurance.
- After every internal assessment test, the course teachers discuss the solution of the questions in the class which enable students to perform well in the final examinations.
- The evaluation process helps in identifying the slow learner students among the class.

Format of Question Paper for TT-1 and TT-2: (Batch 2024-25)

Table 3.1.3: Question Paper Format TT-1 and TT-2

Type of questions	No of question papers prepared by course faculty	No. of question paper selected by COE	Total No. of questions in question paper	No. of questions mandatory to attempt	Marks
Short Answer Questions	02	01	02	02	02 X 05 = 10
Long Answer Questions			04	02	02 X 10 = 20

Term Test Examination Process Flow

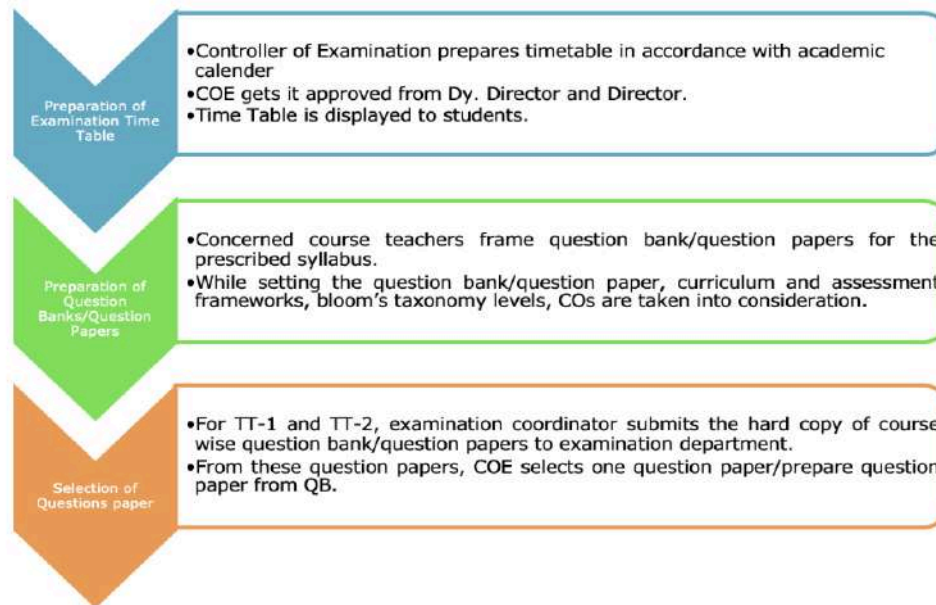


Figure 3.1.1: Term Test Examination Process Flow

B. Quality of Questions, Appropriateness of Mapping with the COs

- The department ensures that the questions used in term tests evaluate students at different cognitive levels.
- Questions are designed according to Bloom's Taxonomy levels. Each question is mapped with the appropriate CO.
- The paper contains a balanced mix of conceptual, analytical, and problem-solving questions.
- Internal question papers undergo departmental moderation by module coordinator to maintain academic quality.
- The sample copy of term test question paper is as shown in Table 3.1.4 and 3.1.5.

Table 3.1.4: Term Test-1 Examination Question Paper



R. C. PATEL INSTITUTE OF TECHNOLOGY

(An Autonomous Institute)

Near Nimzari Naka, Shahada Road, Shirpur - 425405, Dist: Dhule (MS)
 Telefax: (025643) 259600, 801, 802 Web: www.rcpit.ac.in E-mail: principal@rcpit.ac.in

A.Y.-2023-24 – Department of Computer Engineering (T Y B Tech)				
ODD SEMSTER (SEM- V) TT-I (Marks-30)				
Course- Artificial Intelligence (PCCO5030T)				
Day & Date- 27/10/2023, Friday		Time- 10 a.m. to 11.00 a.m.		
Q. No.	All Questions are Compulsory	CO Mapped (Correlation Level)	Blooms' Level	Max. Marks
Q.1	Describe Simple reflex agent with suitable diagram in details.	CO1	L2	5
Q.2	List all the types of AI agents. Explain Goal based agent with suitable diagram in details.	CO1	L2	10
Q.3	Describe Depth First Search (DFS) in detail with suitable example	CO2	L3	5
Q.4	<div style="text-align: center;"> </div> <p>The numbers written on edges represent the distance between the nodes. The numbers written on nodes represent the heuristic value. Find the most cost-effective path to reach from start state A to final state J using A* Algorithm.</p>	CO2	L3	10

Table 3.1.5: Term Test-2 Examination Question Paper



R. C. PATEL INSTITUTE OF TECHNOLOGY

(An Autonomous Institute)

Near Nimzari Naka, Shahada Road, Shirpur - 425405, Dist: Dhule (MS)
Telefax: [02563] 259600, 801, 802 Web: www.rcpit.ac.in E-mail: principal@rcpit.ac.in

A.Y.-2023-24 – Department of Computer Engineering (T Y B Tech)

ODD SEMSTER (SEM- V) TT-II (Marks-30)

Course- Artificial Intelligence (PCCO5030T)

Day & Date- 7/12/2023, Thursday

Time- 10 a.m. to 11.00 a.m.

Q. No.	Unit: III	CO Mapped (Correlation Level)	Blooms' Level	Max. Marks
Q.1	Describe Dempster-Shafer theory in details.	CO3	L2	5
Q.2	Write FOL and CNF statements for the following: 1. Every child loves every candy. 2. Anyone who loves some candy is not a nutrition fanatic. 3. Anyone who eat any pumpkin is a nutrition fanatic. 4. John buys a pumpkin. 5. Lifesavers is a candy.	CO3	L3	10
Q.3	Differentiate between planning & problem solving	CO4	L2	5
Q.4	Explain planning formulation using progression & regression in detail.	CO4	L2	10

C. Assessment of COs Coverage in Unit Tests/Class Tests/Mid-Term Tests/Assignments

The department ensures that all course outcomes are assessed through internal evaluation components.

C.1. Assessment of COs Coverage through Term Tests

- Each question is mapped to a specific CO. CO coverage is verified using a CO-Question Mapping Table in attainment sheet.
- Performance data is collected for each CO.
- CO attainment is calculated using the percentage of students achieving the set benchmark.
- This ensures that internal assessments contribute effectively to CO attainment measurement.

C.2. Assessment of COs Coverage through Teacher Assessment Components

The Institute has standardized the Continuous Assessment (CA) policies for FY, SY, TY and Final Year B. Tech students. To ensure holistic development and enhance the industry readiness of students, the department implements a structured Continuous Assessment (CA) framework of 35 marks. This framework is designed to evaluate students not only on academic knowledge but also on aptitude, innovation, and professional skills. At the college level, students are assessed through centralized term tests and an aptitude test conducted by the T&P department, which ensures uniformity and benchmarking across all branches. At the department level, assessment is diversified into components such as presentations, mock interviews, Quiz, GD, course-specific innovative assessment component, NPTEL/SWAYAM courses and skill enhancement exercises.

These components focus on practical applications, real-world problem-solving, and professional readiness. The overall system thus balances academic rigor with experiential learning, preparing students for both higher studies and industry careers. The amendments focus on enhancing fairness, constructive alignment with learning outcomes, and incorporating skill-based, industry-oriented, and professional development components. The details are given in Table 3.1.6.

Table 3.1.6: Continuous Assessment Policy (Batch 2024-25)

Component	FY B. Tech	SY B. Tech	TY B. Tech	Final Year
Term Test Marks	15 marks	15 marks	15 marks	10 marks
Presentation/Virtual Lab/CodeChef	05 Marks	05 Marks	05 Marks	05 Marks
Group Discussion	05 Marks	05 Marks	--	--
Moodle Quiz	--	--	05 Marks	--
Mock Interview	--	--	--	05 Marks
Innovative Component	10 Marks	10 Marks	10 Marks	05 Marks
TA4/Skill Enhancement + Aptitude	--	--	--	10 Marks
Total Continuous Assessment Marks	35 Marks	35 Marks	35 Marks	35 Marks

C.2.1. Key Components of the Continuous Assessment Policy

Term Tests

- Two term tests Term Test–1 and Term Test–2 are conducted per semester, each of 30 marks. The marks are scaled down to 15|10.
- Additional weightage: Students can earn bonus marks through online certifications to encourage self-learning and lifelong learning skills. Only courses from NPTEL/SWAYAM are allowed.

Aptitude Test

The aptitude tests are conducted in each semester. The marks obtained are converted to a standardized scale of 0 to 5 per course. The syllabus coverage follows a progressive approach, where students in lower semesters are tested on the syllabus covered within the same semester, while students in higher semesters are assessed on cumulative content from earlier semesters.

Teacher Assessment

A Teacher Assessment component covering academic, communication, innovation, and skill aspects:

TA-1: Presentation/Group Discussion/V-Lab/Moodle Quiz

The HOD and Department Examination Coordinator, in consultation with faculty members, assign one assessment component from the available components such as Presentation, Group Discussion, Moodle Quiz, or Virtual Lab to each course in the semester. Such distribution ensures variety, fairness, and balanced exposure to different assessment methods, helping students develop diverse academic and professional skills.

TA-2: Mock Interview

Mock interviews are conducted to simulate industry recruitment processes. The Training and Placement Department (T&P) compiles a repository of real interview questions asked during campus drives and company recruitment processes. Each course faculty prepares a question bank of 30 questions and shares them with students for preparation. Interviews are conducted by alumni from industry along with course faculty. Students receive personalized feedback from alumni and course experts regarding their strengths, weaknesses, and improvement areas.

TA-3: Innovative Component

Students are evaluated on creativity and innovation through activities such as role plays, crossword puzzles, or case studies. Students work in groups and complete the activity within a specified time. Marks are awarded based on quality, completion, and creativity, encouraging application of knowledge to real-world problems.

TA-4: Skill Enhancement

This component is designed to bridge academic knowledge with industry requirements, ensuring that students acquire practical exposure, professional skills, and industry readiness. It emphasizes hands-on learning, problem-solving, and innovation through a variety of structured activities. This includes:

- **Coding Platforms:** Performance and participation on reputed platforms such as LeetCode, CodeChef, HackerRank, and GitHub are assessed to enhance algorithmic thinking, coding proficiency, and competitive programming skills.

- **Internships:** Completion of short-term internships (online/offline), verified by the Training and Placement (T&P) department, provides students with practical exposure to industry tools, workflows, and practices.
- **Professional Certifications:** Students are encouraged to pursue value-added certification courses approved by the department to validate their course expertise and strengthen employability.
- **Foreign Language Proficiency:** Certifications in languages such as German and Japanese are recognized, enhancing students' global employability and communication skills.
- **Competitions and Hackathons:** Participation in national-level competitions such as CodeVita, Smart India Hackathon (SIH), SAE events, Robocon, and other recognized offline Hackathons/Techfests nurtures teamwork, design thinking, innovation, and problem-solving abilities.
- **Research and Innovation:** Students are encouraged to pursue research activities, including filing Intellectual Property Rights (IPRs) and publishing papers in reputed journals. Each IPR filed or journal paper publication carries 5 marks as recognition of innovation and contribution to knowledge creation.

Overall, the policy is designed to ensure balanced evaluation – measuring not only academic knowledge but also aptitude, communication, problem-solving, practical skills, and professional readiness, in line with OBE framework.

D. Sharing of Post Evaluation Feedback with Students for Performance Improvement

To ensure transparency and support continuous improvement in student performance, post-evaluation feedback is shared with students in a structured manner. After evaluation, course-wise term work is made visible to students through a Google Drive link in view-only mode. This live access allows students to review their assessed term work, understand the marks awarded, and identify areas for improvement without any risk of data modification.

Further, the evaluated term work marks are officially displayed to students, followed by a defined grievance period. During this period, students may approach the respective course teachers to raise any concerns or discrepancies related to their evaluation. The course teachers verify such issues and carry out necessary corrections wherever applicable. After completion of the grievance period and resolution of all valid concerns, the corrected term work is displayed again as the final term work to students. This feedback and grievance mechanism ensures fairness, clarity in evaluation, and effective academic performance enhancement.

3.2 Evaluation of the Semester End Exam (SEE) Question Paper (10)

Total Marks 10.00

The End Semester Examination (ESE) is conducted to assess the comprehensive knowledge, skills, and application abilities of students at the end of the course.

The institute also facilitates a credit transfer process for courses completed through the NPTEL / SWAYAM platform, provided that the course content has maximum resemblance with the institute's syllabus and the number of credits is equivalent to the respective subject. The approval of such credit transfer is carried out as per the NEP guidelines after verification of course syllabus, credits, and certification from the respective platform.

The process of question paper setting, evaluation, and quality assurance is as follows:

A. Process for Setting and Evaluation of End Semester Exam (ESE) Question Paper

A.1. Process of Setting ESE Question Paper

The department uses a Question Bank Management System (QBMS) portal for preparing ESE question papers. The process is described below:

- **Constitution of Paper Setting Panel:** The Course-wise Paper Setting Panel is constituted by the Controller of Examinations (COE) from the panel provided by BOS through an Office Order.
- **Roles and responsibilities of Paper Setting Panel:**

Template Creator: The template creator discusses with the panel and finalizes the End Semester Examination (ESE) paper template, covering:

- Blueprint i.e. format and structure of the paper.
- Marks distribution and weightage as per module.
- Difficulty level distribution (Easy/Medium/Hard).
- Constructive alignment of questions with Course Outcomes (COs).
- The template follows Bloom's Taxonomy levels.

Author: Uploads questions, marking scheme and solutions in the portal. Each author contributes a minimum of **five questions per unit/module** aligned with the blueprint.

Reviewer: Reviewer verifies the quality, correctness and CO alignment of questions, marking scheme and solutions uploaded. If any discrepancy in a question is found, the reviewer reverts the question(s) back to the author for correction. After verification, the reviewer **seals the questions**.

This collaborative approach ensures variety, quality, and alignment in the final paper.

- **Auto-Generation of Final ESE Question Paper**

From the pool of sealed questions, the final question paper is automatically generated as per the blueprint.

Figure 3.2.1 demonstrates the Process of Setting ESE Question Paper using QBMS Portal.

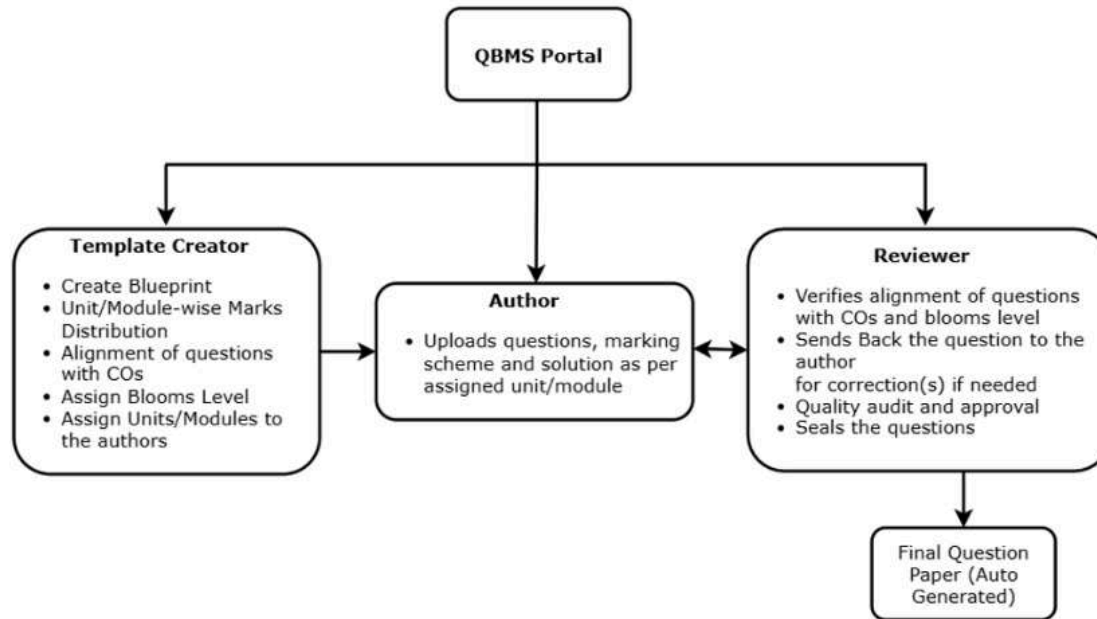


Figure 3.2.1: Process of Setting ESE Question Paper using QBMS Portal

A.2. Process for Evaluation of ESE Answer Sheets

- **Evaluation of Answer Sheets:** Answer sheets are evaluated using a detailed marking scheme/model solution to ensure fairness, uniformity, and transparency in assessment.
- **Digital Evaluation System:** Institute follows a fully online digital evaluation process through the ERP Platform. After the End Semester Examination (ESE), answer sheets are scanned and uploaded along with the corresponding question paper and model answer key.
- **Faculty Allocation and Appointment Orders:** The examination department manages the course-wise allocation of scanned answer sheets, ensuring a fair and balanced distribution of evaluation work among faculty members. The COE also issues an Office Order appointing evaluators and moderators.
- **Moderation:** Moderation of answer sheets is done through internal/external evaluators to maintain authenticity, consistency, accuracy, and objectivity in the evaluation process.

B. Quality of Questions, Appropriateness of Mapping with COs

The institute ensures that the ESE question papers maintain high academic standards and effectively assess the Course Outcomes through a well-defined process.

- Questions are framed to cover different cognitive levels of Bloom's Taxonomy.
- Each question is mapped with the corresponding CO, ensuring that all COs of the course are adequately assessed.
- The question papers blueprint ensures balanced coverage of syllabus units and appropriate distribution of marks across COs.
- The reviewer verifies the accuracy, clarity, difficulty level, and CO mapping of the questions before sealing the paper, thereby maintaining the overall quality of the examination.
- An external examiner is appointed by COE to review the question papers for quality, clarity, difficulty level and COs.

C. Transparency of Post Evaluation Process

The institute follows a transparent post-evaluation process to ensure fairness and accuracy in assessment. After declaration of results, students are provided the facility to apply for rechecking or re-evaluation of their answer sheets through the examination section. Students can request verification of total marks, evaluation correctness, or reassessment as per the institute's examination regulations. Any corrections identified during this process are updated in the final results. This mechanism ensures transparency, accountability, and confidence in the evaluation system.

3.3 Evaluation of Laboratory Work and Workshop (Continuous and SEE) (10)

Total Marks 10.00

Laboratory courses form a critical component of the curriculum, designed to bridge theoretical learning with practical application. The evaluation process ensures that students are not only able to perform experiments and technical tasks but also develop skills such as teamwork, communication, innovation, and problem-solving. Both Continuous Assessment (CA) and End Semester Examination (ESE) are used for comprehensive evaluation.

A. Evaluation of Experiments Conducted in Workshops/Laboratories

The evaluation of laboratory courses consist continuous assessment (CA) and laboratory ESE.

A.1 Continuous Assessment (CA) of Laboratory

The CA evaluation of laboratory course is based on following:

- **Performance:** Evaluation based on accuracy, systematic procedure, and ability to troubleshoot errors.
- **Preparation of Journal/Practical Record:** Students must maintain journals with well-documented observations, results, and inferences. Course faculty provides a standard lab manual/SOP to guide students in completing their journal submissions.
- **Use of Virtual Laboratory V-Lab:** For selected courses, practical performance is assessed using IIT Bombay's Virtual Laboratory platforms that provide a simulated environment for conducting experiments and analyzing results. This approach allows students to perform experiments beyond physical lab constraints, with evaluation based on procedure execution, observations, and result interpretation.
- **Viva-Voce:** Tests conceptual understanding, clarity of theory, and ability to relate practical outcomes with theoretical principles.
- **Case Study/ Assignment:** Course-specific case studies or assignments are assigned to students as an additional practical component. Students are required to carry out the assigned work either individually or in groups and submit a detailed report based on their analysis and findings for evaluation.

A.2 Evaluation of Laboratory ESE

The ESE for laboratory courses is designed to comprehensively assess students' practical skills and applied knowledge. Two examiners, appointed by the Controller of Examinations (COE), independently evaluate each student's performance, and the final marks are awarded based on their combined assessment. During the examination, students are assigned an experiment or problem to perform independently within a specified time. In addition, a viva-voce is conducted to evaluate students' conceptual understanding and problem-solving approach.

B. Use of Rubrics for Assessing Student Performance with Relevance to COs/POs

Rubrics are used to evaluate laboratory performance in a structured and objective manner, ensuring that assessment criteria are clearly defined. The rubrics are defined separately for CA and ESE evaluation of Laboratory course.

B.1. Rubrics for Laboratory CA Evaluation

- Marks are awarded experiment-wise and cumulative performance is calculated.
- Rubric sheets, along with evaluated journals, are preserved in Course Files.
- Each experiment is assessed for fifteen marks according to the rubrics provided in Table 3.3.1.

An additional component in the form of a case study/assignment for each course is evaluated for ten marks.

Table 3.3.1: Rubrics for Laboratory CA Evaluation

Rubrics	Maximum Marks (If V-Lab available)	Maximum Marks (If V-Lab Not Available)
Performance	3	5
Journal Submission	5	5
Virtual Lab (if applicable)	2	--
Viva-Voce	5	5

Case Study/ Assignment	10	10
Total Marks	25	25

B.2. Rubrics for Laboratory ESE Evaluation

- Marks are awarded by examiners based on performance and viva-voce.
- Marks are sealed and submitted to COE.

Table 3.3.2: Rubrics for Laboratory ESE Evaluation

Rubrics	Maximum Marks
Performance	15 30
Viva-Voce	10 20
Total Marks	25 50

B.3. Relevance to COs/POs

The laboratory assessment process is aligned with defined Course Outcomes (COs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) to ensure effective attainment of learning objectives. Each laboratory activity, including experiment execution, journal maintenance, viva-voce, virtual lab work, and case studies, is mapped to relevant COs. Performance and practical execution support the application of engineering knowledge and problem-solving skills, while documentation and viva-voce enhance communication and conceptual understanding. Case studies and assignments promote teamwork and independent learning. Rubrics-based evaluation enables objective measurement of CO attainment, which is further used for CO-PO attainment analysis.

3.4 Evaluation of Industrial Training/ Internship (Continuous and SEE) (10)

Total Marks 10.00

The internship process at institute is designed to ensure a smooth and systematic training and placement experience for students. Internships provide valuable educational and career development opportunities by allowing students to gain practical experience in their field of study. In Semester–VIII, students have two options for internships: Industry Internship and In-house Internship which contribute 10 credits.

A. Industry Internship

- The Training and Placement Department arranges internships for students in industries/organizations after Semester VII.
- The Training and Placement Department has established Memoranda of Understanding (MoUs) with reputed industries to enhance industry readiness among students. These MoUs facilitate structured industry-oriented training programs, including technical skill development, soft-skill enhancement, internships, workshops, and expert sessions conducted by industry professionals. Such collaborations bridge the gap between academic learning and industrial expectations, thereby improving students' employability, practical exposure, and professional competence in alignment with OBE requirements.
- Students may also apply individually, after obtaining prior permission and approval from the Training and Placement (T&P) Department. Individual internships must follow these guidelines:
 1. Only internships approved by the T&P Department will be considered.
 2. Internship duration must be minimum 12 weeks.
 3. Prior permission from the T&P Department is required before pursuing any independent internship.
 4. Every student must maintain a file with documentary proof of activities completed.
 5. Each student will be monitored periodically (onsite/online) by the Industry Mentor, Faculty Mentor, and Department T&P Coordinator (TPC) during the internship period.
 6. Withdrawal from the internship is allowed only within two weeks of joining. Such students must continue Semester VIII academic activities along with an in-house internship.

A.1. Internship Report Guidelines

- Students should prepare a comprehensive report summarizing observations and learnings.
- Guidance can be sought from the Industrial Supervisor, Faculty Mentor, or department TPC for topic selection.
- Evaluation will consider:
 - Adequacy and purposefulness of the write-up.
 - Variety and relevance of learning experiences.
 - Practical applications and connections with theories/concepts from Semester I–VII.

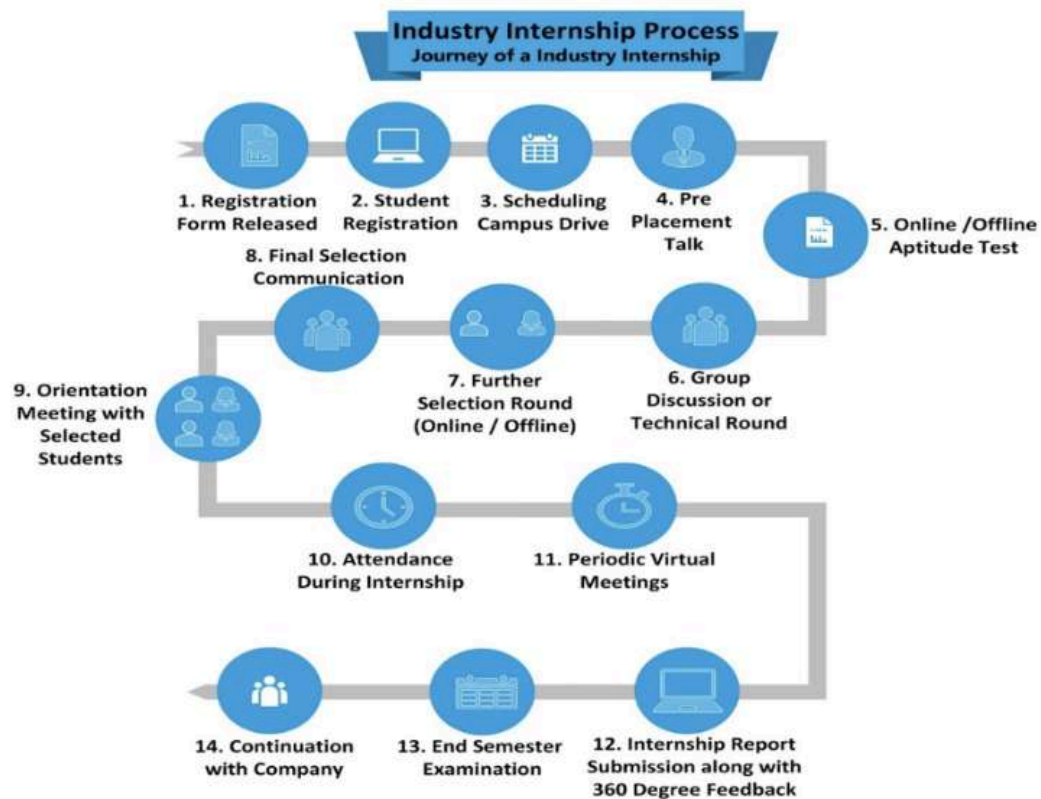


Figure 3.4.1: Flowchart of Industry Internship Process

A.2. Continuous Assessment for Industry Internship

The Continuous Assessment of the internship is intended to monitor and support the student’s overall learning and development throughout the internship period. A minimum of two monitoring and evaluation assessments are performed during the internship. It focuses on evaluating the student’s engagement with the assigned tasks, the practical experience gained, and the progress made in achieving the objectives of the internship. This assessment helps ensure that students are actively applying their knowledge, developing relevant skills, and demonstrating professional growth in a real-world setting. It also encourages students to document their work, reflect on their learning, and communicate their experiences effectively. Overall, continuous assessment provides a structured way to guide and enhance the student’s internship journey. Following are the Rubrics of Continuous Assessment of Industry Internship.

Table 3.4.1: Continuous Assessment Rubrics for Industry Internship

Rubrics	Marks
Internship Objectives and Goals	30
Internship Experience and Skills Gained/Enhanced	30
Professional Development and Growth	30
Internship Report	30
Presentation	30
Total	150

A.3. End Semester Examination (ESE) Evaluation

The ESE aims to evaluate the overall internship experience, ensuring that students have effectively applied theoretical knowledge in a practical setting and demonstrated professional growth. Key aspects of the process include:

A.3.1. Appointment of Examiners

Two examiners, appointed by the Controller of Examinations (COE), independently evaluate each student's performance, and the final marks are awarded based on their combined assessment.

A.3.2. Standardized Evaluation Scheme

- Uniform rubrics are used across all students to ensure fairness, consistency, and transparency.
- The evaluation emphasizes practical engagement, skill development, and professional growth, alongside the ability to reflect and report on learning outcomes.
- The rubrics and Evaluation criterion is as given below:

Table 3.4.2: Evaluation Criteria of Industry Internship ESE

Rubrics	Marks
Internship Objectives and Goals	30
Internship Experience and Skills Gained/Enhanced	30
Professional Development and Growth	30
Internship Report	30
Presentation	30
Total	150

This structured evaluation ensures that students gain maximum benefit from their industry exposure and are well-prepared for future professional challenges.

B. In-house Internship

The In-house internship provides students with research-oriented opportunities to cultivate a research mind-set. It can either extend a project completed in Semester VI and VII (Project Stage-I and II) or involve new research objectives provided by the department or faculty mentor.

Guidelines

1. The In-house internship can be pursued individually or in groups.
2. Maximum group size is limited to four students.
3. If extending a Stage II project, outcomes should include product development, technology transfer, patents/copyrights, or at least one research publication.
4. The work must be submitted to the department as a hardbound and soft copy report.

B.1. Continuous Assessment for In-house Internship

Each group must maintain a logbook documenting all work carried out during the internship (see 3.4.3). Students are required to present their weekly progress to their mentor, demonstrating the tasks completed and milestones achieved.

Table 3.4.3: Logbook Format

Sr. No.	Week (Start – End)	Work Done	Mentor Sign	Coordinator Sign
1				

The internship performance is reviewed twice during the semester by a panel of faculty members, which evaluates the student's progress, engagement, and overall learning.

First Review: At this stage, at least 40% of the work should be completed. The evaluation is based on rubrics detailed in Table 3.4.4:

Table 3.4.4: Rubrics for First Review

Rubrics	Marks
Topic Identification and Validation	20
Literature Survey	20
Problem Definition	20
Objectives	15
Total	75

Second Review: The remaining 60% of work should be completed by the second review. The evaluation considers:

Table 3.4.5: Rubrics for Second Review

Rubrics	Marks
Implementation	20
Publications	20
Report	20
Presentation	15
Total	75

B.2. End Semester Examination (ESE) Evaluation

The End Semester Examination (ESE) serves as the final stage of evaluation for the In-house Internship. It aims to assess the student's overall learning, technical contributions, and ability to apply theoretical knowledge to practical or research-oriented problems. The evaluation process is designed to ensure fairness, transparency, and a holistic assessment of both the process and outcomes of the internship.

B.2.1. Appointment of Examiners

Two examiners, appointed by the Controller of Examinations (COE), independently evaluate each student's performance, and the final marks are awarded based on their combined assessment.

B.2.2. Standardized Evaluation Scheme

- A uniform evaluation framework is adopted across all students to maintain consistency and objectivity in the assessment process.
- The evaluation emphasizes the quality of research or implementation, professional development, and the ability to communicate findings effectively through reports and presentations.
- Equal importance is given to both technical execution and academic rigor demonstrated during the internship.
- The rubrics and Evaluation criterion is as given below:

Table 3.4.6: Rubrics for ESE

Rubrics	Marks
Topic Identification and Validation	30
Literature Survey and Problem Definition	30
Objectives and Implementation / Product Development	30

Presentation	30
Report, Publications / Patent / IPR Documents	30
Total	150

C. Relevance to CO/PO

The internship program supports the attainment of Course Outcomes (COs) by enabling students to apply theoretical knowledge to real-world industrial or research problems through industry and in-house internships. These internships help students develop practical skills, professional competence, problem-solving ability, and self-directed learning habits, thereby bridging the gap between academic learning and industry requirements.

The evaluation rubrics for industrial training/internships are aligned with relevant Program Outcomes (POs) by assessing students' ability to identify and analyze real-world problems, conduct literature surveys, and define objectives, which relate to problem analysis (PO2) and investigation of complex problems (PO4). Implementation activities evaluate students' application of engineering knowledge (PO1) and Modern tool usage (PO5). Furthermore, the preparation of reports, presentations, and documentation of publications, patents, or IPRs assesses students' communication skills (PO10) and their ability to present technical work effectively.

Exposure to practical environments, mentoring, and independent learning encourages students to continuously update their knowledge and adapt to evolving professional requirements. Overall, this activity is strongly mapped to PO-12 (Lifelong Learning), as it motivates students to continuously acquire new skills and knowledge beyond the classroom.

3.5 Evaluation of Projects (20)

Total Marks 20.00

According to the curriculum, the Capstone Project is divided into two stages: Project Stage-I (Semester-VI) and Project Stage-II (Semester-VII). Table 3.5.1 outlines the activities to be completed in each stage as per the curriculum.

Table No.3.5.1: Project Stages and Activities

Project Stage	Activities / Description
<p>Project Stage–I: [Sem-VI]</p> <p>Problem Identification and System Design</p>	<ul style="list-style-type: none"> • Preparation of a concise abstract and detailed introduction covering the problem domain, objectives, scope, relevance, and a comprehensive literature review of existing systems. • Design of the proposed system detailing architecture, and proposed methodology. • Development of a Stage–II implementation plan including selected tools and an execution timeline.
<p>Project Stage–II:[Sem-VII]</p> <p>System Development and Evaluation</p>	<ul style="list-style-type: none"> • Implementation of the proposed system using appropriate tools and platforms. • Testing, validation, and performance evaluation with comparative analysis. • Conclusion and future scope identification based on results. • Preparation and submission of a project report.

The Department of Computer Engineering follows the procedure as shown in Figure 3.5.1 for Identification of projects and allocation methodology to faculty members.

A. Identification of Projects and Allocation Methodology

The project development process at R. C. Patel Institute of Technology, Shirpur is systematically designed in line with the OBE framework to ensure effective planning, execution and evaluation of student projects.

The Head of the Department appoints a Project Coordinator to systematically manage, supervise, and monitor all project-related activities. Students are then required to form project groups and submit three proposed project topics along with concise abstracts for review, ensuring appropriate evaluation and approval before project initiation.

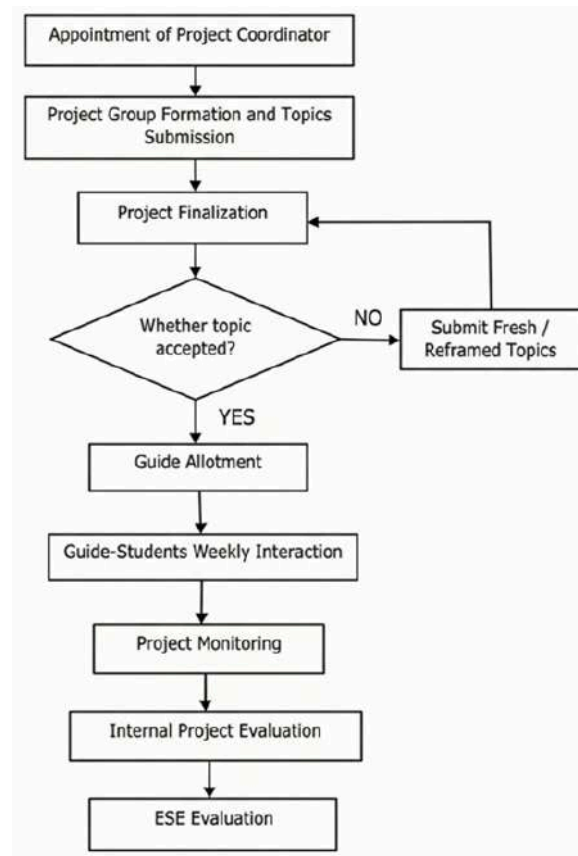


Figure 3.5.1: Process Flow for Project Topic Approval, Execution and Evaluation

- **Topic Finalization by Department:** Proposed project topics are rigorously evaluated based on relevance, innovation, technical depth. Topics not meeting the criteria are refined and resubmitted, while approved topics proceed to execution.
- **Guide Allocation:** Department Head and Project Coordinator allocate faculty guides based on domain expertise, ensuring effective technical guidance, mentoring, and outcome-oriented supervision.
- **Weekly Interaction and Monitoring:** Structured weekly meetings during scheduled project hours facilitate continuous progress monitoring, technical discussion, and timely resolution of challenges.
- **Project Review and Internal Evaluation:** Periodic reviews during regular monitoring, presentations and internal assessments are conducted to evaluate innovation, methodology and implementation quality.
- **Final Evaluation by External Examiner:** The project is assessed by an external expert using predefined rubrics, focusing on technical competence, originality.

B. Project Monitoring and Assessment

The project progress is systematically monitored through three monitoring stages. Each stage evaluates predefined activities such as documentation, literature review, requirement analysis, planning, implementation, and Testing. Progress is assessed using clear parameters (Complete/Incomplete) to ensure timely execution, quality compliance, and readiness for subsequent project phases shown in Table 3.5.2.

Table No.3.5.2: Continuous Monitoring of Project Stage-I (Semester VI)

Monitoring Stage	Activities
Monitoring-I (Project Initiation and Study)	<ul style="list-style-type: none"> Status of log book up to Monitoring-I Introduction and problem definition with objectives Literature review and analysis of existing systems
Monitoring-II (System Design)	<ul style="list-style-type: none"> Status of log book up to Monitoring-II Designing system block diagram / architecture Implementation plan for Project Stage-II
Monitoring-III (Partial Implementation and Documentation)	<ul style="list-style-type: none"> Status of log book up to Monitoring-III Partial implementation (20–25%) Submission of soft copy of Project Stage-I report

Each project is assessed through CA and graded based on project quality and consistent work progress. Table 3.5.3 presents the continuous assessment rubrics for Project Stage-I.

Table No.3.5.3: Continuous Assessment Rubrics for Project Stage-I

Attendance	Logbook Maintenance	Literature survey	Depth of Understanding	Report	Total
05	05	05	05	05	25

Final Project demonstration and the report is evaluated by a panel of external examiners. ESE evaluation for Project Stage-I (Semester VI) is structured to assess multiple aspects of the project, as outlined in Table 3.5.4.

Table No.3.5.4: ESE Assessment Rubrics for Project Stage-I

Project Topic Selection	Design / Simulation / Logic	Programming	Result	Presentation	Total
05	05	05	05	05	25

- Project stage-I is continued as Project stage-II in Semester VII, focusing on completing the remaining implementation as per the approved abstract shown in Table 3.5.5.
- Students plan and execute the project systematically to ensure completion within the semester timeline.

Table No.3.5.5: Continuous Monitoring of Project Stage-II (Semester VII)

Monitoring Stage	Activities
Monitoring -I	<ul style="list-style-type: none"> Verification of log book up to Monitoring-I System Implementation up to 40%

Monitoring Stage	Activities
Monitoring –II	<ul style="list-style-type: none"> • Verification of log book up to Monitoring–II • System Implementation up to 70%
Monitoring –III	<ul style="list-style-type: none"> • Verification of log book up to Monitoring–III • System Implementation 100% • Submission of complete project report

Project stage –II emphasizes design, development, experimentation, testing, data analysis, and documentation. The CA and ESE Assessment Rubrics for Project Stage-II are shown in Table 3.5.6 and Table 3.5.7 respectively.

Table No.3.5.6: Continuous Assessment Rubrics for Project Stage-II

Attendance	Logbook Maintenance	Implementation	Testing	Report	Total
05	05	05	05	05	25

Table No.3.5.7: ESE Assessment Rubrics for Project Stage-II

Depth of Understanding	Implementation	Testing	Report	Presentation	Total
05	05	05	05	05	25

- Each group maintains a project log book and submits a hard-bound project report at the end of Semester VII.
- Relevant domain knowledge beyond the core syllabus is applied for effective project implementation.

C. Capstone Project Timeline

A well-defined project timeline ensures systematic planning, timely execution and effective monitoring of Project Stage–I and Stage–II as elaborated in Table 3.5.8 and Table 3.5.9 respectively.

Table No.3.5.8: Timeline for Project Stage –I (Semester-VI)

Sr. No.	Activity	Tentative Period
1	Project registration and submission of three probable topics with abstract	Third week of January
2	Scrutiny, topic finalization, and guide allocation by Head of Department and project coordinator.	Last week of January
3	Introduction, literature review, and requirement analysis	Second week of February
4	Project planning, scheduling	Last week of February
5	Monitoring–I of Project Stage-I	First week of March

Sr. No.	Activity	Tentative Period
6	System design and architecture	Second week of March
7	Implementation plan for Project Stage-II	Third week of March
8	Monitoring–II of Project Stage-I	First week of April
9	Completion of Project Stage-I with report submission (as per guide approval)	Second week of April
10	Monitoring–III of Project Stage-I	First week of May

Table No.3.5.9: Timeline for Project Stage -II (Semester-VII)

Sr. No.	Activity	Tentative Period
1	System Implementation up to 40%.	Third Week of August
2	Monitoring–I of Project Stage-II	Second week of September
3	System Implementation up to 70%.	Third week of September
4	Monitoring–II of Project Stage-II	Second week of October
5	System Implementation up to 100%.	Last week of October
6.	Monitoring–II of Project Stage-II	First week of November
7	Completion of Project Stage-II along with the report in prescribed format by the approval of concerned guide	Third week of November

It facilitates structured progress from topic selection to implementation and evaluation, promotes optimal utilization of time and resources, enhances coordination between students and guides, and supports continuous assessment.

D. Relevance of Project Evaluation Rubrics to POs

The evaluation of student projects is carried out using well-defined rubrics during Project Stage–I and Project Stage–II, ensuring systematic assessment of technical complexity and professional competencies. The rubrics evaluate aspects such as problem identification, literature survey, objective formulation, design methodology, implementation, testing, and documentation, which reflect the complexity, feasibility, cost considerations, environmental relevance, and sustainability of the proposed solution. In addition, the evaluation framework assesses teamwork, communication, and project management practices through parameters such as group collaboration, periodic progress reviews, maintenance of project logbooks, technical report writing, and final project presentations. This structured rubric-based evaluation ensures that students effectively plan, execute, and communicate engineering projects while applying appropriate project management principles and responsible engineering practices.

The Computer Engineering Department is committed to contributing toward the achievement of the United Nations Sustainable Development Goals (SDGs) through education, research, innovation, and social outreach. Computer engineers play a vital role in developing various software's in the form of applications and websites, while integrating them with different SDGs.

Faculty mentor students to identify real-world problems aligned with global goals such as Good Health and Well-being, Quality Education, Decent Work and Economic Growth, Industry Innovation, Sustainable Cities, and Peace & Justice.

Students work in teams under the mentorship of faculty members. Project proposals are reviewed to ensure relevance to one or more SDGs. Periodic reviews, demonstrations, and evaluations are conducted to assess technical quality, innovation, and societal impact. These activities align with the following SDGs:

A. Evidence of Addressing Sustainable Development Goals (SDGs) in Computer Engineering Department

Table 3.6.1: Evidence of Addressing Sustainable Development Goals (SDGs)

Sr. No.	SDG Goal	Evidence / Departmental Activities
1	<p>SDG 2 – Zero Hunger</p> <p>End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.</p>	<ul style="list-style-type: none"> • Student projects on digital platforms for food distribution, inventory management, and supply-chain optimization. • Development of data analytics and IoT-based solutions for smart agriculture and crop monitoring.
2	<p>SDG 3 – Good Health and Well-being</p> <p>Ensure healthy lives and promote well-being for all at all ages.</p>	<ul style="list-style-type: none"> • Student projects on healthcare monitoring systems, telemedicine applications, and health management platforms • Application of AI/ML techniques for disease prediction and health data analysis.
3	<p>SDG 4 – Quality Education</p> <p>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.</p>	<ul style="list-style-type: none"> • Implementation of Outcome-Based Education (OBE) practices and use of digital learning platforms. • Conduct of value-added courses, coding workshops, and certification programs to enhance technical skills and employability.
4	<p>SDG 8 – Decent Work and Economic Growth</p> <p>Promote sustained, inclusive, and sustainable economic growth and productive employment.</p>	<ul style="list-style-type: none"> • Skill development in programming, data science, cloud computing, and emerging technologies. • Promotion of entrepreneurship through student startups, hackathons, and industry-oriented project work.
5	<p>SDG 9 – Industry, Innovation, and Infrastructure</p> <p>Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.</p>	<ul style="list-style-type: none"> • Faculty and students engaged in research publications, patents, and software/product development. • Encouragement of innovation-driven projects and participation in national-level technical competitions.
6	<p>SDG 10 – Reduced Inequalities</p> <p>Reduce inequality within and among countries.</p>	<ul style="list-style-type: none"> • Development of inclusive and accessible software solutions addressing the needs of underprivileged and rural communities. • Projects focusing on bridging the digital divide through affordable and user-friendly technologies.

Sr. No.	SDG Goal	Evidence / Departmental Activities
7	SDG 11 – Sustainable Cities and Communities Make cities and human settlements inclusive, safe, resilient, and sustainable.	<ul style="list-style-type: none"> • Student projects on smart city solutions such as traffic management, smart parking, and waste management systems. • Use of IoT and data analytics for efficient urban resource management.
8	SDG 12 – Responsible Consumption and Production Ensure sustainable consumption and production patterns.	<ul style="list-style-type: none"> • Promotion of green computing practices and development of energy-efficient software solutions. • Awareness programs on reduction of electronic waste and responsible use of digital resources.
9	SDG 13 – Climate Action Take urgent action to combat climate change and its impacts.	<ul style="list-style-type: none"> • Student and faculty projects on environmental monitoring, pollution analysis, and carbon footprint reduction. • Awareness activities on sustainable development and eco-friendly computing practices.
10	SDG 16 – Peace, Justice, and Strong Institutions Promote peaceful and inclusive societies and build effective, accountable institutions.	<ul style="list-style-type: none"> • Development of secure systems, cybersecurity solutions, and blockchain-based applications for transparency and trust. • Projects emphasizing data privacy, ethical computing, and secure digital governance.
11	SDG 17-Partnerships for the Goals Strengthen the means of implementation and revitalize the global partnership for sustainable development.	<ul style="list-style-type: none"> • Student projects focused on web-based platforms and information systems that enable collaboration between multiple stakeholders such as service providers, users, and third-party integrations. • Development of integrated digital systems involving APIs, email services, and cloud platforms, promoting industry–academia and technology partnerships. • Capstone projects encouraging real-time communication, data sharing, and interoperability among organizations.

Table 3.6.2: List of Projects Carried out in the Session 2023-24 aligned with SDGs

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
1	Real Time Translation for Regional Language	4, 10, 17	Promotes inclusive education by reducing language barriers and enabling collaboration across institutions and diverse linguistic communities through AI-based translation.
2	Hand Gesture Recognition and Conversion to Text for Deaf & Mute Community	10	Supports inclusivity for persons which strengthens access to justice.

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
3	The Mental health and well-being surveillance, assessment, and tracking solution among children	3	Enhances mental well-being and early healthcare intervention among children.
4	Speech to Text App customized for police functioning in different languages	16, 17	Strengthens law enforcement efficiency and multilingual communication.
5	Automated Note Maker using Audio Recording	4	Improves accessibility and efficiency in education.
6	Interpreting Doctors Notes using Handwriting Recognition and Deep Learning Techniques	3	Enhances healthcare delivery by reducing interpretation errors.
7	One District One Product	8	Encourages infrastructure, industrial and innovation.
8	To Build Robot for Grass Cutting	8, 12	Improves agricultural productivity and supports sustainable farming.
9	Agriculture App to manage agriculture produce	2, 8, 12	Supports food security and responsible production.
10	To Develop a website for a systematic farming for farmers in local Languages	2, 10, 12	Reduces information inequality among farmers.
11	Deep Learning Based Cyclone Intensity Estimation using INSAT-3D IR imaginary	11, 13	Improves disaster preparedness and climate resilience.
12	Sustainable and No Contact Attendance System	11	Promotes smart and sustainable infrastructure.
13	App Based Solution to Solve Disease in Plants/Crops.	11	Improves crop yield and agricultural sustainability.
14	Automatic Sign and Photo Detection Using AI	11	Enhances urban safety and smart city surveillance.
15	App for registration of Person with Disability under ADIP scheme	3, 10	Improves healthcare access and social inclusion.
16	Spam Alert System	16	Strengthens digital safety and cybersecurity awareness.
17	Electronic Health Record System	3, 9	Enhances healthcare data management.
18	An AI/ML based solution that generates succinct summaries of press releases	4	Improves information accessibility and governance transparency.
19	Disease Consultation Application for Farmers in Agriculture	2, 12, 13	Supports sustainable agriculture and climate-resilient farming.
20	Student Feedback System for RCPIT	4, 11	Improves education quality and institutional governance.

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
21	Developing a solution for Gesture enabled commands for operating Laptops for frequently used operations on a daily basis.	4	Promotes assistive technology and quality education
22	Behavioral Customer Segmentation for Effective Online Marketing	8, 9, 12	Enhances business growth through data-driven marketing, encourages innovation, and reduces inefficient marketing practices.
23	Mobile Application for Diet Recall	3	Encourages healthy lifestyle monitoring.
24	Embedded sign Language Interpreter system for deaf and dumb people	10	Promotes accessibility for hearing-impaired individuals.
25	Natural language-based search system for searching.	9	Supports innovation in intelligent search systems.
26	EHR Using Blockchain	3	Enhances secure healthcare data sharing.
27	Gaming Apps for the elders	3	Supports mental well-being of senior citizens.
28	The Digital Canvas: AI-Powered Image Generation	9	Encourages creativity and technological innovation.
29	Intelligent Traffic and Street Lighting System with Real-Time Monitoring and Control	7, 11	Promotes energy-efficient and smart urban infrastructure.
30	Voting System Using Ethereum Blockchain, Smart Contract and MetaMask	10	Enhances transparency and fairness in democratic processes.
31	Controlling Screen Time for Children	3	Promotes healthy digital habits.
32	An Intelligent System for Individual Detection Using Face Recognition in Criminal Activities	16	Supports security and identification systems.
33	Crime Predictive model for hotspot mapping	11	Strengthens urban safety and crime prevention.
34	Moving Vehicle Registration Plate Detection	11	Improves intelligent transportation systems.
35	S.T. Bus Tracking Android App	11	Enhances public transport efficiency.
36	Detection of Criminal Activities through CCTV analyzing footage using Deep Learning	11	Improves public safety through smart surveillance.
37	Bulk email and SMS service	8	Supports business communication and economic growth.
38	Smart Music Player Integrating Facial Emotion Recognition and Music Recommendation	9	Promotes personalized AI applications.

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
39	Unattended child tracking (Detection) System	3	Supports child safety.
40	Detection of Occupancy Beds in Nearby Hospitals	3	Improves healthcare administration efficiency.
41	Ticketless Entry System to Monuments/Museums	11, 12	Promotes smart tourism and sustainability.
42	File Explore App	12	Encourages efficient digital resource usage.
43	Suggest a Redefined Solution for Customer to Locate EV Charging Infrastructure	7, 11, 13	Promotes clean energy and sustainable transport.
44	Online Registration and processing of Dairy Farmers, producing Milk and other Livestock Products	2, 8, 12	Supports agriculture growth and digital inclusion.
45	Prediction of Oil Spills Events at Sea.	13, 14	Protects marine ecosystems and supports climate action.
46	A Hybrid Approach for Personalized Course Recommendation in E-Learning Environments	4, 10	Enhances inclusive and personalized education.
47	AI based tool to get information about good institutes based on AISHE.	4, 10	Improves access to educational information.
48	Plastic Waste Management System	12, 13, 15	Promotes responsible consumption and environmental conservation.
49	Email Spoofing Detection - Spoofing email with Swapped email id	9, 16	Enhances cybersecurity and digital trust.
50	Detection of Lung Diseases from X-Ray Dataset using Deep Learning	3, 9	Supports early disease detection using AI, improving healthcare outcomes and promoting innovation in medical technology.
51	Extraction of Data including voice and images from various social Media platforms from Disaster struck areas	11, 13	Improves disaster response and climate resilience.
52	IT enabled framework to give Tipoff about any suspicious activity to the Authorities	16	Strengthens justice institutions and public participation.

Table 3.6.3: List of Projects Carried out in the Session 2024-25 aligned with SDGs

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
1	Deepfake Detection in Online Media using Advanced Algorithm	16	Promotes peace, justice, cyber safety, and strong digital institutions.

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
2	Sign-Text: Transforming Signs to Text for Deaf and Dumb Peoples	10	Reduces inequalities by enabling inclusive communication.
3	Ethereum Blockchain Based Crowdfunding Decentralized Application	9, 17	Encourages innovation and global partnerships through blockchain.
4	Detecting Anomalies in Current Ship Trajectory Based on Historical Data	14, 9	Improves marine safety and innovation in maritime analytics.
5	IoT-Based Solar Tracking and Monitoring System for Enhanced Energy Harvesting	7, 9, 12	Enhances renewable energy efficiency and responsible consumption.
6	Smart Courier Lift Box	9, 11, 12	Supports smart infrastructure and safer urban logistics.
7	Identification of Medicinal Plants using Image Processing and Machine Learning Algorithms	15	Supports biodiversity conservation and healthcare research.
8	Air and Water Quality Index and Environment Monitoring	6, 11, 13	Promotes clean water, sustainable cities, and climate action.
9	Signify: An Enhancing ASL Communication Model with Deep Learning	10	Supports inclusion of speech and hearing-impaired communities.
10	Smoke Detection and Localization in Video Surveillance Applications Based on Efficient Deep CNN	11, 13, 15	Improves urban safety, disaster prevention, and environmental protection.
11	A Water Crowdsourcing and Management Platform	6, 9, 11	Strengthens infrastructure and community participation for clean water management.
12	Facial Recognition-based Group Photo Analysis and Attendance	4, 8, 9	Improves education management and workplace efficiency.
13	Development of e-Portal for Facilitating Case Management Hearing of Various Types of Cases	16	Strengthens justice delivery and institutional transparency.
14	Gamanika: GPS-enabled Distance Monitoring and toll calculation System	9	Supports intelligent transport and infrastructure development.
15	Forensic Facial Image Composite Construction and Matching	16, 9	Aids law enforcement through advanced forensic technology.
16	Digital Diary of Student Data for College Local Guardians	4, 10	Enhances educational support and reduces inequality.
17	Monitoring and SMS Notification System for Mid-Day Meal Program	2	Ensures food security and nutritional accountability.
18	Identification of Regions Prone to Boat Overturning	3, 11	Improves safety and disaster preparedness in water transport.
19	Location Based Advertisement: Local-Link	8, 9, 11	Boosts local economy through smart marketing solutions.

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
20	Kalanirmata: Developing an Efficient Automatic Timetable Generator for Colleges	4, 9	Improves academic efficiency and reduces resource wastage.
21	An Efficient Vehicle Rental System: Seamless User Experience with Real-Time Web Based Email Integration.	9	Promotes innovation in mobility services.
22	Restaurant Pre-booking Web App	8	Supports service industry growth and employment.
23	Developing a Software for Translation of Single Audio of English Language to Indian Regional Languages	4, 9, 10	Improves educational access across languages.
24	GramSahay: Empowering Village Governance through Digital Solutions	11, 9, 16	Strengthens rural governance and transparency.
25	RCPIT Training and Placement System	4, 8	Enhances employability and career development.
26	Detection of Retinal Degeneration via High Resolution Funds Image using Deep Neural	3	Supports early diagnosis and healthcare innovation.
27	Multilingual Railway Information Dissemination System	4, 11	Improves accessibility in public transportation.
28	Dak Ghar Niryat Kendra	8, 10, 17	Enabling institutional partnerships, digital integration, and collaborative governance to support SMEs and strengthen India's export ecosystem.
29	Development of Explainable AI (XAI) Based Model for Prediction of Heavy/ High Impact Rain Events using Satellite Data	13, 11	Supports climate resilience and disaster planning.
30	Local Markets, Global Flavors: Your Personalized Grocery Experience	8, 12	Encourages responsible consumption and local trade.
31	ServUrban- The Professional Service Provider	8, 9	Promotes entrepreneurship and service innovation.
32	E-Ration Services	1, 2, 16	Ensures fair food distribution and social justice.
33	Real-time Speech to Indian Sign Language Translation for Deaf Person	3, 10	Promotes inclusive education for hearing impaired.
34	SmartPay- Automated Billing System	8, 9, 12	Improves retail efficiency and cashless economy.
35	Safe Campus Guard: Smart Number Plate Recognition and Log Management for Enhanced Campus Security	9, 11, 16	Enhances campus safety through smart surveillance.
36	Lost and Found	9, 11, 12	Supports sustainable and organized urban living.

Sr. No.	Project Title	Related SDGs	Link with SDG Goals
37	Parking Solution using Application	11, 12	Reduces congestion and promotes smart cities.
38	Automated Notes Maker from Audio Recordings	4, 9	Improves learning accessibility using AI.
39	Large Language Model Based Tool for Generating Human Like Responses to Natural Language Inputs for Network not Connected Over Internet	4, 9, 16	Supports secure and accessible AI-based education.
40	MoodSync: A Harmonious Music Experience	3, 9	Supports mental well-being through intelligent systems.
41	BookSwap Hub- Second Hand Books Buying and Selling App	4, 9, 12	Encourages reuse of educational resources.
42	NextGen digital Entry Revolution	9	Promotes smart automation and access control.
43	AudioAuth- Deep Fake Audio Detection	9	Enhances digital trust and cyber security.
44	Graphical Password Authentication using Blockchain	9, 16	Strengthens secure digital authentication.
45	Dhwani Sarthi: An Android App for App Based Digital Audiometer	3	Improves hearing healthcare accessibility.
46	Room Finder: Navigating Spaces with Pythonic Precision	11	Supports efficient space navigation in cities.
47	Smart Firefighting and Obstacle Avoiding Robot	9, 11, 13	Improves disaster response and climate resilience.
48	Comprehensive system for Identifying Fake Reviews	9, 12, 16	Promotes fair digital marketplaces.
49	Electro Route: Next-Gen EV Charging Locator	7	Encourages adoption of clean energy vehicles.
50	Grey Scale Colorization using Artificial Neural Network	9	Advances AI innovation and research.
51	AI Assisted Tele-Medicine KIOSK	3, 9, 10	Improves rural healthcare access and equity.

B. Published Research Supporting SDGs in Department of Computer Engineering

The Department of Computer Engineering demonstrates a strong commitment to research that addresses real-world challenges while aligning with key Sustainable Development Goals (SDGs). Faculty and student publications are aligned through research addressing societal, environmental, and technological needs mapped to the UN Sustainable Development Goals (SDGs). Projects in machine learning and data analytics support SDG 9 (Industry, Innovation and Infrastructure), agricultural and safety-focused systems contribute to SDG 2 (Zero Hunger) and SDG 3 (Good Health and Well-being), digital public service solutions align with SDG 11 (Sustainable Cities and Communities), while environmental monitoring research supports SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). These initiatives demonstrate the institution's commitment to sustainable development, innovation, and real-world problem solving.

Table 3.6.4: List of Papers Published in the Session 2023-24 aligned with SDGs

Paper Title	Name of the Publisher	Student Names	Project Guide	Name of the Journal / Conference	Volume and Issue	SDG Goal
An Efficient Chat Trends Analyzer Based on Machine Learning Approaches	Tejass Publishers	Jangid Nikita Ramswarup, Patil Prajakta Nandkumar, Patil Harshada Chhotu, Patil Kaminee Madhukar	Dr. Manoj S. Ishi	International Journal of Advanced Research in Computer and Communication Engineering	Vol. 13, Issue 5	SDG 9 – Industry, Innovation and Infrastructure
EquipFarm: Farmers Apartment Internet Site	Research and Development Corp	Patil Rohini Yogesh, Wani Vipul Suresh, Patel Rushika Sanjay, Chaudhari Aakash Navnath	Mrs. S. B. Raghuwan shi	International Journal for Research in Applied Science and Engineering Technology	Vol. 12, Issue 5	SDG 2 – Zero Hunger; SDG 9 – Industry, Innovation and Infrastructure
Drowsiness Detection: Enhancing Driver Safety Through Neural Network	RS Publication	Anshuman Patel, Rushikesh Ugile, Ashish Panchariya, Madhura Patil	Ms.P.R. Patil	International Journal of Research Publication and Reviews	Vol. 5, Issue 5	SDG 3 – Good Health and Well-being; SDG 11 – Sustainable Cities and Communities
Topic Modeling with Latent Dirichlet Allocation (LDA) Using Machine Learning	Tejass Publishers	Pingale Divya Vijay, Mahajan Pornima Dattatraya, Patil Komal Vinod4	Mrs. K. T. Borse	International Journal of Advanced Research in Computer and Communication Engineering	Vol. 13, Issue 5	SDG 9 – Industry, Innovation and Infrastructure
Revolutionizing Museum Experiences: Implementing Ticketless Entry Systems Using QR Code	IRJMETS	Durgesh Jaiswal, Prof. Jayashri Sonawane, Rushikesh Badgujar, Chetan Shivade	Ms. J. S. Sonawane	International Research Journal of Modernization in Engineering Technology and Science	Vol. 6, Issue 5	SDG 11 – Sustainable Cities and Communities; SDG 9 – Industry, Innovation and Infrastructure
Eco Vision: Advanced Technology for Plastic Inspection Using Deep Learning	Research and Development Corp	Lokhande Gaurav Devidas, Chavan Rutuja Vinod, Mahajan Lalit Jitendra, Patil Dipkumar Vilas	Mr. V. S. Thakare	International Journal for Research in Applied Science and Engineering Technology	Vol. 12, Issue 5	SDG 12 – Responsible Consumption and Production; SDG 13 – Climate Action

Table 3.6.5: List of Papers Published in the Session 2024-25 aligned with SDGs

Paper Title	Name of the Publisher	Student Names	Project Guide	Name of the Journal / Conference	Volume and Issue	SDG Goal
Monitoring and SMS Notification Systems for Mid-Day Meal Program	Research and Development Corp	Harshal Kishor Mali, Jatin Vikas Patil, Jidnyesh Dilip Deore, Shubham Gulab Dhangar, Nikita Kiran Patil	Dr. Manoj S. Ishi	International Journal for Research in Applied Science and Engineering Technology	Vol. 13, Issue 5	SDG 2 – Zero Hunger; SDG 3 – Good Health and Well-being
Design and Implementation of an Online Platform for Streamlined Case Management and Hearings	Research and Development Corp	Sanjana Nevatiya, Rushikesh Patil, Yash Chaudhar, Samarth Kasar, Makarand Mali	Dr. Makarand L. Mali	International Journal for Research in Applied Science and Engineering Technology	Vol. 13, Issue 4	SDG 16 – Peace, Justice and Strong Institutions
Elevating Performance Through AI-Driven Mock Interviews	Research and Development Corp	Shinde Rushikesh Rajendra, Gosavi VishakhaMahendra, Bhamare Bhagyashri Jijabrao, Patil Paresh Dilip	Dr. Pankaj R. Patil	International Journal for Research in Applied Science and Engineering Technology	Vol. 12, Issue 6	SDG 4 – Quality Education; SDG 8 – Decent Work and Economic Growth
Medicinal Plant Identification using Image Processing and Machine Learning Algorithm	Fast Track Publications	Tarini Patil, Dhanashri Girase	Dr. Shailendra M. Pardeshi	IJTE	Vol. 48, Issue 2	SDG 3 – Good Health and Well-being
HomeBridge Network – Building a Seamless Path between Renters and Owners	Scientific and Academic Research Publishing	Jyotsna Jagdish Deore, Prajakta Jagannath Bhoi, Gayatri Narendra Patil, Nikita Nitin Patil	Dr. Pankaj R. Patil	International Journal of Scientific Research and Engineering Development	Vol. 8, Issue 3	SDG 11 – Sustainable Cities and Communities
PEERLINK: A Comprehensive Collaborative Platform	Technoscience Academy	Viraj More, Divyesh Dhole, Tejas Patil, Chetan Dhangar	Ms. P.R. Patil	International Journal of Scientific Research in Science, Engineering and Technology	Vol. 12, Issue 3	SDG 4 – Quality Education; SDG 9 – Industry, Innovation and Infrastructure

Paper Title	Name of the Publisher	Student Names	Project Guide	Name of the Journal / Conference	Volume and Issue	SDG Goal
Safe Campus Guard: Smart Number Plate Recognition and Log Management for Enhanced Campus Security	IJ Publication	Tawade Mahanta Raju, Desale Jayesh Sanjay, Wagh Vinod Ramdas	Mrs. S. B. Raghuvanshi	International Journal of Creative Research Thoughts	Vol. 13, Issue 2	SDG 11 – Sustainable Cities and Communities; SDG 16 – Peace and Justice
Face Recognition Based Attendance System Using Group Photos	Research and Development Corp	Mahendra Mistari, Lakshya Chaudhari, Nikhil Mahale, Piyush Tirmal	Dr. P. D. Saraf, Mr. Sagar More	International Journal for Research in Applied Science and Engineering Technology	Vol. 13, Issue 5	SDG 4 – Quality Education
AI Assisted Telemedicine Kiosk: A Review	shabdbooks.com	Lalit Sali, Chetan Patil, Aditya Deore	Ms. G.B. Patil	Mukt Shabd Journal	Vol. 14, Issue 4	SDG 3 – Good Health and Well-being
AGRICARD: One Platform for All Agricultural Needs	IJARIE	Patil Kalpesh Prashant, Patil Tushar Sanjay, Patil Hansika Vijay, Patil Sanika Vijay	Ms. J. S. Sonawane	International Journal of Advance Research and Innovative Ideas in Education	Vol. 11, Issue 2	SDG 2 – Zero Hunger; SDG 9 – Industry, Innovation and Infrastructure
DeepFake Audio Detection Using LSTM Networks with Enhanced MFCC Features	shabdbooks.com	M. B. Patil, Dinesh Deore, Ganesh Salunkhe, Hitesh Wadile, Gaurav Pawar	Mr. M.B.Patil	Mukt Shabd Journal	Vol. 14, Issue 3	SDG 16 – Peace, Justice and Strong Institutions
Certificate ID Generator Using Blockchain	Ess and Ess Research Publications	Saurav Patil, Payal Jadhav, Bhagyashri Borse, Vivek Patil	Dr. R. B. Wagh	International Journal of Multidisciplinary Research in Science and Engineering	Vol. 8, Issue 5	SDG 16 – Peace, Justice and Strong Institutions
Bird Species Identification Using CNN	Amoor Post Tiruvallur	Rohit Vasudev Patil, Prit Sanjay Chaudhari, Harshal Devendra Patel, Jayesh Ashok Wagh	Ms. P. A. Agrawal	International Journal of Scientific Research in Engineering and Management	Vol. 8, Issue 6	SDG 15 – Life on Land

Paper Title	Name of the Publisher	Student Names	Project Guide	Name of the Journal / Conference	Volume and Issue	SDG Goal
Running LLMs Locally on Consumer Devices	Research and Development Corp	Krutarth Patil, Hitesh Chaudhari	Ms. P. A. Agrawal	International Journal for Research in Applied Science and Engineering Technology	Vol. 13, Issue 4	SDG 9 – Industry, Innovation and Infrastructure

C. Student-Led Initiatives for SDG Awareness and Skill Development beyond OBE

The Computer Engineering Department actively promotes the integration of Sustainable Development Goals (SDGs) through curriculum enrichment, skill-based training, and student-led extracurricular initiatives. One such impactful initiative was The React Cohort, a four-day technical workshop organized as part of departmental skill development activities, reflecting the department's commitment to SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 17 (Partnerships for the Goals).

The React Cohort was organized by the Akatsuki Coding Club from 2nd to 5th April 2025 for second-year students, under active guidance from faculty coordinators. The workshop focused on modern front-end development using React.js and Tailwind CSS through a project-based learning approach. A total of 98 students actively participated, gaining hands-on exposure to component-based architecture, state management, real-time deployment, and collaborative software development practices.

Table 3.6.6: Relevance of Cohort Supports to SDG Goals

SDG Goal	How React Cohort Supports the SDG Goal
SDG 4 – Quality Education	<ul style="list-style-type: none"> Delivered experiential learning through structured sessions on React, JavaScript, TypeScript, and Tailwind CSS combined with hands-on coding exercises. Promoted active learning, peer interaction, and practical application through project-based development of an Online Project Selling Platform. Enhanced accessibility to quality technical education by focusing on foundational to advanced concepts within an inclusive academic environment.
SDG 9: Industry, Innovation, and Infrastructure	<ul style="list-style-type: none"> Introduced students to industry-relevant technologies, frameworks, and development workflows used in modern web applications. Enabled participants to design, build, and deploy full-stack frontend applications, simulating real-world software development infrastructure. Encouraged innovation through modular design, reusable components, and real-time deployment using platforms such as Vercel.
SDG 8: Decent Work and Economic Growth	<ul style="list-style-type: none"> Strengthened employability-oriented skills including problem-solving, teamwork, time management, and independent learning. Prepared students for careers in web development and software engineering by aligning workshop outcomes with industry expectations. Recognized student effort through certification and academic credit under the Industrial Training component.

SDG Goal	How React Cohort Supports the SDG Goal
SDG 17: Partnerships for the Goals	<p>Demonstrated collaboration between students, faculty coordinators, and departmental leadership in planning and execution.</p> <ul style="list-style-type: none"> • Encouraged mentorship-driven learning through peer tutors and faculty guidance. • Fostered a collaborative academic ecosystem that supports continuous skill development and knowledge sharing.

The Computer Engineering Department actively promotes the integration of the United Nations Sustainable Development Goals (SDGs) not only through curriculum delivery and academic projects but also via impactful student-led extracurricular activities that foster holistic development, innovation, and social responsibility. One such flagship event was Animeverse, a large-scale technical coding competition organized as part of the annual technical festival Converges 2025. The event reflects the department's strong commitment to SDG 4 (Quality Education), SDG 9 (Industry, Innovation, and Infrastructure), SDG 8 (Decent Work and Economic Growth), and SDG 17 (Partnerships for the Goals).

The Animeverse was organized by the Akatsuki Coding Club on 27th and 28th February 2025 under the guidance of faculty coordinators. Inspired by anime-based themes, the event was designed to combine technical rigor with creativity, teamwork, and strategic problem-solving in a competitive yet collaborative environment. The event witnessed participation from 66 teams comprising 3–4 members each, creating an inclusive platform for students to demonstrate their technical competencies and collaborative skills.

Table 3.6.7: Relevance of Animeverse to SDG Goals

SDG Goal	How Animeverse Supports the SDG Goal
SDG 4: Quality Education	<ul style="list-style-type: none"> • Provided experiential, hands-on learning through multiple rounds including logical games, binary decoding, competitive coding, and system-level challenges. • Encouraged peer learning, critical thinking, and application of programming concepts in a high-engagement, real-time problem-solving environment. • Ensured inclusivity by allowing participation from students across academic years and skill levels, enabling broad access to technical learning opportunities.
SDG 9: Industry, Innovation, and Infrastructure	<ul style="list-style-type: none"> • CodeSprint 50 simulated real-world competitive programming and software development scenarios using industry-standard platforms. • The final round, Chamber of Secrets, involved debugging, API testing, GitHub-based challenges, and system integration, reflecting real software engineering workflows. • The event infrastructure, including challenge systems and live leaderboards, was entirely developed by student organizers, showcasing innovation and digital system-building capabilities.
SDG 8: Decent Work and Economic Growth	<ul style="list-style-type: none"> • Strengthened employability-oriented skills such as problem-solving under pressure, teamwork, logical reasoning, and time management. • Provided students with exposure to competitive coding environments relevant to careers in IT, software development, and data science. • Encouraged leadership, planning, and coordination skills through student-led event execution.
SDG 17: Partnerships for the Goals	<ul style="list-style-type: none"> • Demonstrated effective collaboration between students, faculty coordinators, and institutional leadership. • Promoted teamwork within the Akatsuki Coding Club and coordination with Converges 2025 organizing committees. • Fostered a culture of shared learning and collaboration through multi-team and multi-level student participation.

3.7.1. Describe the Assessment Tools and Processes Used to Gather the Data for the Evaluation of Course Outcome (5)

Institute Marks : 5.00

The department follows a structured Outcome Based Education (OBE) framework for assessment of Course Outcomes. Both direct and indirect assessment tools are systematically used for theory and laboratory courses to measure students' learning levels and attainment of COs. The assessment process integrates continuous internal evaluation, end semester examinations, as direct assessment tools and course exit survey as indirect assessment tools to ensure comprehensive and reliable CO attainment for record analysis and corrective actions.

A. Direct Assessment Tools and Processes

Direct assessment tools includes internal and external assessment

A.1. Internal Assessment Tools

A.1.1. Internal Assessment Theory (35 Marks)

a. Term Tests (15 | 10 Marks)

- Two term tests are conducted: Term Test–1 and Term Test–2, each of 30 marks.
- Questions are designed as per Bloom's Taxonomy and mapped to relevant Course Outcomes.

b. Teacher's Assessment (20 | 25 Marks)

- Continuous evaluation through 3-4 below teacher's assessment tools includes Mock Interview, Presentation (PPT), Group Discussion (GD), Virtual Lab, Moodle Quiz and Innovative Component.
- These activities are planned by the course instructor, aligned with the course syllabus, and mapped to relevant Course Outcomes.
- Evaluation is done using predefined rubrics to ensure uniform and transparent assessment.
- Marks from all components are consolidated and used for internal CO attainment evaluation.

A.1.2. Internal Assessment Laboratory (25 | 50 Marks)

- a. Laboratory Experiment Assessment (15 | 30 Marks):** Continuous evaluation based on experiment performance and viva-voce.
- b. Course Specific Case Study / Assignment (10 | 20 Marks):** Evaluates application of laboratory concepts and analytical ability.

A.1.3 Internal Assessment Project (25 Marks): Periodic evaluation of project based on problem identification, literature review, methodology, implementation progress, and interim reviews.

A.1.4 Internal Assessment Internship (150 Marks): Assessment based on internship progress reports, mentor feedback, and periodic reviews.

A.2. External Assessment Tools

A.2.1. External Assessment Theory (65 Marks): A comprehensive written examination (ESE) is conducted at the end of the semester to evaluate overall achievement of Course Outcomes.

A.2.2 External Assessment Laboratory (25 | 50 Marks): Evaluates students' ability to independently perform experiments, analyze results, and achieve laboratory Course Outcomes.

A.2.3. External Assessment- Project (25 Marks): Final evaluation by a panel based on project implementation, report quality, and viva.

A.2.4. External Assessment- Internship (150 Marks): Evaluation based on completion report, industry mentor assessment, and final presentation/viva.

B. Indirect Assessment Tools and Processes

Course Exit Survey: Collected at the end of the semester to capture students' perception of CO attainment and validate direct assessment results.

C. Summary of Assessment Tools with Marks Structure:

The summary of assessment tools with marks are given in Table 3.7.1.

Table 3.7.1: Summary of Assessment Tools with Marks Structure

Course Type	Internal Assessment	External Assessment
Theory	35 Marks	65 Marks
Laboratory	25 50 Marks	25 50 Marks
Project	25 Marks	25 Marks
Internship	150 Marks	150 Marks

D. The Quality/Relevance of Assessment Tools/Processes Used

The assessment tools, their processes, and relevance to CO attainment are summarized in Table 3.7.2.

Table 3.7.2: Assessment Tools, Processes and their Relevance to CO Attainment

Sr. No.	Course Type	Assessment Category	Assessment Tool	Marks	Assessment Process	Relevance to CO Evaluation
Direct Assessment Tools						
1	Theory	Internal	Term Test-1	30 (Scaled to 15 10)	Written test covering part syllabus; CO-mapped questions	Evaluates conceptual understanding and analytical skills
		Internal	Term Test-2	30 (Scaled to 15 10)	Written test covering remaining syllabus; CO-mapped questions	Measures continuity of learning and higher cognitive levels
		Internal	Teacher's Assessment	20 25	Mock Interview, PPT, GD, Virtual Lab, Moodle Test, Innovative Component	Assesses application of concepts, communication skills, teamwork, and professional competencies
		External	End Semester Examination (Theory)	65	Comprehensive written examination covering entire syllabus	Assesses overall attainment of all theory COs
2	Laboratory	Internal	Laboratory Experiment Assessment	15 30	Continuous evaluation of experiment performance and viva-voce	Measures hands-on skills and procedural knowledge
	Laboratory	Internal	Course-Specific Case Study / Assignment	10 20	Application-oriented tasks aligned with lab outcomes	Evaluates analytical and problem-solving ability
	Laboratory	External	End Semester Examination (Lab)	25 50	Practical examination by internal/external examiners	Validates independent experiment execution and lab CO attainment
3	Project	Internal	Internal Assessment Project	25	Periodic reviews and progress assessment	Assesses design, implementation, and problem-solving skills
		External	External Assessment-Project	25	Final presentation and report evaluation	Measures achievement of project-related COs

Sr. No.	Course Type	Assessment Category	Assessment Tool	Marks	Assessment Process	Relevance to CO Evaluation
Direct Assessment Tools						
4	Internship	Internal	Internal Assessment Internship	150	Mentor feedback and progress reports	Evaluates professional skills and practical exposure
		External	External Assessment- Internship	150	Final report and viva	Assesses industry-oriented learning outcomes
Indirect Assessment Tools						
5	Theory and Lab	Indirect	Course Exit Survey	–	Student feedback collected at end of semester	Validates direct CO attainment through student perception

The assessment data obtained from direct and indirect assessment tools are systematically mapped to Course Outcomes and analyzed to determine CO attainment levels, as presented in Section 3.7.2.

3.7.2 Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels (20)

Institute Marks : 20.00

The department follows a well-defined, transparent, and uniform methodology to determine Course Outcome (CO) attainment levels for all theory and laboratory courses, in alignment with Outcome Based Education (OBE) principles. CO attainment is evaluated using data obtained from direct and indirect assessment tools, as described in Section 3.7.1, and is computed separately for theory and laboratory courses.

A. Course Outcome Attainment Methodology

CO attainment is computed through direct and indirect assessment data collected through theory laboratory, project, and internship assessments, followed by calculation of overall CO attainment. Each CO is evaluated based on the percentage of students scoring above the defined threshold value.

B. Calculating CO Attainment– Theory Courses

B.1. CO Attainment through Direct Assessment: Direct CO attainment is computed using internal and external assessment data collected through theory courses.

- **CO Attainment Levels and Targets:** The department has defined threshold value of 60% for Internal Assessment and 50% for External Assessment in theory courses for the 2021–22 to 2024-25 batch. Based on these threshold values, the attainment levels are calculated as per the rubrics defined in the Table 3.7.3 and 3.7.4.

Table 3.7.3: CO Attainment Levels for Internal Assessment- Theory Courses

CO Attainment Levels for Internal Assessment	
Attainment Level	Criteria
Level 3	More than 80% students scored above Threshold
Level 2	60% to 80% students scored above Threshold
Level 1	Less than 60% students scored above Threshold

Table 3.7.4: CO Attainment Levels for External Assessment- Theory Courses

CO Attainment Levels for External Assessment	
Attainment Level	Criteria
Level 3	More than 70% students scored above Threshold
Level 2	50% to 70% students scored above Threshold
Level 1	Less than 50% students scored above Threshold

- **Calculating Direct CO Attainment for Theory Courses:** The department has assigned 50% weightage to Internal Attainment and 50% to External Attainment. The direct attainment for theory courses is calculated as per the formula given below.

$$\text{Direct Attainment (CO)} = (0.5 \times \text{Internal Attainment}) + (0.5 \times \text{External Attainment})$$

B.2. CO Attainment through Indirect Assessment: Course Exit Form responses collected at the end of the semester from students are analyzed CO-wise, and the indirect CO attainment for theory courses is calculated.

B.3. Overall CO Attainment: The Overall CO attainment for theory courses are calculated as per the formula given below:

$$\text{Overall CO Attainment} = 0.8 \times \text{CO Attainment (Direct)} + 0.2 \times \text{CO Attainment (Indirect)}$$

The process adopted for calculating CO attainment for theory courses using direct and indirect assessment components is illustrated in Figure 3.7.1.

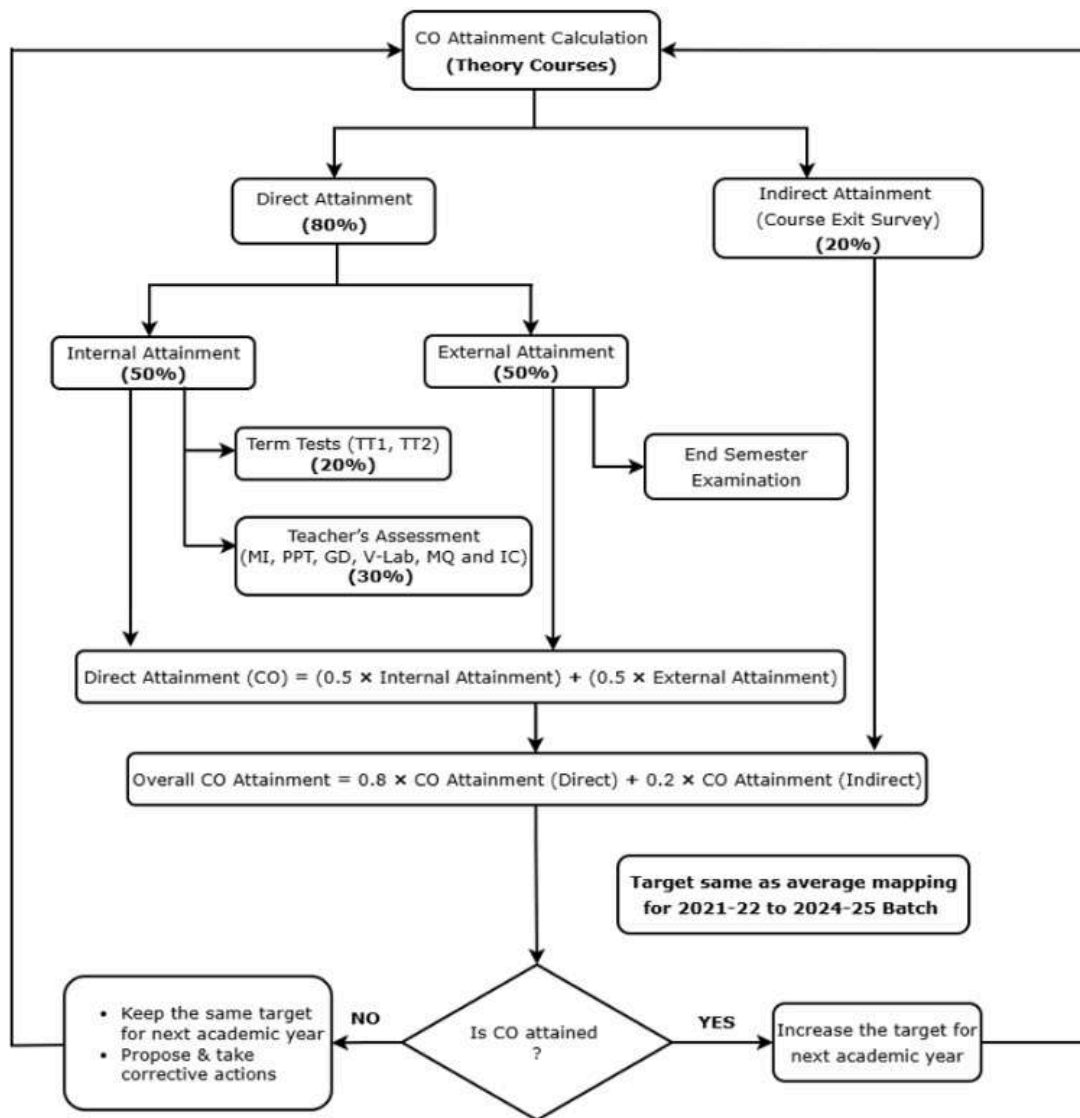


Figure 3.7.1: Course Outcome Attainment Calculation Process for Theory Courses

C. Calculating CO Attainment– Laboratory Courses

C.1. **CO Attainment through Direct Assessment:** Direct CO attainment is computed using internal and external assessment data collected through Laboratory courses (Lab, Project, and Internship)

- **CO Attainment Levels and Targets:** The department has defined threshold value of 70% for Internal Assessment and 60% for External Assessment in laboratory courses for the 2021–22 to 2024-25 batch. Based on these threshold values, the attainment levels are calculated as per the rubrics defined in the Table 3.7.5 and 3.7.6.

Table 3.7.5: CO Attainment Levels for Internal Assessment- Laboratory Courses

CO Attainment Levels for Internal Assessment	
Attainment Level	Criteria

Level 3	More than 90% students scored above Threshold
Level 2	70% to 90% students scored above Threshold
Level 1	Less than 70% students scored above Threshold

Table 3.7.6: CO Attainment Levels for External Assessment- Laboratory Courses

CO Attainment Levels for External Assessment	
Attainment Level	Criteria
Level 3	More than 80% students scored above Threshold
Level 2	60% to 80% students scored above Threshold
Level 1	Less than 60% students scored above Threshold

- **Calculating Direct CO Attainment for Laboratory Courses:** The department has assigned 50% weightage to Internal Attainment and 50% to External Attainment. The direct attainment for laboratory courses is calculated as per the formula given below.

$$\text{Direct Attainment (CO)} = (0.5 \times \text{Internal Attainment}) + (0.5 \times \text{External Attainment})$$

C.2. CO Attainment through Indirect Assessment: Course Exit Form responses collected at the end of the semester from students are analyzed CO-wise, and the indirect CO attainment for theory courses is calculated.

C.3. Overall CO Attainment – Laboratory Courses: The Overall CO attainment for laboratory courses are calculated as per the formula given below:

$$\text{Overall CO Attainment} = 0.8 \times \text{CO Attainment (Direct)} + 0.2 \times \text{CO Attainment (Indirect)}$$

The process followed for calculating CO attainment for laboratory courses using direct and indirect assessment components is shown in Figure 3.7.2.

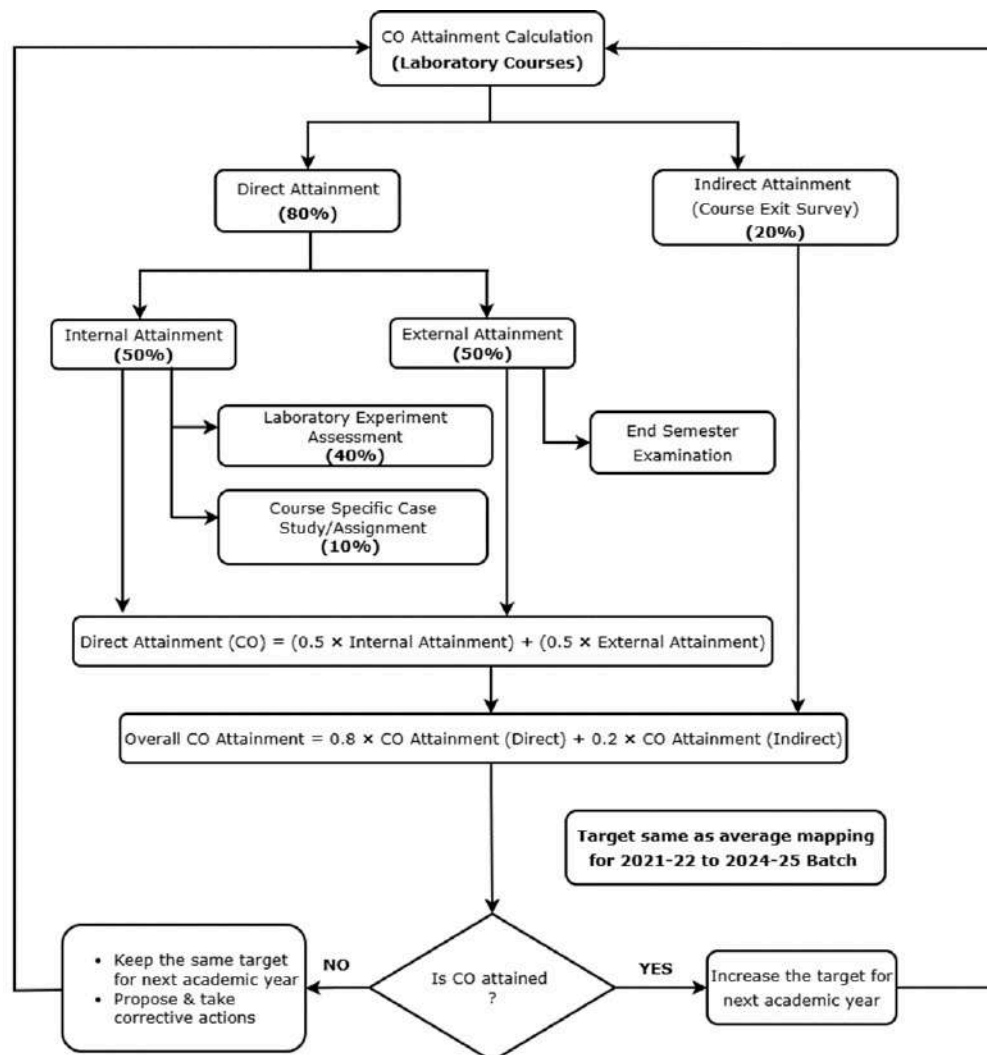


Figure 3.7.2: Course Outcome Attainment Calculation Process for Laboratory Courses

D. Review and Verification of CO Attainment

- CO attainment levels are computed and documented for all theory and laboratory courses.
- The attainment results are reviewed by the Course Committee and Department Advisory Committee.
- Calculations are verified using internal assessment records, end semester examination results, and indirect student survey data.

E. Course Wise CO Attainment for Batch 2021-22 to 2024-25

Table 3.7.7: Course Wise CO Attainment for Batch 2021-22 to 2024-25

Course	CO1	CO2	CO3	CO4	CO5	CO6
C101	1.70	1.53	1.54	1.69	1.69	1.77
C102	2.14	2.13	1.98	1.98		
C103	2.18	2.16	2.32	2.14		
C104	1.73	1.69	1.75	1.72	1.58	1.52
C105	1.86	1.85	1.86	1.94	1.70	
C106	2.82	2.25	1.93	2.88		
C107	2.89	2.85	2.91	1.92	1.94	2.84
C108	2.90	2.89	2.90	1.94	2.90	
C109	2.48	2.46	2.49	2.48	1.83	
C110	2.97	2.98	2.98	2.98	2.97	
C111	1.53	1.54	1.53	1.69	1.69	1.69
C112	1.61	1.66	1.46	1.46		
C113	2.49	2.57	2.50	2.49		
C114	2.13	2.14	2.13	2.13	2.16	
C115	2.02	2.06	2.17	1.70	1.70	1.70
C116	2.49	2.34	2.53	2.49	2.50	2.34
C117	2.57	2.25	1.94	2.57		
C118	2.49	2.50	2.49	2.49	2.52	
C119	2.18	1.86	2.17	2.18	2.18	2.18
C120	2.81	2.50	2.81	2.81	1.86	1.86
C201	1.43	1.43	1.42	1.26		
C202	1.96	1.85	1.97	1.69	1.68	
C203	2.65	2.49	2.54	2.49	2.64	
C204	2.17	2.17	2.01	2.17	2.02	
C205	2.35	2.27	2.34	2.26	2.10	2.10
C206	2.03	2.99	2.98	2.98	2.02	2.02
C207	1.86	1.85	1.89	1.70	1.69	1.69
C208	1.22	2.17	2.17	2.18	2.17	1.21
C209	2.26	2.25	2.25	2.25	2.24	2.24
C210	2.97	2.98	2.97	2.97	2.97	
C211	2.58	2.45	2.42	2.25		
C212	1.92	1.83	1.84	1.75	1.60	
C213	2.26	2.35	2.42	2.10	2.10	

Course	CO1	CO2	CO3	CO4	CO5	CO6
C214	2.58	2.91	2.90	2.90	2.90	
C215	2.28	2.20	2.31	2.03	2.04	
C216	2.84	2.68	2.67	2.83	2.04	
C217	1.69	1.77	1.68	1.52	1.52	1.53
C218	1.85	1.85	1.84	1.84	1.84	1.21
C219	2.27	2.43	2.43	2.59	2.12	
C220	2.58	2.58	2.58	2.58	2.58	
C221	1.39	1.39	1.39	1.39	1.38	1.38
C301	2.44	2.44	2.36	2.36	2.51	2.12
C302	2.92	2.92	2.92	2.92	2.91	2.92
C303	2.43	2.35	2.23	2.02	2.02	
C304	2.67	2.91	2.91	1.94	1.94	
C305	2.74	2.82	2.90	2.98	2.50	
C306	1.86	1.86	1.86	1.86	1.86	
C307	2.83	2.67	2.75	2.67	2.50	2.50
C308	2.99	2.99	2.99	2.99	2.98	2.98
C309	2.91	2.91	2.91	2.92	2.91	
C310	2.83	2.82	2.83	2.83	2.83	2.83
C311	2.99	2.99	2.99	2.99	2.99	
C312	1.39	1.39	1.39	1.39		
C313	2.03	1.87	1.95	1.95	1.71	1.71
C314	2.59	2.59	2.59	2.59	2.43	2.59
C315	2.51	2.45	2.59			
C316	2.83	2.99	2.99			
C317	2.52	2.59	2.42	2.43	2.11	2.11
C318	3.00	2.99	2.02	2.99	2.99	2.99
C319	2.92	2.75	2.51	2.67	2.75	2.51
C320	2.04	2.99	2.99	2.99	2.99	2.03
C321	2.66	2.90	2.58	2.58	2.43	2.42
C322	2.10	2.10	2.10	2.10	2.11	1.14
C323	2.58	2.59	2.60	2.60	2.60	
C401	2.75	2.35	2.76	2.71	2.35	
C402	2.99	2.99	3.00	2.99	2.99	

Course	CO1	CO2	CO3	CO4	CO5	CO6
C403	2.11	2.19	2.11	2.11	1.95	
C404	2.67	2.78	2.99	2.67	2.03	
C405	1.95	2.19	2.27	2.11	1.95	
C406	2.99	2.99	2.99	2.67	2.99	
C407	2.58	2.58	2.66	2.50	2.35	
C408	2.99	2.99	2.99	2.99	2.99	
C409	1.95	1.94	1.78	1.79	1.78	
C410	2.51	2.51	2.34	2.35	2.34	
C411	2.28	2.19	2.19	1.95		
C412	2.19	2.11	2.11	2.11	1.95	
C413	3.00	3.00	3.00	3.00	3.00	

E. CO Attainment Calculation Sheet

Department of Computer Engineering Academic Year 2022-2023 PO ATTAINMENT			Program: SY B.Tech Computer Engineering Course Name: Data Structures Course Code: PCC03020T SEMESTER: III YEAR: 2022-23 NAME OF FACULTY: Dr. MSI & Dr. VDP															
ASSESSMENT TOOLS			TT-1				TOTAL	TT-2				TOTAL	PPT	CD	IC	OTHER	ESE	
FULL MARK			Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4							
Threshold- 60% for IA, and 50% for ESE			10	10	10	10	30	10	10	10	10	30	5	5	10		65	
Sr. No	Name of the Student	PRN	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	Marks	
187	SRALY RAJESH PRADHAN	221201090	7	0	0	0	23	7	7	0	7	21	3	4	0	0	30	
188	SALI NEEDRAJ MAHESH	221201077	8	8	7	0	23	7	7	0	8	15	5	4	7	0	50	
189	PATIL ISHA BHAIKISHOR	221201098	8	8	7	7	23	8	8	7	8	23	5	4	9	0	59	
190	MAHAJAN MEUDULA PRAMN	221201099	6	7	6	0	19	3	0	6	7	16	5	4	9	0	26	
191	SHAH MEET GITESH	221201030	8	8	7	8	24	6	7	5	5	18	5	4	6	0	54	
192																		
193																		
194																		
CO MAPPED			CO-1	CO-2	CO-1	CO-1	ALL	CO-3	CO-3	CO-3	CO-3	ALL	ALL	ALL	ALL		ALL	
Total Number of Students Applied			176	149	175	78	191	141	172	173	105	190	190	189	0	0	191	
Total Number of Students above Threshold			133	84	112	21	117	75	112	121	66	122	187	177	170	0	89	
Percentage			75.57	56.39	64.00	26.92	61.26	53.19	65.12	69.94	62.86	64.21	96.42	93.16	89.95	#DIV/0!	46.60	
Level			2	1	2	1	2	1	2	2	2	2	3	3	3		1	
Weightage			20					20					10	10	10		50	
CO-CONTINUOUS ASSESSMENT TOOLS AND CO-ATTAINMENT			Course Outcome	TT-1	TT-2	Final TT	PPT	CD	IC	OTHER	ESE	CO-Direct	Course Exit Survey-Indirect	Overall CO Attainment				
			CO-1	1.67		1.67	3.00	3.00	3.00		1.00	1.73	2.86	1.96				
			CO-2	1.00		1.00	3.00	3.00	3.00		1.00	1.60	2.86	1.85				
			CO-3		1.75	1.75	3.00	3.00	3.00		1.00	1.75	2.85	1.97				
			CO-4				3.00	3.00	3.00		1.00	1.40	2.85	1.69				
			CO-5				3.00	3.00	3.00		1.00	1.40	2.82	1.68				
Overall CO Attainment [Direct+Indirect]			COURSE CODE	CO-1	CO-2	CO-3	CO-4	CO-5	CO-6	CO-7	CO-8	CO-9	CO-10					
			C202	1.96	1.85	1.97	1.69	1.68										

Figure 3.7.3: CO Attainment Calculation Sample Sheet-Theory Course

Department of Computer Engineering Academic Year 2022-2023 PO ATTAINMENT		Program: SY & Tech Computer Engineering															CASE STUDY		ESE	
Course Name: Data Structures Laboratory		EXP-1 to EXP-15															CASE STUDY		ESE	
Course Code: PC22020301		EXP-1 to EXP-15															CASE STUDY		ESE	
SEMESTER: III		EXP-1 to EXP-15															CASE STUDY		ESE	
YEAR: 2022-23		EXP-1 to EXP-15															CASE STUDY		ESE	
NAME OF FACULTY: Dr. MS & Dr. VDR		EXP-1 to EXP-15															CASE STUDY		ESE	
ASSESSMENT TOOLS		EXP-1 to EXP-15															CASE STUDY		ESE	
FULL MARK		15															10		25	
Threshold- 70% for IA, and 50% for ESE		10.5															7		15	
Sr. No		Marks															Marks		Marks	
Name of the Student		Marks															Marks		Marks	
PEN		Marks															Marks		Marks	
182 PARITOSH PRAKASH D LAUDHARI		9															15		8	
183 TALELE SOHIT VITTHAL		6															15		6	
184 PATIL GAURAV SANDIP		15															15		15	
185 PATIL GOPAL BHASKAR		15															15		15	
186 PATIL AJAY BHASKAR		16															15		16	
187 MALHURJAL PRAVIN		15															15		15	
188 SALLI NEERAJMAHESH		15															15		15	
189 PATIL ISHVA BHASKAR		15															15		15	
190 MADHAN MOHOLLA PRAVIN		15															15		15	
191 ISHANI SHEETI DITESH		15															15		15	
CO-MARKED		CO-1 to CO-5															CO-6		CO-7	
Total Number of Students Appeared		191															191		191	
Total Number of Students above Threshold		140															143		143	
Percentage		84.30															85.86		85.86	
Level		3															3		3	
CO-CONTINUOUS ASSESSMENT TOOLS AND CO-ATTAINMENT		EXP-1 to EXP-15															CASE STUDY		ESE	
Course Outcome		EXP-1 to EXP-15															CASE STUDY		ESE	
EXPERIMENT		EXP-1 to EXP-15															CASE STUDY		ESE	
CASE STUDY		EXP-1 to EXP-15															CASE STUDY		ESE	
ESE		EXP-1 to EXP-15															CASE STUDY		ESE	
CO ATTAINMENT		EXP-1 to EXP-15															CASE STUDY		ESE	
Course Exit Survey-Indirect		EXP-1 to EXP-15															CASE STUDY		ESE	
Overall CO Attainment		EXP-1 to EXP-15															CASE STUDY		ESE	
CO-1		2.00															2.86		2.86	
CO-2		1.90															2.86		2.49	
CO-3		1.87															2.85		2.54	
CO-4		1.90															2.85		2.49	
CO-5		2.00															2.82		2.64	
Overall CO Attainment [Direct+Indirect]		CO-1 to CO-5															CASE STUDY		ESE	
COURSE CODE		CO-1 to CO-5															CASE STUDY		ESE	
C301		2.85															2.86		2.64	

Figure 3.7.4: CO Attainment Calculation Sample Sheet-Laboratory Course

G. Corrective Actions and Continuous Improvement

- Course Outcomes with attainment levels below the desired benchmark are identified.
- Corrective actions such as remedial classes, additional tutorials, revision sessions, and refinement of assessment strategies are implemented in the subsequent academic cycle.
- The effectiveness of these actions is reviewed in the next cycle of CO attainment analysis.

3.8 Attainment of Program Outcomes and Program Specific Outcomes (25)

Total Marks 25.00

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	1.35	0.90	PO3	0.55	0.50	PO6	PO7	PO8	PO9	PO10	PO11	0.45
C102	1.40	1.25	0.62	0.65	PO5	PO6	PO7	PO8	PO9	1.05	0.61	0.62
C103	1.37	1.20	0.69	0.69	0.67	1.40	1.73	1.33	PO9	0.68	1.03	0.68
C104	0.92	0.92	0.46	0.46	0.48	PO6	PO7	PO8	0.48	0.46	PO11	0.46
C105	1.63	1.05	0.53	1.05	PO5	PO6	PO7	PO8	PO9	0.53	PO11	0.53
C106	1.65	1.41	0.77	0.68	0.48	0.77	1.01	0.97	PO9	1.05	0.98	0.79
C107	1.67	1.67	0.83	0.83	0.97	PO6	PO7	PO8	0.97	0.83	PO11	0.83
C108	2.50	1.77	0.89	1.77	PO5	PO6	PO7	PO8	PO9	0.89	PO11	0.89
C109	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	0.80	0.75	0.80	0.80
C110	2.00	2.80	2.00	2.80	1.40	PO6	2.00	PO8	1.00	1.00	1.00	2.00
C112	0.81	0.81	0.40	0.40	PO5	PO6	PO7	PO8	PO9	0.68	0.40	0.40
C113	1.62	1.01	0.81	0.81	1.01	1.62	2.43	1.60	PO9	0.81	PO11	0.80
C111	1.30	0.87	0.45	0.53	0.47	PO6	PO7	PO8	PO9	PO10	PO11	0.43
C114	1.30	0.81	0.78	0.78	0.98	PO6	PO7	PO8	0.65	1.17	0.65	1.30
C115	1.09	1.00	0.72	1.13	0.70	PO6	PO7	1.09	0.52	0.55	0.55	0.55
C116	PO1	PO2	0.80	PO4	PO5	PO6	PO7	1.07	0.78	0.78	0.78	0.78
C117	1.47	1.19	0.73	0.73	0.45	0.74	1.12	0.57	PO9	0.98	0.35	0.63
C118	1.60	1.00	0.96	0.96	1.20	PO6	PO7	PO8	0.80	1.44	0.80	1.60
C119	1.29	1.20	0.93	1.42	0.87	PO6	PO7	1.29	0.67	0.64	0.64	0.64
C120	PO1	PO2	0.53	PO4	PO5	PO6	PO7	1.11	0.89	0.78	0.76	0.78
C201	0.70	0.35	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.33
C202	1.05	1.58	1.05	1.58	0.53	PO6	PO7	PO8	PO9	0.53	PO11	0.53
C203	1.66	2.49	1.66	2.49	0.83	PO6	PO7	PO8	PO9	0.83	PO11	0.83
C204	1.92	1.92	1.80	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.92
C206	1.60	2.20	1.77	2.20	2.52	1.80	PO7	PO8	PO9	0.80	PO11	1.27
C207	1.01	1.16	0.79	1.51	0.49	PO6	PO7	PO8	PO9	0.50	PO11	PO12
C208	1.07	1.36	0.99	2.00	0.57	PO6	PO7	PO8	PO9	0.53	PO11	PO12
C209	1.40	2.10	0.82	0.70	0.93	PO6	PO7	PO8	PO9	0.70	PO11	1.28

C210	2.00	1.75	2.33	1.33	3.00	PO6	PO7	3.00	3.00	3.00	2.60	2.20
C211	1.70	0.95	0.70	2.20	0.73	PO6	PO7	PO8	PO9	PO10	PO11	0.77
C212	1.03	1.21	0.62	1.21	0.63	PO6	PO7	1.47	1.29	1.21	PO11	1.54
C213	1.53	1.67	1.12	2.13	1.12	PO6	PO7	PO8	PO9	0.69	PO11	0.69
C214	2.07	2.29	1.52	2.90	1.52	PO6	PO7	PO8	PO9	0.94	PO11	0.94
C215	1.31	1.83	0.66	1.31	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.66
C216	1.68	2.33	0.84	1.68	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.84
C217	1.09	0.93	0.93	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C218	1.24	1.07	1.13	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C219	0.63	0.74	0.63	0.63	PO5	1.61	1.21	1.76	1.02	0.70	0.83	0.73
C220	0.83	0.83	0.83	0.83	PO5	PO6	PO7	PO8	0.83	0.83	0.83	0.83
C221	0.56	0.39	0.47	0.67	0.78	PO6	PO7	PO8	0.33	0.33	0.33	0.83
C205	1.38	1.82	1.48	1.82	2.04	1.90	PO7	PO8	PO9	0.72	PO11	1.10
C301	1.97	1.47	1.10	1.73	1.73	2.15	2.15	2.15	2.15	1.09	1.31	2.09
C302	2.58	1.93	1.45	2.26	2.26	2.90	2.90	2.90	2.90	1.45	1.74	2.74
C303	1.35	1.22	0.90	2.05	2.05	PO6	PO7	PO8	PO9	PO10	PO11	1.80
C304	1.57	1.48	1.16	2.90	2.90	PO6	PO7	PO8	PO9	PO10	PO11	1.70
C305	1.84	1.26	0.93	1.86	0.90	2.70	0.80	2.70	0.80	0.89	0.80	0.92
C306	1.07	0.71	0.53	1.07	0.53	1.60	0.53	1.60	0.53	0.53	0.53	0.53
C307	1.87	1.72	1.84	2.19	2.13	2.00	1.20	PO8	PO9	PO10	1.44	2.02
C308	2.17	2.00	2.17	2.60	2.50	2.50	1.33	PO8	PO9	PO10	1.67	2.33
C309	1.21	1.21	1.21	0.97	0.97	1.93	0.97	PO8	2.90	0.97	0.97	1.16
C310	PO1	PO2	0.93	PO4	1.87	2.33	PO7	2.80	2.33	2.80	0.93	0.93
C311	2.00	1.75	2.33	1.33	3.00	PO6	PO7	3.00	3.00	3.00	2.60	2.20
C312	0.33	0.89	0.78	1.00	1.00	1.00	0.50	1.00	0.78	0.75	PO11	1.00
C313	1.13	1.64	1.60	1.55	1.40	1.70	PO7	1.70	1.65	1.70	1.70	1.60
C314	1.67	2.46	2.45	2.40	2.40	2.50	PO7	2.50	2.50	2.50	2.50	2.50
C315	2.41	2.41	2.42	2.40	1.64	PO6	PO7	PO8	PO9	PO10	PO11	2.15
C316	2.93	2.93	3.00	2.80	2.00	PO6	PO7	PO8	PO9	PO10	PO11	2.60
C317	1.48	1.84	1.61	1.93	1.93	1.82	1.82	2.03	PO9	0.74	PO11	1.90
C318	1.87	2.30	2.04	2.36	2.36	2.67	2.67	3.00	PO9	0.93	PO11	3.00

C319	2.04	1.99	2.02	1.36	1.09	2.40	2.40	PO8	2.40	2.40	PO11	2.65
C320	2.07	2.07	2.16	1.27	1.07	1.80	1.80	PO8	2.40	1.80	PO11	1.80
C321	1.68	0.89	0.83	1.60	0.79	2.37	PO7	2.37	PO9	PO10	PO11	PO12
C322	1.13	0.63	0.55	1.07	0.50	1.50	PO7	1.50	PO9	PO10	PO11	PO12
C323	1.88	2.08	1.83	1.83	2.50	2.50	2.50	2.50	2.50	1.67	1.94	2.50
C401	2.49	1.98	1.33	2.07	2.52	1.68	2.34	PO8	PO9	0.83	PO11	2.49
C402	3.00	2.40	1.60	2.50	3.00	2.00	2.75	PO8	PO9	1.00	PO11	3.00
C403	1.51	1.38	0.63	1.90	1.25	PO6	PO7	PO8	PO9	PO10	PO11	0.63
C404	2.07	1.90	0.85	2.80	1.69	PO6	PO7	PO8	PO9	PO10	PO11	0.85
C405	1.25	1.77	1.52	1.88	1.88	1.90	1.90	1.90	1.10	1.90	PO11	1.10
C406	1.95	2.72	2.32	2.92	2.92	3.00	3.00	3.00	1.62	3.00	PO11	1.62
C407	1.68	1.21	0.80	1.04	0.82	PO6	PO7	2.20	0.80	0.81	PO11	0.83
C408	2.25	2.50	2.20	2.20	3.00	3.00	3.00	3.00	3.00	2.00	2.33	3.00
C409	1.05	1.35	0.83	1.24	1.55	1.38	1.50	1.50	1.50	0.86	PO11	1.47
C410	1.52	1.96	1.20	1.80	2.25	2.00	2.20	2.20	2.20	1.24	PO11	2.12
C411	1.47	1.44	1.61	1.62	1.13	1.78	1.61	1.95	2.00	1.95	2.00	1.95
C412	1.75	1.61	1.75	1.61	1.61	1.23	1.23	1.85	1.88	1.88	0.99	1.50
C413	3.00	2.00	1.67	1.50	3.00	3.00	3.00	3.00	2.60	2.60	2.33	1.50

PO Attainment Indirect

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Program Exit	2.85	2.84	2.85	2.83	2.84	2.84	2.89	2.84	2.84	2.86	2.85	2.86

PO Attainment Level

Note: The Institution can fix the weightage of the indirect attainment maximum up to 20%.

Define the Weightage for Indirect Attainment: 20.00

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Direct Attainment	1.58	1.55	1.22	1.58	1.48	1.98	1.85	1.99	1.56	1.18	1.20	1.34
InDirect Attainment	2.85	2.84	2.85	2.83	2.84	2.84	2.89	2.84	2.84	2.86	2.85	2.86
Overall Attainment	1.83	1.81	1.55	1.83	1.75	2.15	2.06	2.16	1.82	1.52	1.53	1.64

PSO Attainment

Course	PSO1	PSO2
C101	0.45	PSO2
C102	0.65	PSO2
C103	PSO1	PSO2
C104	PSO1	PSO2
C105	PSO1	PSO2
C106	0.28	PSO2
C107	PSO1	PSO2
C108	PSO1	PSO2
C109	PSO1	PSO2
C110	1.00	PSO2
C111	0.43	PSO2
C112	0.40	PSO2
C113	0.81	PSO2
C114	0.78	0.65
C115	1.24	0.63
C116	PSO1	PSO2
C117	0.73	PSO2
C118	0.96	0.80
C119	1.53	0.76
C120	PSO1	PSO2
C201	0.35	PSO2
C202	1.58	0.53
C203	2.49	0.83
C204	1.92	0.77
C205	1.23	0.69
C206	1.56	0.80
C207	0.50	PSO2
C208	0.67	PSO2
C209	1.63	1.05
C210	2.75	1.75

C211	0.77	PSO2
C212	0.83	0.51
C213	2.13	0.69
C214	2.90	0.94
C215	0.66	PSO2
C216	0.84	PSO2
C217	0.65	0.51
C218	0.76	0.53
C219	0.67	0.63
C220	0.83	0.83
C221	0.87	0.33
C301	1.48	0.74
C302	1.93	0.97
C303	0.91	0.73
C304	1.12	0.93
C305	2.76	1.49
C306	1.60	0.89
C307	0.83	0.86
C308	1.00	1.00
C309	0.97	1.45
C310	0.93	0.93
C311	2.75	1.75
C312	0.78	0.33
C313	1.58	1.53
C314	2.46	2.45
C315	1.34	1.33
C316	1.64	1.62
C317	1.29	0.76
C318	1.55	0.92
C319	1.04	0.80
C320	1.05	0.80
C321	1.18	0.77

C322	0.55	0.23
C323	1.50	1.50
C401	1.44	PSO2
C402	1.67	PSO2
C403	0.63	0.65
C404	0.85	0.89
C405	1.88	PSO2
C406	2.92	PSO2
C407	0.80	0.81
C408	1.80	1.80
C409	1.35	1.03
C410	1.96	1.49
C411	0.98	2.00
C412	1.61	1.61
C413	2.00	3.00

PSO Attainment Indirect

Survey	PSO1	PSO2
Program Exit Survey	2.94	2.92

PSO Attainment Level

Course	PSO1	PSO2
Direct Attainment	1.28	1.03
InDirect Attainment	2.94	2.92
Overall Attainment	1.61	1.41

4 STUDENTS' PERFORMANCE (120)

Total Marks 97.31

Table No. 4A: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	180	180	180	180	180	180	180
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	169	180	180	173	178	180	176
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	18	18	25	20	18	22
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	9	9	9	9	9	11	9

Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	178	207	207	207	207	209	207
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Table No. 4B: Admission details for the program through multiple entry and exit points.

	Item (No. of students admitted/exited through multiple entry and exit points) in the respective batch	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (LYG)	2020-21 (LYGm1)	2019-20 (LYGm2)
N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N5=N52+N53+N54	N5=N52+N53+N54	0	0	0	0	0	0	0
N61=No. of students exits after 1st year via multiple entry and exit points in same batch	N61=No. of students exits after 1st year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N62=No. of students exit after 2nd year via multiple entry and exit points	N62=No. of students exit after 2nd year via multiple entry and exit points	0	0	0	0	0	0	0
N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N6=N61+N62+N63	N6=N61+N62+N63	0	0	0	0	0	0	0

Table No. 4C: No. of students graduated within the stipulated period of the program.

Year of entry	Total no. of students (N1 + N2 + N3+ N4 + N5 - N6 as defined above)	Number of students who have successfully graduated in stipulated period of study) [Total of with Backlog + without Backlog]			
		I year	II year	III year	IV year
2025-26 (CAY)	178				
2024-25 (CAYm1)	207	184			
2023-24 (CAYm2)	207	179	195		
2022-23 (CAYm3)	207	166	187	186	
2021-22 (LYG)	207	171	186	186	170
2020-21 (LYGm1)	209	190	205	189	189
2019-20 (LYGm2)	207	185	206	204	201

4.1 Enrolment Ratio (20)

Total Marks 20.00

Institute Marks : 20.00

[Get Details from Table 4.1](#)

Table No.4.1.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	180	169	9	98.89
2024-25 (CAYm1)	180	180	9	105.00
2023-24 (CAYm2)	180	180	9	105.00

Average [(ER1 + ER2 + ER3) / 3] = 102.96 \approx 100

Assessment : 20.00

4.2 Success Rate of the Students in the Stipulated Period of the Program (15)

Total Marks 13.48

Table No.4.2.1: The success rate in the stipulated period of a program.

Item	(2021-22) LYG	(2020-21) LYGm1	(2019-20) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	207.00	209.00	207.00
B=No. of students who graduated from the program in the stipulated course duration	170.00	189.00	201.00
Success Rate (SR)= (B/A) * 100	82.13	90.43	97.10

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 89.89

SR Points : 13.48

Note *: If the value of A in Table No. 4.2.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of A in Table No. 4.2.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2).

4.3 Academic Performance of the First-Year Students of the Program (10)

Total Marks 6.80

Institute Marks : 6.80

Table No.4.3.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1(2024-25)	CAYm2(2023-24)	CAYm3 (2022-23)
Mean of CGPA or mean percentage of all successful students(X)	7.21	7.59	7.02
Y=Total no. of successful students	184.00	179.00	166.00
Z=Total no. of students appeared in the examination	187.00	192.00	187.00
API [X*(Y/Z)]	7.09	7.08	6.23

Average API[(AP1+AP2+AP3)/3] : 6.80

Assessment = Average API : 6.80

4.4 Academic Performance of the Second Year Students of the Program (10)

Total Marks 6.90

Table No.4.4.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	7.64	7.00	6.46
Y=Total no. of successful students	195.00	187.00	186.00
Z=Total no. of students appeared in the examination	197.00	191.00	191.00
API [X * (Y/Z)]	7.56	6.85	6.29

Average API [(AP1 + AP2 + AP3)/3] : 6.90

Assessment [AverageAPI] : 6.90

4.5 Academic Performance of the Third Year Students of the Program (10)

Total Marks 7.11

Institute Marks : 7.11

Table No.4.5.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	7.27	7.09	7.61
Y=Total no. of successful students	186.00	186.00	189.00
Z=Total no. of students appeared in the examination	187.00	186.00	205.00
API [X*(Y/Z)]:	7.23	7.09	7.02

Average API [(AP1 + AP2 + AP3)/3] : 7.11

Assessment [1.5 * AverageAPI] : 7.11

4.6 Placement, Higher Studies and Entrepreneurship (30)

Total Marks 18.02

Table No. 4.6.1: Placement, higher studies, and entrepreneurship details.

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	200.00	198.00	204.00
X=No. of students placed	96.00	121.00	142.00
Y=No. of students admitted to higher studies	2.00	1.00	0.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = $\frac{(X + Y + Z)}{FS} * 100$:	49.00	61.62	69.61

Average Placement Index = $(P_1 + P_2 + P_3)/3$: 60.08

Placement Index Points: 18.02

4.7 Professional Activities (25)

Total Marks 25.00

Table No. 4.7.1.1: List of active professional societies/bodies/chapters/clubs.

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs
1	Clubs :- Akatsuki
2	Club:- Google Developer Student Club (GDSC)
3	Club:- Ebuilder

Table No. 4.7.1.2: List of events/programs organized.

(CAYm1) 2024-25

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1	Akatsuki	SIH(Smart India Hackathon)	National Level	16/08/2024
2	Akatsuki	Nodevember 2.0	Institute Level	11/11/2024
3	E-builder	Computer Literacy Program 2.0	Institute Level	28/11/2024
4	Akatsuki	The Animeverse	Institute Level	27/02/2025
5	Akatsuki	The React Cohort	Institute Level	02/04/2025

(CAYm2) 2023-24

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1	Akatsuki	SIH(Smart India Hackathon)	National Level	16/09/2023
2	Google Developer Student Club (GDSC)	Git & GitHub	Institute Level	25/09/2023
3	Google Developer Student Club (GDSC)	(GOOGLARS) 7 Days Bootcamp	Institute Level	21/09/2023
4	Google Developer Student Club (GDSC)	CodeCraze (24-hour hackathon)	Institute Level	16/02/2024
5	E-builder	Computer Literacy Program	Institute Level	14/03/2024

(CAYm3) 2022-23

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1	E-builder	Constitution of India (Poster Presentation)	Institute Level	26/11/2022
2	Akatsuki	TECH HUNT -2022	Institute Level	12/12/2022
3	Akatsuki	Hackathon KAVACH 2023	National Level	11/04/2023

**Table No. 4.7.2.1: List of students participated in professional events.
(CAYm1) 2024-25**

S.No	Name of the Student	Name of the Event	State /State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	Ojaswini Kiran Borse	Avishkar 2025	State Level	10/11/2024	Participated
2	Namit Gopal Dhangar	Internal Hackathon	National Level	14/02/2025	Participated
3	Rajput Jayesh Darbarsing	Internal Hackathon	National Level	14/02/2025	Participated
4	Tejas Prakash More	Internal Hackathon	National Level	14/02/2025	Participated
5	Chaudhari Sanskruti Manak	Internal Hackathon	National Level	14/02/2025	Participated
6	Darshan Sanjay Varade	Internal Hackathon	National Level	14/02/2025	Participated
7	Sarvesh Mekhe	Internal Hackathon	National Level	14/02/2025	Participated
8	Harshal Naresh Shirsath	Internal Hackathon	National Level	14/02/2025	Participated
9	Umesh Chaudhari	Internal Hackathon	National Level	14/02/2025	Participated
10	Om Borale	Internal Hackathon	National Level	14/02/2025	Participated
11	Pratik Bhadane	Internal Hackathon	National Level	14/02/2025	Participated
12	Harsh Dipak Jain	Internal Hackathon	National Level	14/02/2025	Participated
13	Dongarsing Patil	Internal Hackathon	National Level	14/02/2025	Participated
14	Patel Varad Brijesh	External Hackathon SSGMCE Shegoan	State Level	15/02/2025	Participated
15	Gaurav Ratan Chaudhari	External Hackathon SSGMCE Shegoan	State Level	15/02/2025	Participated
16	Tallhari Aditya Sunil	External Hackathon SSGMCE Shegoan	State Level	15/02/2025	Participated
17	Sakshi Shashikant Bhadane	IDE Boot Camp,Rajkot	National Level	17/02/2025	Participated
18	Surbhi Ajay Joshi	IDE Boot Camp,Rajkot	National Level	17/02/2025	Participated
19	Shaikh Mehak Mushtak	IDE Boot Camp,Rajkot	National Level	17/02/2025	Participated
20	Mayuri Ravindra Chavan	IDE Boot Camp,Rajkot	National Level	17/02/2025	Participated
21	Vaishnavi Nimba Patil	IDE Boot Camp	National Level	17/02/2025	Participated
22	Niraj Raju Patil	IDE Boot Camp	National Level	17/02/2025	Participated
23	Harshal Arjun Borase	IDE Boot Camp	National Level	17/02/2025	Participated
24	Payal Patil	Women's Hackathon 2025	National Level	21/03/2025	Participated
25	Shrawani Patil	Women's Hackathon 2025	National Level	21/03/2025	Participated
26	Tanaya Mahesh Patil	Women's Hackathon 2025	National Level	21/03/2025	1st Runner-up
27	Diksha Madhav Pal	Women's Hackathon 2025	National Level	21/03/2025	1st Runner-up
28	Komal Mahajan	Women's Hackathon 2025	National Level	21/03/2025	Participated
29	Gargi Chavan	Women's Hackathon 2025	National Level	21/03/2025	Participated
30	Sneha Kotkar	Women's Hackathon 2025	National Level	21/03/2025	Participated

31	Chetana Mahajan	Women's Hackathon 2025	National Level	21/03/2025	Participated
32	Aditi Satish Joshi	Tech-Carvaan 2025 codesphere	National Level	24/03/2025	Participated
33	Ojaswini Kiran Borse	Tech-Carvaan 2025 codesphere	National Level	24/03/2025	Participated
34	Priyanka Chaudhari	IEEE BOMBAY Technovation Poster Presentation	National Level	12/04/2025	First Rank
35	Anuja Patil	IEEE BOMBAY Technovation Poster Presentation	National Level	12/04/2025	First Rank

(CAYm2) 2023-24

S.No	Name of the Student	Name of the Event	State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	Prajakta Anil Patil	Maths Marathon-2023	State Level	22/07/2023	Participated
2	Khalane Lalit Tukaram	Avishkar 2024	State Level	26/11/2023	Participated
3	Jayesh Sonawane Popatrao	Avishkar 2024	State Level	26/11/2023	Participated
4	Vaibhavi Nimba Patil	Avishkar 2024	State Level	26/11/2023	Participated
5	Vinay Salunkhe Panjabrao	Avishkar 2024	State Level	26/11/2023	Participated
6	Deshmukh Vedant Shashikant	Avishkar 2024	State Level	26/11/2023	Participated
7	Tushar Bhoite	Maharashtra Student Innovation Challenge	State Level	26/01/2024	Participated
8	Gaurav Shinde	Maharashtra Student Innovation Challenge	State Level	26/01/2024	Participated
9	Rohit Bari	Maharashtra Student Innovation Challenge	State Level	26/01/2024	Participated
10	Mahale Tanmay	Margdarshak Event	National Level	07/03/2024	Participated
11	Mahale Tanmay	Line Follower Techno-Managerial Extravaganza MINDBEND-2024	National Level	15/03/2024	Participated
12	Prasannajeet Devendra Jain	Innovation Project Competition SVKM	National Level	03/05/2024	First Position

(CAYm3) 2022-23

S.No	Name of the Student	Name of the Event	State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	Prashant Rohidas Patil	Technocave	National Level	04/06/2022	Winner
2	Deore Punam Nagraj	INNOVATE INDIA CODING CHAMPIONSHIP	National Level	20/07/2022	Qualified for Second Round
3	Deore Punam Nagraj	National Technical Quiz	National Level	05/09/2022	Participated
4	Gosavi Swati Gajendragir	National Technical Quiz	National Level	05/09/2022	Participated
5	Patil Harshali Kushal	National Technical Quiz	National Level	05/09/2022	Participated
6	Gaurang Ravendra Sangle	International Quiz on William Wordsworth Part-1	International	01/10/2022	Participated
7	Chavan Tanmay Nandu	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
8	Shimpi Someshwari Sanjay	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
9	Jagtap Nishant Sanjiv	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
10	Nandan Kishor Nikwade	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
11	Yash Anil Mahajan	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
12	Nikita Chhotu Patil	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
13	Gaurav Prakash Wani	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
14	Shivani Chaudhari	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
15	Siddhi Kulkarni	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
16	Pruthviraj Sharma	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
17	Lokesh Joshi	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
18	Rane Parth Suhas	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
19	Nerkar Pallavi Vijay	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
20	Harsh Rajendra Gawali	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
21	Kalal Madhuri	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
22	Patil Mitanshu Sanjay	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
23	Deshmukh Atharv	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
24	Jayesh Birari	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
25	Pawar Yash	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
26	Vishal Patil	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
27	Pratik Borse	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
28	Megha Sudhakar Patil	HACKATHON SUNHACKS-2022	International	10/11/2022	Participated
29	Tejas Prakash Shimpi	AVISHKAR-2022	State Level	10/12/2022	Participated

30	Anuja Dnyaneshwar Patil	AVISHKAR-2022	State Level	10/12/2022	Participated
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4.7.3 Publication of Journals, Magazines, Newsletters, etc. in the Department (5)

Institute Marks : 5.00

Table No. 4.7.3.1: List of students involved in publication of journals, magazines, and newsletters, etc. in the Department.

(CAYm1) 2024-25

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1	Newsletter- The Comp Voice 2024-25	Mrs. P. N. Bhandari Mr. Yash Nitin Chaudhari B. Tech Computer	Mitesh Gajanan Chaudhari Aniket Pravin Patil Bhumika Hansraj Patil Khushi Nilesh Agrawal	5	1	Soft
2	Newsletter- The Comp Voice 2024-25	Mrs. P. N. Bhandari Mr. Yash Nitin Chaudhari B. Tech Computer	Mitesh Gajanan Chaudhari Aniket Pravin Patil Bhumika Hansraj Patil Khushi Nilesh Agrawal	6	1	Soft
3	Magazine- The TechnoVerse 2024-25	Mr. M. L. Mali Mr. Lokesh Chaudhari TY B. Tech Computer	Hemal Parikh Siddhesh More Ojaswini Borse	6	1	Soft

(CAYm2) 2023-24

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1	Newsletter- The Comp Voice 2023-24	Mr. V. D. Punjabi Mr. Yash Suhas Deokar B. Tech Computer	Chetan Dipak Patil Nikita Anil Sonawane Tanisha Yogesh Patil Kunal Ravindra Jadhav	5	1	Soft
2	Newsletter- The Comp Voice 2023-24	Mr. V. D. Punjabi Mr. Yash Suhas Deokar B. Tech Computer	Chetan Dipak Patil Nikita Anil Sonawane Tanisha Yogesh Patil Kunal Ravindra Jadhav	6	1	Soft
3	Magazine- TechnoVerse 2023-24	Mr. V. D. Punjabi Mr. Yash Suhas Deokar B. Tech Computer	Chetan Dipak Patil Nikita Anil Sonawane Tanisha Yogesh Patil Kunal Ravindra Jadhav	6	1	Soft

(CAYm3) 2022-23

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1	Newsletter- The Comp Voice 2022-23	Mr. V. D. Punjabi Mr. Dishant Satish Mahajan TY-B. Tech Computer	Ankita Madhukar Patil Devendra Rajeshwar Bari	3	1	Soft
2	Newsletter- The Comp Voice 2022-23	Mr. V. D. Punjabi Mr. Dishant Satish Mahajan TY-B. Tech Computer	Ankita Madhukar Patil Devendra Rajeshwar Bari	4	1	Soft
3	Magazine - TechnoVerse 2022-23	Mr. V. D. Punjabi Mr. Dishant Satish Mahajan TY-B. Tech Computer	Ankita Madhukar Patil Devendra Rajeshwar Bari	4	1	Soft

4.7.4 Student Publications (5)

Institute Marks : 5.00

**Table No. 4.7.4.1: List of student publications.
(CAYm1) 2024-25**

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1	Sujal Shailendra Shah , Bhushan Patil, Mayur Patil	8	International Conference Recent Advances in Engineering and Sciences -2025	ICRAES-2K25	6	12	NA
2	Jagruti Salunkhe , Nikita Patil , Dhanashri Borse , Payal Jadhav	8	International Conference of Emerging Trends in Engineering & Science	ICETES	12	1	NA
3	Sanjana Nevatiya, Rushikesh Patil , Yash Chaudhari , Samarth Kasar	8	International Journal for Research in Applied Science & Engineering Technology	IJRASET	13	4	NA
4	Rohit Vasudev Patil, Prit Sanjay Chaudhari, Harshal Devendra Patel , Jayesh Ashok Wagh	8	International Journal of Scientific Research in Engineering and Management (IJSREM)	IJSREM	8	6	NA
5	Krutarth Patil, Hitesh Chaudhari	8	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	IJRASET	13	4	NA
6	Sameeksha Suryawanshi , Sanika Mahajan, Manasi Patil, Aditi Bhavsar	7	International Journal of Innovative Science and Research Technology	IJSIRM	10	5	NA
7	Sanskrti M. Chaudhari, Komal A. Patel, Chaitali J. Patil, Ganesh R. Patil	8	International Research Journal of Modernization in Engineering Technology and Science	IRJMETS	7	5	NA
8	Tarini Patil, Dhanashri Girase, Dipashri Patil, Bhumika Mahale	8	Indian Society for Technical Education (ISTE)	ISTE	48	2	NA
9	Sujal Shailendra Shah, Mrunalini D. Shinde, Smit J. Sejpara, Devashish V. Chaudhari	8	International Research Journal of Modernization in Engineering Technology and Science	IRJMETS	6	2	NA
10	Prathmesh Gavande , Jagruti Rajput, Shrutik Patil, Parag Gavande	8	Mukt Shabd Journal	MuktShabd Journal	11	1	NA
11	Abhishek Karanke, Mahanta Tawade , Jayesh Desale, Vinod Wagh	8	International Journal of Creative Research Thoughts (IJCRT)	IJCRT	13	2	NA
12	Rushikesh Rajendra Shinde, Vishakha Mahendra Gosavi , Bhagyashri Jijabrao Bhamare, Paresh Dilip	8	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	IJRASET	12	6	NA
13	Jyotsna Jagdish Deore, Prajakta Jagannath Bhoi, Gayatri Narendra Patil, Nikita Nitin Patil	8	International Journal of Scientific Research and Engineering Development	IJSRED	8	3	NA
14	Kalpesh Prashant Patil, Tushar Sanjay Patil, Hansika Vijay Patil, Sanika Vijay Patil	4	INTERNATIONAL JOURNAL OF ADVANCE RESEARCH AND INNOVATIVE IDEAS IN EDUCATION	IJARIE	11	2	NA
15	Dinesh Deore, Ganesh Salunkhe, Hitesh Wadile, Gaurav Pawar	8	MuktShabd Journal	MuktShabd Journal	14	3	NA
16	Harshal Kishor Mali, Jatin Vikas Patil, Jidnyesh Dilip Deore, Shubham Gulab Dhangar, Nikita Kiran Pa	8	International Journal for Research in Applied Science & Engineering Technology	IJRASET	13	5	NA

17	Rohit U. Sonawane, Krishna B. More , Riddesh R. Suryawanshi	8	Mukt Shabd Journal	Mukt Shabd Journal	14	4	NA
18	Saurav Patil, Payal Jadhav, Bhagyashri Borse, Vivek Patil Saurav Patil, Pay	8	International Journal of Multidisciplinary Research in Science & Engineering Technology	IJMRSET	8	5	NA
19	Vaibhavi Nimba Patil, Manswi Nandalal Ahirrao,Chaitali Jitendra Patil, Aarya Manish Tehare	5	International Journal of Technology in Education	IJTE	47	2	NA
20	Diksha Madhav Pal, Komal Prakash Mahajan, Himachali Pramod Bhadane, Tanaya Mahesh Patil	5	International Journal of Technology in Education	IJTE	47	3	NA
21	Sanskriti Manak Chaudhari, Komal Anil Patel, Neha Ravindra Chavan, Ganesh Ravindra Patil	5	International Journal of Technology in Education	IJTE	47	4	NA
22	Lalit Sali, Chetan Patil, Aditya Deore	4	Mukt Shabd Journal	Mukt Shabd Journal	14	4	NA
23	Vishal Prakash Vanjari , Nikhil Sunil Patil, Pruthviraj Sanjay Sharma, Yamini Yashwant Deshmukh, S	7	Copyright office, Government of India	NA	0	0	NA
24	Rushikesh Rajendra Shinde, Vishakha Mahendra Gosavi, Bhagyashri Jijabrao Bhamare, Paresh Dilip Patil	8	Copyright office, Government of India	NA	0	0	NA
25	Tanmay Eknath Mahale, Yugandhar Ravindra Borase, Abhishek Mahendra Pawar, Paresh Prakash Bhamare	8	Copyright office, Government of India	NA	0	0	NA
26	Shubham Borase, Saurabh Patil, Nikhil Bhalkar	8	Copyright office, Government of India	NA	0	0	NA
27	Pallavi Vijay Nerkar, Someshwari Sanjay Shimpi, Megha Sudhakar Patil, Dishant Satish Mahajan	8	Copyright office, Government of India	NA	0	0	NA
28	Prathamesh Ravindra Chavare, Sagar Patil, Shivam Mahajan, Jayashree Hiralal Marathe	8	Copyright office, Government of India	NA	0	0	NA
29	Jay Sharad Sonar, Lokesh Avinash Joshi, Manoj Pramod Chaudhari, Sudarshan Gopal Agrawal	8	Copyright office, Government of India	NA	0	0	NA
30	Rohan Kishor Pawar	8	Copyright office, Government of India	NA	0	0	NA
31	Lalit Tukaram Khalane, Tarini Vasudev Patil, Hitesh Sunil Chaudhari	7	Patent Application Publication	Patents Journal	0	0	NA

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1	Kavita Vilas Borane, Sejal Anil Sarnaik, Kalyani Nilkanth Patil, Roshani Gokul Patil	8	International Journal of Research Publication and Reviews	IJRPR	<input type="text" value="5"/>	1	NA
2	Tejpal Sanjaysing Rajput, Dishank Udaysing Girase , Bhavesh Sunil Patil, Pratik Dyaneshwar Borse	8	International Journal of Research Publication and Reviews	IJRPR	<input type="text" value="5"/>	1	NA
3	Rohini Yogesh Patil, Vipul Suresh Wani, Rushika Sanjay Patel, Aakash Navnath Chaudhari	8	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	IJRASET	<input type="text" value="12"/>	5	NA
4	Durgesh Jaiswal, Rushikesh Badgujar, Chetan Shivade	8	International Research Journal of Modernization in Engineering Technology and Science	IRJMETS	<input type="text" value="6"/>	0	NA
5	Nikita Ramswarup Jangid, Prajakta Nandkumar Patil, Harshada Chhotu Patil, Kaminee Madhukar Patil	8	International Journal of Advanced Research in Computer and Communication Engineering	IJARCCCE	<input type="text" value="13"/>	5	NA
6	Gaurav Devidas Lokhande, Rutuja Vinod Chavan, Lalit Jitendra Mahajan, Dipkumar Vilas Patil	8	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	IJRASET	<input type="text" value="12"/>	5	NA
7	Divya Vijay Pingale, Pornima Dattatraya Mahajan, Komal Vinod Patil	8	International Journal of Advanced Research in Computer and Communication Engineering	IJARCCCE	<input type="text" value="13"/>	5	NA
8	Rohit Vasudev Patil, Prit Sanjay Chaudhari, Harshal Devendra Patel, Jayesh Ashok Wagh	8	International Journal of Scientific Research in Engineering and Management (IJSREM)	IJSREM	<input type="text" value="8"/>	5	NA
9	Samihan Dnyaneshwar Nandedkar, Shivani Sanjay Chaudhari, Anjali Dhanraj Pawar, Gaurav Vitthal Loh	8	Copyright office, Government of India	NA	<input type="text" value="0"/>	0	NA
10	Parth Suhas Rane, Harsh Rajendra Gawali, Gaurav Prakash Wani, Girish Pralhad Kolhe	8	Copyright office, Government of India	NA	<input type="text" value="0"/>	0	NA
11	Minal, Divyanka, Shradha, Jahnavi, Makrand Mali	8	Copyright office, Government of India	NA	<input type="text" value="0"/>	0	NA
12	Kunal Bhagwan Sonawane, Akshay Rajendra Badgujar, Mehul Nimbajirao Patil, Rutika Sanjay Patil	8	Copyright office, Government of India	NA	<input type="text" value="0"/>	0	NA
13	Prit Chaudhari, Jayesh Wagh, Harshal Patel	8	International Conference on Recent Advances in Engineering, Science and Technology	ICRAEST	<input type="text" value="0"/>	0	NA
14	Sakshi Jadhav, Kalyani More, Snehal Pawar	8	International Conference on Recent Advances in Engineering, Science and Technology	ICRAEST	<input type="text" value="0"/>	0	NA

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S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1	Mansi Mone	8	Innovative Sustainable Practices in Science and Technology (2022).	ISPISAT-2022	0	0	NA
2	Khushi Sunil Agrawal	7	IJSER-2022	IJSER-2022	0	0	NA
3	Lokesh Avinash Joshi	8	International Journal of Scientific & Engineering Research	IJSER	0	0	NA

5 FACULTY INFORMATION (100)

Total Marks 68.72

Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Dr. Ujwala Manoj Patil	ALBPP2073J	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	17/09/2002	23.4	Assistant Professor	Professor	01/07/2020	Regular	Yes		Yes
2	Dr. Priti Shivaji Sanjekar	DYAPS5083L	NA	M.E. and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	03/07/2009	16.6	Assistant Professor	Associate Professor	01/07/2022	Regular	Yes		No
3	Mr. Atul Deelip Mairale	AUKPM2139A	NA	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	Software Engineering	20/10/2021	4.2	Assistant Professor	Assistant Professor		Regular	Yes		No
4	Ms. Sunetra Prabhakar Salunkhe	DVXPS0845E	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	22/10/2021	4.2	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Dr. Manisha Shantaram Patil	ASXPP6808L	NA	M.E. and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	30/07/2022	3.5	Assistant Professor	Associate Professor	01/07/2025	Regular	Yes		No
6	Mr. Ashish Kailas Patil	CCBPP2181G	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	09/04/2022	3.9	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Mr. Santosh Kumar Bhandare	ARCPB9461B	NA	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	Computer Science & Engineering	09/01/2023	3	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Mrs. Priyanka Devendra Lanjewar	ALOPL1627R	NA	M.E.	Sant Gadge Baba Amravati University, Amravati	Computer Science & Information Technology	13/09/2022	3.3	Assistant Professor	Assistant Professor		Regular	Yes		No

9	Mr. Sujitkumar Vasant Chaudhari	AQXPC0530G	NA	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	Information Technology	24/07/2023	2.5	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mrs. Tejal Rajesh Girase	DBKPG6377J	NA	M.Tech	Sri Satya Sai University of Technology and Medical Sciences, Sehore	Computer Science and Engineering	17/08/2023	2.5	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Dr. Kiran Dinkar Chaudhari	AHQPC7918Q	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Data Science	17/06/2025	0.6	Associate Professor	Associate Professor		Regular	Yes		No
12	Mr. Juber Ahamad Mo Salim Khatik	BCXPK8571N	NA	M.Tech	Narsee Monjee Institute of Management Studies, Mumbai	Data Science	17/06/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Mr. Yogeshkumar Raghunath Pathak	AXIPP5727E	NA	M.Tech	Narsee Monjee Institute of Management Studies, Mumbai	Data Science	17/06/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Mr. Kailas Dhanraj Deore	AOZPD6782R	NA	M.Tech	Narsee Monjee Institute of Management Studies, Mumbai	Data Science	17/06/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Mr. Niraj Hari Kanot	AXJPK3328F	NA	M.Tech	Jawaharlal Nehru Technological University, Hyderabad	Computer Science Engineering	22/10/2021	2.7	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
16	Dr. Dharmaraj Rajaram Patil	ANUPP6762H	NA	M.E. and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	01/06/2024	1.7	Professor	Professor	01/06/2024	Regular	Yes		No
17	Dr. Sheetal Prashant Patil	ANXPP7892B	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	24/12/2007	18	Assistant Professor	Associate Professor	01/07/2025	Regular	Yes		No

18	Dr. Pankaj Valmik Baviskar	AMTPB0878Q	NA	M.Tech and Ph.D.	Medicaps University, Indore	Artificial Intelligence	17/06/2025	0.6	Associate Professor	Associate Professor	17/06/2025	Regular	Yes		No
19	Dr. Nitin Girdhar Shinde	BLPPS0003J	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Artificial Intelligence	17/06/2025	0.6	Associate Professor	Associate Professor	17/06/2025	Regular	Yes		No
20	Mr. Nilesh Arun Patil	BNNPP4223R	NA	M.Tech	Narsee Monjee Institute of Management Studies, Mumbai	Artificial Intelligence	17/06/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
21	Mr. Vasishth Vinayak Katre	DHTPK7423J	NA	M.Tech	Government College of Engineering, Amravati	Computer Science & Engineering	21/07/2022	3.6	Assistant Professor	Assistant Professor		Regular	Yes		No
22	Mr. Tushant Anilrao Tayde	AXDPT6887G	NA	M.Tech	Government College of Engineering, Amravati	Computer Science & Engineering	04/08/2023	2.5	Assistant Professor	Assistant Professor		Regular	Yes		No
23	Mr. Nilesh Ravindra Chaudhari	BUWPC2783B	NA	M.Tech	Dr. Babasaheb Ambedkar Technological University, Lonere - Raigad, Maharashtra	Computer Engineering	01/08/2024	1.5	Assistant Professor	Assistant Professor		Regular	Yes		No
24	Mr. Shankar Laxman Tambe	AKIPT0178L	NA	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	Computer Science & Engineering	01/02/2025	0.11	Assistant Professor	Assistant Professor		Regular	Yes		No
25	Mrs. Kaminee Subhash Patil	CFAPP9620J	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science and Engineering	03/03/2025	0.10	Assistant Professor	Assistant Professor		Regular	Yes		No
26	Ms. Amerah Bano Zameer Ahmed Ansari	AWVPA4225C	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	01/04/2023	2.9	Assistant Professor	Assistant Professor		Regular	Yes		No
27	Dr. Vandana Mohan Patil	AORPP1698C	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	01/06/2024	0.11	Associate Professor	Associate Professor	01/06/2024	Regular	No	30/05/2025	No

28	Ms. Shradha Rajendra Shah	GAVPS4198J	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	01/08/2022	2.9	Assistant Professor	Assistant Professor		Regular	No	02/05/2025	No
29	Mr. Yogesh Landge	AQSPL5651L	NA	M.E.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Science & Engineering	01/06/2024	1.3	Assistant Professor	Assistant Professor		Regular	No	26/09/2025	No
30	Mr. Ganesh Nandkumar Chaudhari	AREPC7767K	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	17/08/2023	0.10	Assistant Professor	Assistant Professor		Regular	No	06/07/2024	No
31	Mrs. Minakshi Hansraj Savant	FQYPP5302K	NA	M.E.	Gujarat Technological University, Ahmedabad	Information Technology	14/07/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
32	Mr. Ganesh Nandkumar Chaudhari	AREPC7767K	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	14/07/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
33	Ms. Shradha Rajendra Mundada	BINPM3924P	NA	M.Tech	Dr.Babasaheb Ambedkar Technological University, Lonere	Computer Engineering	20/08/2025	0.4	Assistant Professor	Assistant Professor		Regular	Yes		No
34	Ms. Yogita Vikramsingh Solanki	NKCPS6862R	NA	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	Computer Science & Engineering	01/08/2025	0.5	Assistant Professor	Assistant Professor		Regular	Yes		No
35	Mr. Nitish Jagdish Patidar	CDFPP9268P	NA	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	Computer Science & Engineering	28/08/2025	0.4	Assistant Professor	Assistant Professor		Regular	Yes		No
36	Mr. Sagar Gorakh Patil	AYPPP2709N	NA	MS	Dublin Business School, Ireland	Data Analytics	28/08/2025	0.4	Assistant Professor	Assistant Professor		Regular	Yes		No
37	Ms. Megha Ravindra Sisode	DOGPS0324G	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	20/08/2025	0.4	Assistant Professor	Assistant Professor		Regular	Yes		No
38	Mrs.Swati Bhushan Patil	GGKPP8030F	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	10/06/2025	0.7	Assistant Professor	Assistant Professor		Regular	Yes		No

39	Mr. Rahul Sakharam Ishi	ACLPI7016H	NA	M.Tech	Rajiv Gandhi Proudयोगiki Vishwavidyalaya, Bhopal	Computer Science & Engineering	11/08/2025	0.5	Assistant Professor	Assistant Professor		Regular	Yes		No
40	Ms. Pooja Balaram Limbola	AUGPL3525K	NA	M.Tech	Rajiv Gandhi Proudयोगiki Vishwavidyalaya, Bhopal	Computer Science & Engineering	20/08/2025	0.4	Assistant Professor	Assistant Professor		Regular	Yes		No
41	Dr. Rajnikant Bhagwan Wagh	AAUPW5793Q	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	01/07/2005	20.6	Lecturer	Professor	01/08/2020	Regular	Yes		Yes
42	Dr. Jayantrao Bhaurao Patil	AALPP9658A	NA	M.Tech and Ph.D.	North Maharashtra University, Jalgaon	Computer Engineering	18/07/2001	24.6	Professor	Professor	18/07/2001	Regular	Yes		No
43	Dr. Manoj Sakharam Ishi	ABUPI5885J	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	23/07/2010	15.5	Assistant Professor	Professor	01/07/2024	Regular	Yes		No
44	Dr. Sandip Ravindra Sonawane	BHNPS8920A	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	15/07/2006	19.5	Lecturer	Associate Professor	01/07/2014	Regular	Yes		No
45	Dr. Shailendra Madansing Pardeshi	APBPP3814M	NA	M.Tech and Ph.D.	Oriental University Indore	Computer Science and Engineering	15/07/2006	19.5	Lecturer	Associate Professor	01/07/2014	Regular	Yes		No
46	Dr. Vipul Devendra Punjabi	BBZPP4898N	NA	M.Tech and Ph.D.	Oriental University Indore	Computer Science and Engineering	15/01/2009	16.11	Lecturer	Associate Professor	01/07/2014	Regular	Yes		No
47	Dr. Sudarshan Subhashrao Sonawane	AXWPS8289G	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	21/10/2021	4.2	Assistant Professor	Associate Professor	01/07/2023	Regular	Yes		No

48	Dr. Puja Dipak Saraf	BTTPS6753B	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	19/01/2009	16.11	Lecturer	Associate Professor	01/07/2025	Regular	Yes		No
49	Dr. Pankaj Rambhau Patil	BGIPP5430N	NA	M.E. and Ph.D.	Amity University Maharashtra	Computer Science and Engineering	12/07/2010	15.6	Assistant Professor	Associate Professor	01/07/2016	Regular	Yes		No
50	Dr. Mohmmadali Muzffarali Saiyyad	CZTPS5536D	NA	M.E. and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	02/01/2012	14	Assistant Professor	Associate Professor	02/07/2018	Regular	Yes		No
51	Dr. Pradip Kailas Patil	BFKPP9788L	NA	M.Tech and Ph.D.	Amity University Jaipur Rajasthan	Artificial Intelligence	17/06/2025	0.6	Associate Professor	Associate Professor	17/06/2025	Regular	Yes		No
52	Dr. Vandana Mohan Patil	AORPP1698C	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	15/12/2004	19.5	Lecturer	Associate Professor	01/06/2022	Regular	No	31/05/2024	No
53	Mr. Mahesh Madhukar Mahajan	BEGPM5205Q	NA	M.Tech	Rajiv Gandhi Proudयोगiki Vishwavidyalaya Bhopal	Computer Science & Engineering	26/07/2010	15.5	Assistant Professor	Assistant Professor		Regular	Yes		No
54	Ms. Punam Ravan Patil	BTNPP8016L	NA	M.Tech	Rajiv Gandhi Proudयोगiki Vishwavidyalaya Bhopal	Computer Science & Engineering	22/07/2011	14.5	Assistant Professor	Assistant Professor		Regular	Yes		No
55	Mr. Mayur Jagdish Patil	BGHPP1877L	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	01/02/2020	5.11	Assistant Professor	Assistant Professor		Regular	Yes		No
56	Mr. Sagar Uttamrao More	BNNPM4658M	NA	M.Tech	SVKM's MPSTME, NMIMS	Computer Engineering	21/10/2021	4.2	Assistant Professor	Assistant Professor		Regular	Yes		No
57	Mr. Vishal Sharad Thakare	AFPPT5338G	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	01/08/2022	3.5	Assistant Professor	Assistant Professor		Regular	Yes		No

58	Ms. Jayshri Suresh Sonawane	BYUPS5937B	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	01/08/2022	3.5	Assistant Professor	Assistant Professor		Regular	Yes		No
59	Mrs. Sapana Bhushan Raghuvanshi	CAPPR0832L	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	01/08/2022	3.5	Assistant Professor	Assistant Professor		Regular	Yes		No
60	Ms. Pallavi Arun Agrawal	AVFPA1912R	NA	M.E.	Sant Gadgebaba Amravati University	Computer Science & Engineering	01/08/2022	3.5	Assistant Professor	Assistant Professor		Regular	Yes		No
61	Mrs. Karishma Tushar Borse	CLBPP6378J	NA	M.E.	Savitribai Phule Pune University	Computer Engineering	29/08/2022	3.4	Assistant Professor	Assistant Professor		Regular	Yes		No
62	Mr. Manohar Bhika Patil	BUQPP7044A	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science and Engineering	06/04/2022	3.9	Assistant Professor	Assistant Professor		Regular	Yes		No
63	Mrs. Pooja Niraj Bhandari	BYBPM3949Q	NA	M.Tech	Dr. Babasaheb Ambedkar Technological University Lonere	Computer Engineering	01/08/2022	3.5	Assistant Professor	Assistant Professor		Regular	Yes		No
64	Mr. Atul Shiram Chaudhari	AJFPC5730R	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	23/01/2024	1.11	Assistant Professor	Assistant Professor		Regular	Yes		No
65	Mr. Harshal Shiram Patil	BGZPP0599R	NA	M.Tech	Rajiv Gandhi Pradyogiki Vishwavidyalaya Bhopal	Computer Science & Engineering	09/01/2023	3	Assistant Professor	Assistant Professor		Regular	Yes		No
66	Mrs. Gayatri Bhushan Patil	ELTPP6299E	NA	M.E.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Science & Engineering	06/04/2022	3.9	Assistant Professor	Assistant Professor		Regular	Yes		No
67	Ms. Pramila Kailas Ahire	AVXPA0880A	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	06/04/2022	3.9	Assistant Professor	Assistant Professor		Regular	Yes		No
68	Mr. Mahesh Ravindra Dhakad	AUNPD6604Q	NA	M.Tech	Dr. APJ Abdul Kalam University Indore	Computer Science & Engineering	01/08/2025	0.5	Assistant Professor	Assistant Professor		Regular	Yes		No

69	Dr. Makarand Lotan Mali	AZHPM5414E	NA	M.E. and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	16/01/2010	15.11	Assistant Professor	Assistant Professor		Regular	No	31/12/2025	No
70	Mr. Dushyant Somnath Potdar	BRBPP2401H	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	06/04/2022	3.7	Assistant Professor	Assistant Professor		Regular	No	04/12/2025	No
71	Mrs. Swati Bhushan Patil	GGKPP8030F	NA	M.E.	North Maharashtra University, Jalgaon	Computer Science & Engineering	09/01/2023	2.4	Assistant Professor	Assistant Professor		Regular	No	09/06/2025	No
72	Dr. Nitin Namdeo Patil	ALYPP0715E	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	16/07/2005	18.11	Lecturer	Professor	01/07/2020	Regular	No	06/07/2024	No
73	Dr. Dharmaraj Rajaram Patil	ANUPP6762H	NA	M.E. and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	30/05/2006	18	Lecturer	Professor	01/07/2020	Regular	No	31/05/2024	No
74	Mr. Swapnil Hiralal Chaudhari	APGPC6091Q	NA	M.E.	North Maharashtra University, Jalgaon	Computer Engineering	06/04/2022	2.1	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
75	Dr. Vandana Mohan Patil	AORPP1698C	NA	M.Tech and Ph.D.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Engineering	31/05/2025	0.7	Associate Professor	Associate Professor	31/05/2025	Regular	Yes		No

5.1 Student-Faculty Ratio (SFR) (30)

Total Marks 14.00

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

B= No. of Students in UG 2nd year (ST)

C= No. of Students in UG 3rd year (ST)

D= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

Student Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

UG

No. of UG(Engineering) programs in Department including allied departments/clusters(UGn):

Computer Engineering						
Year of Study	CAY		CAYm1		CAYm2	
	(2025-26)		(2024-25)		(2023-24)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	180	18	180	18	180	18
3rd Year	180	18	180	18	180	18
4th Year	180	18	180	18	180	18
Sub-Total	540	54	540	54	540	54
Total	594		594		594	

Artificial Intelligence and Data Science						
Year of Study	CAY		CAYm1		CAYm2	
	(2025-26)		(2024-25)		(2023-24)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	120	12	0	0	0	0
3rd Year	0	0	0	0	0	0
4th Year	0	0	0	0	0	0
Sub-Total	120	12	0	0	0	0
Total	132		0		0	

Information Technology						
Year of Study	CAY		CAYm1		CAYm2	
	(2025-26)		(2024-25)		(2023-24)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	120	12	0	0	0	0
3rd Year	0	0	0	0	0	0
4th Year	0	0	0	0	0	0
Sub-Total	120	12	0	0	0	0
Total	132		0		0	

Artificial Intelligence and Machine Learning						
Year of Study	CAY		CAYm1		CAYm2	
	(2025-26)		(2024-25)		(2023-24)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	6	60	6	60	6
3rd Year	60	6	60	6	60	6
4th Year	60	6	60	6	0	0
Sub-Total	180	18	180	18	120	12
Total	198		198		132	

Computer Science and Engineering (Data Science)						
Year of Study	CAY		CAYm1		CAYm2	
	(2025-26)		(2024-25)		(2023-24)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	120	12	60	6	60	6
3rd Year	60	6	60	6	60	6
4th Year	60	6	60	6	60	6
Sub-Total	240	24	180	18	180	18
Total	264		198		198	
Grand Total	1320		990		924	

PG

No. of PG Programs in the Department

Grand Total	<input type="text"/>	<input type="text"/>	<input type="text"/>
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SFR

No. of UG Programs in the Department

No. of PG Programs in the Department

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	198	198	198
UG1.C	198	198	198
UG1.D	198	198	198
UG1: Computer Engineering	594	594	594
UG2.B	132	0	0
UG2.C	0	0	0
UG2.D	0	0	0
UG2: Artificial Intelligence and Data Science	132	0	0
UG3.B	132	0	0
UG3.C	0	0	0
UG3.D	0	0	0
UG3: Information Technology	132	0	0
UG4.B	66	66	66
UG4.C	66	66	66
UG4.D	66	66	0
UG4: Artificial Intelligence and Machine Learning	198	198	132
UG5.B	132	66	66
UG5.C	66	66	66
UG5.D	66	66	66
UG5: Computer Science and Engineering (Data Science)	264	198	198
DS=Total no. of students in all UG and PG programs in the Department	594	594	594
AS=Total no. of students of all UG and PG programs in allied departments	726	396	330
S=Total no. of students in the Department (DS) and allied departments (AS)	S1= 1320	S2= 990	S3= 924
DF=Total no. of faculty members in the Department	28	28	31
AF= Total no. of faculty members in the allied Departments	35	19	17
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	F1= 63	F2= 47	F3= 48
FF=The faculty members in F who have a 100% teaching load in the first-year courses	6	4	4
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 23.16	SFR2= 23.02	SFR3= 21.00
Average SFR for 3 years	SFR= 22.39		

Average SFR for three assessment years : 22.39

Assessment SFR : 14

5.2 Faculty Qualification (25)

Total Marks 13.72

Institute Marks : 13.72

Year	X	Y	RF	$FQ = 2.5 \times [(10X + 4Y) / RF]$
2025-26(CAY)	20	43	59.00	15.76
2024-25(CAYm1)	8	39	49.00	12.04
2023-24(CAYm2)	9	39	46.00	13.37

Average Assessment : 13.72

5.3 Faculty Cadre Proportion (25)

Total Marks 23.00

Institute Marks : 23.00

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2025-26)	6.00	5.00	13.00	15.00	39.00	43.00
CAYm1(2024-25)	5.00	5.00	11.00	3.00	33.00	39.00
CAYm2(2023-24)	5.00	5.00	10.00	4.00	30.00	39.00
Average Numbers	5.33	5.00	11.33	7.33	34.00	40.33

Cadre Ratio Marks $[(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5$: 23.00

5.4 Visiting/Adjunct/Emeritus Faculty etc. (10)

Total Marks 10.00

Table No. 5.4.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.**(CAYm1) 2024-25**

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Girish Vinayak Sisode	Officer	Citi Corp Service India Pvt Ltd.	JAVA OOP,REST API, Mock Interview, Semester Project-II	52.00
2	Mr. Vivek Prakash Patil	Co-Founder & Director	Dynamisity Pvt. Ltd.	App Development using Microsoft Power Apps, Project Stage -II	30.00
3	Dr. Arpana Dipak Mahajan	AI Engineering Lead	Wipro, Ahmedabad	Data Analytics and Machine Learning , Semester Project-I	20.00

(CAYm2) 2023-24

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Girish Vinayak Sisode	Officer	Citi Corp Service India Pvt Ltd.	SPRING BOOT, Mock Interview, Semester Project-II	53.00
2	Mr. Vivek Prakash Patil	Co-Founder & Director	Dynamisity Pvt. Ltd.	App Development using Microsoft Power Apps, Project Stage -I	40.00

(CAYm3) 2022-23

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Girish Vinayak Sisode	Officer	Citi Corp Service India Pvt Ltd.	JAVA full Stack Development, Semester Project-I	51.00
2	Mr. Vivek Prakash Patil	Co-Founder & Director	Dynamisity Pvt. Ltd.	Chabot Development using Microsoft Power Virtual Agents , Semester Project-II	35.00

5.5 Faculty Retention (10)

Total Marks 8.00

Description	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section 5.1 of SAR; (RF=S/20).	49	46	39
AF=The no. of available faculty members in the Department including allied Departments	47	48	39
A= The no. of faculty members at the current institute with less than 1 year of experience (A in AF)	1	1	0
B= The no. of faculty members at the current institute with more than 1 year and less than 2 years of experience (B in AF)	4	0	0
C= The no. of faculty members at the current institute with more than 2 years and less than 3 years of experience (C in AF)	8	10	3
D= The no. of faculty members at the current institute with more than 3 years and less than 4 years of experience (D in AF)	14	14	13
E= The no. of faculty members at the current institute with more than 4 years of experience (E in AF)	20	23	23
FR= $((A*0) + (B*1) + (C*2) + (D*3) + (E*4)) / RF$ *2.50 (points limited to 10)	7	8	9

Average : 8.00

Assessment Marks : 8.00

6 FACULTY CONTRIBUTIONS (120)

Total Marks 97.00

6.1 Professional Development Activities (60)

Total Marks 60.00

Table No. 6.1.1.1: List of faculty members and their memberships.

S.No	Name of the Faculty	Name of the Professional Society /Body at National and International Level	Name of the Grade/ Level/Position
1	Dr.Jayantrao Bhaurao Patil	ISTE,ASEE,IEEE,IE,CSI,IACSIT	Member
2	Dr.Rajnikant Bhagwan Wagh	ISTE, IACSIT, CSTA, IAEST, AMLE, IAENG, ICSES,IFERP	Member
3	Dr.Sandip Ravindra Sonawane	ISTE,IACSIT,IAENG,ICSES	Member
4	Dr.Shailendra Madansing Pardeshi	ISTE, IACSIT,IAENG	Member
5	Dr.Vipul Devendra Punjabi	ISTE, IACSIT,IAENG	Member
6	Ms.Puja Dipak Saraf	ISTE, ICSES	Member
7	Mr.Makarand Lotan Mali	IAEST,IAENG,ISRD	Member
8	Dr.Pankaj Rambhau Patil	IDES, ISTE, IAENG	Member
9	Dr.Manoj Sakharam Ishi	IAENG, SSRG	Member
10	Mr.Mahesh Madhukar Mahajan	IRED,IJEDR,IAENG	Member
11	Ms.Punam Ravan Patil	IAENG,ICSES	Member
12	Dr.Mohammadali Muzffarali Saiyyad	ISTE,ACM	Member
13	Mr.Mayur Jagdish Patil	IAENG	Member
14	Dr.Sudarshan Subhashrao Sonawane	IAENG,ISTE,CSTA	Member
15	Mr.Sagar Uttamrao More	CSTA	Member
16	Mr.Manohar Bhika Patil	CSTA	Member
17	Mrs.Gayatri Bhushan Patil	NA	NA
18	Ms.Pramila Kailas Ahire	NA	NA
19	Mr.Dushyant Somnath Potdar	CSTA	Member
20	Mr.Vishal Sharad Thakare	ISTE, IFERP, IAENG	Member
21	Ms.Jayshri Suresh Sonawane	IFERP, IAENG	Member
22	Mrs. Sapana Bhushan Raghuvanshi	IAENG	Member
23	Ms.Pallavi Arun Agrawal	CSTA, IAENG,IFERP	Member
24	Mrs.Pooja Niraj Bhandari	CSTA	Member
25	Mrs.Karishma Tushar Borse	IAENG	Member
26	Mr.Harshal Shriram Patil	IAENG, CSTA	Member
27	Mrs.Swati Bhushan Patil	NA	NA
28	Mr.Atul Shriram Chaudhari	ISTE	Member
29	Dr.Nitin Namdeo Patil	ISTE,IACSIT, IAENG	Member
30	Dr. Patil Dharmaraj Rajaram	IAENG, ISTE,IFRP	Member
31	Dr.Vandana Mohan Patil	ISTE	Member
32	Mr.Swapnil Hiralal Chaudhari	IAENG	Member

33	Dr.Dharmaraj Rajaram Patil	IAENG, ISTE,IFRP	Member
34	Dr.Vandana Mohan Patil	ISTE	Member

6.1.2 Faculty as Resource Persons or Participants in STTPs/FDPs (10)

Institute Marks : 5.00

6.1.2.1 Faculty as Resource Persons in STTPs/FDPs (5)

Table No. 6.1.2.1: List of faculty members as resource person in STTP/FDP events.**(CAYm1) 2024-25**

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr.Manoj Sakharam Ishi	Zero Thrust Architecture in modern Network	20/01/2025	Madhav University, Rajasthan	Madhav University, Rajasthan
2	Mr.Shailendra Madansing Pardeshi	Zero Thrust Architecture in modern Network	20/01/2025	Madhav University, Rajasthan	Madhav University, Rajasthan
3	Dr.Vipul Devendra Punjabi	Deep Learning and NLP for research and Innovation	17/03/2025	MATS University, Raipur, (Chattisgadh)	MATS University, Raipur, (Chattisgadh)
4	Ms.Puja Dipak Saraf	Deep Learning and NLP for research and Innovation	17/03/2025	MATS University, Raipur, (Chattisgadh)	MATS University, Raipur, (Chattisgadh)

(CAYm2) 2023-24

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr.Dharmaraj Rajaram Patil	Effective Usage of Artificial Intelligence – ChatGPT for Academicians, Researchers and Corporate	25/9/2023	AAFT University, Raipur	AAFT University, Raipur
2	Dr.Vandana Mohan Patil	Effective Usage of Artificial Intelligence – ChatGPT for Academicians, Researchers and Corporate	25/9/2023	AAFT University, Raipur	AAFT University, Raipur
3	Dr.Rajnikant Bhagwan Wagh	Innovative Teaching and Learning Pedagogy	05/02/2024	Shobhit University, Gangoh	Shobhit University, Gangoh
4	Dr.Sudarshan Subhashrao Sonawane	Innovative Teaching and Learning Pedagogy	05/02/2024	Shobhit University, Gangoh	Shobhit University, Gangoh
5	Mr.Pankaj Rambhau Patil	Integrating AI Tools in Teaching–Learning	26/08/2024	Suryodaya College of Engineering &Technology, Nagpur	Suryodaya College of Engineering &Technology, Nagpur

(CAYm3) 2022-23

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr.Rajnikant Bhagwan Wagh	Internet of Things and Smart System Development	22/08/2022	MATS University, Raipur, (Chattisgadh)	MATS University, Raipur, (Chattisgadh)
2	Dr.Nitin Namdeo Patil	Internet of Things and Smart System Development	22/08/2022	MATS University, Raipur, (Chattisgadh)	MATS University, Raipur, (Chattisgadh)
3	Mr.Sandip Ravindra Sonawane	Reference Management in Research using Mendeley	16/01/2023	J B Institute of Technology (JBIT), Dehradun	J B Institute of Technology (JBIT), Dehradun
4	Mr.Mohammadali Muzffarali Saiyyad	Reference Management in Research using Mendeley	16/01/2023	J B Institute of Technology (JBIT), Dehradun	J B Institute of Technology (JBIT), Dehradun

Name of the faculty	Max 5 Per Faculty		
	2024-25(CAYm1)	2023-24(CAYm2)	2022-23(CAYm3)
Dr.Jayantrao Bhaurao Patil	5.00	5.00	5.00
Dr.Rajnikant Bhagwan Wagh	5.00	5.00	5.00
Mr.Sandip Ravindra Sonawane	5.00	5.00	5.00
Mr.Shailendra Madansing Pardeshi	5.00	5.00	5.00
Mr.Vipul Devendra Punjabi	5.00	5.00	5.00
Ms.Puja Dipak Saraf	5.00	5.00	5.00
Mr.Makarand Lotan Mali	5.00	5.00	5.00
Mr.Pankaj Rambhau Patil	5.00	5.00	5.00
Dr.Manoj Sakharam Ishi	5.00	5.00	5.00
Mr.Mahesh Madhukar Mahajan	5.00	5.00	5.00
Ms.Punam Ravan Patil	5.00	5.00	5.00
Mr.Mohmmadali Muzffarali Saiyyad	5.00	5.00	5.00
Mr.Mayur Jagdish Patil	5.00	5.00	5.00
Dr.Sudarshan Subhashrao Sonawane	5.00	5.00	5.00
Mr.Sagar Uttamrao More	5.00	5.00	5.00
Mr.Manohar Bhika Patil	5.00	5.00	5.00
Mrs.Gayatri Bhushan Patil	5.00	5.00	5.00
Ms.Pramila Kailas Ahire	5.00	5.00	5.00
Mr.Dushyant Somnath Potdar	5.00	5.00	5.00
Mr.Vishal Sharad Thakare	5.00	5.00	5.00
Ms.Jayshri Suresh Sonawane	5.00	5.00	5.00

Mrs.Sapana Bhushan Raghuvanshi	5.00	5.00	5.00
Ms.Pallavi Arun Agrawal	5.00	5.00	5.00
Mrs.Pooja Niraj Bhandari	5.00	5.00	5.00
Mrs.Karishma Tushar Borse	5.00	5.00	5.00
Mr.Harshal Shriram Patil	5.00	5.00	0.00
Mrs.Swati Bhushan Patil	5.00	5.00	0.00
Mr.Atul Shriram Chaudhari	5.00	0.00	0.00
Dr. Dharmaraj Rajaram Patil	0.00	5.00	5.00
Dr. Vandana Mohan Patil	0.00	5.00	5.00
Dr.Nitin Namdeo Patil	0.00	5.00	5.00
Mr.Swapnil Hiralal Chaudhari	0.00	5.00	5.00
Sum	140.00	155.00	145.00
RDF = Number of faculty required to comply with the 20:1 student - faculty ratio in the Department alone, as per section 5.1 of SAR(RDF= DS / 20).	29.70	29.70	29.70
Assessment Points (AP)= (Sum/(0.5* RDF)) (Points limited to 5 for each assessment year)	5.00	5.00	5.00

Average assessment over 3 years: 5.00

6.1.3 Faculty Contribution in Development of SWAYAM MOOCs and other E-Content (7)

Institute Marks : 5.00

Table No. 6.1.3.1: List of faculty members developed MOOC course for the past 3 years.

S.No	Name of the Faculty	Name of the Course Developed and available online on Swayam platform by your Department faculty
1	Dr.Jayantrao Bhaurao Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180
2	Dr. Rajnikant Bhagwan Wagh	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/yse3t8sc
3	Dr. Sandip Ravindra Sonawane	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/4u7cb7tx
4	Dr. Shailendra Madansing Pardeshi	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: http://shailendrapardeshi.wordpress.com/
5	Dr.Vipul Devendra Punjabi	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/y8k9tvmj
6	Ms. Puja Dipak Saraf	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/33ffrz6
7	Mr.Makarand Lotan Mali	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/mryfjy9k
8	Dr. Pankaj Rambhau Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/4wjv7xaf
9	Dr. Manoj Sakharan Ishi	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://shorturl.at/Cfw5c
10	Mr.Mahesh Madhukar Mahajan	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/dzzfd6u9
11	Ms.Punam Ravan Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3p9xuuk6
12	Dr.Mohammadali Muzffarali Saiyyad	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/MMSaiyyad
13	Mr.Mayur Jagdish Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/mrnvedap
14	Dr. Sudarshan Subhashrao Sonawane	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3rne7bmj
15	Mr.Sagar Uttamrao More	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/592eruud
16	Mr.Vishal Sharad Thakare	YouTube https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/5d8pdkw
17	Ms. Jayshri Suresh Sonawane	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3yvjzud
18	Mrs. Sapana Bhushan Raghuvanshi	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3w4sc7cr
19	Mr.Dushyant Somnath Potdar	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/2p8mmx2e
20	Ms. Pallavi Arun Agrawal	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3z778rh6
21	Mrs. Karishma Tushar Borse	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3z778rh6
22	Mr.Manohar Bhika Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/3pudrhj4
23	Mrs.Pooja Niraj Bhandari	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/2h4m23mu
24	Mrs.Gayatri Bhushan Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/yc2cb4m9
25	Mr.Harshal Shriram Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/5dds94u2
26	Mr.Atul Shriram Chaudhari	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/5n745dmf
27	Mrs.Swati Bhushan Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180
28	Ms.Pramila Kailas Ahire	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/5n8jbpxn
29	Dr. Dharmaraj Rajaram Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/ms3xxw9d
30	Dr. Vandana Mohan Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://drvandanapatil0.wordpress.com/
31	Dr.Nitin Namdeo Patil	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180
32	Mr.Swapnil Hiralal Chaudhari	YouTube Link: https://www.youtube.com/@intellisoftechnologies2180 Wordpress: https://tinyurl.com/mvbx5bd9

Table No. 6.1.4.1: List of faculty members obtained certification of MOOCs for the past 3 years.

S.No	Name of the Faculty	Name of Course Passed	Course Offered by (agency)	Grade obtained if any
1	Ms.Punam Ravan Patil	Cloud Computing	NPTEL,IIT Khargpur	Elite
2	Mrs.Sapana Bhushan Raghuvanshi	Programming in JAVA	NPTEL,IIT Khargpur	Elite
3	Ms.Jayshri Suresh Sonawane	Data Base Management System	CodeChef	NA
4	Mrs.Karishma Tushar Borse	Learn Python, Advanced Python Programming, & OOPs Concepts in Python	CodeChef	NA
5	Mrs.Karishma Tushar Borse	Learn JAVA	CodeChef	NA
6	Mr.Makarand Lotan Mali	Learn Python, Advanced Python Programming, & OOPs Concepts in Python	CodeChef	NA
7	Mr.Makarand Lotan Mali	Learn JAVA	CodeChef	NA
8	Ms.Punam Ravan Patil	Deep Learning for Engineering Applications	NITTTR	NA
9	Ms.Punam Ravan Patil	Learn NumPy - Practice Problems and Challenges	CodeChef	NA
10	Ms.Punam Ravan Patil	Visualise data using Matplotlib	CodeChef	NA
11	Ms.Punam Ravan Patil	Overview of Data Visualization	Coursera	NA
12	Ms.Punam Ravan Patil	AWS S3 Basics	Coursera	NA
13	Mr.Atul Shriram Chaudhari	Learn C Programming	CodeChef	NA
14	Mr.Atul Shriram Chaudhari	Learn Java	CodeChef	NA
15	Mr.Atul Shriram Chaudhari	Design and Analysis of Algorithms	CodeChef	NA
16	Mr.Mahesh M. Mahajan	Design and Analysis of Algorithms	CodeChef	NA
17	Dr. Manoj Sakharam Ishi	Learn Java	Codechef	NA
18	Mr.Harshal Shriram Patil	AI/ML for Geo data Analysis	ISRO	NA
19	Dr. Manoj Sakharam Ishi	Stacks and Queues	Codechef	NA
20	Mrs.Gayatri Bhushan Patil	Learn Java	Codechef	NA
21	Ms.Punam Ravan Patil	Cyber Security and Privacy	NPTEL,IIT Madras	NA
22	Mr.Sandip Ravindra Sonawane	Use of Artificial Intelligence in Technical Education	NITTTR	NA
23	Ms.Puja Dipak Saraf	NBA Process	NITTTR	NA
24	Mr.Manohar Bhika Patil	Data Mining	NITTTR	NA
25	Ms.Pallavi Arun Agrawal	Data Mining	NITTTR	NA
26	Mrs.Sapana Bhushan Raghuvanshi	Data Mining	NITTTR	NA
27	Mr.Vishal S. Thakare	Use Of Artificial Intelligence In Technical Education	NITTR	NA
28	Ms.Jayshri S. sonawane	Use Of Artificial Intelligence In Technical Education	NITTR	NA

29	Mr.Vishal S. Thakare	Cyber Suraksha course	Microsoft and Tata Strive	NA
30	Mr.Sagar U. More	Data Science Fundamentals for Data Analysts	ISRO	NA
31	Mr.Sagar U. More	Account Management & Sales Force Design	Coursera	NA
32	Dr. Manoj Sakharam Ishi	Machine Learning with Python	Coursera	NA
33	Dr. Manoj Sakharam Ishi	Supervised Machine Learning: Regression	Coursera-IBM	NA
34	Dr. Manoj Sakharam Ishi	Unsupervised Machine Learning	Coursera-IBM	NA
35	Dr. Manoj Sakharam Ishi	Data Visualization with Python	Coursera-IBM	NA
36	Dr. Manoj Sakharam Ishi	Foundations: Data, Data, Everywhere	Coursera-IBM	NA
37	Dr. Manoj Sakharam Ishi	Developing AI Applications on Azure	Coursera-Google	NA
38	Mr.Mahesh M Mahajan	Python Basics	Coursera-Learn Quest	NA
39	Mr.Mahesh M Mahajan	Supervised Machine Learning: Regression	Coursera-IBM	NA
40	Mr.Mahesh M Mahajan	Unsupervised Machine Learning	Coursera-IBM	NA
41	Mr.Mahesh M Mahajan	Data Visualization with Python	Coursera-IBM	NA

6.1.5 FDP/STTP Organized by the Department (10)

Institute Marks : 10.00

Table No. 6.1.5.1: List of FDPs/STPs organized by Department for the past 3 years.**(CAYm1) 2024-25**

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attended
1	Generative AI & Agentic AI	22/07/2024	5	Dr. Vishant Kumar, Prof. Pradip Balbudhe, Prof. Mohini Gawande	40
2	Advanced Data Analytics and Visualization using Power BI	31/12/2024	5	Dr. Manoj Chaudhary, Dr. Manoj S. Ishi, Mr. Mohammadali M. Saiyyad	38

(CAYm2) 2023-24

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attended
1	Artificial Intelligence and Machine Learning: Recent Trends and Applications	01/08/2023	5	Mr. Pradip Kumar Kaushik, Mrs. Gayatri B. Patil, Dr. Sudarshan S. Sonawane	42
2	Recent Advances in Cyber Security, Privacy, and Digital Forensics	16/01/2024	5	Mr. Vishal S. Thakare, Ms. Jayshri S. Sonawane	35

(CAYm3) 2022-23

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attended
1	Python Programming for Data Analytics and Visualization	06/09/2022	5	Mr. Santosh Kumar Mishra, Ms. Pramila K. Ahire, Mr. Manohar B. Patil	31
2	Machine Learning for Data Science and Predictive Analytics	17/01/2023	5	Mr. Mahesh M. Mahajan, Ms. Puja D. Saraf, Ms. Punam R. Patil	34

6.1.6 Faculty Support in Student Innovative Projects (10)

Institute Marks : 10.00

**Table No. 6.1.6.1: List of faculty members involved in student innovative projects.
(CAYm1) 2024-25**

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1	Dr. Rajnikant Bhagwan Wagh	SIH-24 (SIH1598)	05-09-2024	RCPIT	NA
2	Mr.Sandip Ravindra Sonawane	SIH-24 (SIH1596)	05-09-2024	RCPIT	NA
3	Mr.Vipul Devendra Punjabi	SIH-24 (SIH1609)	05-09-2024	RCPIT	NA
4	Ms.Puja Dipak Saraf	SIH-24 (SIH1609)	05-09-2024	RCPIT	NA
5	Mr.Makarand Lotan Mali	SIH-24 (SIH1637)	05-09-2024	RCPIT	NA
6	Mr.Pankaj Rambhau Patil	SIH-24 (SIH1596)	05-09-2024	RCPIT	NA
7	Dr.Manoj Sakharam Ishi	SIH-24 (SIH1612)	05-09-2024	RCPIT	NA
8	Mr.Mahesh Madhukar Mahajan	SIH-24 (SIH1609)	05-09-2024	RCPIT	NA
9	Ms.Punam Ravan Patil	SIH-24 (SIH1620)	05-09-2024	RCPIT	NA
10	Mr.Mohammadali Muzffrali Saiyyad	SIH-24 (SIH1629)	05-09-2024	RCPIT	NA
11	Mr.Mayur Jagdish Patil	SIH-24 (SIH1591)	05-09-2024	RCPIT	NA
12	Dr. Sudarshan Subhashrao Sonawane	SIH-24 (SIH1648)	05-09-2024	RCPIT	NA
13	Mr.Sagar Uttamrao More	SIH-24 (SIH1591)	05-09-2024	RCPIT	NA
14	Mr.Vishal Sharad Thakare	SIH-24 (SIH1597)	05-09-2024	RCPIT	NA
15	Ms.Jayshri Suresh Sonawane	SIH-24 (SIH1605)	05-09-2024	RCPIT	NA
16	Mr.Dushyant Somnath Potdar	SIH-24 (SIH1631)	05-09-2024	RCPIT	NA
17	Mrs.Karishma Tushar Borase	SIH-24 (SIH1622)	05-09-2024	RCPIT	NA
18	Mr.Manohar Bhika Patil	SIH-24 (SIH1586)	05-09-2024	RCPIT	NA
19	Mr.Harshal Shriram Patil	SIH-24 (SIH1703)	05-09-2024	RCPIT	NA
20	Mr.Atul Shriram Chaudhari	SIH-24 (SIH1630)	05-09-2024	RCPIT	NA
21	Dr. Rajnikant Bhagwan Wagh	SIH-24 (SIH1595)	05-09-2024	RCPIT	NA
22	Mr.Sandip Ravindra Sonawane	SIH-24 (SIH1612)	05-09-2024	RCPIT	NA
23	Ms.Pramila Kailas Ahire	SIH-24 (SIH1715)	05-09-2024	RCPIT	NA
24	Dr. Rajnikant Bhagwan Wagh	Avishkar 2025	10/11/2024	Godavari COE,Jalgoan	NA
25	Mr.Sandip Ravindra Sonawane	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
26	Dr.Vipul Devendra Punjani	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
27	Ms.Puja Dipak Saraf	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
28	Mr.Makarand Lotan Mali	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
29	Dr.Pankaj Rambhau Patil	Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
30	Dr. Manoj Sakharam Ishi	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA

31	Mr.Mahesh Madhukar Mahajan	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
32	Ms. Punam Ravan Patil	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
33	Mr.Mohammadali Muzffarali Saiyyad	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
34	Mr.Mayur Jagdish Patil	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
35	Dr. Sudarshan Subhashrao Sonawane	Internal Hackathon	14/02/2025	NLDIMSR,Mumbai	NA
36	Mr.Sagar Uttamrao More	External Hackathon	15/02/2025	SSGMCE shegoan	NA
37	Mr.Manohar Bhika Patil	External Hackathon	15/02/2025	SSGMCE shegoan	NA
38	Mrs.Gayatri Bhushan Patil	External Hackathon	15/02/2025	SSGMCE shegoan	NA
39	Ms.Pramila Kailas Ahire	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
40	Mr.Dushyant Somnath Potdar	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
41	Mr.Vishal Sharad Thakare	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
42	Ms. Jayshri Suresh Sonawane	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
43	Mrs. Sapana Bhushan Raghuvanshi	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
44	Ms.Pallavi Arun Agrawal	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
45	Mrs.Pooja Niraj Bhandari	IDE Boot Camp	17/02/2025	RK University ,Rajkot	NA
46	Mrs. Karishma Tushar Borse	Womens Hackathon 2025	21/03/2025	RPG Foundation (Zensar)	NA
47	Mr.Harshal Shriram Patil	Womens Hackathon 2025	21/03/2025	RPG Foundation	NA
48	Mrs.Swati Bhushan Patil	Womens Hackathon 2025	21/03/2025	(Zensar)	NA
49	Mr.Atul Shriram Chaudhari	Womens Hackathon 2025	21/03/2025	RPG Foundation	NA
50	Dr. Rajnikant Bhagwan Wagh	Womens Hackathon 2025	21/03/2025	(Zensar)	NA
51	Dr.Sandip Ravindra Sonawane	Womens Hackathon 2025	21/03/2025	RPG Foundation	NA
52	Dr.Shailendra Madansing Pardeshi	Womens Hackathon 2025	21/03/2025	(Zensar)	NA
53	Dr.Vipul Devendra Punjabi	Womens Hackathon 2025	21/03/2025	RPG Foundation	NA
54	Ms.Puja Dipak Saraf	Tech-Carvaan 2025 codesphere	24/03/2025	Government COE,Jalgoan	NA
55	Mr.Makarand Lotan Mali	Tech-Carvaan 2025 codesphere	24/03/2025	GCOE,Jalgoan	NA
56	Dr.Pankaj Rambhau Patil	IEEE BOMBAY Technovation Poster Presentation	12/04/2025	Godavari FCOE, Jalgoan	NA
57	Dr. Manoj Sakharam Ishi	IEEE BOMBAY Technovation Poster Presentation	12/04/2025	Godavari FCOE, Jalgoan	NA

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1	Dr. Rajnikant Bhagwan Wagh	SIH-23 (SIH1300)	23-09-2023	RCPIT	NA
2	Mr.Sandip Ravindra Sonawane	SIH-23 (SIH1325)	23-09-2023	RCPIT	NA
3	Mr. Vipul Devendra Punjabi	SIH-23 (SIH1413)	23-09-2023	RCPIT	NA
4	Mr.Puja Dipak Saraf	SIH-23 (SIH1281)	23-09-2023	RCPIT	NA
5	Mr.Makarand Lotan Mali	SIH-23 (SIH1347)	23-09-2023	RCPIT	NA
6	Mr. Pankaj Rambhau Patil	SIH-23 (SIH1494)	23-09-2023	RCPIT	NA
7	Mr. Manoj Sakharam Ishi	SIH-23 (SIH1431)	23-09-2023	RCPIT	NA
8	Mr.Mahesh Madhukar Mahajan	SIH-23 (SIH1280)	23-09-2023	RCPIT	NA
9	Ms.Punam Ravan Patil	SIH-23 (SIH1357)	23-09-2023	RCPIT	NA
10	Mr. Mohammadali Muzffrarali Saiyyad	SIH-23 (SIH1397)	23-09-2023	RCPIT	NA
11	Dr. Sudarshan Subhashrao Sonawane	SIH-23 (SIH1285)	23-09-2023	RCPIT	NA
12	Mr.Sagar Uttamrao More	SIH-23 (SIH1343)	23-09-2023	RCPIT	NA
13	Mr.Vishal Sharad Thakare	SIH-23 (SIH1492)	23-09-2023	RCPIT	NA
14	Ms.Jayshri Suresh Sonawane	SIH-23 (SIH1365)	23-09-2023	RCPIT	NA
15	Mr.Dushyant Somnath Potdar	SIH-23 (SIH1355)	23-09-2023	RCPIT	NA
16	Mr.Manohar Bhika Patil	SIH-23 (SIH1398)	23-09-2023	RCPIT	NA
17	Dr. Rajnikant Bhagwan Wagh	Coding Challenge	24/09/2023	GDSC,RCOM	NA
18	Dr. Dharmaraj Rajaram Patil	Avishkar 2024	26/11/2023	Sant Gadge Baba COE,Bhusawal	NA
19	Dr.Vandana Mohan Patil	Maharashtra State Innovation Challenge	26/01/2024	Government of Maharashtra	NA
20	Mr.Sandip Ravindra Sonawane	Maharashtra State Innovation Challenge	26/01/2024	Government of Maharashtra	NA
21	Mr.Shailendra Madansing Pardeshi	Maharashtra State Innovation Challenge	26/01/2024	Government of Maharashtra	NA
22	Mr.Vipul Devendra Punjani	Innovation Project Competition SVKM	05/03/2024	SVKM,IOT, Dhule	NA
23	Ms.Puja Dipak Saraf	Margdarshak Event	07/03/2024	IIT,Indore	NA
24	Mr.Makarand Lotan Mali	Margdarshak Event	07/03/2024	IIT,Indore	NA
25	Mr.Pankaj Rambhau Patil	MondBend 2024	15/03/2024	SVNIT,Surat	NA
26	Dr. Manoj Sakharam Ishi	MondBend 2024	15/03/2024	SVNIT,Surat	NA

27	Mr.Mahesh Madhukar Mahajan	Avishkar 2024	26/11/2023	Sant Gadge Baba COE,Bhusawal	NA
28	Ms. Punam Ravan Patil	Avishkar 2024	26/11/2023	Sant Gadge Baba COE,Bhusawal	NA
29	Mr.Mohmmadali Muzffarali Saiyyad	Avishkar 2024	26/11/2023	Sant Gadge Baba COE,Bhusawal	NA

(CAYm3) 2022-23

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1	Dr. Rajnikant Bhagwan Wagh	Technocave	04/06/2022	SVKM,IOT Dhule	NA
2	Dr. Dharmaraj Rajaram Patil	INNOVATE INDIA CODING CHAMPIONSHIP	20/07/2022	IICC, Chandigarh Univesity(NINJAS) (Coding NINJAS)	NA
3	Dr. Vandana Mohan Patil	National Technical Quiz	05/09/2022	Jawar Education IOTMR,Nashik	NA
4	Mr.Sandip Ravindra Sonawane	National Technical Quiz	05/09/2022	Jawar Education IOTMR,Nashik	NA
5	Mr.Shailendra Madansing Pardeshi	National Technical Quiz	05/09/2022	Jawar Education IOTMR,Nashik	NA
6	Mr.Vipul Devendra Punjani	International Quiz on William Wortdswoth Part-1	01/10/2022	Poona College ,Pune	NA
7	Ms.Puja Dipak Saraf	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
8	Mr.Makarand Lotan Mali	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
9	Mr.Pankaj Rambhau Patil	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
10	Dr. Manoj Sakharam Ishi	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
11	Mr.Mahesh Madhukar Mahajan	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
12	Ms. Punam Ravan Patil	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
13	Mr.Mohmmadali Muzffarali Saiyyad	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
14	Mr.Mayur Jagdish Patil	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
15	Dr. Sudarshan Subhashrao Sonawane	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
16	Mr.Sagar Uttamrao More	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
17	Mr.Manohar Bhika Patil	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
18	Mrs.Gayatri Bhushan Patil	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
19	Ms.Pramila Kailas Ahire	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
20	Mr.Dushyant Somnath Potdar	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
21	Mr.Vishal Sharad Thakare	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
22	Ms. Jayshri Suresh Sonawane	Hackathon	10/11/2022	Sandip University	NA
23	Mrs. Sapana Bhushan Raghuvanshi	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
24	Ms.Pallavi Arun Agrawal	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
25	Mrs.Pooja Niraj Bhandari	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
26	Dr. Nitin Namdeo Patil	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA
27	Mr. Swapnil Hiralal Chaudhari	Hackathon Sunhacks-2022	10/11/2022	Sandip University	NA

28	Dr. Rajnikant Bhagwan Wagh	Avishkar 2022	10/12/2022	SSVPSBSDCOE Dhule	NA
29	Dr. Sudarshan Subhashrao Sonawane	Avishkar 2022	10/12/2022	SSVPSBSDCOE Dhule	NA

6.1.7 Faculty Internship/Training/Collaboration with Industry (10)

Institute Marks : 10.00

Table No. 6.1.7.1: Faculty internship/training/collaboration details.

S.No	Name of the Faculty	Name of the Internship/ Training/ Collaboration	Name of the Company & Place	Duration	Outcomes of Internship/ Training/ Collaboration
1	Mr.Mohmmadali Muzffarali Saiyyad	Advanced Technology Certified Faculty	Wipro (Remote)	90	Faculty trained students
2	Dr.Sudarshan Subhashrao Sonawane	Wipro TalentNext Program	Wipro (Remote)	15	Faculty trained students.
3	Mrs.Karishma Tushar Borse	AI-Based Cybersecurity Threat Detection System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
4	Mrs.Sapana Bhushan Raghuvanshi	AI-Based Cybersecurity Threat Detection System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
5	Mr.Atul Shriram Chaudhari	AI-Based Cybersecurity Threat Detection System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
6	Mr.Mahesh Madhukar Mahajan	AI-Based Cybersecurity Threat Detection System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
7	Mr.Pankaj Rambhau Patil	Cloud-Native Microservices Platform using Go & Kubernetes	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
8	Mr.Sandip Ravindra Sonawane	Cloud-Native Microservices Platform using Go & Kubernetes	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
9	Mr.Vipul Devendra Punjabi	Cloud-Native Microservices Platform using Go & Kubernetes	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
10	Mr.Mohmmadali Muzffarali Saiyyad	Advanced Technology Program on Cloud	Wipro TalentNext	5	Faculty trained students
11	Mr.Mayur Jagdish Patil	Microsoft Cybersuraksha for Faculty	TCS iON & TATA Strive	40	Faculty trained students
12	Mr.Swapnil Hiralal Chaudhari	Wipro TalentNext Program	Wipro (Remote)	45	Faculty trained students
13	Mr.Vishal Sharad Thakare	Microsoft Cybersuraksha for Faculty	TCS iON & TATA Strive	40	Faculty trained students
14	Ms.Pramila Kailas Ahire	Smart IoT-Based Fleet Monitoring System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
15	Dr.Manoj Sakharam Ishi	Smart IoT-Based Fleet Monitoring System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
16	Mr.Makarand Lotan Mali	Smart IoT-Based Fleet Monitoring System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
17	Mr.Manohar Bhika Patil	AI Chatbot for Enterprise Customer Support	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
18	Mr.Sagar Uttamrao More	AI Chatbot for Enterprise Customer Support	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
19	Mr.Mohmmadali Muzffarali Saiyyad	Advanced Technology Program on AIML	Wipro TalentNext	5	Faculty trained students

20	Ms.Pallavi Arun Agrawal	Phishing Email Detection using Machine Learning	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
21	Mr.Pankaj Rambhau Patil	Phishing Email Detection using Machine Learning	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
22	Ms.Puja Dipak Saraf	Phishing Email Detection using Machine Learning	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
23	Mr.Mahesh Madhukar Mahajan	Secure Web-Based Ticket Management System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
24	Mrs.Pooja Niraj Bhandari	Secure Web-Based Ticket Management System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students
25	Ms.Punam Ravan Patil	Secure Web-Based Ticket Management System	iAriana Technologies Private Limited, Pune - 411058, Maharashtra (India)(Remote)	15	Faculty trained students

6.2 Research and Development Activities (60)

Total Marks 37.00

6.2.1 Academic Research (10)

Institute Marks : 10.00

Table No. 6.2.1.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	20	6	4
2	No. of peer reviewed conference papers published	16	23	6
3	No. of books/book chapters published	9	2	0

6.2.2 Ph.D. Student Details (5)

Institute Marks : 5.00

Table No. 6.2.2.1: Ph.D. details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of students enrolled for Ph.D. in the Department	0	0	0
2	No. of Ph.D. students graduated in the Department	2	0	1

6.2.3 Development Activities (10)

Institute Marks : 10.00

Table No.6.2.3.1: Patent Details

S.N.	Name of Authors	Title of Patent	Application No.	Granted/Published
CAYm1 (2024-2025)				
1	Mr.Sandip R. Sonawane	Soil Nutrient Analysis and Crop Recommendation Device	445177-001	Granted
2	Mr.Vipul D. Punjabi, Mr.Shailendra M.Pardeshi, Dr.Rajnikant B. Wagh,Dr.Dharmaraj R. Patil	System and Method for Sentiment and Emotion Analysis for Fake News Detection	202421091507A	Granted
3	M. M. Saiyyad, D.S.Potdar, A. D. Mairale, S. V. Chaudhari, P. A. Agrawal	AI Based Solar Powered Banana Leaf Extractor	418581-001	Granted
4	Ms.Punam. R. Patil	A Waste Management System with Real Time Tracking	202421050040A	Published
5	Ms.Punam R. Patil	A Deep Learning-Based System for Skin Cancer Segmentation and Classification with Severity Analysis	2025214078	Published
6	Mr.Sudarshan S. Sonawane	Enhanced Feature Optimization for Multiclass Intrusion Detection In IoT Fog Computing Environments	202421039168	Published
7	Mrs.Karishma Tushar Borse	Solar-Powered AI Weeding Robot	449680-001	Under Process
8	Mr.Harshal Shriram Patil, Mr.Atul Shriram Chaudhari	AI-Based Crop Disease Prediction	455765-001	Published
9	Ms.Pallavi A. Agrawal	AI Based Biometric Travel Lock	453619-001	Under Process
CAYm2 (2023-2024)				
1	Mr.Sandip R. Sonawane	Solar Pesticide Spraying Robot	399950-001	Granted
2	Mr.Shyelendra Madansing Pardeshi,Mr.Vipul D. Punjabi,Dr.Dharmaraj Rajaram Patil, Dr.Rajnikant Bhagwan Wagh	A Device for Alerting Fake News Based on Machine Learning	401269-001	Published

3	Mr.Mohmmadali M. Saiyyad	Smart Text Summarizing Device	392757-001	Granted
4	Ms.Punam R. Patil	Metaheuristic Assisted Hybrid Deep Learning Model for Cotton Disease Prediction an IoT Based Application	202421001729 A	Published
5	Ms.Karishma Rajendra Patil	Smart Screen for Digital Education	408330-001	Granted
CAYm3 (2022-2023)				
1	Mr.Vipul Devendra Punjabi,Mr.Shyelendra Madansing Pardeshi,Dr.Rajnikant Bhagwan Wagh, Dr.Dharmaraj Rajaram Patil,	Sentiment Analysis on Social Media Fake Posts Using Machine Learning Technology	202321008227A	Published

Table No.6.2.3.2: Copyright Details

S.N.	Name of the Applicant	Name of Co-authors	Title of Copyright	Diary Number	Registration number
CAYm1 (2024-2025)					
1	Mr.Sandip Ravindra Sonawane	Makarand Lotan Mali , Dr. Nitin N. Patil , Prathamesh Chavare , Sagar Patil , Shivam Mahajan , Jayashree Marathe	Automatic Lawn Care Developing a Robotic Grass Cutter	15023/2024-CO/L	L-150850/2024
2	Mr.Sandip Ravindra Sonawane	Dr. Nitin N. Patil	Agricultural Transformation Yolov8 Based Deep Learning For Weed Detection In Realtime Farm Images	13603/2024-CO/L	L-150304/2024
3	Mr.Sandip Ravindra Sonawane	Dr. R. D.Badgujar, Dr.J P Patil, Dr. M B Dembrani, Sandip Ravindra Sonawane	Enhancing Brain Tumor Segmentation in MRI Scan Using Yolov8 for Improved Precision	35204/2024-CO/L	L-161570/2025

4	Mr.Makarand Lotan Mali	Dr. Nitin N. Patil , Sandip Ravindra Sonawane , Pallavi Vijay Nerkar, Someshwari Sanjay Shimpi, Megha Sudhakar Patil, Dishant Satish Mahajan	Real Time Translation for Regional Language	15036/2024- CO/SW	SW-19236/2024
5	Mr.Makarand Lotan Mali	Sandip Sonawane, Manoj Ishi, Mahesh Mahajan, Borse Shubham Umakant, Saurav Deepak Patil, Nikhil Suklal Bhalkar	Gamanika: Ops- Enabled Distance Monitoring And Toll Calculation	SW-19651/2024	31296/2024-CO/S W
6	Mr.Pankaj Rambhau Patil	Pankaj Rambhau Patil,Shinde Rushikesh Rajendra ,Gosavi Vishakha Mahendra, Bha mare Bhagyashri Jijabrao,Patil Paresh Dilip	Ai-Dreiven	15305/2024- CO/SW	SW-19360/2024
7	Mr. Mahesh M. Mahajan	Vishal Prakash Vanjari , Dr. Nitin Namdeo Patil , Mr. Mahesh Madhukar Mahajan , Dr. Manoj Sakharam Ishi , Nikhil Sunil Patil, Pruthviraj Sanjay Sharma , Yamini Yashwant Deshmukh , Sakshi Vasudev Kukreja , Yash Suryakant Pawar.	Student Feedback System For Rcpit	13355/2024- CO/SW	SW-19111/2024
8	Mr.Mayur Jagdish Patil	Ujwala Manoj Patil, Manohar B. Patil, Mayur Jagdish Patil	Epic Journeys - One Stop Solution For Travellers	10268/2025- CO/SW	SW-2025020754

9	Mr.Sagar U. More	Mr.Sagar U. More	Local Markets, Global Flavors: Personalized Grocery Experience	3876/2025- CO/SW	3876/2025-CO/SW
10	Mr.Vishal Sharad Thakare	Jay Sharad Sonar,Lokesh Avinash Joshi ,Manoj Pramod Chaudhari, Sudarshan Gopal Agrawal,Vishal Sharad Thakare	Arthritis Care: Empowering Wellness through Personalized Arthritis Detection And Physiotherapy Exercise Recommendation	15814/2024- CO/SW	SW-19172/2024
11	Mr.Vishal Sharad Thakare	Vishal Sharad Thakare, Dr. Nitin N. Patil, Jayshri Suresh Sonawane, Yugandhar Ravindra Borase, Abhishek Mahendra Pawar,Paresh Prakash Bhamare	DNS Resolver and Web security	9776/2024- CO/SW	SW-19671/2024
12	Ms.Jayshri S. Sonawane	Jayshri Suresh Sonawane,Dr. Nitin N.patil, Vishal Sharad Thakare,Rohan Pawar	Vaccination Booking and Management System	14941/2024- CO/SW	SW-19210/2024
13	Ms.Jayshri S. Sonawane	Jayshri Suresh Sonawane, Dr. Nitin N. Patil, Vishal Sharad Thakare,	Missing Person Identification	5842/2024- CO/SW	SW-18739/2024
14	Ms.Jayshri S. Sonawane	Jayshri S. Sonawane, Durgesh Anup Jaiswal, Chetan Sanjay Shivade	Ticket-Less Entry System In Monuments/Museu ms	14941/2024- CO/SW	SW-19124/2024
15	Mr.Harshal Shriram Patil	Harshal Shriram Patil Dr. Rajnikant B. Wagh, Atul Shriram Chaudhari	Growing Smarter Plant Disease Detection And Farming Recommendation	3120/2025- CO/SW	SW-2025021036
CAYm2 (2023-2024)					

1	Mr.Sandip Sonawane	Sandip Sonawane,Dr. Nitin N. Patil, Durgesh Shantaram Mahajan, Hemant Bhimrao Patil, Vinay Panjabrao Salunkhe,Vivek Sanjay More	Hand Gesture Recognition And Conversion To Marathi Text For Deaf And Mute Community	5857/2024-CO/SW	SW-18584/2024
2	Mr. Sandip Ravindra Sonawane	Sandip Ravindra Sonawane, Dr. Nitin N. Patil	Automated Weed Detection in Agricultural Fields using Convolutional Neural Networks	24660/2023-CO/L	L-135851/2023
3	Mr.Makarand Mali	Minal, Divyanka, Shraddha. Janhavi, Makarand Mali	Speech Emotion Detection	15473/2023-CO/SW	SW-17110/2023
4	Dr. Manoj Ishi	Parth Suhas Rane,Dr. Manoj Ishi,Dr. Nitin Patil, Mahesh Mahajan, Harsh Rajendra Gawali,Gaurav Prakash Wani,Girish Pralhad Kolhe	Creating A Gesture Controlled Interface To Facilitate Daily Laptop Tasks For Enhanced User Convenience	5898/2024-CO/SW	SW-18585/2024
5	Mr.Sudarshan S. Sonawane	Samihan D. Nandedkar, Sudarshan S. Sonawane, Shivani S. Chaudhari, Anjali D. Pawar, Gaurav V. Lohar	Ethereum Based Platform for Modern Election System	6832/2024-CO/SW	SW-18629/2024
6	Ms.Puja D. Saraf	Kunal Sonawane, Akshay Badgujar,Mehul Patil,Rutik Patil,Puja D. Saraf	Sustainable and no contact attendance system	13431/2024-CO/SW	SW-19158/2024

Table No.6.2.3.3: Working Models/Prototype Details

S.N.	Name of Working Models/Prototype	Name of Faculty	Domain
CAYm1 (2024-2025)			
1	Converges Website	Mr. S. R. Sonawane	Web Application Development
CAYm2 (2023-2024)			
1	Student Feedback System for RCPIT	Mr. M. M. Mahajan	Web Application Development
2	Smart Home Automation System using Mobile Application	Mr. S. R. Sonawane	Embedded Systems and IOT
CAYm3 (2022-23)			
1	Intelligent Waste Management System	Mr. M. M. Mahajan	Web Application Development

6.2.4 Sponsored Research Project (15)

Institute Marks : 1.00

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. R. B. Wagh	Mr. V. S. Thakare	Computer Engineering	Website Development for Sumalti Multispeciality Hospital, Sakri	Sumalti Multispeciality Hospital, Sakri	6 Months	0.30
Dr. S. S. Sonawane	Dr. M. S. Ishi	Computer Engineering	CureConnect-Essential Build	Sudip Hospital, Shirpur	6 Months	0.30
Mr. S. R. Sonawane	Mr. S. M. Pardeshi	Computer Engineering	CureConnect-Enterprise Edition	Siddhivinayak Hospital, Shirpur	6 Months	0.37
						Amount received (Rs.):0.97

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Mr. S. R. Sonawane	Mr. S. M. Pardeshi	Computer Engineering	Smart Grass Cutting Robot	Ahilya Lawns, Shirpur	6 Months	0.45
Mr. V. D. Punjabi	Mr. P. R. Patil	Computer Engineering	SikhoEasy Learning Platform	Techity, Hyderabad	1 Year	0.35
						Amount received (Rs.):0.80

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. R. B. Wagh	Dr.M.M.Saiyyad	Computer Engineering	Smart Admission Assistance App	Dnyansiddhi Coaching Class	6 Months	0.25
						Amount received (Rs.):0.25

Total Amount (Lacs) Received for the Past 3 Years: 2.02

Note*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

6.2.5 Consultancy Work (15)

Institute Marks : 6

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of MHT-CET Examination 2024-25 (PCB & PCM)	Assessinfra Technology Pvt. Ltd, S-2, IInd Floor, Kings Street, 1st Avenue Lal Bahadur Nagar West, JLN Marg Jaipur, Rajasthan - 302018 GSTIN:- 08AAUCA8505H1ZA	20 Days	3.16
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of MHT-CET Examination 2024-25 (BCA)	Assessinfra Technology Pvt. Ltd, S-2, IInd Floor, Kings Street, 1st Avenue Lal Bahadur Nagar West, JLN Marg Jaipur, Rajasthan - 302018 GSTIN:- 08AAUCA8505H1ZA	1 Day	0.24
						Amount received (Rs.):3.40

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of Examination	VM Info Tech	10 Days	1.58
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of MHT CET Examination 2023-24	CET Cell	2 Days	0.15
						Amount received (Rs.):1.73

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of NTA NEET	NTA NEET	10 Days	1.80
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of NTA NEET	NTA NEET	10 Days	0.28
Dr. J. B. Patil	Dr. R. B. Wagh	Examination	Digital Platform Support for Smooth Conduction of Ven Sysco Infra Pvt. Ltd.	Ven Sysco Infra Pvt. Ltd.	10 Days	4.30
						Amount received (Rs.):6.38

Total amount (Lacs) received for the past 3 years: 11.51

Note*:

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

6.2.6 Institution Seed Money or Internal Research Grant to its Faculty for Research Work(5)

6.2.6 A Amount received (3)

Institute Marks : 3.00

2024-25 (CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. Sandip R. Sonawane	Design And Development of A System For Weed Detection And Control	1 Year	0.72	0.70	Research Work Published
Ms. Puja D. Saraf	On the Tomato Plant Leaf Disease Detection method Using Machine Learning Approach	1 Year	0.72	0.70	Research Work Published
Mr. Makarand M. Mali	On The Suggestion Mining Technique To Improve Quality of Mobile Applications	1 Year	0.72	0.65	Research Work Published
Mr. Mohmmadali M. Saiyyad	On the Text Summarization Using Machine Learning Technique	1 Year	0.60	0.55	Research Work Published
Mr. Manoj S. Ishi	Big Data Analytics in Supply Chain Information Systems: Improving Operational Efficiency	1 Year	0.60	0.50	Research Work Published
Ms. Punam R. Patil	An Efficient Vehicle Rental System: Seamless User Experience with Real-Time Web Based	1 Year	0.60	0.55	Research Work Published
			Amount received (Rs.): 3.96		

2023-24 (CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr.Mohmmadali M. Saiyyad	On the Text Summarization Using Machine Learning Technique	1 Year	0.60	0.55	Research Work Published,Patent Published and Granted
Mr. Sandip R. Sonawane	Design And Development of A System For Weed Detection And Control	1 Year	0.72	0.65	Research Work Published, Patent Published and Granted
Dr. Dharmaraj R. Patil	Detecting Fake Social Media Profiles Using the Majority Voting Approach	1 Year	0.72	0.70	Research Work Published
			Amount received (Rs.): 2.04		

2022-23 (CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. Manoj S. Ishi	Development of New Method(s) to Choose Optimal Team Combination and predict Winning Chances	1 Year	0.60	0.58	Research Work Published
Dr. Dharmaraj R. Patil	Sentiment Analysis On Social Media Fake Posts Using Machine Learning Technology	1 Year	0.72	0.70	Research Work Published
Mr. Sandip R. Sonawane	Design And Development of A System For Weed Detection	1 Year	0.72	0.70	Research Work Published, Patent Published and Granted
Ms. Puja D. Saraf	On the Tomato Plant Leaf Disease Detection method Using Machine	1 Year	0.60	0.55	Research Work Published
Mr. Makarand M. Mali	On The Suggestion Mining Technique To Improve Quality of	1 Year	0.60	0.55	Research Work Published
			Amount received (Rs.): 3.24		

Total amount (Lacs) received for the past 3 years : 9.24

6.2.6 B Amount utilized (2)

Institute Marks : 2.00

Amount Utilized = 8.63 Lakhs

7 FACILITIES AND TECHNICAL SUPPORT (100)

Total Marks 100.00

7.1 Adequate and well equipped laboratories, and technical manpower (40)

Total Marks 40.00

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Computer Engi	20	HP All-in-one (,)	30 Hrs/Week	Mr. Nilesh Shiv	Lab Assistant	Bachelor of Co
2	Computer Engi	20	HP All-in-one (,)	36 Hrs/Week	Mr. Nilesh Shiv	Lab Assistant	Bachelor of Co
3	Computer Engi	20	HP All-in-one (,)	36 Hrs/Week	Mr. Chetan Nai	Lab Assistant	Bachelor of Co
4	Computer Engi	20	HP All-in-one (,)	36 Hrs/Week	Mr. Chetan Da	Lab Assistant	Bachelor of En
5	Computer Engi	20	HP All-in-one (,)	30 Hrs/Week	Mr. Chetan Da	Lab Assistant	Bachelor of En
6	Computer Engi	20	HP All-in-one (,)	36 Hrs/Week	Mr. Mahendra l	Lab Assistant	Bachelor of En
7	Computer Engi	20	HP All-in-one (,)	30 Hrs/Week	Mr. Mahendra l	Lab Assistant	Bachelor of En

7.2 Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (20)

Total Marks 20.00

Sr. No	Name of the Facility	Details	Purpose for creating facility	Utilization	Relevance to POs/PSOs
1	Cyber Security Cell	To enhance the overall cyber security framework of the institute by providing the best strategy of cyber security.	To create dynamic cyber security policies for institute premises.	To raise awareness about risks in cyberspace and provide guidance for the protection of critical data.	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO12, PSO1, PSO2
2	Internet of Things Kits	For various kinds of experimentations, IOT kits with Raspberry Pi, Arduino kits, sensors, Node MKU, breadboards and connecting cables are readily available.	To make students aware of the latest technology of IoT for solving industrial and societal problems.	To utilize in IoT-based experiments, models & projects.	PO1, PO2, PO3, PO4 PO5, PO11, PSO1, PSO2
3	Virtual Lab	The Virtual Labs provides remote-access to simulation-based Labs in Computer Engineering.	To enthuse students to conduct experiments by arousing their curiosity. To provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning including additional web-resources, animated demonstrations and self-evaluation.	To help students in learning basic and advanced concepts through remote experimentation.	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO11, PO12, PSO1, PSO2
4	Campus Credentials	Provides in demand corporate skills, aptitude and technical training.	The purpose of Campus Credentials is to equip students with the skills and knowledge required to excel in campus placements and competitive examinations, making them industry-ready.	Aptitude Training Soft Skills Training / Soft Skills Development Technical Skills Training Mock Interviews (Technical & HR) Group Discussion (GD) Training Company-Specific Training / Corporate-Specific Training Aptitude Test Series Technical Test Series Proctored Online Tests / Proctored Assessment Environment Individual Student Login / Personalized Login Access Practice Test Series / Mock Test Series LMS (Learning Management System) Access.	PO1, PO5, PSO2
5	3D Printer	Desktop 3D printer with CAD software support; used for printing geometric models, graphs, and mathematical structures.	To visualize abstract mathematical concepts and enhance experiential learning through physical models.	Used to create 3D models of surfaces, solids, curves and optimization models for classroom demonstrations, projects, and student activities.	PO1, PO2, PO5, PSO1

6	Turnitin / Copyleaks Plagiarism Software	Turnitin / Copyleaks Plagiarism Software solutions promote academic integrity, streamline grading and feedback, deter plagiarism, and improve student outcomes.	To provide students with a tool to identify and correct possible occurrences of plagiarism in their own work and improve their academic writing.	To help students to identify occurrences of plagiarism.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
7	NPTel Online Learning Facility	NPTel (National Programme on Technology Enhanced Learning) is an online learning platform offering video lectures, assignments, and certification courses in mathematics and allied disciplines, developed by IITs and IISc. The facility provides access to high-quality academic content, quizzes, and proctored examinations.	The facility was created to enhance conceptual understanding of mathematics through expert-led instruction and to support outcome-based education. It promotes self-paced learning, bridges curriculum gaps, and exposes students to advanced and applied mathematical topics beyond the syllabus.	Students utilize the facility to enroll in mathematics-related NPTel courses, complete weekly assignments, participate in discussions, and obtain certifications. The platform is used for blended learning, credit transfer (where applicable), exam preparation, and faculty-guided enrichment activities.	PO1, PO2, PO3, PO5, PSO1, PSO2
8	Learning Management System- Moodle	It is a fully Customizable Learning Management System.	Moodle has forums, messaging, chat, comments, and blog posts available for students and teachers to communicate beyond the classroom.	To provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments.	PO1, PO3, PO4, PO5, PO8, PO9, PO10, PSO1, PSO2
9	Solar Roof Top System	A grid-connected rooftop solar photovoltaic (PV) system (320KW) installed on the institute building with solar panels, an inverter, a monitoring unit, and safety accessories.	To promote renewable energy usage, reduce electricity consumption from conventional sources, and create awareness about sustainable energy solutions.	Used for power generation for campus electrical loads, student laboratory demonstrations, projects related to renewable energy, energy auditing, and research activities.	PO1, PO2, PO3, PO6, PO7, PO11, PO12
10	Smart Board	Smart board IWB (Interactive white Board).	To make the teaching and learning process more effective.	To support the ICT- based teaching-learning process.	PO1, PO2, PO5, PO10, PSO1, PSO2
11	LCD Projectors	Good Quality LCD Projectors are available.	Projectors available to make teaching & learning effective.	To support the ICT-based teaching-learning process in Laboratories.	PO1, PO2, PO5, PO10, PSO1, PSO2
12					

7.3 Maintenance of laboratories and overall ambiance (10)

Total Marks 10.00

Maintenance Policy:

The Computer Engineering Department follows a clear and systematic maintenance policy to keep all laboratory equipment in good working condition. The main aim of the policy is to ensure safe usage of equipment, avoid sudden breakdowns, and provide smooth conduct of practical sessions.

Regular checking, cleaning, and testing of equipment are carried out throughout the academic year. Performance verifications are done whenever required. Each laboratory maintains a maintenance log book to record inspection details, faults, repairs, and corrective actions. The technical staff is responsible for monitoring the condition of equipment and reporting any issues immediately. This policy helps in maintaining safety, reliability, and uninterrupted laboratory activities.

Preventive and Corrective Maintenance:

The Computer Department follows both preventive and corrective maintenance practices to ensure proper functioning of laboratories.

Preventive Maintenance:

Preventive maintenance is carried out regularly to avoid equipment failure. It includes visual inspection, cleaning of equipment and surroundings, checking electrical connections, verifying safety measures, testing equipment performance, and carrying out minor repairs if required. All maintenance details are recorded in the log book before approving the equipment for regular use. The preventive maintenance procedure is shown in Figure 7.3.1.

Corrective Maintenance:

Corrective maintenance is done when a fault or problem is identified in any laboratory equipment. The fault is first recorded in the maintenance register. Initial inspection and basic troubleshooting are performed. If the problem cannot be solved in the laboratory, a maintenance request is prepared and approval is taken from higher authorities. Repair or replacement is carried out through authorized vendors if required. After repair, the equipment is tested, records are updated, and verification is done before restarting laboratory work. The corrective maintenance process is shown in Figure 7.3.2.

Overall Ambiance:

The Computer Engineering Department ensures a clean, safe, and student-friendly laboratory environment. All laboratories are well-ventilated, properly illuminated, and arranged in an organized manner to provide a comfortable learning atmosphere. Adequate seating arrangements and sufficient working space are provided to students during practical sessions.

The vision and mission of the department and PEO, Laboratory Time Table, List of Experiments, Lab Instructions, Dos and Don'ts, are clearly displayed in each laboratory. Fire safety equipment, first-aid boxes, and electrical safety measures are available to ensure a secure environment. Proper housekeeping practices are followed to maintain cleanliness and discipline in the laboratories.

All the necessary learning resources such as relevant software, and online materials, are easily accessible to students. The laboratories are equipped with required furniture, power supply arrangements, internet connectivity and proper storage facilities for instruments and components. The overall ambiance supports effective teaching-learning, practical experimentation, and safe laboratory operations.

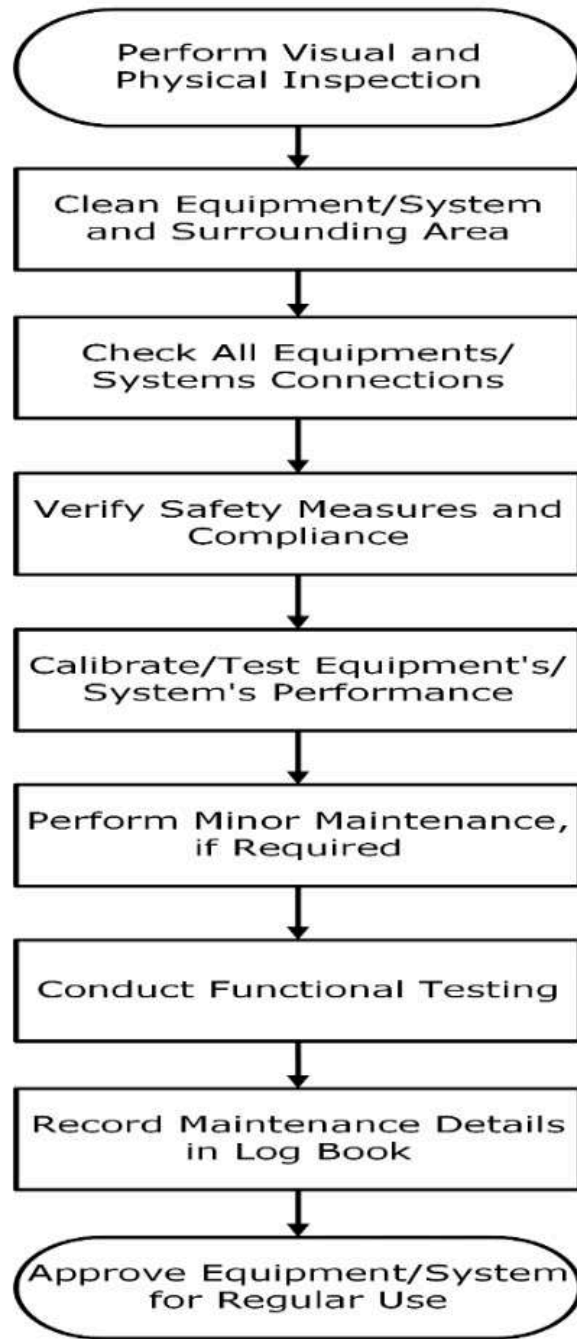
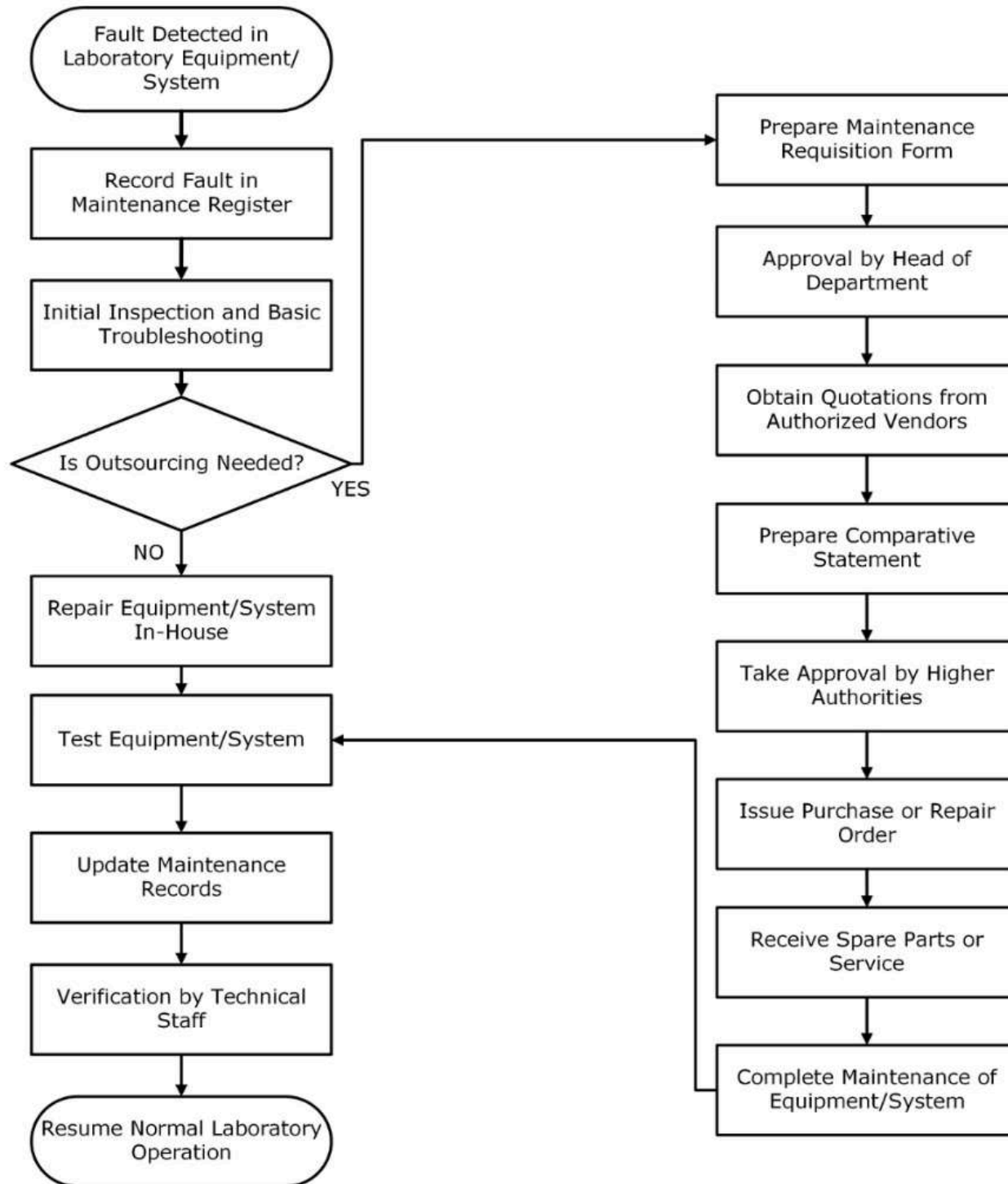


Figure 7.3.1 Preventive Maintenance Flowchart



Sr. No	Laboratory Name	Safety Measures
1	Computer Engineering – Lab 1	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
2	Computer Engineering – Lab 2	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
3	Computer Engineering – Lab 3	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
4	Computer Engineering – Lab 5	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
5	Computer Engineering – Lab 6	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
6	Computer Engineering – Lab 8	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
7	Computer Engineering – Lab 9	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
8	Project Laboratory/ Research Laboratory	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
9	Centre of Excellence (Computer Centre and Language Lab)	A. Basic safety measures: Do's and Don'ts. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.

7.5 Project laboratory/research laboratory /centre of excellence (20)

Total Marks 20.00

To promote project-based learning or research activities, and innovation, the Computer Engineering Department has developed dedicated facilities such as the Project Laboratory and/or Research Laboratory, and Centre of Excellence. These facilities provide students with the required environment for design, experimentation, simulation, testing, coding and advanced technical work. They help in enhancing analytical skills, technical knowledge, and industry readiness of students. The details of these facilities are presented in Table 7.5.1.

Table No. 7.5.1 Project Laboratory/Research Laboratory /Centre of Excellence.

S.N.	Name of the Laboratory
1.	<p>Project Laboratory/ Research Laboratory:</p> <p>The Computer Department has well-established Project Laboratory and Research Laboratory that are available to students for carrying out academic projects, research work, and innovative activities. These laboratories are equipped with adequate computing systems, specialized software tools, experimental facilities, and internet connectivity to support project implementation and research-based learning. Project Laboratory enables students to obtain hands-on experience and to realize their project ideas as executable projects. High speed Internet facility is readily available. It is supported with UPS for uninterrupted power supply. All kinds of project development activities by the students are carried out in this laboratory.</p> <p>Details of completed projects are documented in Section 2.2(D) of the Self-Assessment Report (SAR).</p> <p>Configuration: HP All-in-one (AIO) PC, Printer, UPS 6 KVA and LCD Projector.</p> <p>List Of Software: Windows 10 & 11, Microsoft Office 2013, AutoCAD 2026, Oracle 9i, Turbo C, Microsoft Teams, Python Compiler, Zoom Web Meeting and Cisco Packet Tracer Freeware.</p> <p>Utilization: The Project Laboratory/ Research Laboratory is systematically utilized throughout the academic year for the execution of student projects. Students use the laboratory for requirement analysis, system design, software development, testing, troubleshooting, and performance validation. The facility is also used for prototype development, experimental verification of results, and final project demonstrations before evaluation panels. Faculty members regularly monitor progress, conduct review meetings, and guide students during validation and performance assessment stages. Laboratory usage is planned according to project schedules to ensure effective sharing of infrastructure among student groups.</p> <p>Relevance to POS/PSOs: PO1, PO2, PO3, PO7, PO8, PO9, PO11, PSO1, PSO2.</p>

S.N.	Name of the Laboratory
2.	<p>Centre of Excellence:</p> <p>The Institute has established a Centre of Excellence as a dedicated facility to promote advanced learning, innovation, and industry interaction. It includes specialized facilities such as the Language Lab. It acts as a common platform where students and faculty members can engage in skill enhancement programs, and technology-based initiatives.</p> <p>The Centre is supported with modern infrastructure, updated hardware platforms, and required software tools to work in emerging and interdisciplinary domains. It also facilitates interaction and collaboration with industry professionals, research organizations, and alumni for knowledge sharing and technical guidance.</p> <p>The Centre of Excellence for Foreign Languages to improve students' communication and professional skills. The Language Lab is equipped with audio-visual systems and language learning software to enhance listening, speaking, reading, and writing skills. In addition to English communication training, the lab also provides training in German and Japanese languages to improve global employability and international opportunities for students.</p> <p>The Centre of Excellence integrates the CodeChef Learning Platform to systematically enhance students' programming, problem-solving, and analytical capabilities. It provides a structured and progressive learning environment focused on building strong foundations in coding, logical reasoning, and algorithm design. The curriculum is aligned with industry standards to strengthen computational thinking and core technical competencies required in today's technology-driven landscape.</p> <p>Beyond problem-solving, the platform emphasizes hands-on project development using modern technologies such as MERN (MongoDB, Express.js, React, and Node.js), SQL, Spring Boot, Data Analysis, and Machine Learning. Students gain practical exposure by building real-world applications, working with databases, and developing intelligent systems, thereby bridging the gap between theoretical learning and industry application.</p> <p>Utilization:</p> <p>The Centre of Excellence is actively utilized for student workshops, certification programs, internships, and technical training activities. It provides opportunities for students to work on real-time problems, develop prototypes, and enhance practical skills.</p> <p>Industry experts and alumni are invited for expert talks, mentoring sessions, and technical guidance. The Centre also supports innovation activities, product development initiatives, and entrepreneurship-related efforts. Through these activities, students gain hands-on exposure to modern technologies and professional practices.</p> <p>The Language Lab is utilized for communication skill development, presentation practice, group discussions, interview preparation, and foreign language learning (German and Japanese). It helps students build confidence and prepare for placements and global career opportunities.</p> <p>The CodeChef platform is utilized to enhance students' coding proficiency and analytical thinking through structured practice in a time-bound environment, improving both accuracy and execution speed. It supports systematic preparation for technical interviews and placement processes by reinforcing core programming concepts and data structures.</p>

S.N.	Name of the Laboratory
	<p>Additionally, students engage in technology-driven project work across domains such as full-stack development (MERN stack), database management (SQL), and Machine Learning, enabling them to build portfolios that demonstrate practical skills alongside problem-solving expertise.</p> <p>Relevance to POS/PSOs: PO1, PO2, PO3, PO7, PO8, PO9, PO11, PSO1, PSO2.</p>

8 CONTINUOUS IMPROVEMENT (80)

Total Marks 80.00

8.1 Actions taken based on the results of evaluation of each of the COs, POs & PSOs (40)

Total Marks 40.00

The following are the areas of weaknesses in the program based on the table no. 8.1.1.1 (analysis of evaluation of COs attainment levels along with the action taken)

Table No. 8.1.1.1 Analysis of Areas of Weakness and Corrective Actions Based on CO Attainment

Area of Weakness	Observed Cause(s)	Corrective Action(s)	Responsible Unit
Fundamental Knowledge	- Weak foundation in applied sciences - Limited practice with numerical problem-solving	- Introduced bridge courses - Conducted remedial classes - Given Assignments and Question Banks -Conduction of Pre-requisite Test	Course Instructors
Analysis & Problem-Solving Skills	- Lack of exposure to open-ended design challenges	- Integrated case studies & real life projects - Organized open ended competitions - Coding contests like hackathon competitions	Department & Faculty
Communication & Teamwork	- Weak technical writing & presentation skills - Limited group project exposure	- Interdisciplinary projects & Mock interview with experts - Introduced group assignments & peer evaluation	Faculty & Language Lab
Industry Readiness	- Insufficient internships & industrial visits - Lack of awareness of standards & sustainability	- Startups encouragement through IIC Cell - Invited industry experts for guest lectures - Embedded ethics & sustainability modules	Training & Placement Cell
Higher-Order Thinking & Innovation	- Limited exposure to research - Lack of project-based learning	- Encouraged participation in hackathons - Introduced research-oriented final year projects - Promote innovation clubs	Faculty & Research Cell

Batch 2021-2025

The comparison of target levels and CO attainment for all semesters shown in table no. 8.1.1.2

Table No. 8.1.1.2 Target Level and CO Attainment for 2021-2025

First Semester											
Subjects	C101 T	C102T	C103T	C104 T	C105T	C106L	C107L	C108L	C109 L	C110 L	AV G.
Target Level	1.35	1.35	1.35	1.35	1.35	2.25	2.25	2.25	2.25	2.25	1.80
CO Attainment	1.65	2.06	2.20	1.67	1.84	2.47	2.56	2.70	2.35	2.97	2.25
Actions: CO Attainment > Target level											
Second Semester											
Subjects	C111 T	C112T	C113T	C114T	C115T	C116T	C117L	C118L	C119 L	C120 L	AV G.
Target Level	1.35	1.35	1.35	1.35	1.35	1.35	2.25	2.25	2.25	2.25	1.71

CO Attainment	1.61	1.55	2.51	2.14	1.89	2.45	2.33	2.50	2.12	2.44	2.15		
Action: CO Attainment > Target level													
Third Semester													
Subjects	C201 T	C202T	C203L	C204T	C205 T	C206L	C207T	C208L	C209L	C210L	AV G.		
Target Level	1.35	1.35	2.25	1.35	1.35	2.25	1.35	2.25	2.25	2.25	1.80		
CO Attainment	1.38	1.83	2.56	2.11	2.24	2.50	1.78	1.85	2.25	2.97	2.15		
Action: CO Attainment > Target level													
Fourth Semester													
Subjects	C211 T	C212 T	C213T	C214L	C215T	C216L	C217T	C218 L	C219T	C220 L	C221L	AV G.	
Target Level	1.35	1.35	1.35	2.25	1.35	2.25	1.35	2.25	1.35	2.25	2.25	1.76	
CO Attainment	2.43	1.79	2.25	2.84	2.17	2.61	1.62	1.74	2.37	2.58	1.39	2.24	
Action: CO Attainment > Target level													
Fifth Semester													
Subjects	C301 T	C302 L	C303T	C304L	C305T	C306 L	C307T	C308 L	C309L	C310T	C311 L	C312 L	AV G.
Target Level	1.35	2.25	1.35	2.25	1.35	2.25	1.35	2.25	2.25	1.35	2.25	2.25	1.88
CO Attainment	2.37	2.92	2.21	2.47	2.78	1.86	2.65	2.99	2.91	2.83	2.99	1.39	2.60
Action: CO Attainment > Target level													
Sixth Semester													
Subjects	C313 T	C314 L	C315T	C316L	C317T	C318L	C319T	C320 L	C321T	C322 L	C323L	AV G.	
Target Level	1.35	2.25	1.35	2.25	1.35	2.25	1.35	2.25	1.35	2.25	2.25	1.84	
CO Attainment	1.87	2.56	2.52	2.93	2.36	2.83	2.69	2.67	2.60	1.94	2.59	2.50	
Action: CO Attainment > Target level													
Seventh Semester													
Subjects	C401 T	C402L	C403T	C404 L	C405T	C406L	C407T	C408L	AVG.				
Target Level	1.35	2.25	1.35	2.25	1.35	2.25	1.35	2.25	1.80				

CO Attainment	2.59	2.99	2.10	2.63	2.10	2.93	2.53	2.99	2.61
Action: CO Attainment > Target level									
Eighth Semester									
Subjects	C409 T	C410T	C411T	C412 T	C413L	AVG.			
Target Level	1.35	1.35	1.35	1.35	2.25	1.53			
CO Attainment	1.85	2.41	2.15	2.09	3.00	2.30			
Action: CO Attainment > Target level									

8.1.2 Actions Taken Based on the Results of Evaluation of the POs/PSOs Attainment (20)

Institute Marks : 20.00

2021-2025 Batch

The result of evaluation of the POs/PSOs Attainment as shown in Table no. 8.1.2.1

Rubric for setting the Targets of PO attainment based on the average mapping of program POs with the courses as,

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	AVG
PO Overall Mapping	2.17	2.12	1.64	2.13	1.93	2.61	2.32	2.65	2.03	1.59	1.51	1.81	2.0

- For the POs mapping with more than 70% of courses the target is 2.1,
- For the POs mapping with 50% to 70% courses the target is 2.0
- For the POs mapping with less than 50% courses the target is 1.9

Rubric for setting the Targets of PSO attainment based on the average mapping of program PSOs with the courses as,

PSO	PSO1	PSO2	AVG
PSO Overall Mapping	1.75	1.38	1.6

- For the PSOs mapping with more than 70% of courses the target is 1.7,
- For the PSOs mapping with 50% to 70% courses the target is 1.6
- For the PSOs mapping with less than 50% courses the target is 1.5

Table No. 8.1.2.1 Result of Evaluation of the POs/PSOs Attainment

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge			
PO1	2.1	1.83	Target not Achieved
Action 1: Extra classes conducted related to basic engineering			
Action 2: More classes conducted on fundamentals			
Action 3: Special classes were conducted for slow learners			
Action 4: Guest Lectures planned for better understanding of fundamentals			
PO2: Problem Analysis			
PO2	2.1	1.81	Target Not Achieved
Action 1: Analytical based teaching adopted.			
Action 2: More problems related to it were discussed.			
Action 3: Case studies of problems previously encountered were discussed and made students understand the cause for it.			
Action 4: Additional hours were spent on analysing the challenges and preparing some valid solutions			

PO3: Design/Development of Solutions			
PO3	2.1	1.55	Target not Achieved
<p>Action 1: Guest lectures were arranged to better understand the complex engineering problems.</p> <p>Action 2: Practice examples given for understanding design aspects of solutions to complex problems.</p> <p>Action 3: Additional experiments beyond curriculum were conducted.</p> <p>Action 4: Students were provided the access to NPTEL Videos.</p>			
PO4: Conduct Investigations of Complex Problems			
PO4	2.1	1.83	Target not Achieved
<p>Action 1: Technical events were conducted for students to present projects.</p> <p>Action 2: Workshops were conducted for hands-on training on latest technologies.</p> <p>Action 3: Online assignments were given to practice various topics.</p>			
PO5: Modern Tool Usage			
PO5	2.1	1.75	Target not Achieved
<p>Action 1: Individual systems were provided for students.</p> <p>Action 2: Various Open source Tools awareness and hand on sessions were conducted.</p> <p>Action 3: Revised lab manuals to include tool-based experiments.</p> <p>Action 4: Included sessions on validation of simulation results.</p> <p>Action 5: Compare manual vs. software-based solutions.</p>			
PO6: The Engineer and Society			
PO6	1.9	2.15	Target Achieved
<p>Action 1: Students developed projects solving societal problems like health care, agriculture, educational and environmental.</p> <p>Action 2: Organize seminars on intellectual property rights.</p> <p>Action 3: Incorporated projects addressing local community needs (energy, water, waste management)</p> <p>Action 4: Encouraged participation in social outreach programs</p> <p>Action 5: Organized poster competitions, and awareness campaigns on engineering & society</p>			
PO7: Environment and Sustainability			
PO7	1.9	2.06	Target Achieved
<p>Action 1: Students identified and developed different projects related to society and environment for sustainable development.</p> <p>Action 2: Students participated in various social activities like Blood Donation Camp, Tree plantation, Rahat, Ek Mutthi Anaj etc.</p> <p>Action 3: Organize seminars/workshops on Green Computing and Sustainability.</p>			
PO8: Ethics			
PO8	1.9	2.16	Target Achieved

Action 1: A Seminar on 1) Entrepreneurship Development 2) Seminar on Bridging the Gap between Academia and Industry			
Action 2: Integrate engineering ethics case studies into courses.			
Action 3: Conduct seminars/workshops on professional ethics and integrity.			
Action 4: Include ethics-based questions in exams and assignments.			
Action 5: Encourage students to sign a "Code of Conduct" pledge before labs/projects.			
PO9: Individual and Team Work			
PO9	1.9	1.82	Target Not Achieved
Action 1: A Seminar on 1) Entrepreneurship Development 2) seminar on Project-Based Learning			
Action 2: Introduce group projects with peer evaluation components.			
Action 3: Conduct team-building workshops and leadership training.			
Action 4: Assign multidisciplinary projects involving collaboration across departments.			
Action 5: Encourage participation in student clubs and professional societies.			
Action 6: Recognize and reward effective teamwork in project evaluations.			
PO10: Communication			
PO10	2.1	1.52	Target not Achieved
Action 1: Encourage publication of student newsletters, blogs, or technical magazines.			
Action 2: Seminar on Bridging the Gap between Academia and Industry			
Action 3: Seminar on Project-Based Learning, Innovative Idea Contest			
Action 4: Conduct technical writing workshops and report preparation training.			
Action 5: Include oral presentations as part of project/course evaluation.			
Action 6: Organize mock interviews and group discussions for communication practice.			
PO11: Project Management and Finance			
PO11	1.9	1.53	Target not Achieved
Action 1: Seminar on Project-Based Learning.			
Action 2: Seminar on Bridging the Gap between Academia and Industry			
Action 3: Conduct workshops on project management tools.			
Action 4: Embed basic finance and cost analysis modules in curriculum.			
Action 5: Encourage students to take roles in organizing departmental events with budgets.			
Action 6: Students were motivated for successful participation in contest-based hiring activities.			
PO12: Life-long Learning			
PO12	2.1	1.64	Target Not Achieved

Action 1: Assignments are given for every course.

Action 2: Activities are prepared for each course.

Action 3: Internship/ industrial training done by the students.

Action 4: Additional seminars /contest/programs organized.

Action 5: Promote MOOCs, online certifications, and self-learning platforms.

Action 6: Encourage participation in conferences, seminars, and workshops.

Action 7: Introduce self-study assignments with evaluation of independent learning.

Action 8: Establish a Learning Resource Center with access to journals and e-resources.

Action 9: Recognize students who pursue extra certifications or skill development beyond curriculum.

PSOs	Target Level	Attainment Level	Observations
PSO1: Apply programming principles, algorithms, and data structures to design efficient software solutions and intelligent systems using structured, object-oriented, and emerging technologies.			
PSO1	1.7	1.61	Target not Achieved
Action 1: Integrated Advanced Engineering Tools in labs for hands-on proficiency. Action 2: Promoted Project-Based Learning- Capstone projects focused on system design and development. Action 3: Conducted Skill-Oriented Workshops- Organized training sessions on modern engineering tools. Action 4: Strengthen Industry Collaboration-Facilitated internships.			
PSO2: Design, develop, and deploy responsive web and mobile applications integrated with databases and cloud platforms, leveraging modern frameworks and tools for digital transformation.			
PSO2	1.6	1.41	Target not Achieved
Action 1: Promote participation in hackathons and coding competitions Action 2: Strengthened Industry Linkages by facilitating collaborations, and industry related projects to align students with societal needs. Action 3: Promoted Discipline & Professional Ethics Action 4: Integrated modules on professional conduct, time management, and ethical responsibility into academic and co-curricular activities. Action 5: Arrange guest lectures or expert talks from industry professionals on modern web technologies and cloud deployment.			

The Institute has established a formal, structured, and documented Academic Audit framework to ensure quality systems implementation, continuous improvement in academic processes, governance, and outcomes. The academic audit is an integral part of the Institute's quality assurance framework and is implemented through the Internal Quality Assurance Cell (IQAC).

Academic audit is viewed as a systematic and scientific peer-review process aimed at evaluating the effectiveness of academic planning, curriculum implementation, teaching–learning practices, assessment and evaluation systems, outcome-based education (OBE) implementation, faculty development, research activities, industry interaction, student support systems, and governance mechanisms. The audit process integrates departmental self-assessment, internal audit by cross-departmental peers, and external academic audit conducted by External academic audit committee includes External members thereby ensuring transparency, objectivity, and continuous improvement. The overall academic audit cycle and feedback mechanism adopted by the Institute are illustrated in the figure 8.2.1 below.

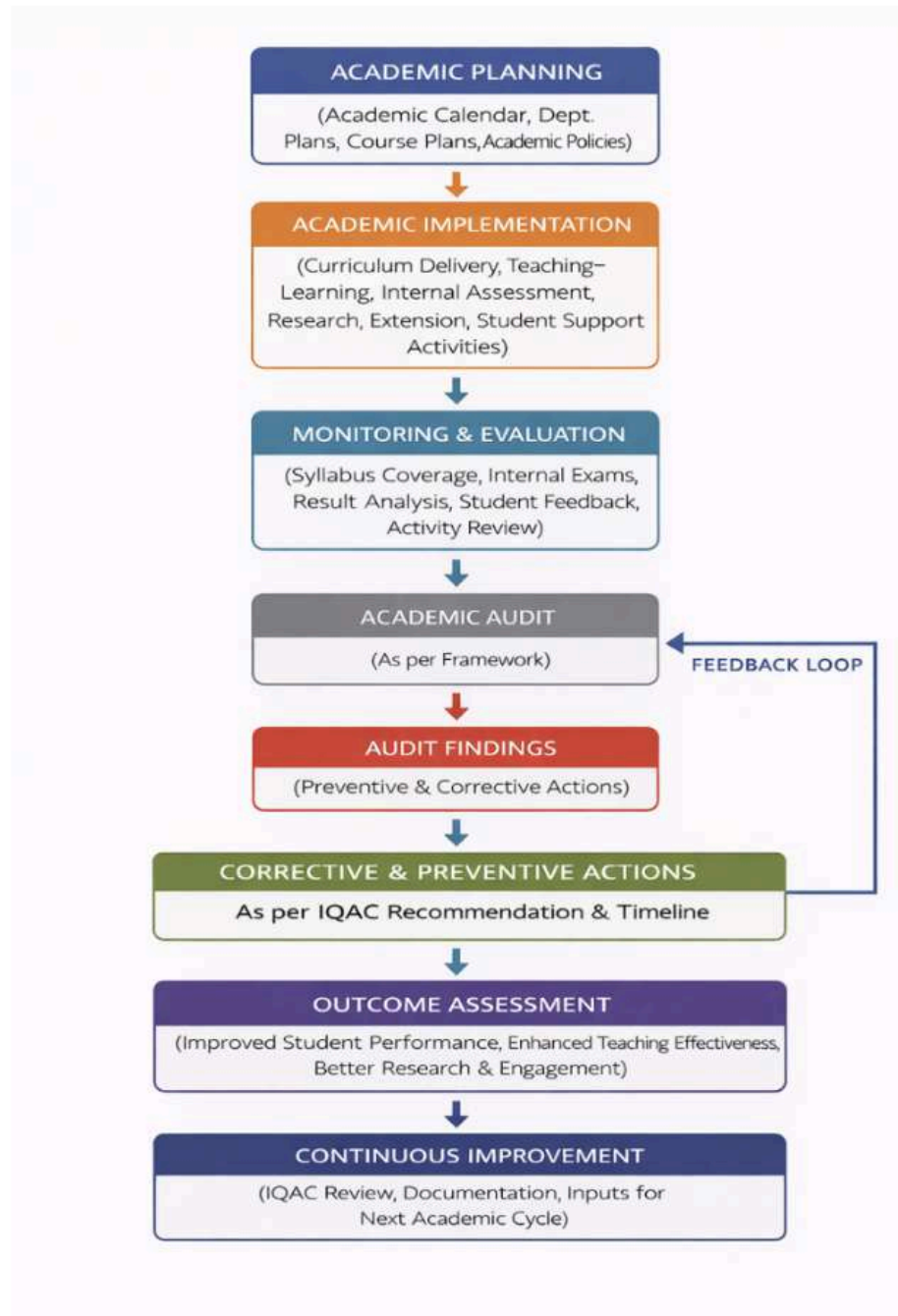


Figure 8.2.1: Academic Audit and Continuous Improvement Framework.

Internal Academic Audit:

1. General Information

- Name of the Institution:
- Department:
- Program(s):
- Date of Audit:
- Audit Team Members:
- Head of Department:

2. Purpose of Internal Academic Audit

The purpose of the Internal Academic Audit is to systematically monitor, evaluate, and enhance academic processes, governance practices, and learning outcomes of the Department. The audit ensures alignment with institutional quality policies and regulatory standards and promotes continuous improvement through evidence-based corrective and preventive actions.

3. Objectives

- To assess compliance with Outcome Based Education (OBE) practices
- To evaluate curriculum implementation and delivery
- To review COs–POs–PSOs mapping and attainment
- To examine teaching–learning and assessment processes
- To identify strengths, gaps, and improvement opportunities
- To recommend corrective and preventive actions

4. Audit Methodology

The audit is conducted through a four-stage structured process:

4.1 Pre-Audit Preparation

- Communication of audit framework and scoring rubric
- Departmental self-assessment
- Submission of academic documents such as:
 - o Academic calendar
 - o Teaching plans and course files
 - o Laboratory manuals
 - o Assessment records
 - o COs–POs–PSOs matrices
 - o Student feedback
 - o Faculty development records
 - o Research outcomes
 - o Industry interaction details
 - o Departmental events records

4.2 On-Site Verification

- Document verification
- Interaction with faculty and students
- Observation of classrooms and laboratories
- Physical verification of infrastructure and learning resources

4.3 Evaluation

Each parameter is evaluated using a five-point scale as shown in table no 8.2.1.:

Table No. 8.2.1: Scale Description.

Scale	Descriptor	Interpretation
5	Excellent	Fully compliant; exemplary practices
4	Very Good	Minor gaps; mostly compliant
3	Good	Moderate gaps; improvement needed
2	Fair	Significant gaps; corrective action required
1	Poor	Non-compliant; urgent intervention required

4.4 Reporting and Action Planning

- Consolidation of audit findings
- Preparation of Internal Academic Audit Report
- Development of time-bound Action Plan
- Monitoring through departmental meetings and IQAC reviews

5. Assessment Framework

The audit evaluates 40 parameters under the following domains:

1. Curriculum Design & Implementation
2. Teaching–Learning Process
3. Assessment & Evaluation
4. COs–POs–PSOs Mapping and Attainment
5. Faculty Development & Research
6. Student Support & Progression
7. Infrastructure & Learning Resources
8. Industry Interaction & Innovation
9. Feedback Systems
10. Governance & Leadership

6. Scoring and Grading

Departmental Grade Based on Total Score (Out of 200) as shown in table no 8.2.2.

Table No. 8.2.2: Score Range.

Score Range	Equivalent Grade
More than 170	EXCELLENT
150 – 170	GOOD
120 – 150	AVERAGE
100 – 120	BELOW AVERAGE
Less than 100	CONCERN

This grading system enables benchmarking of departmental performance and identification of priority areas for improvement.

7. Parameter-wise Evaluation Table

Table No. 8.2.3: Internal Academic Audit Format

Sr. No	Content	Scale	Score	Remark
1	The curriculum is aligned with the regulatory guidelines, and relevant Sustainable Development Goals (SDGs).			
2	The department follows a structured and periodic process for curriculum development and revision.			
3	Program Outcomes (POs) and Course Outcomes (COs) are clearly defined, mapped, and regularly assessed.			
4	The curriculum integrates cross cutting issues, interdisciplinary, skill-based, and experiential learning components effectively.			
5	Indian Knowledge Systems, Value Education concepts are embedded within the curriculum.			
6	Stakeholder feedback (students, faculty, industry, alumni, employer) is systematically collected and used in curriculum design.			
7	The curriculum offers flexibility in credit structure, electives, and academic pathways for students.			
8	Curriculum implementation and delivery are consistently monitored across departments and faculty.			
9	Value-Added Courses (VACs), MOOCs, internships, and field projects are integrated and credited within the curriculum.			
10	The online courses through SWAYAM / SWAYAM Plus and other recognized platforms are actively completed by students and are credited in the curriculum			
11.	Course files are maintained as per checklist and audited by IQAC after the end of every semester.			
12.	Faculty members prepare, approve, and consistently follow lesson plans for all courses.			
13.	Innovative teaching methodologies (e.g., ICT tools, experiential learning) are effectively adopted.			
14.	The Learning Management System (LMS) is actively used for content delivery, assessment, and student engagement.			

15	Student learning levels are regularly assessed, with appropriate support provided to slow and advanced learners.			
16	Internal assessments (Question Papers) are conducted as per schedule and are mapped to Course Outcomes (COs) as well as Blooms Taxonomy.			
17	Mechanisms for monitoring teaching quality and collecting student feedback are well-established and functional.			
18	Faculty members are trained in outcome-based education and pedagogical practices.			
19	Student attendance is systematically tracked and used to guide academic support interventions.			
20	Remedial and bridge programs are conducted regularly to support diverse learner needs.			
21	CO-PO attainment is analyzed and used to improve teaching practices and curriculum delivery.			
22	Local Guardian System is effectively practiced.			
23	Faculty and students publish high-quality research in peer-reviewed journals and conferences.			
24	The department actively undertakes funded research projects, consultancies, and collaborations with external bodies.			
25	Institutional mechanisms effectively promote innovation, patent filing, and intellectual property (Copyright).			
26	Students are actively engaged in research through projects, internships, competitions, and scholarly activities.			
27	The quality of seed money, projects and outcome.			
28	Classrooms, laboratories, and departmental facilities are adequate, accessible, and well-maintained.			
29	The department is equipped with sufficient ICT tools, internet connectivity, and digital teaching resources.			
30	Faculty and students effectively utilize e-resources, open source software, LMS platforms, and digital libraries for academic activities.			

31	Systems for regular maintenance, safety audits, and infrastructure upgrades are well-established and functional.			
32	The department actively promotes green practices, energy efficiency, and eco-friendly infrastructure use.			
33	Student results are consistently analyzed across programs and semesters to monitor academic performance.			
34	Student progression to higher studies, employment, and entrepreneurship, Self-employed Social worker is effectively monitored and documented.			
35	A significant percentage of students secure internships, placements, or success in competitive examinations.			
36	Student achievements in co-curricular and extracurricular domains are well-documented and formally recognized.			
37	Student achievements in academics, research, and innovation are showcased through awards, publications, or media.			
38	Alumni achievements are tracked and used to inform departmental strategy and mentoring initiatives.			
39	Roles and responsibilities of faculty and staff are clearly assigned and periodically reviewed.			
40	Departmental meetings are conducted regularly, with decisions properly recorded and implemented.			
Total Score:				
Equivalent Grade:				

Total Score: _____ / 200

Equivalent Grade: _____

8. Key Findings

8.1 Strengths

- .
- .
- .

8.2 Areas for Improvement

9. Recommendations

-
-
-
-

10. Conclusion

The Internal Academic Audit concludes that the department demonstrates _____ level of compliance with OBE practices. Continuous improvement initiatives are recommended in identified areas to enhance academic quality and stakeholder satisfaction.

Signatures

Audit Committee Members:

1. _____

2. _____

Head of Department: _____

IQAC Coordinator: _____

8.2.2 External Academic Audit:

The External Academic Audit is conducted annually as per DBATU guidelines. The audit verifies the effective conduct of theory courses, laboratory courses, project work, internships, and activity-based learning components as shown in table no 8.2.4. Audit reports are prepared in the prescribed Academic Advisors Report (AAR) format, and documented reports are available for the academic years 2022–23, 2023–24, and 2024–25, confirming the robustness of the external academic audit mechanism.

I. Curricular Aspects:

The Institute implements the curriculum through well-defined Annual Institutional Academic Plans and Departmental Curricular Plans. Academic calendars are prepared in advance and strictly followed. Syllabus coverage is regularly monitored, and 90–100% syllabus completion is achieved for all courses. Curriculum enrichment is ensured through add-on courses, MOOCs (NPTEL/Coursera), foundation courses such as Universal Human Values and Environmental Studies, and skill-oriented programs. Structured online student feedback on curriculum is collected and analyzed for continuous improvement.

II. Teaching, Learning and Evaluation:

Teaching–learning processes are systematically planned through teaching plans, academic diaries, and lesson schedules. ICT-enabled teaching tools such as smart boards and e-learning resources are extensively used. Internal examinations are conducted as per norms with proper documentation. Subject-wise and teacher-wise result analysis is carried out after every examination. Based on performance analysis, remedial classes and mentoring support are provided. Student feedback on teaching effectiveness is obtained through an online mechanism and used for improvement.

III. Research and Consultancy:

The Institute has recognized research centers and qualified research guides. Faculty members contribute through research publications, conference presentations, book publications, FDPs, workshops, and STTPs. While research output is satisfactory, the academic audit identified the need to strengthen funded research projects and consultancy activities. The Institute has documented these observations and initiated measures to encourage proposal submissions and industry collaboration.

IV. Extension Activities:

The Institute actively promotes extension activities through NSS, professional clubs, eco-club, women empowerment initiatives, and the Institute Innovation Cell (IIC). Students participate in social outreach programs, innovation challenges, technical competitions, and entrepreneurship-related activities. These initiatives support experiential learning, social responsibility, and skill development. Suggestions provided by the audit committee are recorded for future implementation.

V. Learning Resources:

The central library is well equipped and fully automated, providing access to print resources, e-resources (N-LIST, DELNET, National Digital Library), e-journals, NPTEL courses, spoken tutorials, and previous years' question papers. Library usage records, circulation data, and visitor registers are systematically maintained, supporting effective teaching-learning processes.

VI. Student Support Activities:

The Institute has a structured student support system including sports, cultural activities, career guidance, placement support, alumni association, grievance redressal, and anti-ragging mechanisms. A Local Guardian (Tutor) Scheme provides mentoring and counseling support. Training and Placement activities focus on skill development and employability, with proper documentation of student participation and placement outcomes.

VII. Basic Amenities:

The Institute provides adequate basic amenities such as safe drinking water, sanitation facilities, women's rest rooms, healthcare support, a hygienic canteen, and a clean, green campus environment. Maintenance records are available, ensuring a safe and supportive learning environment.

VIII. Governance and Leadership:

The Institute follows transparent and participative governance practices through regular staff meetings and functioning academic and administrative committees. Faculty development is encouraged through FDPs, workshops, and access to MOOCs. IQAC coordinates academic planning, monitoring, and documentation, supporting continuous quality improvement.

IX. IT Initiatives:

The Institute has established strong IT infrastructure, including smart classrooms, high-speed internet connectivity, and well-equipped computer laboratories. IT facilities are effectively utilized for academic delivery, assessment, and administration. Digital initiatives support efficient academic management and quality assurance.

X. Best Practices:

The Institute has institutionalized Project-Based Learning (PBL), the Local Guardian mentoring system, and structured teacher assessment practices as best practices. These initiatives enhance student engagement, experiential learning, and academic accountability. IQAC records, annual reports, and AQAR documentation are maintained to support continuous improvement.

Table No. 8.2.4: External Academic Audit Format.

Academic Audit Report of R. C. Patel Institute of Technology, Shirpur			
Academic Year (2024-25)			
Academic Advisors Report (AAR)			
I-COLLEGE PROFILE			
1	Name of the College, Website, email and Ph.No.		
2	Name of the Principal, email & Mob.No		
3	Name of the Vice-Principal, email & Mob. No.		
4	Name of the IQAC Coordinator, email & Mob. No.		
5	Year of Establishment & own land if any		
6	NBA accreditation		

7	NAAC Grade with Cycle, Accredited Year & CGPA (if not Accredited Status of Preparations)			
8	UGC Recognition (2F & 12 B)			
9	College Working Hours (if shift system mention details of both shifts & give reasons for shift system)			
10	No. of Posts Sanctioned			
11	Course wise & Year wise Students strength particulars (Proforma enclosed & to be submitted along with AAR)			
II-CURRICULAR ASPECTS				
	Item	Impression of Academic Advisor with grade A(Good)/B(Satisfactory)/C (poor) after observation		Recommendation/Suggestions by Academic Advisors
		Grade	Actual Status	
1	Implementation of Annual Institutional Plan			
2	Departmental Annual Curricular Plans			
3	College Activity Register for the Academic Year			
4	Departmental Activity Registers (Department-wise)			
5	Add-on Courses (Department-wise) completed during Academic Year			
6	Add-on Courses (Department-wise) in Academic Year			
7	Coverage of Syllabus (Average Percentage)			
8	Teaching of Humanities & Foundation Courses			
9	Teaching of Environmental Science and Ethics			
10	No. of New UG & PG Courses introduced this year			

11	Maintenance of Student Attendance Registers				
12	Feedback forms on Curriculum from students				
III-TEACHING, LEARNING & EVALUATION					
1	Teaching Diaries & Plans in the Prescribed Formats				
2	Co-Curricular Activities (College Level)				
3	Academic Competitions (College & Above level)				
4	Conduct of Internal Examinations				
5	Subject wise result analysis				
6	Teacher wise result analysis				
7	Remedial Classes				
8	Record of Evaluation of Teachers by Students				
IV-RESEARCH AND CONSULTANCY					
1	Is the College a Recognized Research Centre				
2	No. of Research Guides in the College				
3	No. of Research Scholars working for Masters & Ph. D				
4	Major/Minor/Other Research Projects				
5	Research Papers Published in Academic year (International /National)				
6	Papers Presented in Academic year (International /National/ State)				
7	Books Published in Academic year (Single Author/ Co Author)				
8	Seminars/Workshops/ Training Programme Conducted in Academic year (International /National/ State)				
9	Record of Consultancy in Academic year				
10	Record of MOUs in Academic year				

V-EXTENSION ACTIVITIES				
1	Record of Subject/Department Related Extension Activities			
2	Name of the NSS PO & Mobile No.			
3	NSS Attendance register			
4	NSS Activity register			
5	Name of the NCC ANO & Mobile No.			
6	NCC Attendance register			
7	NCC activity register			
8	Name of the Professional Club Coordinator & Mobile No.			
9	Professional Club Activities			
10	Name of the Women Empowerment Cell Coordinator & Mobile No.			
11	WEC Activities			
12	Name of the Eco-Club Coordinator & Mobile No.			
13	Eco- Club Activities			
14	Name of the Consumer Club Coordinator & Mobile No.			
15	Consumer Club Activities			
16	Innovation Activity club			
17	Technology Development and Transfer Cell Activities			
18	Any other Club			
VI-LEARNING RESOURCES				
1	Name of the Librarian & Mob.No			
2	Access timings of the Library			
3	Circulation of Books among Students			
4	Availability of Previous years Question papers			
5	Availability of model answers of previous examinations			
6	Record of Visitors to Library			
7	Status of Library Automation			

8	e- Resources & e-Journals				
9	Number of E-Journals				
10	Number of Print Journals				
11	Access to NPTEL courses				
12	Access to Spoken Tutorials				
13	Access to e-learning tutorials				
14	TED-X activity on campus				
VII-STUDENT SUPPORT ACTIVITIES					
1	Name of Dean/Faculty Incharge & Mob.No				
2	Activities and Support for Sports				
3	Records of events conducted and significant achievements in Sports & Games				
4	Record of cultural programmes conducted				
5	Record of any other extra-curricular activities conducted				
6	Record of Students trained in different verticals				
7	Record of Student placed in In campus placement				
8	Name of Career Guidance Coordinator and Mob.No				
9	Record of activities Career Guidance and placement cell				
10	Name of Departmental Research Coordinator & Mob. No.				
11	Implementation of Departmental Research Plan				
12	IQAC activities & maintenance of records , (Action Plan/Minutes of Meeting/ submission of AQAR to NAAC etc)				
13	Record of Alumni Association Activities				
14	Record of Grievance Redressal Cell / Anti Ragging Cell				
15	Awards and Prizes earned by students				
16	Mentoring / Counseling System				

VIII-BASIC AMENITIES				
1	Maintenance of drinking water			
2	Maintenance of Sanitation			
3	Rest room for women students			
4	Greenery & Cleanliness			
5	Health Care Facility			
6	Canteen			
IX-GOVERNANCE AND LEADERSHIP				
1	Staff meetings Register			
2	Functioning of Committees in Administration (Minutes of Meetings)			
3	Awards/Achievements of faculty			
4	Faculty development initiatives			
X - IT INITIATIVES				
1	e-class rooms (Number & Usage)			
2	Internet Centre			
3	Computer labs (No. of labs & working systems)			
XI-BEST PRACTICES				
1	Record of best/innovative practices by the institution			
2	College Activity Register/ Annual Report			
3	Hard Copy of AQAR			
4	Over All Impression on the College			
Signature of the Deputy Director				
		Signatures of Academic Advisors		

Signature of the Director	1	
	2	
IQAC Co-ordinator		

Actions Taken and Continuous Improvement

Based on academic audits recommendations during the assessment period, the Department has implemented several improvement measures. These include strengthening of lesson planning and academic documentation, enhanced use of ICT-enabled teaching tools and digital learning platforms, refinement of internal assessment and result analysis practices, conduct of remedial and reinforcement of mentoring under the Local Guardian scheme. Faculty participation in FDPs, MOOCs, research activities, and professional development programs has increased. Laboratory infrastructure and learning resources have been upgraded to support effective teaching and learning.

The effectiveness of implemented actions is reviewed periodically through IQAC and departmental review meetings. Academic performance indicators such as student results, COs-POs-PSOs attainment levels, placement outcomes, faculty research output, and stakeholder feedback are analyzed. Subsequent academic audit reports reflect improved compliance, strengthened OBE practices, and enhanced teaching-learning effectiveness, demonstrating a closed-loop academic audit and continuous improvement mechanism.

8.3 Improvement in Faculty Qualification/Contribution (15)

Total Marks 15.00

Institute Marks : 15.00

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
No. of faculty members with Ph.D. degree	4.00	7.00	5.00
No. of publications in peer reviewed journals	20.00	6.00	4.00
No. of publications in conferences	16.00	23.00	6.00

8.4 Improvement in Academic Performance (10)

Total Marks 10.00

Institute Marks : 10.00

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
Academic Performance Index (API) of the First-Year Students in the Program (Refer to section 4.3)	7.09	7.08	6.23
Academic Performance Index (API) of the Second-Year Students in the Program (Refer to section 4.4)	7.56	6.85	6.29
Academic Performance Index (API) of the Third-Year Students in the Program (Refer to section 4.5)	7.23	7.09	7.02

9 STUDENT SUPPORT AND GOVERNANCE (120)

Total Marks 116.00

9.1 First Year Student-Faculty Ratio (FYsFR) (5)

Total Marks 1.00

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	From Engineering Courses	Date of Receiving Highest Degree	Area of Specialization	Designation	Date of joining	Currently Associated (Yes / No)	Nature Of Association (Regular / Contract)	Date Of leaving(In case Currently Associated is 'No')
Mr. Suhas Pan	AVOPS5206M	M.Sc	No	07/06/1995	Physics	Assistant Professor	19/07/2001	Yes	Regular	
Dr. Vijay Kashii	BBAPS8865B	M.Sc. and Ph.D. (Chemistry)	No	25/08/2025	Chemistry	Assistant Professor	19/08/2002	Yes	Regular	
Dr. Satish Vase	AJPPD9106N	M.SC. (Mathematics) and PhD	No	31/01/2017	Mathematics	Professor	01/01/2004	Yes	Regular	
Dr. Vijay Shivaj	ATZPB9674P	M.Sc. (Physics) and Ph.D.	No	23/04/2021	Physics	Associate Professor	13/01/2009	Yes	Regular	
Dr. Amruta Atul	AGVPD0790K	M.SC. (Mathematics) and PhD	No	07/06/2017	Mathematics	Professor	11/08/2009	Yes	Regular	
Dr. Milindkuma	CLEPS7419E	M.Sc. (Physics) and Ph.D.	No	30/04/2016	Physics	Associate Professor	22/09/2010	Yes	Regular	
Dr. Kiran Ekan	CLAPS9948A	M.Sc. and Ph.D. (Chemistry)	No	23/06/2018	Chemistry	Assistant Professor	20/01/2011	Yes	Regular	
Dr. Harshal Sul	AJKPJ1540K	M.SC. (Mathematics) and PhD	No	07/10/2024	Mathematics	Assistant Professor	14/09/2011	Yes	Regular	
Dr. Jamir Salir	CDZPS9785G	M.SC. (Mathematics) and PhD	No	11/11/2024	Mathematics	Assistant Professor	10/08/2012	Yes	Regular	
Mr. Narayan M	AJDPN0210F	M.Sc	No	12/01/2008	Physics	Assistant Professor	13/08/2012	Yes	Regular	
Dr. Pramod Na	BVBPP7371N	M.Sc. and Ph.D. (Chemistry)	No	14/12/2020	Chemistry	Assistant Professor	16/08/2012	Yes	Regular	
Dr. Kishor Rarr	AVGPT0027R	M.A and Ph.D	No	30/11/2022	English	Assistant Professor	12/08/2013	Yes	Regular	
Miss Ashwini B	ENVPP9173B	M.Sc	No	20/12/2020	Statistics	Assistant Professor	01/06/2022	Yes	Regular	

Miss Pratibha I	EPLPP6196E	M.Sc	No	23/05/2017	Mathematics	Assistant Professor	01/08/2022	Yes	Regular	
Mr. Vijay Moha	AINPI2433C	M.Sc	No	27/09/2021	Mathematics	Assistant Professor	17/08/2022	Yes	Regular	
Dr. Hemant Su	AVGPT6798K	M.Sc. (Physics) and Ph.D.	No	23/12/2019	Physics	Assistant Professor	13/08/2024	Yes	Regular	
Mr. Divyesh Ra	GHLPM0530B	M.Sc	No	24/07/2023	Mathematics	Assistant Professor	16/08/2024	Yes	Regular	
Miss Prajakta I	GCZPB6958K	M.Sc	No	13/07/2022	Statistics	Assistant Professor	21/08/2024	Yes	Regular	
Dr. Surekha Rc	ATXPP1665J	M.A and Ph.D	No	02/07/2018	English	Assistant Professor	21/08/2024	Yes	Regular	
Mr. Anil Magan	ASWPA4268N	MA	No	17/07/2007	English	Assistant Professor	21/08/2024	Yes	Regular	
Mr. Mahendra I	ACPPW4815J	MA	No	28/09/2021	English	Assistant Professor	03/10/2023	No	Regular	30/11/2024
Ms. Pooja Nira	BYBPM3949Q	M.Tech	Yes	21/09/2021	Computer Engineering	Assistant Professor	01/08/2022	Yes	Regular	
Ms. Pramila Ka	AVXPA0880A	M.E.	Yes	06/04/2016	Computer Science and Engineering	Assistant Professor	06/04/2022	Yes	Regular	
Mr. Raghuvans	BINPR9023C	M.Tech	Yes	16/06/2016	VLSI and Embedded Systems	Assistant Professor	25/07/2016	No	Regular	30/05/2025
Mrs. Sneha Ma	AUSPG1346B	M.E.	Yes	28/10/2015	Electronics and Telecommunication Engineering	Assistant Professor	07/08/2023	Yes	Regular	
Mr. Amit Rajen	BCCPM3917R	M.Tech	Yes	30/12/2013	Digital Communication	Assistant Professor	12/07/2010	Yes	Regular	
Mr. Krunal Pra	APVPR9510E	M.E.	Yes	05/11/2013	Electronics and Communication Engineering	Assistant Professor	04/01/2023	Yes	Regular	
Dr. Chetan Jai	AGVPC4194Q	Ph.D	Yes	04/08/2025	Civil Engineering	Assistant Professor	01/02/2012	Yes	Regular	
Mr. Jitendra Me	AKWPJ7776L	M.Tech	Yes	10/08/2016	Structural Engineering	Assistant Professor	02/11/2020	Yes	Regular	
Mr. Aakash Su	BCCPP7296L	M.E.	Yes	18/02/2015	Infrastructure Engineering and Management	Assistant Professor	22/08/2012	Yes	Regular	
Mr. Nitish Jagd	CDFPP9268P	M.Tech	Yes	11/12/2018	Computer Science and Engineering	Assistant Professor	28/08/2025	Yes	Regular	

Minakshi Hans	FQYPP5302K	M.E.	Yes	31/05/2025	Information Technology	Assistant Professor	14/07/2025	Yes	Regular	
Mr. Patil Manoj	APBPP3815L	M.Tech	Yes	28/07/2005	Thermal and Fluids Engineering	Assistant Professor	15/07/2006	Yes	Regular	
Dr. Baviskar P	AMTPB0878Q	Ph.D	Yes	03/06/2025	Mechanical Engineering	Assistant Professor	01/08/2011	No	Regular	16/06/2025
Mr. Sachin Nar	DXYPP6227A	M.Tech	Yes	05/07/2017	CADCAM	Assistant Professor	01/07/2024	Yes	Regular	
Mr. Janardan E	DCPPB3984N	M.Tech	Yes	22/06/2023	Mechanical Engineering	Assistant Professor	28/08/2025	Yes	Regular	
Mr. Jain Milkes	AKCPJ4760E	MBA	No	28/07/2009	Softskill	Assistant Professor	06/08/2012	Yes	Regular	
Mr. Rathod Nin	CILPR8064E	M.Phil	No	12/10/2014	Health and Wellness	Assistant Professor	08/08/2013	Yes	Regular	
Mrs. Kavita Sa	CEJPD2233M	M.E.	Yes	27/11/2018	Electronics and Telecommunication Engineering	Assistant Professor	01/12/2022	Yes	Regular	
Mrs. Tejal Raj	DBKPG6377J	M.Tech	Yes	14/12/2020	Computer Science and Engineering	Assistant Professor	17/08/2023	Yes	Regular	
Dr. Kalpesh An	ACFPI6052B	M.Sc. and Ph.D. (Chemistry)	No	15/07/2021	Chemistry	Assistant Professor	22/09/2010	Yes	Regular	
Mr. Samadhan	BCMPP7105E	M.Sc	No	20/07/2011	Mathematics	Assistant Professor	10/01/2022	Yes	Regular	
Dr. Jamadar Pr	ALZPJ7551M	Ph.D	Yes	03/10/2025	General Mechanical	Assistant Professor	01/08/2011	Yes	Regular	
Ms. Amerah B	AWVPA4225C	M.E.	Yes	12/10/2018	Computer Science and Engineering	Assistant Professor	01/04/2023	Yes	Regular	

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage=((NS1*0.8) +(NS2*0.2))/RF
2023-24(CAYm2)	600	30	19	15	61
2024-25(CAYm1)	900	45	24	16	50
2025-26(CAY)	900	45	24	17	50
Average Percentage					53.56

A. Institute Level Mentoring System

The institution has established a robust and structured mentoring system termed as Local Guardian (LG) System to ensure the academic progress, emotional well-being, discipline, and holistic development of students.

Objectives

The system functions through a Local Guardian and Class teacher model, wherein faculty members act as mentors and guide students continuously throughout the academic journey.

This mechanism promotes mentees attention, early identification of issues, and timely intervention. The Local Guardian System aims to

- Monitor students' academic performance and attendance regularly
- Identify students' strengths, weaknesses, and learning gaps
- Provide academic, personal, emotional, and career guidance
- Enhance parent–teacher–student interaction
- Reduce absenteeism and improve retention
- Prepare students for career readiness and employability and all-round personality development

Local Guardian (LG) System Allocation Structure: The Institute has implemented a structured Local Guardian (LG) System to provide continuous academic, personal, and career guidance to students in alignment with Outcome-Based Education (OBE). In the first year, a faculty mentor is assigned to a group of 1:20 students (Minimum) to support not only academic orientation but overall development for employment.

From the second year onwards, departmental faculty take over as local guardians and continue mentoring the same group until graduation, ensuring consistent monitoring, personalized guidance, and holistic development. In the final year, the system is further strengthened through alumni involvement, offering career guidance, placement support, industry exposure, and professional networking.

Multi-Level Mentoring Mechanism: The Institute follows a multi-level mentoring system involving Faculty Members, the Head of the Department, the Head of the Institution, and Alumni to ensure comprehensive academic, personal, and professional support for students.

The mentoring system functions at various levels, namely the Faculty Members, the Head of the Department, and the Head of the Institution, and Alumnus ensuring comprehensive academic and personal support for students. Each class is assigned a Class Teacher responsible for maintaining detailed student profiles, regularly monitoring attendance and academic progress, and identifying areas requiring support or intervention. The Class Teacher/Local Guardian also acts as a key link between the institution and parents through regular communication, while providing counselling and continuous mentoring to guide students in their academic, personal, and professional development.

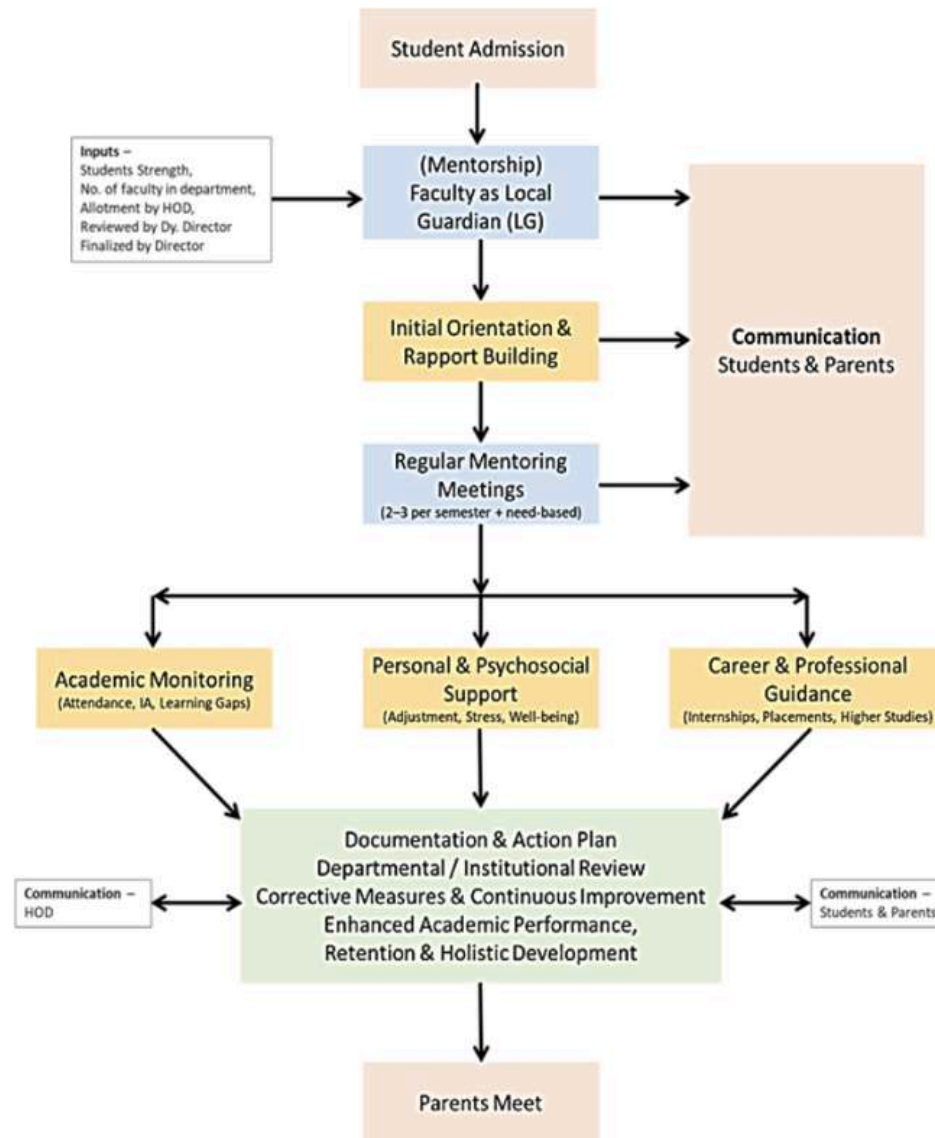


Figure 9.2.1: Structure and Process of the Local Guardian Mentoring System

Each student is assigned a faculty member as a Local Guardian (LG) who provides continuous academic and personal support, ensuring personalized guidance, early identification of issues, and timely intervention throughout the academic year (Refer Figure 9.2.1: Local Guardian System Framework).

Mentoring Process and Record: Each Local Guardian maintains LG student's record which includes:

- Semester-wise attendance details
- Test marks and End Semester Examination (ESE) results
- Mentoring meeting minutes & Parent communication/calling records

Roles and Responsibilities of Local guardians: The Local Guardian acts as the primary link between students, parents, and the Institute, supporting academic progress and personal well-being. The Local Guardian maintains records of attendance and academic performance, conducts regular one-to-one mentoring, identifies academic or personal issues through continuous monitoring, communicates with parents, and ensures timely intervention through institutional support systems when required.

Frequency and Mode of Mentoring: Structured mentoring is implemented through regular and need-based interactions to ensure continuous academic monitoring, personalized support, and timely intervention.

- Frequency: 2 to 3 meetings are conducted in a semester.
- Need-Based Support: Additional mentoring sessions are arranged for slow learners, frequently absent students, and those facing academic or personal challenges.
- Physical Mode: One-to-one and group mentoring sessions.
- Online Mode: ERP system, Parent App, telephonic/Whatsapp communication, and virtual meetings.

Parent Involvement and Monitoring: The Institute ensures continuous parent–faculty engagement through structured meetings and digital communication for effective monitoring of student progress.

- Attendance and academic performance are communicated through official letters and warning notices.
- Semester-wise Parent–Teacher Meetings are conducted to discuss academic performance and overall development.
- Proactive local guardian communication with parents is carried out in cases of absenteeism, poor performance or behavioral issues.
- Same-day ERP alerts are sent to parents for student absenteeism.
- A dedicated Parent App enables parents to track attendance, examination results, and academic progress on a regular basis.

Career, Skill Development and Professional Mentoring: The objective is to strengthen industry–academia collaboration through MoUs and integrate industry-relevant skills into the academic framework. This initiative aims to enhance employability, career readiness, and global exposure in alignment with Outcome-Based Education (OBE).

- A comprehensive Student Orientation and Induction Program is conducted at the beginning of Program & to support smooth transition from school to college.
- Students are introduced to academic regulations, code of conduct, institutional facilities, support systems, and career opportunities.
- Employability Skill Development Program (ESDP): Semester-wise aptitude training and online assessments through Campus Credential.
- Psychological well-being is recognized as essential for academic success and holistic development.
- Foreign Language Cell: Guidance for international exams, language proficiency, and global career opportunities.
- The Institute has active MoUs with industries, training organizations, and CSR partners to strengthen industry–academia collaboration under OBE.
- Alumni Mentorship Program: Career guidance, placement preparation, and industry exposure through alumni support.

B. Effectiveness of the Local Guardian (LG) System

The mentoring system supports Outcome-Based Education (OBE) through continuous academic, career, and personal guidance with timely identification of learning gaps and remedial actions. It enhances student performance, motivation, ethical values, and employability, leading to improved PO-PSO attainment.

- Improved Academic Performance: Continuous monitoring and personalized mentoring have enhanced internal and end-semester results.
- Reduced Absenteeism: Proactive tracking, ERP alerts, and parent communication have minimized absenteeism.
- Early Identification of At-Risk Students: Timely detection of academic and personal issues enables prompt remedial and counselling support.
- Better Retention and Progression: Sustained mentoring has reduced dropouts and improved semester-wise progression.
- Stronger Parent–Institute Connect: Regular interactions and digital communication have increased transparency and involvement.
- Enhanced Confidence and Motivation: One-to-one guidance has fostered positive academic attitude and self-confidence.
- Holistic Development: Integrated academic, emotional, and co-curricular support promotes all-round growth.
- Improved Career Readiness: Alumni mentoring, ESDP, and industry MoUs strengthen employability skills.
- Psychological Well-Being: Institutional and professional counselling support student mental health.

9.3.1 Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (5)

Institute Marks : 5.00

The institute has established a structured and systematic feedback mechanism to obtain meaningful inputs from students on the Teaching–Learning Process and Academic Facilities. In addition to formal feedback tools, suggestion boxes installed at prominent locations on campus enable students to share concerns and suggestions freely.

Feedback is treated as a key quality enhancement tool and is regularly collected and analyzed for academic planning, faculty development, and infrastructure improvement, ensuring informed decision-making, transparency and continuous improvement across all programs.

Objectives

- To systematically obtain structured feedback from students on the Teaching–Learning Process and academic facilities.
- To assess the effectiveness of teaching practices and adequacy of infrastructure supporting learning.
- To identify strengths and improvement areas in academic delivery and facilities.
- To implement timely corrective and preventive actions based on feedback analysis.
- To enhance student satisfaction, engagement and overall academic experience.
- To institutionalize a continuous quality improvement mechanism through review and monitoring.

Institute has established, institutionalized and effectively implemented a systematic feedback mechanism to evaluate and continuously improve the Teaching–Learning Process across all undergraduate engineering programs.

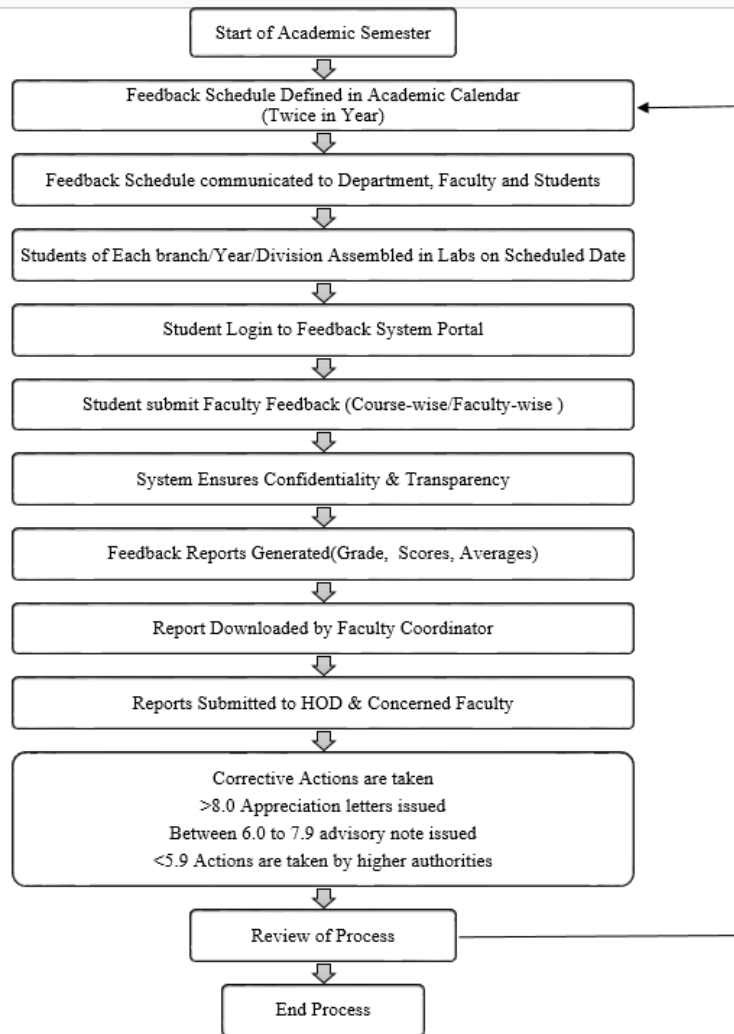


Figure 9.3.1.1: Process Flowchart for Student feedback system.

Feedback on the Teaching–Learning Process is collected regularly through an online feedback system. The process is coordinated by a designated committee to ensure confidentiality, transparency, and unbiased responses. The institute has established a systematic mechanism to collect and review feedback on faculty and academic activities for continuous improvement. (Refer Figure 9.3.1.1)

A. Feedback questionnaire used

The Teaching–Learning Process feedback tool is thoughtfully designed to ensure holistic evaluation of teaching effectiveness across academic, pedagogical, and professional dimensions. The questionnaire covers key aspects of the teaching–learning process. (Refer Figure 9.3.1.2)

QUESTIONNAIRE FOR STUDENT FEED BACK ABOUT THE TEACHER

1. Does the teacher come well prepared for the class?
 - a. Never
 - b. Sometimes
 - c. Always
2. The teachers English, Presentation and teaching skills are
 - a. Unsatisfactory
 - b. Satisfactory
 - c. Good
3. How is the teacher's voice?
 - a. Not audible
 - b. Difficult to hear
 - c. Loud & Clear
4. How the teacher works on white board / smart board?
 - a. Shabby
 - b. satisfactory
 - c. Neat & clear
5. Does the teacher allow you to ask questions and answer the questions you have asked?
 - a. Never
 - b. Evades
 - c. Always
6. Does the teacher revise and ask questions, which are relevant to the topic discussion?
 - a. Never
 - b. Rarely
 - c. Always
7. Does the teacher give sufficient examples and solve previous examination problems in the class?
 - a. Never
 - b. Rarely
 - c. Always
8. Does the teacher assist you in laboratory and solve laboratory related problems in the class?
 - a. Never
 - b. Rarely
 - c. Always
9. Does the teacher give assignments and check the assignments?
 - a. Never
 - b. Rarely
 - c. Always
10. Does the teacher come in time to class and take class till the end of the hour?
 - a. Never
 - b. Sometimes
 - c. Always
11. Does the teacher neglect the acts of indiscipline in the class and outside the class?
 - a. Always
 - b. Sometimes
 - c. Never
12. How is the teacher's assessment of your internal assessment (test) books?
 - a. Erratic
 - b. Very Strict
 - c. Correct
13. Does the teacher favor some group of students while evaluating internal test books and regarding other issues?
 - a. Always
 - b. Can't say
 - c. Never
14. Does the teacher dictate the notes in the class?
 - a. Never
 - b. <25%
 - c. >25%

Figure 9.3.1.2: Questionnaire for Student Feedback on the Teaching–Learning Process

- Faculty preparedness, depth of subject knowledge, and systematic lesson planning.
- Clarity of communication, effectiveness of presentation, and audibility of voice.
- Appropriateness of teaching methodology and effective utilization of the teaching resources.
- Effectiveness of concept revision, questioning techniques, and problem-solving approach.
- Use of relevant examples, previous examination questions, and support during laboratory sessions.
- Quality of assignment design, fairness in evaluation, and timeliness of feedback.
- Punctuality, maintenance of classroom discipline, and professional conduct.
- Fairness, transparency, and objectivity in internal assessment processes.
- Classroom engagement practices including eye contact, approachability, and overall teaching style.

B. Feedback Analysis

The institution follows a well-defined and transparent mechanism for collecting and analyzing student feedback to enhance the quality of the teaching–learning process. This structured approach ensures continuous academic improvement through systematic evaluation and review. The process shown in Figure 9.3.1.3, consistently records an average student participation of 80% to 95%, demonstrating wide coverage, representativeness and reliability of the feedback data.



Specific Feedback


		Faculty Name: Ms. P. D. Sharaf Subject : Universal Human Values Year : SY Semester: 2 Division : C Academic Year: 2023-2024											
Ques No.	a. Count	a. Multiplied	a. Sub Total	b. Count	b. Multiplied	b. Sub Total	c. Count	c. Multiplied	c. Sub Total	Obtained	Total	Percentage	
1.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
2.	0	1	0	1	3	3	53	6	318	321	324	99.07%	
3.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
4.	0	1	0	1	3	3	53	6	318	321	324	99.07%	
5.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
6.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
7.	0	1	0	2	3	6	52	6	312	318	324	98.15%	
8.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
9.	0	1	0	2	3	6	52	6	312	318	324	98.15%	
10.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
11.	0	1	0	0	3	0	54	6	324	324	324	100.00%	
12.	0	1	0	1	3	3	53	6	318	321	324	99.07%	
13.	1	1	1	1	3	3	52	6	312	316	324	97.53%	
14.	3	1	3	5	3	15	46	6	276	294	324	90.74%	
Total Students: 54											4477	4536	9.87
Overall Feedback						Excellent							

Figure 9.3.1.3: Sample Faculty Feedback Report

The student feedback system consists of 14 structured questions, as shown in the figure to evaluate the Teaching–Learning Process. Each question has three response options, namely Option A, Option B, and Option C, with scaling factors of 1, 3, and 6 respectively.

Let n be the total number of students who submitted feedback. The maximum marks for each question are calculated as 6 × n. The score for a faculty member for each question is calculated by multiplying the number of responses for Option A by 1, Option B by 3, and Option C by 6, and then dividing the total by 6 × n to normalize the score.

$$S = \frac{(n_A \times 1) + (n_B \times 3) + (n_C \times 6)}{6 \times n}$$

Where: n_A, n_B, n_C represent the number of responses received for Options A, B, and C respectively. This process is repeated for all 14 questions. The cumulative score obtained is then converted to a 10-point scale, based on which performance grades are assigned as per following table and based on that corrective actions are by the higher authorities.

8.0 to 10	6.0 to 7.9	4.0 to 5.9	2.0 to 3.9	0.0 to 1.9
Excellent	Good	Satisfactory	Un-Satisfactory	Poor

C. Corrective Measures

The institution follows a structured approach to enhance faculty performance by providing corrective support where needed and recognizing excellence. This ensures continuous improvement, professional development, and motivation among teaching staff.

- Faculty members receiving feedback grades greater than 8.0 are issued appreciation letters. Those receiving grades between 6.0 and 7.9 are given advisory notes, while appropriate corrective actions are taken by higher authorities for faculty members receiving lower feedback grades.
- Advised to participate in FDPs, STTPs, workshops, webinars, conferences, and industrial visits.
- Guided to prepare structured lecture notes and course materials.
- Encouraged to complete NPTEL and other certification courses.

- Positively considered in Faculty Appraisal Performance Indicator (API) evaluations.

9.3.2 Feedback on Academic Facilities (5)

Institute Marks : 5.00

During the assessment period, the institute systematically collected feedback from students to ensure the adequacy, effectiveness, and continuous improvement of academic and support infrastructure. The feedback focused on students' perceptions of facilities essential for a conducive teaching–learning environment and overall campus experience. In addition to the formal feedback process, students could report facility-related issues through direct communication with laboratory assistants, local guardians, course teachers, class teachers, class coordinators, HoD.

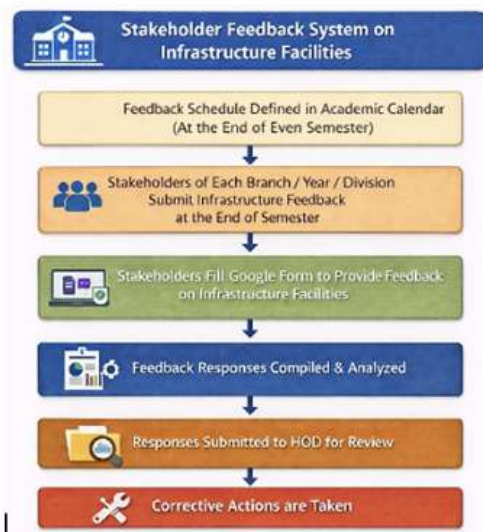


Figure 9.3.2.1: Mechanism for Student Feedback on Infrastructure Facilities

This multi-level approach enabled prompt identification and resolution of day-to-day operational issues. (Refer Figure 9.3.2.1).

A. Feedback questionnaire used

This questionnaire is designed to collect feedback from students regarding the availability, quality, and effectiveness of academic facilities, infrastructure, and support services provided by the institute (Refer Table 9.3.2.1). The responses will help identify strengths and areas for improvement in order to enhance the overall learning environment and campus experience.

Table No.9.3.2.1: Questionnaire for Academic Facilities Feedback.

Sr. No	Statement	1	2	3
Academic Facilities				
1.	Classrooms are well-maintained and conducive to learning			
2.	Laboratories are adequately equipped and regularly maintained			
3.	Library resources meet academic needs			
4.	Internet/Wi-Fi connectivity is reliable across academic blocks			
Technical & Digital Infrastructure				
5.	Computer labs provide sufficient hardware/software			
6.	Smart classrooms and digital tools enhance teaching quality			
7.	Hostel rooms are clean, safe, and well-maintained			
8.	Mess facilities provide hygienic and nutritious food			

Sr. No	Statement	1	2	3
9.	Security measures in hostels are adequate			
Campus Environment & Amenities				
10.	Campus cleanliness and waste management are Satisfactory.			
11.	Sports, Gym and recreation facilities meet student Needs.			
12.	Medical and emergency facilities are accessible.			
13.	Transportation and parking facilities are adequate.			
Support & Services				
14.	Administration responds promptly to facility-related issues			
15.	Maintenance & repair requests are resolved in a Timely Manner.			

Rate each statement on a scale of 1 to 3, Where: 1 = Dissatisfied | 2 = Neutral | 3 = Satisfied

Stakeholders provided their responses on the following facility-related aspects:

- Classrooms: Smart boards/projectors, lighting, seating arrangements, ambience and air-conditioning facilities.
- Departmental and Central Laboratories: Availability and adequacy of hardware, software, tools and equipment.
- Library and Learning Resources: Access to books, journals, e-resources and other study materials.
- Computing, Wi-Fi, and Internet Connectivity: Reliability, speed and accessibility.
- Cleanliness and Ambience: Maintenance, sanitation and overall campus environment.
- Power Backup: Availability and reliability of uninterrupted power supply.
- Safety and Security Facilities: Adequacy of safety measures, security systems and emergency preparedness.
- Common Amenities and Student Support Services: Availability and effectiveness of facilities such as cafeterias, rest areas and student support offices.

The stakeholder facility feedback consists of 15 structured questions, as shown in the Table No.9.3.2.1, designed to evaluate the adequacy and effectiveness of institutional facilities supporting the Teaching–Learning Process. Each question provides three response options, namely Option A, Option B, and Option C. For each question, the number of responses received for Option A and Option B is calculated. If the combined percentage of responses for Options A and B exceeds 80% of the total responses, the facility is considered satisfactory and no improvement is required. If this percentage is less than 80%, the issue is identified for attention and appropriate corrective measures are initiated.

B. Frequency of Feedback and Its Impact

Feedback is collected annually for three consecutive assessment years and consolidated for analysis under the supervision of the IQAC. Feedback from formal tools and informal channels is reviewed through committee discussions to identify gaps and recommend appropriate corrective and preventive actions at departmental and institutional levels for continuous quality improvement.

The institute collects stakeholder feedback on infrastructure once every academic year at the end of the even semester, as specified in the academic calendar. Students from each branch and division submit their feedback through online forms, which is then compiled and analyzed by the department. The results are reviewed by the Head of the Department, and necessary corrective actions are implemented. This regular feedback system helps improve classrooms, laboratories, digital infrastructure, and campus facilities, thereby enhancing the overall teaching–learning environment and student experience.

C. Observations and Corrective Actions

The feedback analysis highlighted several areas requiring improvement in infrastructure and facilities. Stakeholders indicated the need for smart boards, upgraded classrooms, air-conditioning facilities, and overall improvement in physical infrastructure. Concerns were also raised regarding internet speed and connectivity, power backup systems, and availability of adequate laboratory resources. Additionally, there was a requirement for updated software and technical tools, along with improvements in cleanliness, hygiene, safety measures, and the overall campus ambience to support a better academic environment.

Based on the feedback received, the institute implemented several corrective measures to enhance the infrastructure and learning environment. These included the installation of smart boards, improvement in classroom lighting, AC upgrades, and modernization of classroom facilities. The institute also increased internet bandwidth, strengthened power backup systems, upgraded laboratories, updated software resources, and improved library and lift facilities. Furthermore, efforts were made to enhance campus safety, sanitation,

and housekeeping, while also promoting student clubs, digital learning platforms, sports facilities, and outreach activities to create a more supportive and engaging campus environment.

9.4 Training and Placement Support (10)

Total Marks 10.00

The Institute has established a comprehensive, structured, and continuously monitored Training and Placement Support system to enhance students' employability, career readiness, higher studies preparedness, and professional progression. The system explicitly addresses training support, scheduled training calendar, career guidance and counseling, industry interaction for pre-placement and internships, placement facilitation, and support for higher studies, Outcome-Based Education (OBE), and NEP 2020. The Institute has a dedicated Training and Placement Cell responsible for planning, organizing, and implementing training and placement activities for students of first year to final academic year.

A. Infrastructure and Facilities for Training and Placement Cell

Training and Placement Cell focus on Trainings, Placements and for Career guidance to students by taking help of Alumni strength and interaction with industry. TPC has a well-established infrastructure to cater to the said services. The career guidance to students is done at well-structured one to one mentoring and through professional counseling. Pre-placement and industry-specific training are done at every stage of their undergraduate studies.

Objectives of Placement Cell:

- To Enhance students technical, behavioral, and leadership skills.
- Facilitate certifications, mock interviews, resume building, and soft-skill grooming.
- To Bridge the gap between Industry and Academic Practices MOU'S-Memorandum of Understanding with Industries.
- To Share the Experience and Expertise of alumni through Alumni–student mentorship and Industry personal for students Benefit.
- To organize various Workshops, Training Programs with Joint Participation of the faculty and The Industries.
- To organize industrial visits and industry interaction programs for students to provide practical exposure to real-world working environments.
- To offer career counseling and professional guidance along with foreign language training (Japanese and German) to choose suitable career paths and higher education opportunities.
- To create and facilitate employment and internship opportunities by establishing strong linkages with industry and corporate organizations.
- To match students' skills, competencies, and interests with appropriate job profiles, ensuring better employability and career alignment.

Training and Placement Organizational Structure: The Training and Placement Cell is headed by the Director, who provides overall policy direction, leadership, and periodic review to ensure alignment with the institution's vision and outcome-based education (OBE) framework. The Training & Placement Advisory Committee, chaired by the Deputy Director, supports strategic planning, industry linkage development, and continuous monitoring of placement-related activities.

The Head – Training & Placement (TPO) is responsible for the overall coordination, execution, and effective implementation of training, internships, and placement processes. The TPO acts as the central point of contact between students, faculty, alumni, and industry partners.

The cell is supported by specialized functional units focusing on Industry Interaction & Placement, Alumni Interaction for Placement, Training & Skill Development, and Career Guidance & Higher Studies, ensuring comprehensive student support from skill enhancement to career planning. (Refer Figure 9.4.1) At the operational level, Department Placement Coordinators provide department-wise support, maintain student and placement data, and coordinate departmental activities. Student Placement Coordinators assist in student communication, logistics, and smooth conduct of training programs, industrial visits, and placement drives, ensuring efficient and transparent placement operations. (Refer figure 9.4.2)

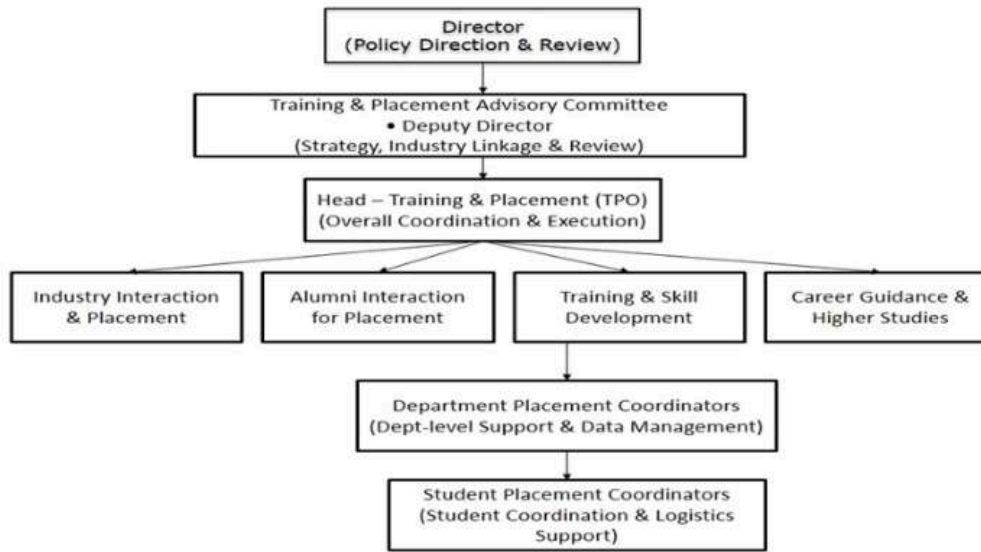


Figure 9.4.1: Training and Placement Cell – Organizational Hierarchy

Pre-Placement Preparation Facilities of training and placement cell: The Training and Placement Cell provides comprehensive pre-placement preparation facilities to equip students with the required technical skills, aptitude, soft skills, and professional readiness for employment and higher education opportunities.



Figure 9.4.2: Training and Placement Framework for Holistic Development

Table No.9.4.1: Training & Skills Enhancement Facilities.

Skills	Facilities
Aptitude & Soft Skill Training	<ul style="list-style-type: none"> • Basic English communication. • Quantitative aptitude. • Logical reasoning and numerical analysis. • Resume writing & Group discussion sessions. • Mock personal interview sessions.
Computer & Language Proficiency Courses	<ul style="list-style-type: none"> • C, C++, Java programming. • AWS. • HTML, CSS, SQL, Fullstack • Japanese & German language proficiency.
Core Domain Placement Assisted Training Courses	<ul style="list-style-type: none"> • CCNA. • Electrical Automation. • AutoCAD (2D), CREO & Unigraphics • Revit Architecture. • PLC / SCADA • SME-oriented technical training

B. Adequate Staff for Training & Placement Support

To align academic processes with industry requirements and enhance student employability, the Industry–Institute Interaction Cell has been constituted and has been functioning effectively since the academic year 2013–14. The members of the cell are listed below.

Table No.9.4.2: Training & Placement Staff.

Sr. No	Name of Member	Post/Designation
1	Prof. Milkesh P. Jain	Head-Industry Institute Interaction Cell/TPO

Sr. No	Name of Member	Post/Designation
2	Prof. Krunal P. Rane	Assistant TPO
3	Prof.Dr.Pandit S.Patil	T & P Coordinator
4	Prof. Dr.Vinit V. Patel	T & P Coordinator
5	Prof. Mayur J. Patil	T & P Coordinator
6	Prof. Akash S. Pawar	T & P Coordinator
7	Prof.Krunal J.Gandhi	T & P Coordinator
8	Prof. Kailas D.Deore	T & P Coordinator

The Training & Placement Cell is led by the Head – Training & Placement (TPO) and supported by an Assistant TPO, Department Placement Coordinators, and Student Placement Coordinators for effective coordination and smooth execution of placement activities. (Refer Table 9.4.2 and 9.4.3)

The cell is further strengthened by trained faculty and industry experts from platforms such as Code Chef, Campus Credentials and Japanese German language, who conduct structured training, workshops, mock interviews, and career guidance aligned with industry requirements.

Table No.9.4.3: List of trainer associated with T&P Department

Sr. No	Trainer Name	Skill Specialization
1	Mr. Harjot Singh Guliani	Aptitude
2	Mr. Musharraf Hassan	Aptitude
3	Mr. Vishwajeet Dhuppe	Aptitude
4	Mr. Sachin Bhosale	Aptitude
5	Mr. Jay Prakash	Aptitude
6	Mr. Nishant Thakare	Aptitude
7	Mr. Sumit Gaikwad	Aptitude
8	Mr. Manish Thakur	Technical IT
9	Mr. Raunak Mitra	Technical IT

Sr. No	Trainer Name	Skill Specialization
10	Mr. Ashish Gadpayle	Technical IT
11	Mr. Prashant Jha	Technical IT
12	Mr. Akash Satdeve	Technical IT
13	Mr. Jayesh Raut	Technical IT
14	Mr. Prashant Shinde	Technical IT
15	Mr. Ganesh Bhosle	Verbal/Soft Skill
16	Mr. Rakesh Palkhe	Verbal/Soft Skill
17	Mr. Noor Ahmad	Programming and Coding
18	Mr. Jivan Jyoti	Programming and Coding
19	Mr. Pavan Kumar Rao	Japanese language
20	Ms. Reena Meena	German language

C. Pre-Placement Training Activities & Placement Process

The Training and Placement Cell provides comprehensive career guidance, industry exposure, and skill development support to enhance students' employability, entrepreneurship, and higher education prospects.

These activities are systematically planned to align student aspirations with industry expectations and outcome-based education goals.

- Placement-Oriented Counseling: Mock interviews, resume building, and interview readiness workshops in coordination with academic departments.
- Alumni Mentorship & Industry Exposure: Alumni mentoring, expert talks, and global industry exposure sessions to provide real-world insights.
- Industry Interaction: Guest lectures, workshops, industrial visits, pre-placement talks, and employer feedback for skill-gap identification.
- Internship Support: Internship facilitation through MoUs, alumni networks, internship drives, and implementation of the Institute Internship Policy.
- Placement Support: Pre-placement training (aptitude, technical, soft skills), resume and profile development, mock recruitment activities, and employer engagement.
- Higher Studies Support: Guidance for GATE, GRE, TOEFL, IELTS, CAT, and assistance with applications and documentation.

Improved career clarity, enhanced employability skills, increased placements and internships, higher studies admissions, and entrepreneurial orientation. The Training and Placement (T&P) process is a structured and systematic approach designed to guide students from career orientation to final placement. (Refer Figure 9.4.3)

It ensures effective coordination between students, the institute, and recruiting organizations, while also focusing on skill development, transparency, and continuous improvement.

Step-by-Step Process

- Orientation session by T&P for third-year students on available career options.
- Students submit placement policy/undertaking forms and indicate their area of interest.
- Expert, technical, and alumni talks are organized to brief students on industry trends.
- T&P department contacts and invites companies for campus recruitment.
- Recruiters share job details, eligibility criteria, and selection procedures.
- Interested students register through Google Forms or company-specific portals.
- Details of eligible and interested students are shared with company HR teams.
- Students are informed about recruitment schedules and selection processes.
- Pre-placement training is provided, including aptitude, technical, GD, and PI sessions.
- Companies visit the campus and conduct recruitment activities.
- Final selection list is announced by the recruiting company.
- T&P department circulates the selected students' list to all stakeholders.
- Recruitment records and employer feedback are documented.
- Exit meeting is conducted to review outcomes and suggest improvements.
- Student feedback is collected and used for further enhancement of the process.

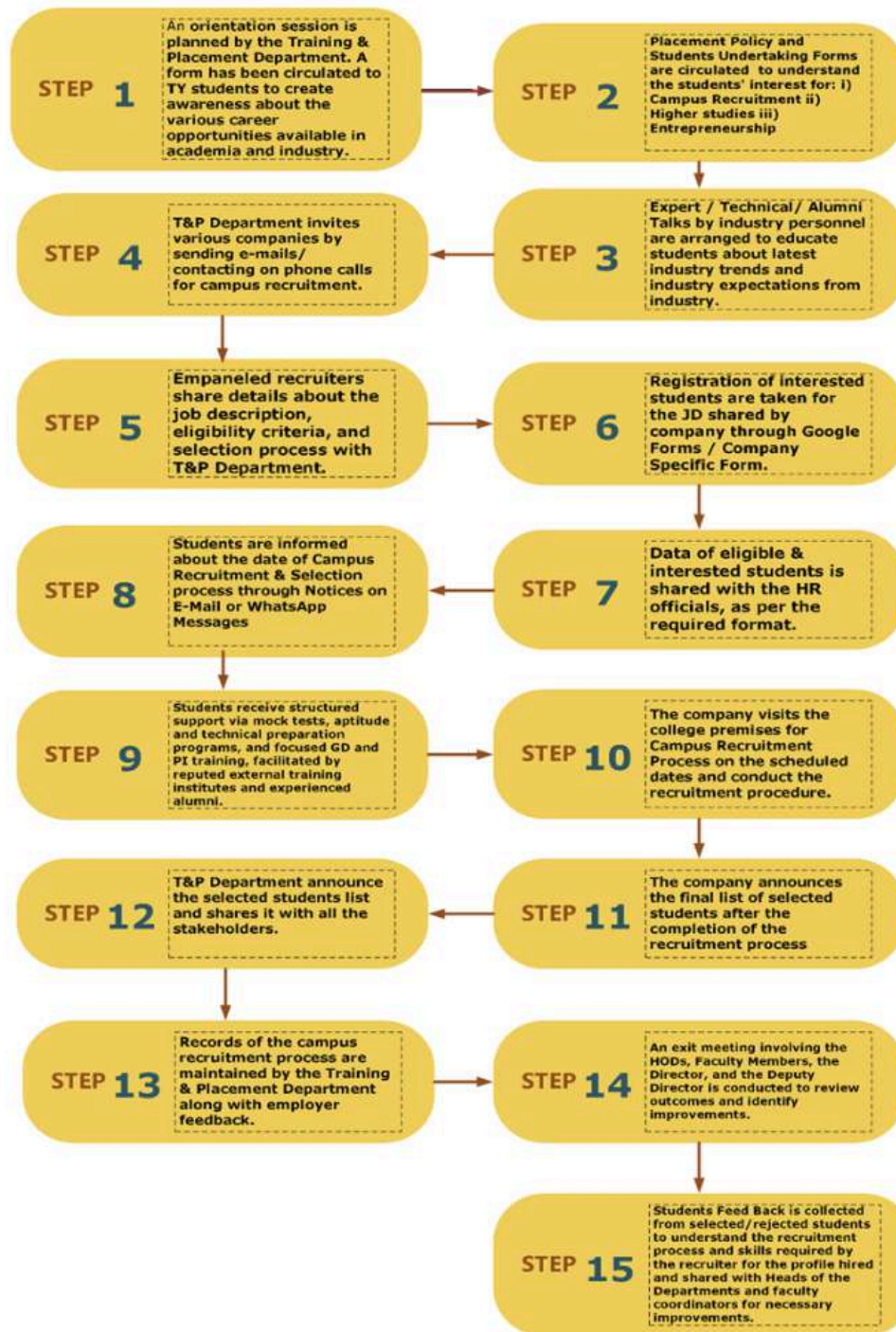


Figure No.9.4.3: Process Flow of Training & Placement Activities

The Training and Placement (T&P) Cell plays a crucial role in organizing continuous and structured training programs to enhance student employability. During the academic year 2023–24, 11 training programs were conducted, which increased to 16 in 2024–25 and further to 17 in 2025–26, reflecting the institution's sustained commitment to career readiness.

Table No.9.4.4: Year-wise Number of Training Programs Conducted by the Training & Placement Cell

No. of Training program conducted	Academic Year	Academic Year	Academic Year
	2025-26	2024-25	2023-24
	17	16	11

In 2025–26, the T&P Department organized diverse skill enhancement and pre-placement training programs. The Department has established a total of 30 Memoranda of Understanding (MoUs) in collaboration with reputed industries, organizations, and professional agencies to enhance academic quality, skill development, and student employability.

Out of these, 16 MoUs are focused on technical skill development, undertaken in collaboration with organizations such as CodeQuotient Pvt. Ltd., Sunrise Mentors Pvt. Ltd. (Coding Ninjas), Sorting Hat Technologies Pvt. Ltd. (CodeChef), Kruxonomy Consulting Pvt. Ltd. (MachineHack), Tessolve Semiconductor Pvt. Ltd., Campus Credentials, R3 Systems India Private Limited, Ambtronics Engineers Pvt. Ltd., Zitics Private Limited, Casepoint Private Limited, Esamyak Software Pvt. Ltd., EagleByte Solutions Pvt. Ltd., Infosys Limited (Springboard), Make MyCareer WCF, and CodeChef, facilitating structured training in core engineering skills, emerging technologies, and industry-relevant competencies. In addition, 5 MoUs are dedicated to soft skill and holistic development, in association with RPG Foundation, Centum Foundation, Effective German Academy, and Yen Academy, focusing on aptitude development, communication skills, life skills, foreign language training, and overall career readiness.

Table No.9.4.5: Sample Activities conducted by the T&P Department

Sr. No	Name of Training Activity / Program	Skills / Focus Area	Target Students	Resource Person / Agency
1	Full Stack Developer Program	Full Stack Developer	Final Year	Symbiosis Pune
2	Softskill/Aptitude Training Program (Batch 1)	Softskill/Aptitude Training	Final Year	The Barclays GTT Foundation
3	Softskill/Aptitude Training Program (Batch-2)	Softskill/Aptitude Training	Final Year	The Barclays GTT Foundation

Sr. No	Name of Training Activity / Program	Skills / Focus Area	Target Students	Resource Person / Agency
4	Mahindra NAANDI Foundation- Batch 1 (life, soft, communication, interview skills)	Life skill, soft skill, communication, interview skills	Final Year	Naandi Foundations Mahindra
5	Mahindra NAANDI Foundation- Batch 2 (life, soft, communication, interview skills)		Final Year	Mahindra Naandi Foundations
6	Mahindra NAANDI Foundation- Batch 3 (life, soft, communication, interview skills)		Final Year	Mahindra Naandi Foundations
7	Ethnus Training Program-FSD MERN	FSD MERN	Final Year	Infosys Foundation
8	Ethnus Training Program-AWS	AWS	Final Year	Infosys Foundation
9	r3 Sys Training IT skill development	IT skill development	Third Year	R3 Systems India Private Limited
10	r3 Sys Training_2026 for IT skill development	IT skill development	Second Year	R3 Systems India Private Limited
11	Technology Training Program	Technology Training	First to Final Year	Infosys Springboard
12	Future Skills Development Program	Future Skills Development	Final Year	Symbiosis FSD
13	Java Project Based Learning	Java Project Based Learning	Final Year	Wipro TalentNext

Further, 9 MoUs are generic in nature and are utilized for academic interaction and allied activities such as project-based learning, internships, remote assignments, consultancy work, placement support, expert lectures, workshops, résumé building, syllabus revision, social outreach, and industrial exposure. These generic MoUs are established with Guruji Foundation, TCS Ltd., Persistent Systems (Pune), ISKCON Shirpur, Shirpur

Constructions/Quantum, Dataserve Infotech Pvt. Ltd. (Pune), CVDragon India, Shalaka Pvt. Ltd., and Konark Global Pvt. Ltd. Collectively, these collaborations significantly enhance experiential learning, industry exposure, professional competence, and continuous academic enrichment of students, thereby strengthening their overall industry readiness.

Notable programs included Full Stack Development training with Symbiosis Pune and Infosys Foundation Ethnus, AWS training, Java and Database training under Wipro Talent Next, Infosys Springboard initiatives, soft skill programs with Barclays GTT Foundation, and life skills training through Nandi Foundation in association with Mahindra. Specialized programs such as Zensar ESD, r3 Sys training, and Japanese and German language courses further strengthened students' global competencies.

Table No.9.4.6: Calendar of Training Activities / Programs

Sr No	Activity (Training /soft skill)	Month and Duration	No of Hours	Target Students
1	Bridge courses and induction program	September	70 Hrs.	FY
2	Employability and Skill Development Program(ESDP)	September to March	40 Hrs.	FY
3	Employability and Skill Development Program (ESDP)	September to March	40 Hrs.	SY
4	Employability and Skill Development Program (ESDP)	September to March	40 Hrs.	TY
5	Internship	January to June	6 Months	B.Tech
6	Alumni Interactions	Periodically (year-round)	45Hrs.	FY/SY/ TY/B.Tech
7	Foreign language training (Japanese/ German)	Periodically (year-round)	180Hrs.	FY/SY/ TY/B.Tech
8	Industry Expert sessions	Periodically (year-round)	65Hrs.	SY/TY/ B.Tech
9	CodeChef	Periodically (year-round)	4Hrs Weekly	FY/SY/ TY/B.Tech
10	Mock Interview	Periodically (year-round)	Department and T&P Level	FY/SY/ TY/B.Tech
11	Full Stack Developer Program	July	100+ Hrs.	Final Year

Sr No	Activity (Training /soft skill)	Month and Duration	No of Hours	Target Students
12	NAANDI Foundation-Batch (life, soft, communication, interview skills)	June	36 Hrs.	Final Year
13	Ethaus Training Program-FSD MERN	July/ Sept	100+ Hrs.	Final Year
14	Ethaus Training Program-AWS	July	100+ Hrs.	Final Year
15	r3 Sys Training IT skill development	July	200+ Hrs.	Final Year
16	Technology Training Program Infosys Springboard	July	150+ Hrs.	Final Year
17	Future Skills Development Program Symbiosis FSD	Sept	100+ Hrs.	Final Year
18	Java Project Based Learning Wipro TalentNext	August	150+ Hrs.	Final Year

D. Support for Higher Studies.

Regular career guidance sessions and one-to-one counseling are organized to guide students towards placements, higher studies, competitive examinations, and entrepreneurship. The Institute provides comprehensive and continuous career guidance and counseling support to students through the Training and Placement Cell (TPC) in coordination with academic departments and institute-level leadership.

The objective is to guide students towards placements, higher studies, competitive examinations, entrepreneurship, and global career opportunities.

Structured Career Guidance Mechanism

- Regular career guidance sessions are conducted to create awareness about career options in core engineering, IT, higher education, government services, and entrepreneurship.
- One-to-one counseling sessions are organized for students to identify individual strengths, career interests, and skill gaps, and to provide personalized career roadmaps.

Meetings with Institute Authorities

- Periodic meetings with the Training and Placement Officer (TPO) and Training and Placement Cell (TPC) are conducted to guide students on placement strategies, internship planning, resume preparation, and recruitment process expectations.
- Career guidance meetings with the Director are organized to motivate students, provide strategic direction, and align academic performance with long-term career goals.

Support for Global Careers and Higher Studies

- Career guidance sessions conducted by the Dean – Foreign Language focus on international career opportunities, foreign language proficiency (Japanese, German, etc.), and pathways for global employment and higher studies abroad.
- Students are guided regarding international certifications, language requirements, and cross-cultural career readiness (Goethe, JLPT).

Foreign Language Training

The International Relations and Higher Studies Cell is a testament to our institutions commitment to bridging academic boundaries and creating a global learning environment. Foreign Language Cell. Under the Foreign Language Cell, RCPIT actively promotes global employability and cross-cultural competence among students by offering structured foreign language training programs.

The institute currently conducts Japanese and German language programs, aligned with international industry requirements and higher education opportunities. To strengthen academic and industry collaboration, Memoranda of Understanding (MoUs) have been established with relevant language training and professional organizations.

These collaborations facilitate expert-led training, webinars, workshops, and guidance sessions, providing students with exposure to global career pathways, international work culture, and overseas education prospects.

The Foreign Language Cell regularly organizes:

- Certified training programs in Japanese and German languages
- Webinars and expert talks by language professionals and industry experts
- Career guidance sessions highlighting international job opportunities and higher studies
- Collaborative activities under MoUs, including mentoring and skill-oriented workshops

Table No.9.4.7: List of Recruiter Visited 2024-25 Batch

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
1	Zydus	E&TC,Electrical,Mechanical	On Campus
2	TSS	Comp,DS,AIML,E&TC,	On Campus
3	Rheal Software	Comp,DS,AIML,E&TC,	On Campus
4	Squad Synergy	Electrical	On Campus
5	Johnson Controls	E&TC,Electrical,Mechanical	Off Campus
6	Recruit CRM	Comp,DS,AIML,E&TC,	Off Campus
7	Patseer	Comp,DS,AIML,E&TC,	On Campus
8	Quality Kiosk	Comp,DS,AIML,E&TC,	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
9	Fox Solutions	E&TC,Electrical,	On Campus
10	Zeal Manufacturing	E&TC,Electrical,	On Campus
11	Tessolve	E&TC,Electrical,	On Campus
12	CodeQuotient	Comp,DS,AI ML,E&TC,Civil,Electrical, Mechanical	Off Campus
13	Faurecia	E&TC,Electrical,Mechanical	Off Campus
14	Probian Tech Pvt Ltd	Civil	On Campus
15	Green Design	Civil	On Campus
16	Ambetronics Engineering Pvt Ltd,Mumbai	E&TC,Electrical,Mechanical	On Campus
17	Nvidia	Comp,DS,AI ML,E&TC,	Off Campus
18	Tech Mahindra	Comp,DS,AI ML,E&TC,	Off Campus
19	Delhivery	Comp,DS,AI ML,E&TC,Civil,Electrical, Mechanical	On Campus
20	Wonder Cement	E&TC,Electrical,Mechanical	Off Campus
21	Sayeesha Infrastructure	Civil	Off Campus
22	Eagle Byte	Comp,DS,AI ML,E&TC	On Campus
23	Apmosys Tech	Comp,DS,AI ML,E&TC	On Campus
24	Endurance Technologies Ltd.	Electrical,Mechanical	Off Campus
25	Indovance Pvt. Ltd.	Civil	On Campus
26	Quantum Industries	Civil	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
27	Campus Credentials	Comp,DS,AI ML,E&TC,Electrical,Mechanical	On Campus
28	WebTech	Comp,DS,AI ML,E&TC,Electrical,Mechanical	On Campus
29	Yamai Technologies	E&TC,Electrical,Mechanical	On Campus
30	Wind Hans Technologies	Electrical	Off Campus
31	Bharat Urja Electricals & Engineering	Electrical	Off Campus
32	InfraBeat Technologies Pvt. Ltd.	Comp,DS,AI ML	Off Campus
33	Bit2Sky India Pvt. Ltd	Comp,DS,AI ML	Off Campus
34	Cipher Web Infotech	E&TC	Off Campus
35	R3Sys India Pvt.Ltd.	Comp,DS,AI ML,E&TC	On Campus
36	RSB Techno Services	Electrical	Off Campus
37	Fuelmatrix	E&TC	Off Campus
38	Kirloskar Pneumatic Company Limited	Mechanical	Off Campus
39	Maharashtra State Board Vocational Education and Training Skill development (MSBSVET)	Comp,DS,AI ML,E&TC	On Campus
40	Suzlon	Electrical,Mechanical	On Campus
41	AISOLO	Comp,DS,AI ML,E&TC	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
42	RDC concrete	Civil,Electrical,Mechanical	Off Campus
43	Jabil	E&TC,Electrical	Off Campus
44	Primus Techsystems Private Limited	Comp,DS,AIML,E&TC	Off Campus
45	Talento	Comp,DS,AIML,E&TC	Off Campus
46	Microdynamic Software Private Limited	Comp,DS,AIML,E&TC	Off Campus
47	Hiliks Technologies Ltd.	Civil	On Campus
48	Reliance	Civil,Electrical,Mechanical	Off Campus
49	Humming Byte Technologies Pvt. Ltd	Comp,DS,AIML,E&TC	Off Campus
50	BuildINT	Comp,DS,AIML,E&TC	On Campus
51	Jackson Green	Civil	On Campus
52	WebLine	Comp,DS,AIML,E&TC	On Campus
53	Codeest	E&TC,Electrical	On Campus
54	SJ Contracts	Civil	On Campus
55	Siddharth Carbochem	Mechanical	Off Campus
56	Suroj Buildcon Pvt Ltd	Civil	On Campus
57	Hitachi Astemo	Mechanical	On Campus
58	Bombay Flying Club	E&TC,Mechanical	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
59	Entecrese Labs	E&TC,Electrical,Mechanical	On Campus
60	Cybernetics Software Pvt. Ltd	DS	Off Campus
61	Twin Engineers Pvt.Ltd.,Pune	Mechanical	Off Campus
62	Megha Engineering	Civil,Electrical,Mechanical	On Campus
63	Webber Electrocorp	Comp,DS,AIML,E&TC	On Campus
64	Altimetrik	Comp,DS,AIML	On Campus
65	STEMx India	E&TC,Electrical	Off Campus
66	Celebal	Comp,DS,AIML,E&TC	Off Campus
67	Angel CAD CAM	Mechanical	Off Campus
68	CIE Automotive	E&TC,Electrical,Mechanical	Off Campus
69	Ashra Filters Pune	Comp,DS,AIML,E&TC,Civil,Electrical, Mechanical	Off Campus
70	Dhanvanthri Engineers Pvt Ltd Mumbai	Electrical	Off Campus
71	Tau Power Electronics Pvt Ltd	E&TC,Electrical	Off Campus
72	Welspun Corp Limited(Sintex)	Mechanical	On Campus
73	Virtuoso Projects and Engineers Pvt. Ltd.	E&TC	On Campus
74	JBM Auto	Electrical	On Campus
75	Mungi Engineers	Electrical,Mechanical	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
76	Nimap	Comp,DS,AI ML,E&TC	On Campus
77	LG Balakrishnan and Bros Ltd	Electrical,Mechanical	Off Campus
78	Paranjape Autocast Pvt. Ltd	Mechanical	Off Campus
79	Cognizant	Comp,DS,AI ML,E&TC,Electrical,Mechanical	On Campus
80	The Nahars Engineering India Pvt Limited	E&TC,Electrical,Mechanical	Off Campus
81	Sutherland	Comp,DS,AI ML,E&TC,Civil,Electrical, Mechanical	Off Campus
82	Tenneco Clean Air India Pvt. Ltd.	E&TC,Electrical,Mechanical	On Campus
83	L&T Technology Services Pune	Mechanical	Off Campus
84	GE Vernova,Vadodara	Mechanical	Off Campus
85	SVKM	Civil,Electrical,Mechanical, Comp,DS,AI ML,E&TC	Off Campus
86	R&W,Pune	E&TC,Electrical,Mechanical	Off Campus
87	Techbean	E&TC,Electrical	On Campus
88	Lumax	E&TC,Electrical	Off Campus
89	Lear	Comp,DS,AI ML,E&TC	Off Campus
90	MRF	E&TC,Electrical,Mechanical	Off Campus
91	SM Auto	E&TC,Electrical,Mechanical	Off Campus
92	Tube Investment India	E&TC,Electrical,Mechanical	Off Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
93	Jaya Hind Industries Pvt Ltd	Electrical, Mechanical	Off Campus
94	NRB Bearing	Mechanical	Off Campus
95	Navgurukul	Comp, DS, AIML, E&TC	On Campus
96	SISECAM Glass	Civil, Electrical, Mechanical	On Campus
97	The Indian Hume Pipe Co. Ltd	Civil, Electrical, Mechanical	On Campus
98	BizDigital IT Services Private Limited	Comp, DS, AIML	Off Campus
99	Vayve Mobility Pvt Ltd (EVA)	E&TC, Electrical	Off Campus
100	Searce	Comp, DS, AIML	Off Campus
101	Rabbit and Tortoise Technology Solutions	Comp, DS, AIML	On Campus
102	TCS	Comp, DS, AIML, E&TC, Civil, Electrical, Mechanical	On Campus
103	Wipro	Comp, DS, AIML, E&TC, Civil, Electrical, Mechanical	On Campus

Table No.9.4.8: List of Recruiter Visited 2023-24 Batch

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
1	TSS	Comp, DS, E&TC, Civil, Electrical, Mechanical	On Campus
2	Netwin	Comp, DS, E&TC, Electrical	On Campus
3	Casepoint	Comp, DS, E&TC, Electrical	On Campus
4	Zydus	Comp, DS, E&TC, Electrical, Mechanical	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
5	Tessolve	Comp,DS,E&TC,Electrical	Off Campus
6	RecruitCRM	Comp,DS,E&TC	Off Campus
7	QualityKiosk	Comp,DS,E&TC	On Campus
8	Faurecia	E&TC,Mechanical	Off Campus
9	Metaroll	Civil	On Campus
10	NVIDIA	Comp,DS,E&TC	On Campus
11	Persistent	Comp,DS,E&TC	On Campus
12	Mungi Engineers	Electrical,Mechanical	On Campus
13	CapitalVia	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
14	Grow Steel Tech	Civil	On Campus
15	Hexaware	Comp,DS,E&TC,Electrical	On Campus
16	Plane Inc	Comp,DS	On Campus
17	PrincetonBlue	Comp,DS	On Campus
18	Johnson Controls India	Electrical	Off Campus
19	Sutherland	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
20	IBM	Comp,DS,E&TC,Electrical	Off Campus
21	Eng Consulting Services Pvt Ltd	Civil	On Campus
22	WebLedger	Comp,DS	Off Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
23	Ambetronics Engineering Pvt Ltd,Mumbai	E&TC,Electrical,Mechanical	On Campus
24	Winsoft	Comp,DS,E&TC,Civil,Mechanical	On Campus
25	Rheal Software	Comp,DS,E&TC,Mechanical	On Campus
26	Wipro Pari	Mechanical	Off Campus
27	Midoffice Applications	Comp,DS	Off Campus
28	FinoFy Technologies	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
29	Artyard Design Studio	Civil	Off Campus
30	eSamyak Software	Comp,DS,E&TC,Civil	On Campus
31	Zitics Pvt Ltd	Comp,DS	On Campus
32	Finulent	Civil,Mechanical	On Campus
33	Green Design	Civil	On Campus
34	S J Construction	Civil	On Campus
35	Hiliks Technologies Ltd.	Civil	On Campus
36	Gofloat Technologies Pvt Ltd	E&TC	Off Campus
37	GARTECH Equipments	Electrical,Mechanical	On Campus
38	DESSAN TEXFAB PVT. LTD.	Electrical,Mechanical	On Campus
39	MSS India Nashik	Mechanical	Off Campus
40	Ampcustech	Comp,DS,E&TC	Off Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
41	Tech Mahindra	Comp,DS,E&TC	Off Campus
42	PatSeer	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
43	FOX IT	Comp,DS,E&TC,Electrical	On Campus
44	Plastic omnium	Mechanical	On Campus
45	Bayone	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
46	Mitsogo	Comp,DS,E&TC,Electrical,Mechanical	Off Campus
47	SVKM	Comp,DS,E&TC	On Campus
48	Fox Solutions	E&TC,Electrical	On Campus
49	Dataserve	Comp,DS,E&TC	On Campus
50	Indovance	Civil,Mechanical	On Campus
51	Belrise Industries Limited	Mechanical	Off Campus
52	TCS	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
53	EagleByte	Comp,DS,E&TC	On Campus
54	Sankey solutions pvt ltd	Comp,DS,E&TC	On Campus
55	MM Nova Tech	Comp,DS	On Campus
56	Paramatrix	Comp,DS,E&TC	On Campus
57	SJ Contracts	Civil	On Campus
58	Quantum Pvt. Ltd	Comp,DS,E&TC,Civil	Off Campus
59	Suroj Buildcon	Civil	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
60	Endo Par Formulation Pharma	Electrical,Mechanical	On Campus
61	Shree Cement	Mechanical	On Campus
62	IGT Solutions	Comp,DS,E&TC	Off Campus
63	Capgemini	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
64	Dali and Samir-Engineering Pvt Ltd	Mechanical	Off Campus
65	Vertiv Energy	E&TC,Electrical	On Campus
66	Varroc Engineering	E&TC,Electrical	Off Campus
67	Sansera Engineering	E&TC,Electrical	Off Campus
68	Rucha Engineering	E&TC,Electrical	Off Campus
69	Flash Pvt Ltd	E&TC,Electrical	Off Campus
70	Lumax Pvt Ltd	E&TC,Electrical	Off Campus
71	Advik Hi Tech Pvt Ltd	E&TC,Electrical	Off Campus
72	S M Auto	E&TC,Electrical	Off Campus
73	AutoComp Panse Pvt Ltd	E&TC,Electrical	Off Campus
74	NAHARS ENGINEERING INDIA PVT.LTD	E&TC,Electrical	Off Campus
75	L G Balkrishnan and Bros Ltd	Mechanical	Off Campus
76	Wonder Cement	E&TC,	On Campus
77	Mylan	E&TC,Electrical,Mechanical	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
78	Microturners	E&TC,	Off Campus
79	Jeena Logistics	E&TC,Mechanical	Off Campus
80	Syrma Technology Ranjangaon SGS Ltd,	E&TC,	Off Campus
81	Infosys	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
82	Vilas Javdekar Developers	Comp,DS,E&TC,Civil,Electrical,Mechanical	On Campus
83	TOX PRESSOTECHNIK India Pvt Ltd.	Comp,DS,E&TC	Off Campus
84	Zeal Manufacturing	E&TC,Electrical	On Campus
85	Seatrium	E&TC,Electrical	Off Campus

Table No.9.4.9: List of Recruiter Visited 2022-23 Batch

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
1	Hexaware	Comp,E&TC,Electrical	On Campus
2	Infosys	Comp,E&TC,Civil,Electrical,Mechanical	On Campus
3	Cybage	Comp	On Campus
4	TCS	Comp,E&TC,Civil,Electrical,Mechanical	On Campus
5	Dataserve	Comp,E&TC,Mechanical	On Campus
6	Make My House	Civil,E&TC,Civil,Electrical, Mechanical	On Campus
7	Netwin	Comp,E&TC,Electrical	On Campus
8	360 Realtors	E&TC,Civil,Electrical, Mechanical	On Campus
9	Vilas Javdekar Developers Pune	Civil	On Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
10	Verzeo	Comp,E&TC,Electrical, Mechanical	On Campus
11	Crave Infotech	Comp,E&TC,Electrical,	On Campus
12	Webline	Comp,E&TC,	On Campus
13	Tech Mahindra	Comp,E&TC,	On Campus
14	Infinity Structural Solution	Civil,	Off Campus
15	Virtusa	Comp,E&TC,Electrical, Mechanical	On Campus
16	Reliance Jio	Comp,E&TC,Electrical,	On Campus
17	Bitwise	Comp,E&TC	On Campus
18	Faurecia	E&TC	Off Campus
19	Rheal Software	Comp,E&TC,Electrical, Mechanical	On Campus
20	Green Design	Civil	On Campus
21	Atos	Comp,E&TC,Electrical, Mechanical	On Campus
22	Smyle Housing Development	Civil,	On Campus
23	Webtech	Comp,E&TC,Electrical, Mechanical	On Campus
24	Mungi Engineers	Electrical, Mechanical	On Campus
25	RecruitCRM	Comp	Off Campus
26	Spinta Solutions	Mechanical	On Campus
27	Clover	Comp,E&TC,Electrical, Mechanical	On Campus
28	Hexaware(PGET)	Comp,E&TC,Electrical, Mechanical	On Campus
29	Fox Soutions	E&TC,Electrical	On Campus
30	Tricera Technology LLP	E&TC,	Off Campus
31	Metaroll	Civil	On Campus
32	ZF India Steering Gear LTD	Mechanical	Off Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
33	Corbello Construction. Company, Pune	Civil	Off Campus
34	IBM	Comp,E&TC,	Off Campus
35	Veda Engineering Private Limited	Mechanical	On Campus
36	Capgemini	Comp,E&TC,Electrical,Mechanical	On Campus
37	Amiti Software Technologies	Comp	Off Campus
38	Nirma	Electrical,Mechanical	On Campus
39	Hitachi	Mechanical	On Campus
40	DTDC	Comp,E&TC,Civil,Electrical,Mechanical	On Campus
41	Deloitte	Comp,E&TC	Off Campus
42	Gridlogics (Patseer)	Comp	On Campus
43	Finulent Solutions	Civil	On Campus
44	Cognizant	Comp,E&TC	On Campus
45	Ekam Venture - Project Management Consultancy (PMC)	Civil	Off Campus
46	Just Dial	Comp,E&TC,Civil,Electrical,Mechanical	On Campus
47	Bedmutha	Mechanical	Off Campus
48	Torpedo Engineering Solutions	Electrical,	On Campus
49	Praj Industries	Comp	On Campus
50	Sulzer	Mechanical	On Campus
51	360 Edge+	E&TC,Civil,Electrical, Mechanical	On Campus
52	Paramatrix	Comp,E&TC	On Campus
53	Patil Automation	Electrical,Mechanical	On Campus
54	Accolite Digital	Comp	Off Campus
55	Axcess io	Comp	Off Campus

Sr. No.	Name of The Recruiter	Program participated	On/Off Campus
56	GM Mfg services pvt Ltd, Pune	Mechanical	On Campus
57	Emkay casting forging	Mechanical	Off Campus
58	Airbus	Comp	Off Campus
59	KPIT	Comp,E&TC,Electrical,	Off Campus
60	Accenture	Comp,E&TC,Electrical	Off Campus

These initiatives significantly enhance students' communication skills, global mobility, and employability, thereby supporting the institute's vision of holistic student development and contributing effectively to NBA Criterion on Student Support and Skill Development. It has impacted in improved global employability skills, Enhanced readiness for multinational companies and Support for overseas higher studies and international careers.

A. Entrepreneurship cell/ Incubation cell

Students are encouraged to adopt an entrepreneurial mindset through structured start-up and entrepreneurship activities aimed at promoting innovation-based learning and motivating students to transform original ideas into viable businesses. In alignment with national initiatives on innovation and entrepreneurship, these activities help students develop competencies such as problem identification, design thinking, business model development, and self-employment.

To institutionalize these efforts, the institute established the Institution's Innovation Council (IC201811420) in 2018, as per the guidelines of Ministry of Education. The IIC functions as the policy-driven and strategic body responsible for promoting innovation, creativity, intellectual property awareness, and start-up orientation among students and faculty. Working under the framework and guidance of the IIC, the Entrepreneurship Cell (E-Cell) acts as the operational and implementation arm of entrepreneurship initiatives at the institute. (Refer Figure 9.5.1)

Inspired by best practices of premier institutions such as Indian Institute of Technology Bombay, the E-Cell functions with the motto "Creating Job Creators." It comprises faculty coordinator and active student members who plan, organize, and execute entrepreneurship-related activities such as workshops, idea competitions, mentoring sessions, and start-up awareness programs.



Figure 9.5.1: IIC Establishment Certificate

The Institute Innovation Council (IIC) and Entrepreneurship Cell (E-Cell) work in a coordinated manner to promote innovation and entrepreneurship among students. While the IIC provides strategic direction and policy-level support aligned with national initiatives, the E-Cell ensures effective execution and active student participation. This integrated approach has strengthened the institute's innovation ecosystem and fostered a sustainable start-up culture on campus.

Key Initiatives and Support Mechanism

- IIC provides strategic guidance, national alignment, and policy support for innovation activities.
- E-Cell facilitates grassroots-level execution and encourages active student engagement.
- Dedicated incubation environment supports brainstorming, mentorship, and prototype development.
- Access to computers, internet, software tools, and departmental laboratories for idea validation.
- Continuous mentoring by faculty members and industry experts on technical and entrepreneurial aspects.
- Student participation encouraged in Hackathons, business plan competitions, start-up challenges, and national innovation programs.
- Training and awareness programs on Intellectual Property Rights (IPR), patent filing, and funding opportunities.

- Regular organization of entrepreneurship events such as expert talks, Hackathons, boot camps, YUKIT innovation challenges, and business plan competitions.
- Active student involvement and measurable outcomes demonstrate the effectiveness of innovation and start-up initiatives.

B. Activities Conducted

The Table 9.5.1 highlights key entrepreneurship and innovation activities conducted by the institute, showcasing expert involvement, student participation, and measurable outcomes in fostering entrepreneurial and innovation skills.

Table No. 9.5.1: Details of Entrepreneurship and Innovation Activities Conducted

Sr. No	Resource Person & Organization	Name of Activity	Date	No. of Student	Outcome/ Output
1	Mr. Shaurya Gaikwad Founder & CEO – LEAP & EnterpreneX, Advisory Council Member – HBR	My Story / Building Before Graduation: AI, Startups & Practical Entrepreneurship	22–24 Nov 2025	2000+	Large-scale impact through experiential learning; strengthened startup execution skills and innovation mindset.
2	Mr. Pankaj Kasar AI-ML Engineer, Griffyn Robotech Pvt. Ltd., Pune	Workshop on AI and I4.0 Tools for Innovators and Entrepreneurs	15 Nov 2025	85	Hands-on exposure to AI and Industry 4.0 tools; enhanced technical and entrepreneurial competencies.
3	Prof. Jayesh Badane, Gurumantra Vocational Training Institute, Dhule	My Story / Motivational Expert Session by Successful Innovators & Entrepreneurs	6 Nov 2025	50	Inspired students through entrepreneurial experiences; increased motivation towards startups.
4	Dr. Hemraj Kumavat, IPR Expert, R. C. Patel Institute of Technology, Shirpur	National Level Webinar on IPR Awareness: From Innovation to Patent Filing	29 Aug 2025	800+	Large-scale awareness on patent filing process; motivated students and faculty to pursue IP protection.
5	Prof. Dr. Sanjay L. Kurkute, Founder & CEO – PRISM Technology	Expert Session on "Innovation and Start-up Ecosystem Enablers"	26 Aug 2025	185	Improved understanding of innovation enablers, incubation, funding, and ecosystem support mechanisms.

Sr. No	Resource Person & Organization	Name of Activity	Date	No. of Student	Outcome/ Output
6	Dr. Santosh Rane, President IIC-SPCE, Mumbai	National-level Webinar on "Lean Start Up Ecosystem"	21 Aug 2025	489	Exposure to lean startup principles and scalable business models; strengthened entrepreneurial thinking.
7	Mr. Jai Veer, Assistant Controller of Patents & Designs, DPIIT (MIC Driven)	Commercialization of Patents & Government Support Systems	26 Apr 2025	100+	Improved awareness of government schemes and patent commercialization mechanisms.
8	Dr. Dara Ajay, IIT Madras (MIC Driven)	Patent to Product	26 Apr 2025	100+	Understanding of converting patents into market-ready products and commercialization strategies.
9	Dr. Sripathi Rao Kulkarni, CSIR Innovation Complex – Mumbai (MIC Driven)	Significance of IP Protection and Commercialization	25 Apr 2025	100+	Awareness on IP commercialization pathways and industry-academia collaboration.
10	Dr. Rahul Taneja, Haryana State Council for Science & Technology (MIC Driven)	Mark the Spot: Trademarks Talk	24 Apr 2025	100+	Knowledge of trademark registration and branding protection.
11	Dr. Hemant Khosla, DPIIT (MIC Driven)	Copyright Protection Mechanisms & Case Studies	23 Apr 2025	100+	Clarity on copyright enforcement and legal frameworks.
12	Ms. Anooja Padhee, K&S Partners (MIC Driven)	Copy That! Copyrights Uncovered	23 Apr 2025	100+	Awareness of copyright ownership and protection mechanisms.
13	Dr. Chakravarthy, Mahindra University (MIC Driven)	Importance of Design Protection & Case Studies	22 Apr 2025	100+	Improved understanding of design protection using real-world cases.

Sr. No	Resource Person & Organization	Name of Activity	Date	No. of Student	Outcome/ Output
14	Prof. Gauri Gargate, IIT Kharagpur (MIC Driven)	Discover More with Design Registrations	22 Apr 2025	100+	Knowledge of design registration procedures and benefits.
15	Prof. (Dr.) Unnat P. Pandit, CGPDTM, DPIIT (MIC Driven)	IP Awareness & Innovation National Development	21 Apr 2025	100+	Understanding of IP's role in national innovation and development.
16	Dr. Sacha Wunsch-Vincent, WIPO (MIC Driven)	Inauguration of IP UTSAV & World Creativity and Innovation Day	21 Apr 2025	100+	Promotion of innovation culture and IP awareness.
17	Dr. Jeeva B, Kumaraguru College of Technology	Protecting IPR & IP Management for Start-ups	20 Mar 2025	70	Understanding of IPR management and TRL concepts.
18	Mr. Subham Sughandi, Founder – Marketing Mantra	Expert Lecture on National Startup Day	16 Jan 2025	80	Exposure to startup branding and marketing strategies.
19	Mr. Dipen Sahu, Innovation Officer, MoE Cell (MIC), Government of India	Orientation & Refresher Session on IIC Objectives & Structure	5 Aug 2024	300+	Improved understanding of IIC governance and operations.
20	Mr. Dipen Sahu, Innovation Officer, MoE Cell (MIC), Government of India	YUKTI Innovation & IPR Repository (YIIR)	2 Aug 2024	300+	Capability to manage and track innovations via YUKTI portal.
21	Mr. Dipen Sahu, Innovation Officer, MoE Cell (MIC), Government of India	Strengthening IIC Linkages with ATLS & SICs	31 Jul 2024	200+	Enhanced collaboration with schools and mentorship framework.
22	Mr. Dipen Sahu, Innovation Officer, MoE Cell (MIC),	Innovation Ambassadors Framework & Reward	29 Jul 2024	200+	Faculty and students trained as Innovation Ambassadors.
23	Dr. Yogesh Fulpagare, Cooler Master, Taiwan	Process of Innovation Development	24 Feb 2024	200	Understanding of structured innovation development processes.

Sr. No	Resource Person & Organization	Name of Activity	Date	No. of Student	Outcome/ Output
24	Mr. Arjun Deshpande, Founder & CEO, Generic Aadhaar	My Story – Motivational Session	21 Jan 2024	150	Motivation through real entrepreneurial journey.
25	Mr. Arjun Malhotra, Co-Founder HCL Group	Innovation & Entrepreneurship Outreach Program	22 Dec 2023	300+	Exposure to entrepreneurship opportunities beyond campus.
26	Hon'ble Prime Minister Shri Narendra Modi	Launch of "Viksit Bharat@2047: Voice of Youth"	11 Dec 2023	500+	National-level awareness on innovation-led nation building.

C. Student Start-ups: Evidence of Innovation-Driven Outcomes

Structured innovation activities, supported by continuous mentoring from trained faculty and Innovation Ambassadors, enabled students to acquire practical entrepreneurial skills, resulting in registered student start-ups, active founders, and award-winning participation at multiple levels—evidencing innovation-driven outcomes.

Table No. 9.5.2: Details of Student Start-ups and Founders

Sr. No	Name of Founder	Start-Up Name	Registration No.
1	PRATHAMESH MALI	STEMSAGE	ACG-9397
2	OM PATIL	DRONI CULTURE SYSTEMS PVT. LTD	AAY-3425
3	RAHUL BAVISKAR	SWADESHI HANDICRAFTS PVT. LTD	U51310MH2021PTC358417
4	TEJAS PAWAR	MWS SOLUTION	UDYAM-MH09-0015846
5	ROHIT LOHAR	VIVA-TECHNOLOGY DRIVEN SPONSOR ENGAGEMENT	ACP-1208

Sr. No	Name of Founder	Start-Up Name	Registration No.
6	GIRASE TEJAS	ALLINO	Incubated at DBATU, Lonere



Figure 9.5.3: Glimpse of students Achievements

Motivated by this exposure and mentoring support, some students further initiated their own start-up ventures, translating innovative ideas into entrepreneurial outcomes. These achievements reflect the effectiveness of the institute’s entrepreneurship initiatives in nurturing innovation, self-employment, and job creation among students.

Faculty members have been trained as Innovation Ambassadors to strengthen the institutional innovation ecosystem. Currently, 09 faculty members have completed Innovation Ambassador training, and 03 have successfully completed Advanced Innovation Ambassador Training under the Institution’s Innovation Council (IIC). These trained faculty members play a pivotal role in providing structured mentoring, coaching, leadership, and strategic guidance for innovation, start-up, and entrepreneurship activities conducted through the IIC and E-Cell, ensuring continuity, quality, and measurable impact in entrepreneurial initiatives.

Table No 9.5.3: Students Achievements

Sr. No.	AY	Name of Competition	Level	Organizing Agency	Achievement / Position	Outcome
1	25-26	YUKTI Innovation Challenge	National	Ministry of Education	Semi-finalist	Prototype
2	24-25	Youth Ideathon	National	SBI	Top 100 Selection	Idea validation & mentoring
3	24-25	Smart India Hackathon	National	Govt.	Finalist	Prototype
4	24-25	Eureka	National	IIT Bombay	Shortlisted for Final Round	Investor pitching
5	25-26	ISF Unicorn Challenge	Inter National	ISF	Selected for Dubai Round	Global exposure
6	24-25	Maharashtra State Innovation Challenge	State	Govt. of Maharashtra	Winner ₹1,00,000 Prize	Funding support

- More than 2,000 students have participated in 26 innovation and entrepreneurship programs organized by the institute.
- Seven student start-ups have been registered or are currently under incubation as a direct outcome of these initiatives.
- Two student teams received ₹1,000,000 each as state-level start-up funding for their innovative ideas.
- Students have secured state-level awards, won national competitions, and achieved recognition in international innovation and business contests.
- These achievements indicate significant improvement in students' innovation, start-up, and entrepreneurial skills.
- A functional Institution's Innovation Council (IIC) has been in operation since 2018 to sustain and guide innovation activities.
- The IIC is supported by structured faculty, expert, and student councils for effective implementation.
- Trained and Advanced Innovation Ambassadors provide continuous mentoring and guidance.
- The institute organizes 15–20 innovation and entrepreneurship activities annually, resulting in increased student participation and a strong innovation-driven start-up culture.

R. C. Patel Institute of Technology (RCPIT), Shirpur, has formulated a comprehensive Institutional Strategic Plan and Institutional Development Plan (IDP) for the period 2023-2030, aligned with its Vision, Mission, and Outcome-Based Education (OBE) framework.

A. Institute Strategic Plan (2020-2030)

A 360 degree perspective plan is developed by an IQAC which considers important factors i.e. structure, mechanisms and stake holders within the system and their capacity to act, their creativity, the collaboration between them, their confidence, and the coherence of the action with other initiatives (Refer Figure 9.6.1.1).

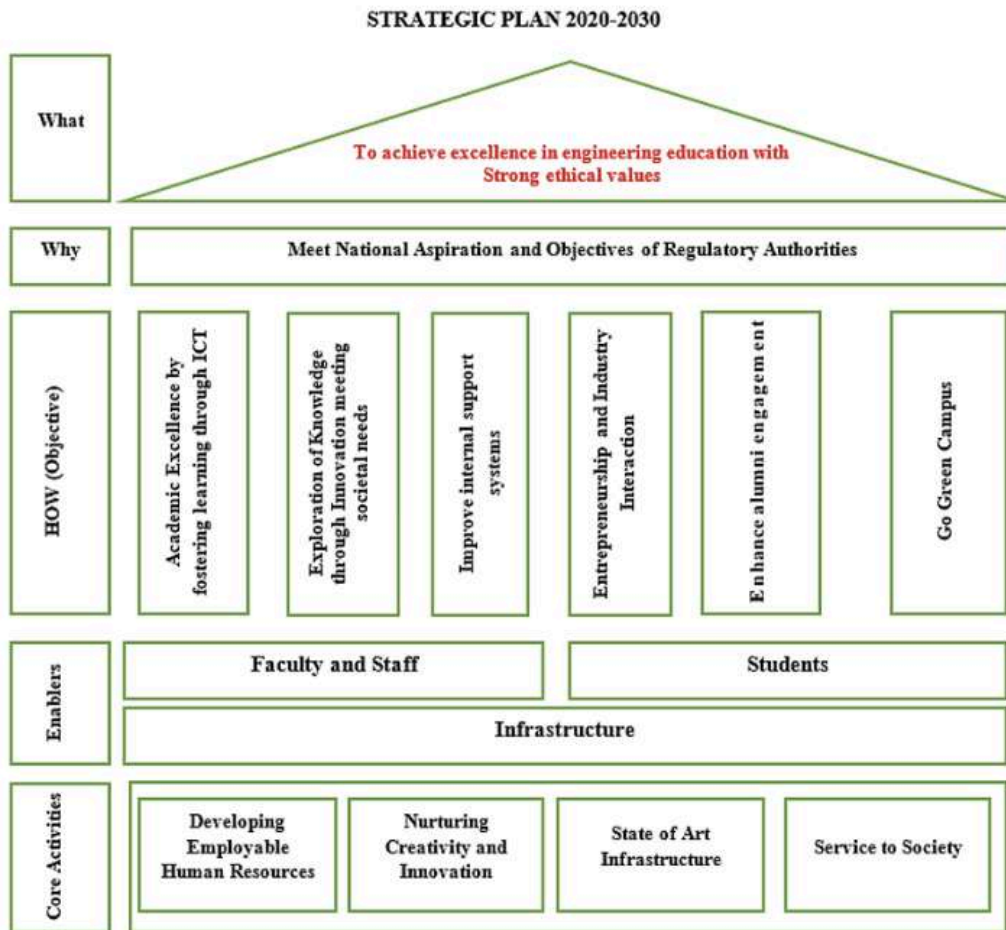


Figure 9.6.1.1: Institutional Strategic Planning Framework (2020–2030)

Goal 1: Academic Excellence by fostering learning through ICT

Values-based Education creates a strong learning environment that enhances academic achievement and develops students social and relationship skills that last throughout their lives. The positive outcomes are achieved through teaching-learning methods blended with ethical values and cross domain research in cutting edge technologies. This leads to the all-round personality development of the students. It also provides social capacity to students, equipping them with social and relationship skills, intelligence and attitude to succeed at every aspect of their lives. A high quality of academic excellence can provide value-added experience for the students.

Table No.9.6.1.1: Strategic Objectives Aligned with Institutional Development

Sr. No	Strategic Plan
1	Academic Excellence by fostering learning through ICT
2	Exploration of Knowledge through Innovation meeting societal needs
3	Improve Internal Support Systems
4	Entrepreneurship and Industry Interaction
5	Enhance alumni engagement
6	Go Green Campus

Strategies:

Curriculum Enrichment and Value Addition: Being an affiliating College the HEI has insignificant role in curriculum designing and development. However measures have been taken for Industrial certificate Course, Value added courses and activities sensitizing students to cross-cutting issues such as gender, environment and sustainability, human values and professional ethics, development of creative and divergent competencies.

Table No.9.6.1.2: Key Result Areas and Performance Measures for Academic Quality Enhancement

Key Result Areas	Measures
Curriculum Enrichment	Industrial Certificate Courses
	Courses focusing on Skill development and Employability
	Value Added Courses
Learner Centric Curriculum delivery	Academic Plan as per OBE & Academic calendar
	Quality projects
	ICT utilization / Pedagogy Tools
	Online Self learning Resources
	Industry exposure through Internships
	Workshops/FDPs on Pedagogy/Technology
	Learning Management System
Smart Classrooms	Multimedia and support equipment
	E-Learning Facilities.
Laboratories	Periodic maintenance and up gradation
	Virtual Laboratory
	Additional Design and open ended experiments

Pedagogy and Delivery Modes: The day to day classroom delivery is through modern pedagogy evenly balancing the traditional methodology. The classrooms are equipped with the required infrastructure to facilitate the new modes of delivery. The faculty are trained on the ICT methodologies and continuous apprise of the same is provided through conduct and participation in faculty development programs, workshops and seminars. An exclusive teaching/ learning center is in place to support faculty teaching, student learning and communication. E- Learning / online learning will be encouraged in addition to the traditional class room teaching-learning practice. Faculties and students are encouraged for MOOC- SWAYAM-NPTEL Certification.

Goal 2: Exploration of Knowledge through Innovation meeting societal needs

The Institute addresses and enhances students' imagination, initiative and practical skills and equips them to innovate and confidently cross the threshold of challenges. Added to the academic activity additional open ended experiments, Micro/ Mini Projects, Industrial based projects, Product based projects are encouraged.

Table No.9.6.1.3: Strategic Initiatives for Research Publications, IPR and Collaboration

Key Result Areas	Measures
Research Publications	Numbers of papers published in reputed National and international journals
	Numbers of papers presented in reputed National and international conferences
	Faculty as reviewers for reputed journals
Frontiers of knowledge	Operational Centers of Excellence
	Conferences/seminars/workshops conducted.
	MOUs with higher learning institutes in India & broad.
Patents and copyrights	IPR Workshops
	Number of Indian Patents
	Books and Monograms, Copy rights

The innovative idea of students are transformed into reality by:

- Project Based Learning from micro to macro levels involving processes and products.
- Enhancing collaborative projects with academic institutes, industry.

Goal 3: Improve internal support systems

The Institute has installed a modern and comprehensive Enterprise Resource Planning (ERP) system after streamlining all processes with the aim of improving efficiency and transparency of operations. The number of technical staff in the departments will be increased, including senior staff with higher qualifications. The Institute will provide additional administrative staff to departments to manage routine work such as, arranging admissions and examinations, maintenance, recording minutes of meetings, as well as specialized activities such as publishing newsletters, maintaining website and engaging with industry and alumni.

The Institute will enhance the purchase section to provide greater support for facilitating purchases in a timely manner. A conference/FDP/STTP course support cell will be set up to help arrange conferences/ FDPs/STTPs. The Institute will provide adequate staff and online systems to enable maintenance of the estate and buildings at a higher standard.

Action points

- Simplify systems and processes with a modern ERP system.
- Appoint and empower departmental managers to support and co-ordinate purchase, maintenance and administration in the Department.
- Conduct annual satisfaction survey.
- Service orientation and training for staff, service response and online complaint systems.
- Establish improved faculty orientation and mentorship Programme for new faculty members.
- Create a conference organizing support cell as a part of CEP.

Metrics/Targets

- Reduction in average processing times
- Continuous improvement on satisfaction survey scores
- Tracking and reduction in complaint redressal times

Goal 4: Entrepreneurship and Industry Interaction

The Institute aims to create an ecosystem for deeper collaboration with industry in several modes, including consultancy, sponsored research projects, technology transfer and continuing education. Measures are taken to transform classroom learning to a project-based experience. The idea to innovate is encouraged through the Innovation Competition and the best idea is rewarded.

Infrastructure is provided to implant the ideas. Young technocrats get opportunities to exploit their full potential by setting up their own ventures thus becoming "job generators" rather than "job seekers". Strategy to provide a platform to business Start- ups to develop the innovative ideas into commercially viable products.

Training and mentoring to the students is given through Entrepreneurship Development Cell to realize the idea into application/ product at institute. Initial awareness on entrepreneurship is facilitated by conducting awareness camps, guest lectures, seminars, workshops, and skill development programs.

The Industry Institute Interaction Cell proactively builds partnerships with industry in areas of strengths of the Institute. Collaboration with the industry is built through well-structured student internships and appointment of industry professionals as Visiting Faculty. A significant quantum of research will originate from problems identified as a result of the faculty's engagement with industry.

Table No.9.6.1.4: Strategic Measures for Entrepreneurship and Industry Engagement

Key Result Areas	Measures
Industry Collaboration	Industry Supported Labs
	Student Internships
	Knowledge exchange through seminars and workshops
	Faculty as Corporate Trainer
	Consultancy and Testing to industry
	Sponsored and funded collaborative research
	MOUs with Premier industries
Innovation and Entrepreneurship	Exclusive incubation facility
	Proactive participation of Students and Faculty
	Focus on Product development
Resources & Infrastructure	Exclusive facility for R&D
	Licensed Technologies

B. Approval & Implementation

The objective is to ensure the quality and imbibe the culture of excellence and focus on the time-bound goals set for academic, administrative, research and development activities. The entire process is based on participative approach wherein the faculty members, and other stakeholders are involved in the development of plans and its efficient execution. The summary is as follows

The Strategic Plan clearly focuses on academic excellence, research and innovation, industry engagement, ethical values, faculty and staff development, student development, and transparent governance, with defined timelines, responsibilities, and measurable outcomes. The availability of the Institute's strategic intent, priority areas, and quality assurance mechanisms is reflected through publicly accessible IQAC documentation and quality assurance reports, which function as institutional strategic reference documents and demonstrate openness to stakeholders.

Web evidence:

- IQAC & academic planning framework:
<https://www.rcpit.ac.in/iqac-and-academics> (<https://www.rcpit.ac.in/iqac-and-academics>)
- AQAR 2022–23 (strategic focus, quality initiatives, e-governance, monitoring): <https://www.rcpit.ac.in/files/AQAR-2022-23.pdf> (<https://www.rcpit.ac.in/files/AQAR-2022-23.pdf>)

The Institutional Strategic Plan and IDP were approved by the competent authority, namely the Governing Body, after due deliberations. The governance framework supporting strategic approval and oversight comprises the Governing Body, Academic Council, and Finance Committee, ensuring balanced consideration of policy, academic planning, and financial feasibility. The constitution, roles, and statutory nature of these bodies are documented and disclosed through mandatory statutory disclosures available on the Institute website, reinforcing transparency and regulatory compliance.

Web evidence:

- Mandatory Disclosure (Governing Body, Finance Committee, Academic Council, governance structure): <https://www.rcpit.ac.in/uploads/download/1684477044.pdf> (<https://www.rcpit.ac.in/uploads/download/1684477044.pdf>)
- IQAC & Academic Committees page (academic governance linkage): <https://www.rcpit.ac.in/iqac-and-academics-committee> (<https://www.rcpit.ac.in/iqac-and-academics-committee>)

The implementation of the Strategic Plan and IDP is carried out through department-wise annual action plans aligned with institutional strategic objectives. These action plans translate long-term goals into short-term and mid-term initiatives covering curriculum delivery, outcome attainment, research activities, industry interaction, faculty development, student support systems, and governance processes. Alumni actively contribute to implementation through mentoring, curriculum feedback, internships, placements, and professional guidance, facilitated via the Institute's dedicated alumni portal.

Web evidence:

- Alumni engagement and participation platform: <https://alumni.rcpit.ac.in> (<https://alumni.rcpit.ac.in>)

The Internal Quality Assurance Cell (IQAC) through periodic reviews, academic and administrative audits, stakeholder feedback analysis, and preparation of Action

Taken Reports (ATRs) systematically carry out Monitoring and evaluation of the Strategic Plan and IDP. The progress of strategic initiatives, corrective actions, and quality improvement outcomes are documented through Annual Quality Assurance Reports (AQARs) and placed before the Governing Body for review, ensuring accountability, transparency, and continuous improvement. Evidence of continuity and incremental improvement is available through successive AQARs published on the Institute website.

Web evidence:

- AQAR 2022–23 (implementation, review)
<https://www.rcpit.ac.in/files/AQAR-2022-23.pdf> (<https://www.rcpit.ac.in/files/AQAR-2022-23.pdf>)
- AQAR 2021–22 (continuity and monitoring incremental improvement outcomes)
<https://www.rcpit.ac.in/files/AQAR-2021-22.pdf> (<https://www.rcpit.ac.in/files/AQAR-2021-22.pdf>)

Thus, the Institutional Strategic Plan and IDP of RCPIIT are publicly available, formally approved by the competent authority, systematically implemented through departmental action plans, and continuously monitored through IQAC-led mechanisms, with key evidence transparently disseminated through the Institute website, alumni portal, and official communication platforms.

A. Organizational Set-up: Governing Body, Administrative Setup, Functions of Various Bodies

R. C. Patel Institute of Technology has established a clearly defined, participative, and autonomous governance and administrative framework that ensures academic autonomy, transparent administration, financial accountability, and holistic institutional development. The governance system is structured with distinct statutory, executive, academic, administrative, developmental, and functional layers, each with clearly defined roles, approval mechanisms, and documented processes.

At the apex, the Governing Body (GB) functions as the highest statutory authority responsible for policy formulation, strategic direction, institutional oversight, and regulatory compliance. The Academic Council (AC) operates as the apex academic body, ensuring academic autonomy through approval of curricula, academic regulations, assessment frameworks, and Outcome Based Education (OBE) implementation. The Finance Committee (FC) ensures financial oversight, budget approval, and prudent resource allocation. The constitution, roles, and approval of these statutory bodies are disclosed through mandatory statutory disclosures available on the Institute website.

Under the Academic Council, Program-wise Boards of Studies (BoS) function as the primary academic bodies responsible for curriculum design, revision, and academic content development. The recommendations of the BoS are placed before the Academic Council for approval, ensuring a bottom-up, academically rigorous, and industry-relevant curriculum development process, which is a key requirement for autonomous institutions. The Director serves as the chief executive authority responsible for implementation of decisions of statutory bodies and overall institutional administration, supported by the Deputy Director. Execution of academic and administrative functions is carried out through three clearly differentiated yet integrated structures (Refer Figure 9.6.2.1)

- Academic & Assessment Structure, comprising Heads of Departments (HODs) and the Controller of Examinations (COE). The COE ensures transparent, fair, and independent conduct of examinations and evaluations, functioning academically under the Academic Council and administratively reporting to the Director, thereby maintaining separation between teaching and evaluation.
- The functioning of these structures is supported by statutory and functional committees, including the Internal Quality Assurance Cell (IQAC), Purchase Committee (for transparent and need-based acquisition of latest technologies), Recruitment Committee (to attract and select a diverse pool of talent), Student and Employee Grievance Redressal Committees, Anti-Ragging Committee, Internal Complaints Committee (Women Harassment Prevention), SC/ST Cell, Disciplinary Committee, Sports and Cultural Committees, NSS, Student Clubs. All committees function with approved composition, defined roles, documented meeting notices, agendas, minutes, and Action Taken Reports (ATRs).

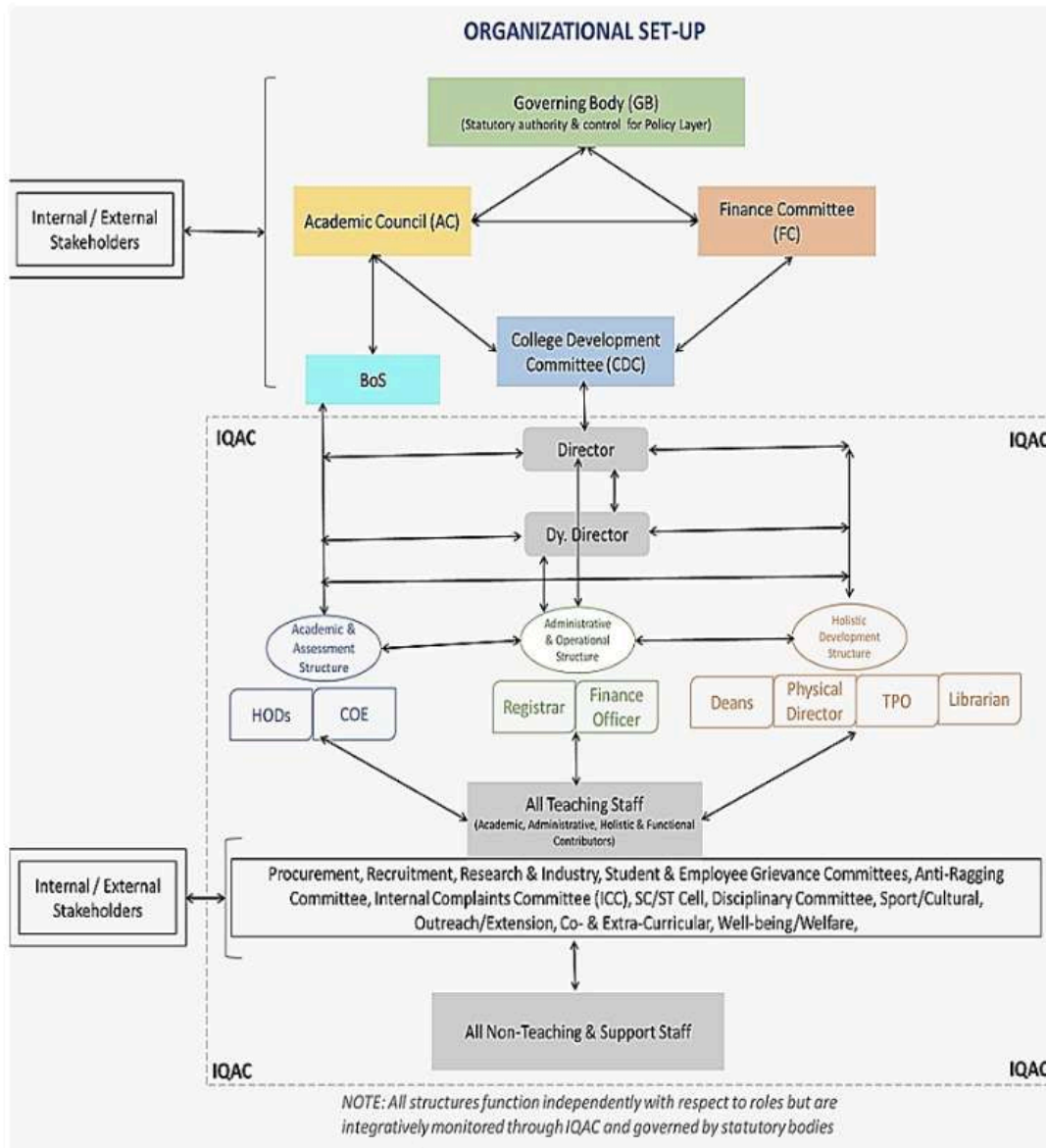


Figure 9.6.2.1: Governance, Leadership and Institutional Support Structure of the Institution

- All teaching and non-teaching staff contribute to institutional functioning through these structures and committees, forming an integrated institutional platform. The entire governance and administrative framework is independently governed by statutory bodies and integratively monitored through IQAC, ensuring transparency, accountability, and continuous quality improvement. The Institute follows documented service rules, recruitment procedures, promotion policies, and procurement norms, which are published through mandatory disclosures on the Institute website.
- Administrative & Operational Structure, comprising the Registrar and Finance Officer, responsible for implementation of service rules, recruitment and promotion procedures, statutory compliance, administrative coordination, financial administration, procurement execution, and audit readiness.

- Holistic Development Structure, comprising Deans, Physical Director, Training & Placement Officer (TPO), and Librarian, focusing on research and innovation, faculty development, student development, employability enhancement, leadership, wellness, sports, cultural activities, learning resources, outreach, and extension activities.

B. Service Rules

R. C. Patel Institute of Technology follows clearly documented service rules for teaching and non-teaching staff, defining service conditions related to appointment, probation, confirmation, workload, leave, performance expectations, disciplinary procedures, grievance handling, and separation.

Web evidence: Mandatory Disclosure:

<https://www.rcpit.ac.in/uploads/download/1684477044.pdf> (<https://www.rcpit.ac.in/uploads/download/1684477044.pdf>)

Service Rule:

<https://www.rcpit.ac.in/academics/servicerules> (<https://www.rcpit.ac.in/academics/servicerules>)

These service rules are aligned with AICTE norms, State Govt. norms, affiliating university guidelines, and management policies, and are implemented through the Registrar under the supervision of the Director. The service rules and related governance provisions are publicly disclosed through the Institute's Mandatory Disclosure, ensuring transparency and stakeholder awareness.

C. Recruitment Procedures

Recruitment at RCPIT is carried out through a transparent, merit-based, and committee-driven process to attract a diverse and competent pool of academic and administrative talent. Vacancies are widely advertised through multiple channels, including print media, the Institute website, and official professional platforms such as LinkedIn, Facebook, Instagram ensuring broad visibility and equal opportunity. Reservation for the posts is applicable as per the applicability to Minority Institutions and is clearly stated in each published advertisement.

The Institute follows flexible recruitment modalities, including online and offline interviews, as well as off-campus interviews and selection processes wherever appropriate, to widen outreach and attract quality candidates. Applications received are scrutinized as per eligibility norms, and shortlisted candidates are invited for structured selection processes.

The Selection Committee is constituted in accordance with institutional and regulatory norms and includes:

- Members of the Governing Body, Director and Deputy Director,
- Concerned Head of the Department (HOD), and
- Two subject experts, including internal and external experts from university affiliated colleges.

The University faculty-selection along with approvals of faculty is carried out as per the guidelines issued by the University. This multi-member committee structure ensures fair evaluation, academic rigor, transparency, and objectivity in selection decisions. The competent authority before appointment approves recommendations of the Selection Committee.

Web evidence:

Mandatory Disclosure (Recruitment procedures and selection framework): <https://www.rcpit.ac.in/uploads/download/1684477044.pdf> (<https://www.rcpit.ac.in/uploads/download/1684477044.pdf>)

Official communication and outreach platforms:

<https://www.rcpit.ac.in/careers>, <https://www.linkedin.com/school/shirpurrcpit/> (<https://www.rcpit.ac.in/careers>, <https://www.linkedin.com/school/shirpurrcpit/>)

D. Promotion Policies

The Institute follows clearly defined, transparent, and performance-oriented promotion policies for faculty and staff, aimed at ensuring career progression, professional motivation, and retention of talent. Faculty promotions are governed through a structured performance-based appraisal system, wherein faculty members submit an API-based self-appraisal report documenting their contributions in teaching-learning processes, research and publications, professional development, institutional responsibilities, and outreach activities.

Promotions and Career Advancement Scheme (CAS) decisions are processed in accordance with AICTE guidelines, taking into consideration API scores, prescribed eligibility criteria, academic experience, and overall performance. A Performance Evaluation Committee comprising internal and external academic experts, ensuring objectivity and academic rigor, evaluates the appraisal and promotion process. Recommendations of the committee are placed before the competent authority for approval, thereby maintaining fairness, transparency, and compliance with regulatory norms.

To further strengthen transparency and accountability, faculty and staff are provided with an opportunity to seek clarification or raise grievances related to appraisal or promotion decisions through the institutional Grievance Redressal Committee, ensuring due process and equitable resolution.

Web evidence:

Mandatory Disclosure (Promotion policies, appraisal framework, CAS norms): <https://www.rcpit.ac.in/uploads/download/1684477044.pdf>
(<https://www.rcpit.ac.in/uploads/download/1684477044.pdf>)

Career Advancement Scheme (CAS) details:

<https://www.rcpit.ac.in/academics/CAS> (<https://www.rcpit.ac.in/academics/CAS>)

9.6.3 Transparency (5)

Institute Marks : 5.00

R. C. Patel Institute of Technology, Shirpur, practices transparent governance and proactive dissemination of institutional information by systematically publishing policies, rules, processes, decisions, and performance-related information through its official website, ERP systems, and digital communication platforms.

Transparency is embedded across academic, administrative, financial, and student-support processes, ensuring accessibility, accountability, and stakeholder confidence.

A. Transparency in Admissions, Fee Structure, and Student-Related Processes

The Institute ensures transparency in admissions, fee structure, and student-related processes through publicly available information on eligibility criteria, admission procedures, fee details, academic regulations, examination rules, and assessment norms published on the Institute website.

An ERP-based e-governance system is implemented to manage admissions, academic records, attendance, assessments, and financial transactions. The ERP provides individual login credentials to students as well as parents, enabling real-time access to academic progress, attendance, examination schedules, fee status, notices, and circulars, thereby strengthening transparency and parental involvement.

All financial transactions related to fees are carried out through online payment modes integrated with the ERP system, ensuring traceability, transaction records, and digital proof of payment. Students and parents receive system-generated acknowledgements and messages confirming transactions, reinforcing financial transparency.

The Institute provides a clear and accessible framework for Government Scholarships, including eligibility criteria, application procedures, timelines, and grievance redressal, through its website and student support offices. This ensures that economically and socially eligible students are well informed and supported.

To further enhance transparency and informed decision-making, the Institute conducts career counselling and orientation programs for prospective students prior to admission, offering clarity on programs, career pathways, employability prospects, and academic expectations. Following admission, structured induction programs are conducted to familiarize students with institutional policies, academic systems, assessment processes, support services, and ethical guidelines, ensuring smooth academic integration.

B. Transparency in Recruitment, Promotion, and Human Resource Governance

Transparency in human resource governance is ensured through publicly disclosed service rules, recruitment procedures, and promotion/Career Advancement Scheme (CAS) policies. Vacancy notifications are disseminated through print media, the Institute website, and official professional platforms, ensuring equal opportunity and wide outreach.

The Institute has adopted HR e-governance practices, including online attendance systems, online leave application and sanctioning mechanisms, and digital service records, ensuring traceability, accountability, and timely administrative processes. Promotion decisions are governed through API-based self-appraisal systems and AICTE guidelines, with committee-based evaluation and approval by competent authorities. These digital and policy-driven mechanisms reinforce fairness and transparency in faculty and staff management.

C. Transparency in Procurement, Financial Management, and Decision-Making

The Institute follows a transparent, need-based, and bottom-up procurement mechanism. Academic, research, and infrastructure requirements are first identified at the departmental and functional unit level based on curriculum needs, technological relevance, and student learning outcomes. These proposals are consolidated by the Heads of Departments and forwarded for institutional processing.

The proposals are evaluated by the Procurement / Optimized Buying (OB) Committee, which scrutinizes technical specifications, quality, relevance, cost-effectiveness, and compliance with institutional and regulatory norms. Based on the committee's recommendations, proposals are placed before the Finance Committee for financial scrutiny, budgetary verification, and approval as per delegated financial powers. Thereafter, the approved procurement decisions are placed as a note before the Governing Body for information and institutional oversight, ensuring transparency at the apex governance level. All procurement activities are supported by proper documentation, committee approvals, comparative evaluations, and audit compliance, and financial transactions are recorded through institutional financial systems. This structured approval flow—from departmental initiation to OB Committee evaluation, Finance Committee approval, and Governing Body noting—ensures accountability, traceability, and transparent financial governance.

D. Transparency through Feedback and Performance Monitoring Mechanisms

The Institute ensures transparent monitoring and continuous improvement through structured feedback mechanisms involving students, parents, and faculty, supported by digital platforms and formal review processes.

Student performance assessment is carried out through defined internal and external evaluation mechanisms, and the assessment outcomes, attendance records, and academic progress are made available through the ERP system. The ERP provides secure login access to students as well as parents, enabling real-time visibility of academic performance, internal assessment marks, attendance, examination schedules, and notices. This transparency strengthens parental awareness and involvement in the academic progress of students. To further reinforce transparency and stakeholder engagement, the Institute conducts Students Parents–Faculty meetings, wherein student performance, academic progress, attendance, and areas for improvement are discussed in a structured manner. These interactions ensure open communication, shared responsibility, and timely academic interventions.

Faculty performance feedback is governed through a multi-source mechanism, including structured student feedback on teaching effectiveness and HOD feedback on academic performance and institutional contributions. The outcomes are reviewed by academic leadership and used for performance improvement, mentoring, and faculty development, ensuring transparency and fairness.

E. Governance Transparency through Statutory Bodies

Transparency in governance is ensured by publishing details of statutory and academic bodies, including the Governing Body, Academic Council, Finance Committee, Boards of Studies, and IQAC, on the Institute website. The agendas, minutes of meetings, and Action Taken Reports (ATRs) of these bodies are documented and made accessible through statutory disclosures and quality assurance reports, enabling stakeholders to understand policy formulation and institutional decision-making processes.

F. Grievance Redressal and Stakeholder Support Mechanisms

The Institute maintains transparent and accessible grievance Redressal systems for students and staff through designated committees such as the Student Grievance Redressal Committee, Employee Grievance Redressal Cell, Internal Complaints Committee (Women Harassment Prevention), Anti-Ragging Committee, SC/ST Cell, and Disciplinary Committee. Information regarding grievance procedures, contact details, and escalation mechanisms is published on the Institute website, ensuring fairness and timely resolution.

G. Publicly Available Resources and Digital Communication Platforms

RCPIT actively disseminates institutional information through multiple official platforms, including the Institute website, ERP portals, alumni portal, and social media channels such as LinkedIn, Facebook, and Instagram. In addition, official WhatsApp-based circular communications are used for timely dissemination of academic notices, examination schedules, fee reminders, event updates, and emergency information to students and staff. These multi-channel communication mechanisms ensure wide reach and real-time transparency.

H. Extent of Stakeholder Awareness

The effectiveness of transparency initiatives is reflected in high stakeholder awareness, achieved through ERP access, regular circulars, induction and orientation programs, counselling sessions, website updates, and social media outreach. Students and parents actively use ERP logins for academic and financial information, while faculty and staff engage with HR e-governance systems. Alumni, parents, and recruiters remain informed through digital platforms, and feedback collected through IQAC and stakeholder surveys confirms accessibility and awareness of institutional information.

Thus, policies, academic and financial processes, governance decisions, student support, and grievance mechanisms are transparently communicated through ERP systems, institutional websites, and official channels, ensuring effective e-governance and integrated statutory compliance.

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY : (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3)

Table 1 - CFY

Total Income 411022622				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
411022622	0	0	0	265387223.44	3126	84896.74

Table 2 - CFYm1

Total Income 347559054.79				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
342049550.00	157850.00	5351654.79	0	347559054.79	2819	123291.61

Table 3 - CFYm2

Total Income 335917998.69				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
266009533.00	203955.00	69704510.69	0	335917998.69	2351	142883.03

Table 4 - CFYm3

Total Income 298391116.17				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
264594318.00	41828.00	33754970.17	0	298391116.17	2430	122794.70

Items	Budgeted in	Actual Expenses in till	Budgeted in	Actual Expenses in till	Budgeted in	Actual Expenses in till	Budgeted in	Actual Expenses in till
Infrastructure Built-Up	5618500	4003147	1550000	1418465	1950000	1795770	2660000	2580360
Library	3010000	2144543	390000	365810	475000	428611	600000	562977
Laboratory equipment	1931300	1376081	1800000	1633478	4000000	3740419	2030000	1942207
Teaching and non-teaching staff	2001330	1485989	2605000	2580216	2440000	2399152	2083000	2062747
Outreach Programs	1505000	1072271	100000	93515	250000	236479	44000	41828
R&D	2634000	1876475	260000	220720	200000	190765	44000	41417.4
Training, Placement and Industrial	9030000	6433629	7500000	7142410	7200000	6839043	3230000	3035586
SDGs	6533600	4557154	6200000	5892102	7000000	6373556	7640000	7069269
Entrepreneurship	1693000	1206305	150000	139055	175000	168410	142000	133549
Others, specify	1658400	4691188	1500000	720000	7000000	2705775	4000000	4092368
Total	375423000	265387223.11	379400000	356143592.53	352800000	335917998.69	133920000	126973714.36

9.8 Program Specific Budget Allocation, Utilization (8)

Total Marks 8.00

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY: (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3)

Table 1 :: CFY

Total Budget 93435411		Actual expenditure (till...): 66049667.18		Total No. Of Students 778
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
94635411	93435411	66049667.18	69.79	84896.74

Table 2 :: CFYm1

Total Budget 105919759		Actual expenditure (till...): 99427104.41		Total No. Of Students 787
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
107119759	105919759	99427104.41	92.82	126336.85

Table 3 :: CFYm2

Total Budget 113448235		Actual expenditure (till...): 108019569.1		Total No. Of Students 756
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
114648235	113448235	108019569.1	94.22	142883.03

Table 4 :: CFYm3

Total Budget 101880617		Actual expenditure (till...): 96762222.03		Total No. Of Students 788
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
103080617	101880617	96762222.03	93.87	122794.70

Items	Budgeted in	Actual Expenses in till	Budgeted in	Actual Expenses in till	Budgeted in	Actual Expenses in till	Budgeted in	Actual Expenses in till
Laboratory equipment	4806626	3424797	5025186	4560295	1286261	1202789	6582880	6298187
Software	622200.1	5810888	9771195	9655728	1607826	1495257	1621399	1327072
SDGs	1626084	1134186	1730897	1644939	2250957	2049514	2477497	2292421
Support for faculty developmen	124440.	1194625	2233416	2010074	2572522	2315270	1621399	1556543

R & D	655550.1	4670178	7258602	6161995	6431306	6134340	1426831	1343085
Industrial Training, Industry exp	2247389	1601204	2093827	1993996	2315270	2199198	1047423	9843793
Miscellaneous Expenses*	0.00	0	0	0	0	0	0	0
Total	24717055.03	17535432.93	24821628.23	23362873.73	28040493.42	25685260.50	28278498.77	26034570.62

9.9 Quality of Learning Resources (Hard/Soft) (5)

Total Marks 5.00

The institution ensures the quality of learning resources through systematic planning, regular up-gradation, and effective utilization of physical and digital resources to support outcome-based education. These resources are continuously enhanced to meet curriculum requirements, industry expectations, and the diverse learning needs of students.

A. Availability of Learning Resources

LIBMAN - Library Management System: RCPIT Library uses the LIBMAN integrated library management system to automate acquisition, cataloguing, circulation, OPAC, and reporting activities. The system ensures efficient resource management, quick issue–return services, accurate record maintenance, and easy access to library resources for users. (Refer Table 9.9.1)

OPAC: https://libcloud.mastersofterp.in/OPAC_V3/ (https://libcloud.mastersofterp.in/OPAC_V3/)

LIBMAN OPAC (Online Public Access Catalog) is a digital interface for the LIBMAN library management system, allowing users to easily search a library's collection by title, author, subject, keywords, etc., find availability and location, and even check personal account details like borrowed items, all from a web-based or mobile-friendly portal. It acts as an online library card catalog, making resources accessible remotely and improving user convenience with features like consolidated data and detailed book info.

Table 9.9.1: Library Resources and Information Access Facilities

Sr. No.	Particulars	Details
1	Program Name	Engineering & Technology
2	Titles	Hardcopies : 5766, E-Copies: 6620, Total Copies :12386
3	Volumes	Hardcopies : 38609, E-Copies: 620, Total Copies : 45229
4	Name of Journals	UG Journals : 66
	International Journals	International Journals :11
	National Journals	National Journals :55
5	E-Resources	DELNET: E-Journals – 37,847; E-Books – 1,683 N-List: E-Journals – 3,537; E-Books – 31 lakh NDL: E-Journals – 3 lakh; E-Books – 7 lakh Springer E-Journals- 514
6	DBATU's E-consortium	Available
7	Library Facilities	09:00am to 08:00pm
8	Investment till the date	1,77,12,534/-
9	Budget of current year	18,71,000/-
10	Area (In Sqm.)	801 sq. m.
11	Reading Room Capacity	150
12	Reprographic Facility	Available
13	News Paper	English- 2 Marathi- 6

Sr. No.	Particulars	Details
14	Library Networking	Available
15	No. of Multimedia PCs	10
16	Type of Access	Open Access
17	Library Management Software	LIBMAN (Master-soft)
18	Bar-code or RF tab book Handling	: Available
19	e-journals	DELNET :1103, N-List :6069, NDL : 7 lakh
20		DELNET : 10/05/2025 to 09/05/2026 (Rs. 13570/-) N-List (INFLIBNET): Till Process NDL : 29/03/2025 to 29/03/2026 (Free)

M-OPAC: 100% assurance for import of other library software data into LIB-MAN. Mark standard data import/export. Book data fetching from ISBN site and Google API saves data entry time. Supports EBook uploading & reading. Follows all library latest standards such as Marc 21, library congress standards, AACR2. Reports / data export to word, excel, PDF, text. Fully secured & maintenance free. Fully documented user manual. Best backup and recovery. Reports on laser/inkjet printers. Lib-Man is embedded with multilingual fonts, Barcode & QR Code fonts. Print barcode using barcode printer like Argox, TSC, etc.

It supports all latest technologies which include cloud hosting, smartphone, tablets, SMS, email, UHF RFID, payment gateway, etc. It also supports smart phone app for book search - MOPAC.

Usage Barcode System: The RCPIT Library uses a barcode-based circulation system that includes barcoded books, borrower cards, and barcode readers. Each user is issued a borrower card with a unique barcode, enabling quick and accurate identification during issue and return transactions.

This system ensures efficient circulation, minimizes manual errors, and maintains reliable usage records through the library management software.

Foreign Language and Quantitative Examination Learning Resource: The institute provides a wide range of quality learning resources, including physical books and online e-learning materials, to support students in foreign language proficiency and preparation for competitive examinations and higher studies.

B. Accessibility of Learning Resources

The Central Library plays a vital role in supporting the Engineering & Technology program by providing extensive print and digital resources, including textbooks, reference books, national and international journals, and e-resources through platforms such as DELNET, N-LIST, NDL, and Springer.

Table 9.9.2: Last three years enhancement

Sr. No.	Details	2023-24	2024-25	2025-26
1	Title	185	132	48
2	Volume	1151	749	197
3	Print Journals	60	72	66
4	E- Resources	DELNET: E-Journals – 37,847; E-Books – 1,683 N-List: E-Journals – 3,537; E-Books – 31 lakh NDL: E-Journals – 3 lakh; E-Books – 7 lakh Springer E-Journals- 514 (Till on 2025) Copleaks		

The library follows an open-access system and is equipped with modern facilities and library management software to ensure easy and effective access to information. The well-equipped library significantly enhances teaching-learning and research activities by facilitating access to updated knowledge resources, supporting self-learning, project work, and research. Extended working hours, digital access, and adequate reading space contribute to improved academic performance, research output, and overall student learning experience.

Table No. 9.9.3: Foreign Language and Quantitative Examination Learning Resource

Sr. No.	Particulars	Details
1	Foreign Language Learning Resource Books	353
2	Foreign Language Online E- Learning Resource	85
3	Quantitative Examination (GATE, GPAT, MPSC & Other)	600

E- Resource:

The institute provides access to a wide range of digital learning resources and platforms to support academic excellence, skill development, and employability. Subscriptions to national and international digital libraries, virtual laboratories, coding platforms, language learning tools, and industry-supported programs ensure continuous learning beyond the classroom and promote self-paced, outcome-based education.

DELNET: (Development Library Network):

E-Book : 1683, E-Journals: 37847



NDL: - National Digital Library	
• E-Book	- 7 lakh (Authors-3 lakh & Languages-70)
• E-Journals	- 3 lakh (Authors- 2 lakh)
• Videos	- 18000 (Video Lectures from Source 11)
• Thesis	- 95000 (Researches from different Indian Institute)

N-List: - INFLIBNET:

- E-Book - 31 lakh
- E-Journals - 3537

Virtual Lab: Virtual Labs are available to students to perform experiments remotely using simulation-based and interactive modules. These labs support conceptual understanding and practical learning beyond regular laboratory hours, especially for core engineering subjects.

Code-Chef: Code Chef is used as a programming practice and competitive coding platform to enhance students' problem-solving, logical thinking, and coding skills. Students participate in practice sessions and contests aligned with curriculum requirements.

Language Lab:

The Language Lab supports the development of communication skills, listening, speaking, reading, and writing abilities. It is used for improving professional communication, presentation skills, and employability readiness.

Foreign Language:

Foreign language learning specially (Japanese and German) resources are provided through print books and online platforms to help students acquire basic proficiency in international languages, supporting global employability and higher studies.

Infosys Springboard:

Infosys Springboard is an online digital learning platform offering free courses in technical, professional, and life skills. Students use the platform for self-paced learning, certification courses, and industry-oriented skill development.

Campus Credentials:

Campus credentials are provided to students for authenticated access to subscribed e-resources, digital library platforms, and online learning systems, ensuring secure and seamless utilization of academic resources.

Wipro TalentNext:

Wipro TalentNext is an industry-oriented learning initiative that provides students with access to technical training modules, skill development programs, and assessments to enhance employability and industry readiness.

Table No. 9.9.4: Access to e-learning Resources

Sr. No.	Particulars	Details
1	DELNET	https://delnet.in/index.html (https://delnet.in/index.html)
2	NDL	https://club.ndl.iitkgp.ac.in/club-home (https://club.ndl.iitkgp.ac.in/club-home)
3	OPAC	https://libcloud.mastersofterp.in/OPAC_V3/ (https://libcloud.mastersofterp.in/OPAC_V3/)
4	N-List	https://nlist.inflibnet.ac.in/ (https://nlist.inflibnet.ac.in/)
5	E- shodhganga	https://shodhganga.inflibnet.ac.in/ (https://shodhganga.inflibnet.ac.in/)
6	NPTEL	https://nptel.ac.in/ (https://nptel.ac.in/)
7	Swayam	https://swayam.gov.in/ (https://swayam.gov.in/)
8	Foreign Language CD	https://forms.gle/6xRkW5Lo1daX6ndd7 (https://forms.gle/6xRkW5Lo1daX6ndd7)
9	Plagiarism Software (Copy-leaks)	https://copyleaks.com/ (https://copyleaks.com/)

Sr. No.	Particulars	Details
10	Springer Nature 3 Subject Collections	https://link.springer.com/brands/springer (https://link.springer.com/brands/springer)
11	Virtual Lab	https://iitb.vlabs.co.in/outreachportal/ (https://iitb.vlabs.co.in/outreachportal/)
12	Code-Chef:	https://www.codechef.com/college/dashboard (https://www.codechef.com/college/dashboard)
13	Language Lab: I Tell - Orell Talk Corporate Version	https://sesrcp.in/it/login.html (https://sesrcp.in/it/login.html)
14	Infosys Springboard	https://infyspringboard.onwingspan.com/web/en/page/home (https://infyspringboard.onwingspan.com/web/en/page/home)
15	Campus Credentials	https://code.campuscredentials.com/ (https://code.campuscredentials.com/)
16	Wipro TalentNext	https://talentnext.wipro.com/PBLApp/index.jsp (https://talentnext.wipro.com/PBLApp/index.jsp)

All print resources are classified (DDC) and catalogued using LIBMAN ILMs:

All print resources in the RCPIT Library are systematically classified using the Dewey Decimal Classification (DDC) scheme and catalogued through the LIBMAN Integrated Library Management System (ILMS), ensuring easy organization, quick retrieval, and efficient access to learning resources.

Print Resources Access during Library Working Hours:

Print resources in the RCPIT Library are accessible to students and faculty during regular library working hours. During examination periods, library hours are extended by two additional hours to provide enhanced support for study and academic preparation.

Print Journals: To support quality teaching–learning, research, and academic enrichment, the institute subscribes to a wide range of national and international journals across all departments. These journal subscriptions provide faculty members and students with access to recent research findings, emerging technologies, and advancements in their respective disciplines. The table below presents department-wise details of national and international journal subscriptions for the period January to December 2025, highlighting the adequacy and relevance of scholarly resources available to support curriculum delivery, research activities, and continuous professional development.

Table No. 9.9.5: Statistics of Print Journals: National and international journals

Sr. No.	Departments	Total Journals	Total frequency
1	Computer Engineering	12	33
2	CSE (Data Science) Engineering	6	23
3	Artificial Intelligence & Machine Learning Engineering	6	23
4	Artificial Intelligence Data Science (AIDS)	6	17
5	Information Technology (IT)	6	19
6	Electronic and Telecommunication Engineering	12	39
7	Mechanical Engineering	6	18
8	Civil Engineering	6	28

Sr. No.	Departments	Total Journals	Total frequency
9	Electrical Engineering	6	17

Number of users using library through e-access (OPAC) :

https://libcloud.mastersofterp.in/OPAC_V3/ (https://libcloud.mastersofterp.in/OPAC_V3/)

OPAC Monthly Login Number of Access- 1445

The RCPIT Digital Library actively supports teaching and self-learning by providing online access to syllabus copies, autonomous question papers, OPAC, e-databases, e-resources, newspaper cuttings, and foreign language books/CDs. Usage data shows maximum participation from Computer, Applied Science and Data Science departments. The library is primarily utilized by students (over 96%), highlighting its important role in academic preparation, examination support, and independent learning activities.

9.10 E-Governance (5)

Total Marks 5.00

The institution has implemented a comprehensive Microsoft Enterprise Resource Planning (ERP) system to ensure efficient academic administration, student support, transparency, and Outcome-Based Education (OBE) compliance. The ERP integrates all academic and administrative activities into a single digital platform with role-based access for students, faculty, administrators, and management.

Mastersoft Enterprise Resource Planning (ERP)

- **Student Support Module:** The Student Support Module provides end-to-end services for students, including online admission, registration, attendance monitoring, mentoring, grievance Redressal, scholarships, placements, and hostel, transport, and feedback systems. Students and parents have real-time access to academic and attendance information, promoting transparency and student-centric learning.

The screenshot shows the 'Attendance Register Report' form. At the top, there is a breadcrumb trail: Academic > Examination > E- Learning > Payroll > Establishment > Administration > Obe. On the left, a sidebar menu is open to 'Attendance Management', with 'Attendance Register Report' selected. The main form area has a title 'Attendance Register Report' and two tabs: 'Courses' (active) and 'Free / Global Elective'. Below the tabs are several dropdown menus: '* Session' (Please Select), '* Course' (Please Select), '* From Date' (From Date), 'College' (Please Select), 'Semester' (Please Select), and 'Course Type' (Please Select). At the bottom right, there are three buttons: 'Show', 'Faculty Attendance Register Report', and 'Cancel'.

The screenshot shows the 'Exam Mark Entry By Admin' form. At the top, there is a breadcrumb trail: Academic > Examination > E- Learning > Payroll > Establishment > Administration > Obe. On the left, a sidebar menu is open to 'Conduction Of Examination', with 'Exam Mark Entry By Admin' selected. The main form area has a title 'Exam Mark Entry By Admin' and several dropdown menus arranged in a grid: '* School/Institute' (Please Select), '* Session' (Please Select), '* Degree' (Please Select), '* Program/Branch' (Please Select), '* Scheme' (Please Select), '* Semester' (Please Select), '* Subject' (Please Select), '* Course' (Please Select), and '* Exam Name' (Please Select). At the bottom right, there are four buttons: 'Show Student', 'Save', 'Lock', and 'Cancel'.

Examination Reports ✕

Result Analysis Report ☆

Result Analysis Report

*College

*Section

Student Type

*Session

*Exam

Course Type

Reports ✕

Employee PaySlip ☆

Employee PaySlip

*Month / Year

College

- **Academic Support Module:** The Academic Support Module strengthens the teaching–learning process and supports OBE implementation. It includes curriculum and course management, lesson planning, timetable allocation, faculty workload management, internal assessment tracking, CO-PO-PSO mapping, and attainment calculation. The module enables data-driven academic planning and continuous improvement.
- **Finance Module:** The Finance Module ensures transparent and efficient financial management through student fee collection, online payment integration, scholarship accounting, budget monitoring, payroll management, and audit-ready reports. It supports effective resource planning and utilization.
- **Examination System Module:** The Examination Module manages the complete examination lifecycle, including exam scheduling, hall tickets, marks entry, result processing, grade generation, revaluation, and performance analysis. Examination assessments are mapped to course outcomes, supporting outcome attainment analysis.
- **Reporting and Governance:** The ERP generates real-time dashboards and reports on student performance, outcome attainment, faculty workload, financial utilization, and feedback analysis, supporting evidence-based decision making.

The ERP system has significantly enhanced academic efficiency, student support services, financial transparency, and examination integrity. It serves as a strong digital backbone for continuous quality improvement in alignment with the OBE framework.

Tally Prime 2.1 ERP (TSS Gold)

The institute has implemented the Tally ERP Accounting and Finance Module to ensure efficient financial management, transparency, and compliance with statutory and accreditation requirements as part of its institutional ERP system.

- Automates accounting and financial processes, reducing manual errors and improving accuracy.
- Supports real-time financial data generation for informed managerial decision-making.
- Used by the Accounts and Finance Section for student fee collection, payroll processing, and expenditure management.
- Enables head-wise fee recording, transparent tracking, and easy reconciliation of accounts.
- Automates salary processing for teaching and non-teaching staff, including statutory deductions (PF, PT, and Income Tax).
- Maintains accurate ledgers, vouchers, and statutory records in compliance with government and audit norms.
- Generates audit-ready reports such as trial balance, income and expenditure statements, balance sheet, and fund utilization reports.

- Improves financial transparency, reduces paperwork, and enables faster report generation.
- Integrated with admission and payroll systems for seamless data flow and effective financial monitoring.

The institute has implemented a comprehensive e-governance framework to enhance efficiency, transparency, and effectiveness in academic, administrative, and support services through the use of digital platforms and ICT tools.

E-Governance in Academic and Administrative Processes

- Mastersoft ERP and Eduplus ERP manage admissions, academics, examinations, finance, HR, and payroll.
- Supports online admission, examination processing, faculty workload, and financial operations.

Learning Management and Academic Delivery

- Moodle LMS is used for course content delivery, assessments, and outcome-based learning.
- Enables blended learning with anytime access for students and faculty.

Digital Communication and Collaboration

- Microsoft 365 provides official email, virtual classrooms, and cloud-based collaboration.
- Promotes paperless communication and efficient documentation.

Library Automation and Knowledge Resources

- Koha ILMS automates library operations including circulation, cataloguing, and OPAC.
- Enhances digital access and effective utilization of library resources.

Attendance, Time, and Payroll Management

- Timelabs biometric system monitors attendance and integrates with HR and payroll.
- Ensures accurate tracking of working hours and leave records.

Admissions and Student Relationship Management

- Meritto (Education CRM) manages student enquiries, counselling, and admission analytics.
- Improves transparency, data-driven decisions, and stakeholder engagement.

Campus-Wide Computing Resources and Accessibility

- Campus-wide LAN, Wi-Fi, and department-wise computer labs are provided.
- Ensures secure and seamless access to ERP, LMS, and digital services.

R. C. Patel Institute of Technology, Shirpur has adopted a clear and structured institutional policy to promote sustainable development in alignment with the United Nations Sustainable Development Goals (SDGs). The policy emphasizes clean and renewable energy adoption, conservation of natural resources, waste reduction, water preservation, carbon footprint mitigation, social inclusion, health, gender equality, and quality education. Sustainability principles are integrated into institutional planning, infrastructure development, academic delivery, and community outreach activities through NSS and other societal engagement programs. The institute ensures periodic review, governance oversight, and continuous improvement of SDG-related initiatives in line with national priorities and regulatory frameworks.

The sustainability policy is implemented through a comprehensive approach that integrates campus-based initiatives, academic activities, and community-oriented programs. At the infrastructure level, the institute has installed a 320 kW rooftop solar photovoltaic power plant to promote clean energy usage, supported by BEE star-rated equipment, LED lighting systems, and energy-efficient electrical infrastructure. Water conservation measures include rainwater harvesting systems, while waste management is addressed through bio-composting, responsible disposal practices, plastic-free campus drives, and paperless digital operations. In parallel, the institute actively implements SDGs through structured outreach and extension programs coordinated under NSS, including tree plantation drives, Swachh Bharat Abhiyan cleanliness campaigns, water conservation activities, plastic-free environment awareness programs, village adoption initiatives, and Unnat Bharat Abhiyan activities.

Health and social well-being are promoted through blood donation camps, health check-up camps, yoga and fitness awareness programs, eye donation campaigns, and public health awareness initiatives such as Nasha Mukti Bharat Abhiyan. Programs focusing on education, democratic values, and social empowerment include literacy and education awareness drives, voter awareness programs, Constitution Day and National Unity Day celebrations, and self-defense training programs for girls. Sustainability is further integrated into academics through SDG-mapped student projects addressing renewable energy, smart agriculture, environmental monitoring, waste management, and smart city applications, thereby strengthening the linkage between academic learning and societal needs.

The implementation of SDG initiatives is supported by documented and verifiable evidence, including Energy, Environmental, and Green Audit reports conducted by certified external agencies. Institutional records such as audit reports, infrastructure documentation, NSS activity reports, photographs, beneficiary data, and academic records of SDG-aligned projects provide adequate evidence of effective implementation. These mechanisms ensure transparency, accountability, and continuous monitoring of sustainability initiatives.

As a result of systematic policy implementation, inclusive outreach, and continuous monitoring, the institute has achieved measurable and sustainable outcomes aligned with multiple SDGs. These outcomes include reduction in carbon footprint and dependence on conventional energy sources, improved water and waste management practices, enhanced environmental quality of the campus, and increased awareness of sustainability among students and the surrounding community. Community outreach programs have benefitted a large number of citizens through initiatives related to health, education, environmental protection, and social empowerment, thereby reflecting the institute's sustained efforts toward institutionalizing sustainable development practices.

- **SDG 1 – No Poverty:** Community outreach and village adoption programs under NSS and Unnat Bharat Abhiyan support socio-economic awareness and inclusive development.
- **SDG 3 – Good Health and Well-Being:** Blood donation camps, health check-up camps, yoga and fitness programs, eye donation campaigns, and Nasha Mukti Bharat Abhiyan promote physical and mental well-being.
- **SDG 4 – Quality Education:** Literacy drives, education awareness programs, voter education initiatives, and SDG-mapped student projects strengthen learning outcomes and social responsibility.
- **SDG 5 – Gender Equality:** Self-defense training programs and awareness initiatives empower girl students and promote gender equity.
- **SDG 6 – Clean Water and Sanitation:** Rainwater harvesting systems, water conservation drives, and Swachh Bharat Abhiyan cleanliness campaigns support sustainable water management.
- **SDG 7 – Affordable and Clean Energy:** Installation of a 320 kW rooftop solar photovoltaic plant, LED lighting, and BEE star-rated equipment reduce carbon footprint and energy consumption.
- **SDG 11 – Sustainable Cities and Communities:** Village adoption, cleanliness drives, Unnat Bharat Abhiyan activities, and smart city-oriented student projects contribute to sustainable community development.
- **SDG 12 – Responsible Consumption and Production:** Bio-composting, plastic-free campus initiatives, responsible waste disposal, and paperless digital operations promote sustainable resource use.
- **SDG 13 – Climate Action:** Tree plantation drives, environmental monitoring activities, and awareness programs contribute to climate resilience and environmental protection.
- **SDG 16 – Peace, Justice and Strong Institutions:** Constitution Day and National Unity Day celebrations and voter awareness programs promote democratic values and responsible citizenship.
- **SDG 17 – Partnerships for the Goals:** NSS activities, Unnat Bharat Abhiyan initiatives, health and sanitation drives, village adoption programs, and selected technical workshops conducted with external stakeholders promote collaborative engagement, shared responsibility, and effective implementation of community-oriented and sustainability initiatives.

Sustainability initiatives are effectively integrated with Outcome-Based Education (OBE) through SDG-aligned student projects focusing on areas such as renewable energy, smart agriculture, waste management, and environmental monitoring. These projects enable students to apply theoretical knowledge to real-world sustainability challenges, thereby enhancing learning outcomes and societal relevance. The implementation and impact of these initiatives are systematically assessed through Energy, Environmental, and Green Audits conducted by certified agencies, along with supporting evidence such as NSS activity reports, photographs, beneficiary data, and academic records, ensuring transparency and accountability. As a result, the institute has achieved measurable outcomes including a reduction in carbon footprint, improved water and waste management practices, enhanced environmental quality of the campus, and increased sustainability awareness among students and the surrounding community.

Table No 9.11.1: SDG-Based Institutional Initiatives and PO Attainment

Sr. No.	Activity / Project Title	SDG(s) Mapped	PO Mapped	Description / Implementation Details	Application Area / Domain	Learning Outcome / Impact
1	Grid-Connected Solar PV Plant	SDG 7	PO6, PO7	320 kW rooftop solar PV plant under net-metering with MSEDCL	Renewable Energy	Clean energy adoption and sustainability awareness
2	CO ₂ Emission Reduction	SDG 13	PO6, PO7	Carbon emission reduction through renewable energy usage	Climate Action	Understanding of carbon footprint mitigation
3	Rainwater Harvesting System	SDG 6	PO6, PO7	Rooftop rainwater collection and reuse system	Water Conservation	Sustainable water management awareness
4	Solid & E-Waste Management	SDG 12	PO6, PO7	Waste segregation, composting, and authorized e-waste disposal	Waste Management	Responsible consumption practices
5	Tree Plantation Drives	SDG 13, 15	PO6, PO7	Tree plantation through NSS and institutional drives	Environment	Ecological and environmental awareness
6	Swachh Bharat Cleanliness Drives	SDG 11, SDG 17	PO6, PO7	Cleanliness drives on campus and in nearby communities	Public Health	Civic responsibility and hygiene awareness
7	Blood Donation Camp	SDG 3, SDG 17	PO6, PO8	Voluntary blood donation for healthcare support	Healthcare	Social responsibility and communication skills
8	Health Check-up Camp	SDG 3, SDG 17	PO6	Free health screening and medical consultation	Public Health	Preventive healthcare awareness

Sr. No.	Activity / Project Title	SDG(s) Mapped	PO Mapped	Description / Implementation Details	Application Area / Domain	Learning Outcome / Impact
9	Village Adoption Program	SDG 1, 11, SDG 17	PO6, PO9	Community development and awareness activities	Rural Development	Teamwork and societal engagement
10	Literacy & Education Awareness	SDG 4	PO6, PO8	Literacy drives and educational awareness programs	Education	Communication and social outreach skills
11	Voters' Awareness Program	SDG 16	PO6, PO8	Electoral awareness and democratic participation	Governance	Civic awareness and communication
12	Self-Defense Training for Girls	SDG 5	PO6, PO9	Skill-based safety and empowerment training	Gender Equality	Confidence building and teamwork
13	Special NSS Residential Camp (Karvand)	SDG 3, 4, 11, 17	PO6, PO9, PO10	7-day rural service and development camp	Community Service	Ethical responsibility and teamwork
14	Unnat Bharat Abhiyan – Plastic-Free Drive	SDG 12, 13, SDG 17	PO6, PO7	Community awareness on plastic reduction	Sustainability	Environmental responsibility
15	Smart Agriculture Monitoring System	SDG 2, 12, 13	PO1, PO2, PO3, PO5	Climate-based irrigation monitoring	Agriculture / IoT	Decision-making algorithms
16	All-in-One STEM Box	SDG 4, 9	PO1, PO2, PO3, PO5	Integrated electronics learning kit for school students	Education / STEM	Hands-on electronics and programming
17	Suitcase Electric Vehicle for Physical Disabled	SDG 3, SDG 11, SDG 9, SDG 10	PO1–PO12, PSO2, PSO3	Portable suitcase-type electric vehicle designed to support mobility of physically disabled persons.	Electric Vehicle / Assistive Mobility	Improved accessibility and awareness of sustainable EV-based mobility solutions

Sr. No.	Activity / Project Title	SDG(s) Mapped	PO Mapped	Description / Implementation Details	Application Area / Domain	Learning Outcome / Impact
18	Portable Electric Scooter	SDG 7, SDG 9, SDG 13	PO1–PO12, PSO1, PSO3	Compact portable electric scooter designed for eco-friendly short-distance transportation.	Electric Vehicle / Green Mobility	Promotes clean energy transportation and awareness of sustainable mobility solutions
19	CureConnect-Enterprise Edition	SDG 3	PO1 to PO12	Healthcare management platform designed to connect hospitals, doctors, patients	Healthcare Information Systems	Students understand enterprise web application development, system design
20	COLLAX: Online Coding Interview Platform	SDG 4	PO1 to PO12	Design system to conduct online technical interviews	Smart interview Platform	Conduct interviews seamlessly
21	Ganapati Visarjan Nirmalya Cleaning Problem at River	SDG 6 SDG 14	PO1–PO12, PSO1, PSO2	Design and fabrication of a Nirmalya collection system to reduce river pollution during Ganapati Visarjan.	Design and Fabrication	Reduces river pollution, improves water quality, protects aquatic life, and promotes eco-friendly festival practices.
22	3D Modeling and Drafting of Special Fastener	SDG 9 SDG 12	PO1–PO12 PSO1 PSO2	Design of a customized special fastener using 3D CAD modeling and drafting for specific industrial applications.	Machine Design	Promotes efficient design, reduces material waste, enhances product reliability, and supports sustainable manufacturing.
23	IoT Based Water Network System	SDG 6, SDG 9, SDG 11	PO2, PO3, PO5, PO6, PO7, PO11	Development of an IoT-based water network monitoring system for leakage detection and efficient water management.	Water Resource	Water Management and Conservation

Sr. No.	Activity / Project Title	SDG(s) Mapped	PO Mapped	Description / Implementation Details	Application Area / Domain	Learning Outcome / Impact
24	Sustainable Materials in Concrete with Partial Replacement of Cement Bagasse Ash	SDG 9, SDG 11, SDG 12:	PO1, PO2, PO4, PO7, PO12	Experimental study on partial replacement of cement with bagasse ash to develop sustainable concrete.	Sustainable Materials	Sustainable Materials
25	Student Feedback System for RCPIT	SDG 4	PO1 to PO12	Faculty feedback is taken from students in transparent way.	Application	Understanding Data Analytics
26	The Smart Car Parking System with IoT	SDG 9, SDG 11	PO1 to PO12	It provides automated solution to manage parking spaces efficiently	IoT	Understand the implementation of IoT-based smart parking systems

Overall, the institute has effectively integrated sustainability initiatives with Outcome-Based Education (OBE) and the Sustainable Development Goals (SDGs) through a wide range of institutional practices, community outreach activities, and SDG-mapped student projects.

These initiatives have enabled students to apply engineering knowledge to real-world societal and environmental challenges, resulting in measurable learning outcomes such as enhanced technical competence, environmental awareness, social responsibility, teamwork, and ethical values. Systematic assessment through certified audits, documented records, and stakeholder feedback ensures transparency, accountability, and continuous improvement. The tangible outcomes—reduced carbon footprint, improved water and waste management, strengthened community engagement, and increased sustainability awareness—clearly demonstrate the institute's commitment to institutionalizing sustainable development practices

R. C. Patel Institute of Technology, Shirpur has implemented innovative, NEP-2020–aligned initiatives to promote student mobility, inclusivity, and flexible learning. The institute has adopted the Academic Bank of Credits (ABC) as per UGC guidelines, enabling seamless credit earning, transfer, and redemption through SWAYAM/NPTEL, MOOCs, inter-institutional electives, and value-added skill courses such as Code Chef. Regular orientation programs and academic collaborations with other Higher Education Institutions further strengthen multiple entry–exit awareness and enrich students' academic exposure.

Initiatives Taken Towards Mobility of Students

The institute has undertaken several initiatives to promote academic and professional mobility of students in line with NBA and NEP-2020 guidelines. The Choice Based Credit System (CBCS) is implemented, allowing students to select electives across departments and enabling horizontal mobility within the institute. The curriculum provides flexibility for interdisciplinary learning and supports credit equivalence.

In compliance with UGC regulations, the institute has implemented the Academic Bank of Credits (ABC). Students are encouraged to earn credits through SWAYAM/NPTEL MOOCs, which are mapped with curriculum courses and transferred as per institutional policy. This initiative enables students to learn from premier institutions such as IITs, IISc, and central universities, thereby enhancing academic mobility at the national level.

The institute actively facilitates student internships, industrial training, and project work in collaboration with industries, research organizations, and academic institutions. These opportunities allow students to gain exposure to diverse work environments and practical learning experiences beyond the parent institute, thereby promoting professional mobility. Students are also encouraged and financially supported to participate in workshops, conferences, competitions, summer schools, and certification programs conducted by other institutions and professional bodies. Academic leave, mentoring support, and recognition of participation are provided to ensure continuity in learning while encouraging external exposure.

Key Initiatives for Holistic Education and Inclusivity:

- **Holistic and Value-Based Education:** Integration of Universal Human Values, ethics, environmental studies, sustainability, yoga, meditation, and wellness programs to promote professional ethics, social responsibility, and overall well-being.
- **Multidisciplinary & Experiential Learning:** Promotion of multidisciplinary and interdisciplinary learning through open electives across engineering, science, humanities, management, and arts, along with project-based learning, internships, industry-linked problem-solving, seminars, and workshops.
- **Research, Innovation & Indian Knowledge System (IKS):** Strengthening research culture through minor projects, innovation cells, incubation initiatives, and promotion of Indian Knowledge System via guest lectures, curriculum integration, and celebration of Indian heritage and national days.
- **Inclusivity, Equity & Support for Slow Learners:** Implementation of scholarships, fee concessions, reservation policies, counselling, mentoring, and structured remedial measures including diagnostic tests, tutorial sessions, peer mentoring, and continuous academic monitoring.
- **Support for Physically Challenged Students:** Provision of a barrier-free campus with accessible infrastructure, academic accommodations such as extra exam time, scribes, flexible attendance, digital learning resources, and dedicated mentoring and counselling to ensure equal participation and dignity.

Objectives: In alignment with NEP-2020, the institute has adopted a learner-centric approach to foster academic flexibility, holistic development, and inclusive education. These initiatives aim to create an equitable, multidisciplinary, and value-driven learning environment for all students. To enhance student mobility and academic flexibility through the Academic Bank of Credits (ABC) and MOOC-based learning platforms.

- To implement holistic education by integrating human values, ethics, wellness, and sustainability into the curriculum.
- To promote multidisciplinary and interdisciplinary learning across diverse academic domains.
- To create awareness and integrate the Indian Knowledge System (IKS) into teaching–learning practices.
- To ensure equity, inclusivity, and accessibility for economically, socially, and physically challenged students.
- To identify and support slow learners through structured academic monitoring and targeted remedial interventions.

Student Mobility & Academic Bank of Credits (ABC):

- Implementation of Academic Bank of Credits (ABC) as per UGC guidelines
- Credit earning and transfer through SWAYAM/NPTEL, MOOCs, and inter-institutional electives
- Orientation programs on ABC and multiple entry–exit options

- Collaborations with other HEIs for academic mobility and exposure
- Skill-based and value-added courses (e.g., Code Chef, industry certifications)

Holistic Education & Human Values

- Courses on Universal Human Values, ethics, environmental studies, and sustainability
- Yoga, meditation, wellness, and stress-management programs
- Emphasis on professionalism, social responsibility, and leadership skills

Multidisciplinary & Interdisciplinary Curriculum

- Open electives across engineering, science, humanities, management such as Product life cycle management, Personal Finance Management etc and arts such as Constitution of India, Universal Human Value etc.
- Interdisciplinary projects, seminars, workshops, and minor projects
- Project-based learning, internships, and industry-linked problem-solving activities

Indian Knowledge System (IKS)

- Guest lectures on ancient Indian science, mathematics, yoga, Ayurveda, and Vedic knowledge
- Integration of IKS concepts and examples in relevant subjects
- Celebration of Indian festivals, national heritage days, and cultural programs

Inclusivity, Equity & Student Support

- Scholarships, fee concessions, and reservation policies as per government norms
- Mentoring, counselling, and student support services & Awareness programs

Support for Economically, Socially & Physically Challenged Students

- Barrier-free campus with ramps, handrails, wide corridors, accessible classrooms and washrooms
- Lift facilities wherever required
- Academic accommodations including extra examination time, scribes/readers, and flexible attendance
- Access to digital resources, recorded lectures, and soft copies of study materials
- Dedicated faculty mentoring, counselling, and financial assistance

Action Plan for Slow Learners

- Identification through diagnostic tests, continuous internal assessment, and faculty observation
- Remedial classes and tutorial sessions
- Peer mentoring and faculty counselling
- Continuous academic monitoring and performance tracking
- Societal development and national priorities.
- Action plan has been discussed, and its impact has been briefly explained in Criteria 2, Section 2.1 (I).

R. C. Patel Institute of Technology (RCPIT), Shirpur has established a structured and transparent Faculty Performance Appraisal and Development System (FPADS) to enhance teaching effectiveness, research productivity, professional growth, and institutional contribution. (Refer Figure 9.13.1)

The system ensures continuous faculty development through systematic evaluation, feedback, and targeted improvement initiatives. R. C. Patel Institute of Technology, Shirpur follows a structured self-appraisal system for faculty assessment comprising three categories:

- Teaching, Learning and Evaluation
- Co-curricular, Extension Professional Development
- Research, Publications and Academic Contributions.

Faculty members submit the appraisal form with supporting documents at the end of each academic year, which is evaluated by an institute-appointed committee.

A. Performance Appraisal System

The implementation of a self-appraisal system involves the following steps:

Establishing a committee: Committee comprising Governing Body members, Director and the respective Heads of Department (HODs) is constituted to conduct the Faculty Performance Appraisal at the end of each academic year.

Performance Review: The committee reviews the progress and performance of faculty members based on various criteria and indicators. These include teaching effectiveness, research contributions, professional development, and other relevant factors.

Overall Performance Rating: After reviewing the performance, an overall performance rating is assigned to each faculty member. This rating serves as feedback for self-improvement and helps identify areas where faculty members need to focus on enhancing their skills and performance.

Feedback and Recommendations: Faculty members who receive a poor performance rating are provided with specific feedback on areas requiring improvement. The feedback aims to guide them towards self-improvement and professional development.

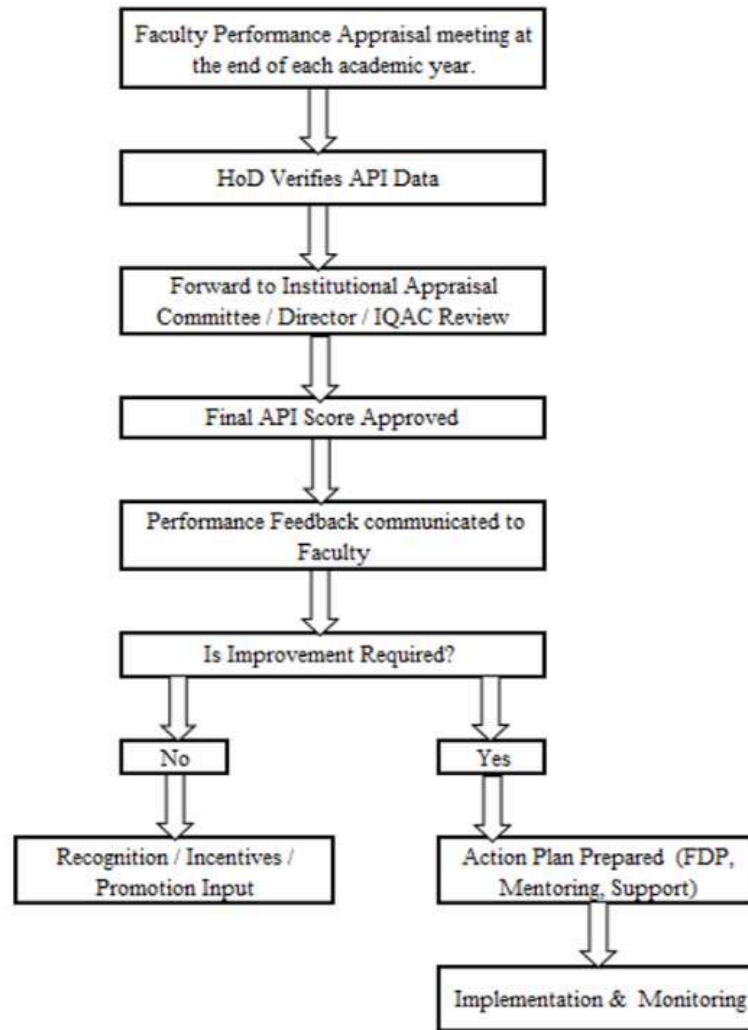


Figure 9.13.1: Faculty Performance Appraisal and Feedback Mechanism

Recognition and Rewards:

Faculty members who receive good performance ratings are rewarded with recognition, such as awards, appreciation letters, and promotions through a career advancement scheme. These rewards serve as incentives and acknowledgements for their dedication and contribution to their roles.

Sample Appraisal Form

The sample API form is a structured self-appraisal tool designed to evaluate faculty performance in teaching-learning, research, professional development, and institutional contributions. It captures quantitative and qualitative details of academic activities along with supporting documents to ensure transparency. The form is verified by the HOD & reviewed by the IQAC Committee and Director. The final API score is used for feedback, performance improvement and career advancement

The Shirpur Education Society and R C Patel Educational Trust



Teachers Performance Appraisal Form



(The format to be used by all institutes for performance appraisal of the teacher)

1.1A) PERFORMANCE IN ENGAGING LECTURES / PRACTICALS/ TUTORIALS /ADMINISTRATIVE LOAD/
RESEARCH SUPERVISION/PROJECT GUIDANCE (MAXIMUM SCORE: 50 POINTS)

SN (1)	Class /Course (2)	Subject Taught (3)	No. of Hours Targeted (4)	Hrs. Actually Engaged (5)	% Target Achieved (6)	Avg. of Col. (6) (7)	Performance & Multiplying Factor (8)	Max. Weight (9)	API Score Claimed 8*9 (10)	Verified API Score (11)
1		SOM (Theory) SOM (Pract.) (Div-A) EG (Theory) EG (Pract.) (Div- F and I) Research Supervision SEM-I	192	235	100	100	Excellent-1	50	50	50
2		EG (Theory) (Div- A and D) EG (Pract.) (Div- A and E) Research Supervision SEM-II	192	206	100					

1.1B) PERFORMANCE IN ATTENDANCE OF STUDENTS (MAXIMUM SCORE: 20 POINTS)

SN (1)	Class /Course (2)	Subject Taught (3)	Sum of Students Present (4)	Lectures Actually Engaged (5)	Students on Roll (6)	Avg. Attendance = $\frac{(4) \times 100}{(5) \times (6)}$ (7)	Avg. of Col. (7) (8)	Performance & Multiplying Factor (9)	Max. Weight (9)	API Score Claimed 8*9 (10)	Verified API Score (11)
1	SY [A]	SOM	782	24	58	56.178161	75.56071468	Excellent-1	20	20	20
2	FY [F]	EG	2163	39	63	88.034188					
3	FY [I]	EG	2040	38	63	85.213033					
4	FY [A]	EG	1922	46	62	67.391304					
5	FY [D]	EG	2347	46	63	80.986888					
6											
7											
8											
9											
10											

1.1C) PERFORMANCE IN RESULTS: (THEORY SUBJECT) (MAXIMUM SCORE: 20 POINTS)

SN (1)	Class /Course (2)	Subject Taught (3)	% Result of the Same Subject in the University (4)	% Result of the Same Subject in the Institute (5)	Column (5/4)*100 (6)	Avg. of Col. (6) (7)	Performance & Multiplying Factor (9)	Max. Weight (9)	API Score Claimed 8*9 (10)	Verified API Score (11)
1	SY [A]	SOM	45	45	100.00	100.00	Excellent-1	20	20	20
2	FY [F]	EG	90	90	100.00					
3	FY [I]	EG	86	86	100.00					
4										
5										
6										
7										
8										
9										
10										

1.2) LECTURES AND ACADEMIC DUTIES IN EXCESS OF UGC NORMS (MAXIMUM SCORE: 10POINTS)

SN (1)	Type of Activity (2)	No. of Students Benefited (3)	No. of Hours Engaged for the Activity (4)	API Score Claimed (Sum of Col. (4) /30)*2 (5)	Verified API Score (11)
1	Remedial Coaching SOM	20	6	10	10
2	Career Counseling Admission	57	72		
3	Competitive Exam Preparation				
4	General Counseling	240	48		
5	Soft Skill Development of the Student				
6	Extra Teaching Load		57		
7	LG Monitoring	13	48		
8	Add on Courses				
9	Any other Approved by Principal: SC ST Cell NSS	107	24		

Note:- Records to be maintained

1.3) PREPARATION OF STUDY MATERIAL AND RESOURCES (MAXIMUM SCORE: 20 POINTS)

SN	Study Material/ Resources	API Score Claimed	Verified API Score
1	Updated Lecture Notes (SOM, EG)	10	10
2	Lab Manuals (SOM, EG)	8	8
3	List of E Resource (SOM, EG)	2	2
4	Question Paper Solution (SOM, EG)	10	10
5	Any other Approved by Principal Blue Print for EG	5	5
TOTAL		20	20

1.4) INNOVATIVE TEACHING LEARNING METHODS (MAXIMUM SCORE: 20 POINTS)

SN	Study Material/ Resources	API Score Claimed	Verified API Score
1	Teacher Diary	10	10
2	To Prepare and use ICT based Teaching Material	5	5
3	Model / GD / Case Study (Points=5 for each case)	10	10
4	Any other Approved by Principal		
TOTAL		20	20

1.5) STUDENTS FEEDBACK (MAXIMUM SCORE: 15 POINTS)

SN	Class	No. of students involved in feedback	Feedback frequency per course	Methodology	API Score Claimed	API Score Verified
1	SY_A	50	1	Online feedback	15	15
2				Manual paper feedback		
3	FY	48	1	Online feedback	15	15
4				Manual paper feedback		
TOTAL					15	15

1.6) EXAMINATION RELATED WORK (MAXIMUM SCORE: 25 POINTS):

SN	Type of Examination Work	API Score Claimed	Verified API Score
1	Conduction of Test, Tutorials, Term work and their Evaluation and Maintaining Proper Records	10	10
2	Examination Work Assigned by University	5	5
3	Examination Work Assigned by Institute	10	10
TOTAL		25	25

CATEGORY-1**TOTAL API SCORE CLAIMED****180****TOTAL API SCORE VERIFIED****180**

**CATEGORY 2: CO-CURRICULAR, EXTENSION AND PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES
(MAXIMUM SCORE: 70)**

2.1) STUDENT RELATED CO-CURRICULAR, EXTENSION AND FIELD BASED ACTIVITIES (MAXIMUM SCORE: 30 POINTS)

SN	Name of Activity	API Score Allotted	API Score Claimed	Verified API Score
1	NSS/NCC Chief Program Officer	10	8	8
2	Other Program Officer	8		
3	Student Welfare Officer	5		
4	NET/SET Workshop Conduct(1 Week)	5		
5	Cultural Activities (Departmental/Institutional)	5	5	5
6	Lectures on Special Topics	5		
7	Presentations / Debate/ Elocution (Points=5 for each case)	5	5	5
8	Study Tour	5		
9	Avishkar (Student Guidance)	5		
10	Essay Competition	5		
11	Project Exhibition	5	5	5
12	Science Day Celebrations	5	3	3
13	Subject Association	5	5	5
14	Any other Activity Approved by Principal (Equal Opportunity Cell)	5	5	5
15	Any other Activity Approved by Principal (SES Examiner)	5	5	5
16	Any other Activity Approved by Principal (Food Inspection)	5	5	5
17	Any other Activity Approved by Principal (SC ST Cell)	5	5	5
18		5		
19		5		
20		5		
21		5		
TOTAL			30	30

2.2) CONTRIBUTION TO CORPORATE LIFE AND COMMUNITY WORK (MAXIMUM SCORE: 25 POINTS)

2.2A) COMMUNITY WORK (MAXIMUM SCORE: 5 POINTS)

SN	Name of Activity	API Score Allotted	API Score Claimed	Verified API Score
1	Blood Donation+ Small Family + Yoga Day+ Club Samarpan + Tande Sports+ Clus Saksham	5	5	5
TOTAL of 2.2A			5	5

2.2B) ADMINISTRATIVE AND ACADEMIC (MAXIMUM SCORE: 20 POINTS)

SN	Name of Activity	API Score Allotted	API Score Claimed	Verified API Score
1	Head /Dean/Rector	5		
2	Vice Principal	10		
3	Admission Committees (First Year,D2D and Departmental)	5	3	3
4	Converges-2023 (Dept. Co-ordinator)	5	5	5
5	Statutory Committees of the University	5		
6	Placement Activity	5	3	3
7	Academic Committee* (Class Teacher, Local Guardian, Time Table, Examination Competitive Exam Committee such as NET/SET/GATE etc) (Points=5 for each case).	5	5	5
8	NBA Committee	5	5	5
9	Happiness Matrix Scheme (Co-ordinator)	5	5	5

10	Ansys Training for Faculty Members (Co-ordinator)	5	5	5
11	BoS Committee (Co-ordinator)	5	5	5
TOTAL of 2.2B			20	20
TOTAL of 2.2(2.2A & 2.2B)			25	25

2.3) PROFESSIONAL DEVELOPMENT ACTIVITIES (MAXIMUM SCORE: 15 POINTS)

SN	Name of Activity	API Score Allotted	API Score Claimed	Verified API Score
1	Participation in Seminar / Symposia / Conference ICRAMM-2022, ERP NBA NEP OBE IPR in RCPIT (Active Participation: 2 Points, Attended: 1 Points)	10	10	10
2	Convener/Organizing Secretary/ Chairman/ Member of professional Body (IAENG Membership) (Points=5 for each case)	5	5	5
3	Talks Delivered in Program Outside (at V N Naik, Shahada)	5	5	5
4	General Article Publication/ Editor of the conference proceeding /Reviewer of journal (Reviewer) (Points=5 for each case)	5	5	5
TOTAL			15	15

CATEGORY-2**TOTAL API SCORE CLAIMED****70****TOTAL API SCORE VERIFIED****70****CATEGORY-1 + CATEGORY-2****TOTAL API SCORE CLAIMED****250****TOTAL API SCORE VERIFIED****250**

CATEGORY 3: RESEARCH, PUBLICATIONS AND ACADEMIC CONTRIBUTION
**** (Refer Manual for the Marks)**

3.1) PUBLISHED PAPER IN JOURNAL (JOURNAL+CONFERENCE PROCEEDINGS =MAXIMUM 30 POINTS)

SN	Title with Page No.	Journal	ISSN/ISBN No.	Peer Reviewed	Impact Factor	No. of Co-Authors	Whether you are the main author?	API Score Claimed	Verified API Score
1	PEEKCIZONSCATB	Materials Today, Elsevier	22147853	YES	3.2	2	YES	12	12
2								0	
3								0	
4								0	
5								0	
6								0	
7								0	
8								0	
9								0	
10								0	
TOTAL								18	18

3.2) ARTICLES/ CHAPTERS PUBLISHED IN BOOKS AND CONFERENCE PROCEEDINGS (MAXIMUM 25 POINTS)

3.2.1A) PUBLISHED BOOKS

SN	Title of book	Name of Publisher	National / International or Other	ISSN/ ISBN No.	No. of Co-Authors	Whether you are the main author	API Score Claimed	Verified API Score
1								
2								
3								0
TOTAL of 3.2.1.A							0	0

3.2.1B) ARTICLES/CHAPTERS PUBLISHED IN BOOKS							
SN	Title of book	Name of Publisher	National / International / or Other	ISSN/ ISBN No.	No. of Chapters	API Score Claimed	Verified API Score
1						0	
2						0	
TOTAL of 3.2.1.B						0	0
TOTAL of 3.2.1						0	0

3.2.2A) PAPERS IN CONFERENCE PROCEEDINGS									
SN	Title with Page no.	National / International / or Other	Details of Conference Publication	Full Paper or Abstract	ISSN/ ISBN No.	No. of Co-Authors	Whether you are main author?	API Score Claimed	Verified API Score
1	PEEKCIZONSCATB	YES	ICRAMM-2022	YES	22147853	2	YES	3	3
2								0	
3								0	
4								0	
5								0	
6								0	
7								0	
8								0	
9								0	
10								0	
TOTAL of 3.2.2.A								3	3

3.2.2B) AVISHKAR/ANY OTHER							
SN	Title of Paper/Poster/Model	Avishkar	Prize Won	No. of Co-Authors	Whether you are main author?	API Score Claimed	Verified API Score
1	Avishkar,2022	YES	NO	0	YES	3	3
2						0	
3						0	
4						0	
TOTAL of 3.2.2.B						3	3
TOTAL of 3.2.2 (This total will be added in 3.1 as a research publication)						6	6

3.3) ONGOING AND COMPLETED RESEARCH PROJECTS AND CONSULTANCIES (MAXIMUM 20 POINTS)

SN	Title	Agency	Period	Type of Project	Grant/Amount Mobilized (Rs. Lakh)	Are You Principal Investigator?	No. of Co-Invest.	API Score Claimed	Verified API Score
1								0	
2								0	
3								0	
4								0	
5								0	
TOTAL								0	0

3.4) RESEARCH GUIDANCE /QUALIFICATION (MAXIMUM 20 POINTS)

3.4A) RESEARCH GUIDANCE (MAXIMUM 10 POINTS)						
SN	Research Guidance	Number Enrolled	Thesis Submitted	Degree Awarded	API Score Claimed	Verified API Score
1	M. Phil /ME/ M Pharm				0	
2	MCA/M.ed/MSC				0	
3	Ph.D. or Equivalent				0	
TOTAL of 3.4A					0	0

3.4B) RESEARCH QUALIFICATION (MAXIMUM 10POINTS)

SN	Qualification	Submitted	Awarded	API Score Claimed	API Score Claimed
1	Ph.D.	YES	YES	10	10
2	ME/M.Phil/M pharm			0	
TOTAL of 3.4B				10	10
TOTAL of 3.4				10	10

3.5) PATENT/PR (MAXIMUM 15 POINTS)

SN	Title	REG. NO.	Submitted	Granted	API Score Claimed	Verified API Score
1	SPFSAAENCOCFR	L-124775/2023	YES	No	10	10
2					0	
TOTAL					10	10

3.6) TECHNICAL WORKSHOPS / SOFT SKILL DEVELOPMENT WORKSHOPS PARTICIPATION (MAXIMUM 15 POINTS)

SN	Programme	Duration (Mention in Days)	Organized By	API Score Claimed	Verified API Score
1	Electric Power Systems	4 Week	Coursera	15	15
2	Energy The Enterprise	4 Week	Coursera	15	15
3	Recent Trends In Advanced Manufacturing Technology	1 Week	D Y Patil College of Engineering, Akurdi, Pune	15	10
TOTAL				15	15

CATEGORY-3

TOTAL API SCORE CLAIMED	53
TOTAL API SCORE VERIFIED	53

IV. SUMMARY OF API SCORES

Category	Criteria	API for Assessment Year	API Score Claimed	Verified API Score	Diff. in %
I	Teaching , Learning and Evaluation Related Activities		180	180	0
II	Co-curricular, Extension, Professional Development etc		70	70	0
	Total I+II		250	250	0
III	Research and Academic Contribution		53	53	0
IV	Others*				

Grade on the Basis of API Score Claimed	
API Category I+II+III	Grade
303	O (Outstanding)

Grade on the Basis of API Score Verified	
API Category I+II+III	Grade
303	O (Outstanding)

Mention Year of Experience <u>in</u> this Institute	9
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UNDERTAKING		
I Dr. Nitin Girdhar Shinde undertake that the information provided is correct as per records submitted by me to College/ Institute and /or documents enclosed along with the duly filled API <u>Proforma</u> .		
Date	Signature of the Teacher with Designation	
<p>**Note: The special API Score of maximum of 5 each may be awarded by principal for the following activities for reward category only. This score shall be added to the score total secured in category I +II.</p> <p>1) Extra ordinary contribution beyond institution (Please mention activities for which special weight is given)</p> <p>2) Overall impression of the teacher (Like attitude, Integrity, <u>Self discipline</u>, Loyalty Towards Institute <u>etc</u>).</p>		
API GRADES TABLE AND ASSESSMENT SUMMARY		
Grade shall be given according to API score as shown below.		
API Category I+II+III	Grade	
≥300	O	Outstanding
275-299	A+	Excellent
250-274	A	Very Good
225-249	B+	Positively Good
200-224	B	Good
180-199	C+	Satisfactory
160-179	C	Improvement Required
<160	Not Acceptable	Not Acceptable

REMARK OF THE ASSESSMENT OFFICER:

Assessment Grade:	O (Outstanding)
-------------------	-----------------

Place

Date

**Assessment officer Sign and Designation
(Chairman IQAC / HOD)**

B. Implementation & Impact of faculty Appraisal system

The implementation of the Academic Performance Indicator (API) system at Institute has resulted in significant improvement in overall faculty performance and institutional quality as shown in Table 9.13.1.

Table No 9.13.1: Academic Year-wise Percentage Distribution of Faculty Performance Grades

Year/ Grade	O	A+	A	B+	B	C+	C	D
24-25	14.29	57.14	25.00	2.68	0.00	0.00	0.00	0.89
23-24	16.67	53.70	28.70	0.93	0.00	0.00	0.00	0.00
22-23	4.12	54.64	41.24	0.00	0.00	0.00	0.00	0.00
21-22	3.70	30.86	60.49	4.94	0.00	0.00	0.00	0.00
20-21	2.27	56.82	32.95	7.95	0.00	0.00	0.00	0.00
19-20	2.00	33.00	43.00	20.00	2.00	0.00	0.00	0.00
18-19	4.50	36.04	45.05	10.81	2.70	0.00	0.90	0.00
17-18	3.60	36.04	44.14	11.71	1.80	2.70	0.00	0.00
16-17	0.83	26.67	38.33	25.83	6.67	1.67	0.00	0.00
15-16	0.00	15.00	24.17	55.00	5.00	0.00	0.00	0.83
14-15	0.83	3.31	23.97	54.55	17.36	0.00	0.00	0.00
13-14	0.00	4.62	3.08	6.15	20.00	49.23	16.92	0.00

Table No 9.13.2: API Assessment Scaling (Faculty Performance Evaluation)

Grade	Award & Reward	Recognition	Counselling	Advisory Note / Action Plan
O (Outstanding)	Special incentive Best Faculty Award	Certificate of Excellence	Not Required	<ul style="list-style-type: none"> Encourage leadership roles Nominate for external awards, FDPs, funded projects

Grade	Award & Reward	Recognition	Counselling	Advisory Note / Action Plan
A+ (Excellent)	Performance-based incentive	Certificate of Appreciation	Not Required	<ul style="list-style-type: none"> Encourage mentoring of junior faculty Support for research & innovation
A (Very Good)	Merit Certificate	Department-level appreciation	Optional (if needed)	<ul style="list-style-type: none"> Encourage improvement in research / pedagogy Recommend FDP participation
B+ (Positively Good)	No monetary reward	Appreciation letter	If required	<ul style="list-style-type: none"> Identify gaps Suggest skill up gradation & training programs
B (Good)	Not Applicable	Not Applicable	Mandatory	<ul style="list-style-type: none"> Issue advisory note Improvement plan with timelines
C+ (Satisfactory)	Not Applicable	Not Applicable	Mandatory	<ul style="list-style-type: none"> Formal counselling by HoD/Director Short-term improvement targets
C (Poor)	Not Applicable	Not Applicable	Mandatory (Intensive)	<ul style="list-style-type: none"> Written warning Monitoring for next appraisal cycle
D (Very Poor)	Not Applicable	Not Applicable	Mandatory (Critical)	<ul style="list-style-type: none"> Strict advisory / show-cause Corrective action as per service rules

Over the years, there is a clear shift of faculty ratings towards higher performance bands (A and A+), indicating enhanced teaching effectiveness, increased research output, and greater professional engagement.

- Significant increase in the number of faculty members attaining A+ and A grades, indicating improved teaching and research performance.
- Enhanced quality of teaching–learning processes through systematic feedback, mentoring, and adoption of innovative pedagogies.
- Improved research output, including publications, projects, FDP participation, and professional contributions.

- Increased faculty motivation and engagement due to transparent evaluation, recognition, and career advancement opportunities.
- Identification and support of faculty requiring improvement through targeted action plans, FDPs, and mentoring.
- Overall continuous improvement in academic excellence and institutional performance.
- **Self-Reflection and Growth:** The self-appraisal system encourages faculty members to reflect on their own performance and identify areas for improvement. This self-reflection fosters personal growth and enables faculty members to take ownership of their professional development.
- **Motivation and Engagement:** The feedback received through the self-appraisal system can motivate faculty members to excel in their roles. The recognition and rewards for good performance further enhance motivation and engagement.
- **Targeted Development:** By providing specific feedback, faculty members are able to focus on areas requiring improvement. This targeted approach to professional development enables them to enhance their skills and competencies in a more effective manner.
- **Fair and Objective Evaluation:** The self-appraisal system, combined with the committees review, ensures a fair and objective evaluation of faculty performance. The involvement of multiple stakeholders helps minimize biases and ensures a comprehensive assessment.
- **Performance Enhancement:** The feedback and recommendations provided through the self-appraisal system enable faculty members to identify and address their weaknesses. This, in turn, leads to continuous performance enhancement and contributes to the overall improvement of teaching and research quality
- **Retention and Career Advancement:** The self-appraisal system, coupled with promotions through a career advancement scheme, provides faculty members with opportunities for growth and advancement within the organization. This can contribute to increased job satisfaction and retention.

9.14 Outreach Activities (5)

Total Marks 5.00

RCPIT undertakes a wide range of outreach activities aimed at community development, social awareness, and experiential learning. Under initiatives such as Unnat Bharat Abhiyan (UBA), students adopt nearby villages and work closely with local communities to identify and address issues related to sanitation, water conservation, renewable energy, education, and digital literacy. These activities help students develop problem-solving skills while contributing to rural development.

A. Initiatives

The institute also promotes community service and social internships, where students participate in health awareness programs, blood donation camps, environmental conservation drives, and Swachh Bharat initiatives. Through society connect activities, students collaborate with NGOs, local bodies, and government agencies to conduct technical awareness programs, skill development workshops, and sustainability-oriented projects. These outreach efforts have resulted in improved social awareness among students, enhanced leadership and teamwork skills, and a strong sense of civic responsibility, while creating a positive impact on the surrounding community.

Student Development through Clubs: Student clubs and professional society chapters offer structured experiential learning beyond the classroom, complementing the curriculum and supporting Outcome-Based Education (OBE) and attainment of POs and PSOs.

Clubs and chapters such as Akatsuki Coding Club, GDGoC, Glitchverse Gaming Tech Club, Unstop Igniters Club, Aakritix, Fetch.AI, Energy Club, Comunicado, Data Polaris, Commexus, ACM Student Chapter, NSS, E-Builder, RoboTEMB Club, CESA, RCPIT-Wings, and other institute-level forums promote hands-on learning, technical skill development, innovation, leadership, teamwork, professional communication, and social responsibility. Through workshops, competitions, projects, hackathons, and community-oriented activities, students gain practical exposure, ethical values, and lifelong learning skills, thereby strengthening OBE and effective PO attainment.

- To enhance holistic student development through club activities aligned with Outcome-Based Education (OBE)
- Improves technical knowledge, problem-solving, innovation, and modern tool usage (PO1–PO3, PO5).
- Develops teamwork, leadership, communication, and project management skills (PO7–PO9).
- Instills ethics, social responsibility, and community engagement (PO6, PO10).
- Encourages lifelong learning and overall attainment of POs & PSOs (PO11, PO12).

The institution promotes Outcome-Based Education (OBE) by encouraging student participation in outreach and society-connect activities, fostering societal development along with professional and ethical competencies. Some of the outreach activities undertaken are as follows:

Table 9.14.1: SDG-Mapped NSS Outreach and Extension sample Activities

Sr. No	Name & Details of Activity	Organized By	A.Y.	Date/ Duration	Relevant SDG(s)
1	Tree Plantation Drives	NSS	24-25	09/12/2024	SDG 13, SDG 15
2	Swachh Bharat Abhiyan (Cleanliness Drives)	NSS	24-25	17/09/2024	SDG 3, SDG 6, SDG 11
3	Blood Donation Camps	NSS	24-25	14/09/2024	SDG 3
4	Health Check-up Camps	NSS	24-25	03/04/2025	SDG 3
5	Water Conservation Activities	NSS	24-25	03/11/2024	SDG 6
6	Village Adoption Programs	NSS	24-25	03/07/2024	SDG 1, SDG 11
7	Literacy & Education Awareness Programs	NSS	24-25	03/11/2025	SDG 4
8	National Voters' Awareness Programs	NSS	24-25	17/09/2024	SDG 16

Sr. No	Name & Details of Activity	Organized By	A.Y.	Date/ Duration	Relevant SDG(s)
9	Yoga & Fitness Awareness Camps	NSS	24-25	21/06/2025	SDG 3
10	Constitution Day	NSS	24-25	26/11/2024	SDG 16
11	National Unity Day Activities	NSS	24-25	31/10/2025	SDG 16
12	Special NSS Camps (7-Day Residential Camps) – Karvand village	NSS	24-25	07/03/2025 To 13/03/2025	SDG 3, SDG 4, SDG 11, SDG 17
13	Plastic-Free Campus Campaigns (Swachhata Abhiyan Rally)-Shivpuran place-Kravand	NSS	24-25	12-09-2024	SDG 3, SDG 6, SDG 11
14	Public Health Awareness Campaigns (Nasha Mukti Bharat abhiyan program pledge program and rally)	NSS	24-25	12/8/2024 To 15/08/2024	SDG 3
15	Eye Donation companion "Netradan"	NSS	24-25	25/02/2025	SDG 3
16	Self Defense Training for the girls	NSS	24-25	10/10/2024	SDG 5
17	Literacy & Education Awareness Programs	NSS	24-25	15/10/2024	SDG 4
18	Digital Poster Making	Fetch.ai	25-26	11/09/2025	SDG 12, SDG 13
19	GlitchVerse Gaming Tech Club Inaugration and Expert Session	GlitchVerse Gaming Tech Club	25-26	6/10/2025	SDG 4, SDG 9, SDG 17
20	Workshop by GDGoC Think in C	Google Developer Groups on Campus	25-26	07/10/2025	SDG 4, SDG 9
21	Sustainable Energy Solutions Hackathon 23	Energy Club	23-24	2/11/2023	SDG 7, SDG 9, SDG 11, SDG 12, SDG 13

Sr. No	Name & Details of Activity	Organized By	A.Y.	Date/ Duration	Relevant SDG(s)
22	Poster Making Competition on Energy Sustainability and Green Innovations	Energy Club	25-26	04/10/2025	SDG 7, SDG 12, SDG 13
23	Microcontroller and Sensors Workshop	Energy Club	25-26	14/10/2025	SDG 4, SDG 9, SDG 11
24	Tree Plantation	CESA	23-24	19/08/2025	SDG 13, SDG 15
25	Stationary note book & pen donate to school STUDENTS	CESA	23-24	26/01/2024	SDG 6
26	Jal saptha (Awareness Programme)	CESA	23-24	26/01/2024	SDG 6 SDG 13
27	Engineers Day	CESA	23-24	15/09/2024	SDG 4 SDG 9
28	Constitution Day Celebration	NSS	23-24	26/11/2023	SDG 8
29	Engineers Day	CESA	24-25	15/09/2025	SDG 8 SDG 9
30	Maharashtra Day & Traditional Day Celebration	RCPIT	24-25	01/05/2025	SDG 4 SDG 8 SDG 11
31	Mother's Day Celebration	Student Affairs Department	22-23	9/05/2022	SDG 3 SDG 4 SDG 5
32	Visit to "SAMABHAV – International Film Festival"	MAVA	22-23	18/9/2023	SDG 5 SDG 10 SDG 16
33	Expert Talk on "Journey of Life – Know Thyself"	RCPIT	22-23	8/06/2022	SDG 3 SDG 4
34	Yoga Month Celebration & International Yoga Day 2022 "Yoga for Humanity".	RCPIT	22-23	21/06/2022	SDG 3 SDG 4:
35	Garba Night & Dandiya Raas Celebration (Navratri 2022)	RCPIT	22-23	22/09/2022 To 26/09/2022	SDG 4 SDG 11:

Sr. No	Name & Details of Activity	Organized By	A.Y.	Date/ Duration	Relevant SDG(s)
36	SAMARPAN – Distribution of fruits & Biscuits at Government Hospital	RCPIT	22-23	15/09/2022	SDG 3 SDG 10
37	Grain & Ration Donation Drive at Residential School, Thalner	RCPIT	22-23	28/11/2022	SDG 2 SDG 10
38	Awareness of Menstrual Hygiene & Distribution of Sanitary Pads	Student Affairs / Social Outreach	22-23	3/06/2022	SDG 3
39	Tree Plantation Drive on "Azadi Ka Amrit Mahotsav"	RCPIT	22-23	13/08/2022	SDG 13 SDG 15
40	VIHANGAM 2023 – Bird Feeder Making & Placement Drive	RCPIT	22-23	25/04/2023	SDG 13 SDG 15
41	Kargil Vijay Diwas Celebration	RCPIT	23-24	26/07/2023	SDG 13 SDG 16
42	Women's Day Outreach – Menstrual Health Awareness & Free Sanitary Pad Distribution	RCPIT	23-24	7/04/2024	SDG 3 SDG 5
43	Tree Plantation Program at Borkheda	RCPIT	23-24	27/08/2023	SDG 13 SDG 15
44	International Women's Day Session on Sexual Harassment at Workplace	RCPIT	23-24	8/03/2024	SDG 5 SDG 16
45	Women's Premier League (WPL) 2024 – Cricket Tournament Participation-Women's Premier League 2024	MPCT Shirpur & Astitva Foundation	23-24	5/03/2024 To 09/03/2024	SDG 3 SDG 5
46	BANDISH – A Musical Event	RCPIT	23-24	10/08/2024	SDG 4 SDG 11
47	COLOURWAVE – Drawing Competition (Theme: Indian Festivals)	RCPIT	24-25	28/02/2025	SDG 4 SDG 11

Sr. No	Name & Details of Activity	Organized By	A.Y.	Date/ Duration	Relevant SDG(s)
48	Sufi Night – A Celebration of Spiritual Music & Harmony	RCPIT	24-25	26/02/2024	SDG 4 SDG 11
49	UTSARG 2K25 – Five-Day Cultural Extravaganza	RCPIT	24-25	11/02/2025 To 15/02/2025	SDG 4 SDG 11
50	International Women's Day Celebration – Fun Games for Ladies Faculty	RCPIT	24-25	8/03/2025	SDG 5 SDG 3
51	Engineer's Cricket Championship (ECC) 2024.	RCPIT	24-25	28/08/2024	SDG 3

Students actively participated in community service programs such as cleanliness drives, health and hygiene awareness campaigns, blood donation camps, tree plantation drives, and road safety awareness programs in nearby villages and urban localities. These activities helped students develop leadership skills, teamwork, social responsibility, and ethical values.

Unnat Bharat Abhiyan (UBA): Under the Unnat Bharat Abhiyan initiative, students adopted nearby villages and conducted need-based surveys focusing on sanitation, education, water management, digital literacy, and renewable energy awareness. Students interacted directly with villagers to identify local challenges and propose feasible technical and social solutions. On Unnat Bharat Abhiyan Foundation Day, R. C. Patel Institute of Technology, Shirpur organized a Plastic-Free Environment Awareness Camp at its adopted village — Rampur.



As part of this initiative, an awareness drive was conducted to promote environmental sustainability. Cloth bags were also distributed to encourage the reduction of plastic use and inspire the villagers to adopt eco-friendly practices.

Social Internship: A digital literacy and education support Programme was organized at Karvand Village ZP School to enhance rural students' learning skills and awareness of basic digital tools.



Outcomes and Impact

- Students demonstrated enhanced professional competencies, including leadership, teamwork, communication, and ethical responsibility through sustained community engagement.
- Improved ability to apply technical knowledge to real-life societal problems such as sanitation, water management, digital literacy, health awareness, and environmental sustainability.
- Increased awareness and commitment towards Sustainable Development Goals (SDGs), particularly SDG 3 (Good Health & Well-being), SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 6 (Clean Water & Sanitation), SDG 11 (Sustainable Communities), SDG 13 (Climate Action), and SDG 15 (Life on Land).
- Development of civic sense and social sensitivity, aligning with Graduate Attributes and Program Outcomes related to ethics, environment, and lifelong learning.

- Positive social impact on adopted villages through cleanliness drives, plastic-free campaigns, digital literacy programs, health awareness activities, and education support initiatives.
- Improved health, hygiene, and environmental awareness among community members due to campaigns like Nasha-Mukta Bharat Abhiyan, Swachh Bharat Abhiyan, and tree plantation drives.
- Strengthened institution–society linkage under Unnat Bharat Abhiyan by addressing local needs through participatory surveys and sustainable solutions.
- Rural school students benefited from digital literacy and educational support, contributing directly to SDG 4 (Quality Education).
- Overall, these activities reinforced Outcome-Based Education (OBE) by ensuring holistic student development while contributing meaningfully to societal development and national priorities.

Annexure I
(A) PROGRAM OUTCOME (POs)

Engineering Graduates will be able to:

- PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
- PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
- PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
- PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
- PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
- PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
- PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
- PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
- PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
- PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
- PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

(B) PROGRAM SPECIFIC OUTCOME (PSOs)
Program should specify 2-4 program specific outcomes.

PSO1	Apply programming principles, algorithms, and data structures to design efficient software solutions and intelligent systems using structured, object-oriented, and emerging technologies.
PSO2	Design, develop, and deploy responsive web and mobile applications integrated with databases and cloud platforms, leveraging modern frameworks and tools for digital transformation.

Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines inforce as on date and the institutes hall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute willbe initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Head of the Institute

Prof. Dr. Jayantrao Bhaurao

Name : Patil

Designation : Director

Signature :



Seal of The Institution :



Place : Shirpur

Date : 23-03-2026 11:54:10