

RAJARAJESWARI COLLEGE OF ENGINEERING, BANGALORE

SELF ASSESSMENT REPORT(TIER - II) FOR Artificial Intelligence and Machine Learning

Part A : Institutional Information

1 Name and Address of the Institution

RAJARAJESWARI COLLEGE OF ENGINEERING, BANGALORE,
#14, ROMAHALI CROSS, MYSORE ROAD, KUMBALAGODU, BANGALORE-74

2 Type of the Institution:

☐	Deemed to be University	☒
☐	University	☐
☐	Institute of National Importance	☐

3 Year of establishment of the Institution:

Rajarajeswari College of Engineering (RRCE), established in **2006**, is committed to have emerged as one of Bengalurus premier engineering institutions, recognized for its a

Conveniently located off the **Bengaluru–Mysuru Highway**, the lush green campus **AICTE, New Delhi, affiliated with Visvesvaraya Technological University (VTU)** in words. RRCE has earned prestigious accreditations, including **NBA Accredited for Information Science and Engineering (ISE), NAAC Accreditation with an A+ Grade**

RRCE offers a wide spectrum of academic programs designed to meet the evolving needs of **Artificial Intelligence & Machine Learning, Civil Engineering, Computer Science (Computer Technology), Electronics and Communication Engineering, Electrical and Electronics Engineering, Computer Applications (BCA), and Bachelor of Business Administration (BBA), Master of Business Administration (MBA), and Master of Computer Applications**

The RRCE campus has been developed as a comprehensive centre of excellence with a library, workshops, a well-stocked digital library, separate hostels for boys and girls, a fully equipped sports ground, includes a **4,000-seat auditorium, a 400-seat conference hall, and four seminar halls** for seminars, and cultural events.

At the heart of RRCE's success is its team of highly qualified, experienced, and dedicated faculty members regularly publish research papers in reputed journals, author textbooks, and participate in research projects, technical competitions, internships, entrepreneurship programs, and a spirit of lifelong learning.

With its commitment to academic excellence, research, innovation, industry collaboration, and to become competent professionals, responsible citizens, and global leaders capable of

4 Ownership Status:

☐ Central Government	☐ Any Other(Please Specify)
☐ State Government	
☐ Government Aided	
☒ Self financing	

5 Name and Address of Affiliating University

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELGAUM

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

Name of Institutions	Year of Establishment
Rajarajeswari Dental Colleg	1992
Rajarajeswari Medical Colle	2005
RajaRajeswari College of P	2007
Rajarajeswari College of Nu	2012
Rajarajeswari Institute of All	2015
ACS College of Engineering	2009

7 Details of all the programs being offered by the institution:

Program Name	Program Applied level	Year of Start	AICTE approval details	Sanction Intake
Artificial Intelligence and Machine Learning	UG	2020	2024	60

Sanctioned Intake for Last Five Years for the Artificial Intelligence and Machi**Academic Year**

2025-26

2024-25

2023-24

2022-23

2021-22

2020-21

8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline
1	Under Graduate	Engineering & Technology

Table No. A8.2

S No	Name of the Department	Name of the Program	Name of Allied De
1	Artificial Intelligence and Machine Learning	Artificial Intelligence and Machine Learning	Computer Science
2	Artificial Intelligence and Machine Learning	Artificial Intelligence and Machine Learning	Computer Science
3	Artificial Intelligence and Machine Learning	Artificial Intelligence and Machine Learning	Information Science
4	Artificial Intelligence and Machine Learning	Artificial Intelligence and Machine Learning	Computer Science Cyber Security inc

9 Total Number of Faculty Members in Various Departments:

ID	Department Name	2025-26 (CAY)				N F
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	
1	computer Science & Engineering	9	3	20	32	
2	CSE(IoT, Cyber security including Blockchain Technology)	1	2	6	9	
3	Computer Science and Design	1	2	6	9	
4	Civil Engineering	2	2	10	14	
5	Electronics and Communication Engineering	2	4	15	21	
6	Information Science and Engineering	2	1	9	12	
7	Electrical and Electronics Engineering	1	1	12	14	
8	Mechanical Engineering	0	0	0	0	

10 Total Number of Engineering Students in Various Departments:

ID	Department Name	Number
		2025-26 (CAY)
1	Artificial Intelligence & Machine Learning	119
2	CS-Computer Science & Engineering	220
3	Computer Science & Engineering (IOT & Cyber Security Including Block Chain Technology)	55
4	Computer Science & Design	48
5	Electronics & Communication Engineering	120
6	Electrical & Electronics Engineering	43
7	Civil Engineering	6
8	Information Science & Engineering	107
9	Robotics & Automation	60
10	Master of Business Administration	33
11	Master of Computer Applications	63
12	M.TECH- Computer Science & Engineering	7

11 Vision of the Institution:

To empower young minds through technology, research and innovation to produce 1

12 Mission of the Institution:

To deliver excellence in education through innovative teaching, impactful research, responsibility.

To foster a transformative learning environment that integrates technology, research

To cultivate a culture of lifelong learning and professional excellence by encouraging

To provide a holistic educational experience that combines advanced technology, contribute positively to society.

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

Head of the Institution

Name	Dr R Balakrishna
Designation	Professor
Mobile No.	9900028023
Email ID	principal@rrce.org

☒ **NBA Coordinator, If Designated**

Name	Dr.D Kirubha
Designation	Professor & HoD
Mobile No.	9500683332
Email ID	kirubha@rrce.org

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	97.33
5	FACULTY INFORMATION	100	85.39
6	FACULTY CONTRIBUTIONS	120	91.66
7	FACILITIES AND TECHNICAL SUPPORT	100	100.00
8	CONTINUOUS IMPROVEMENT	80	80.00
9	STUDENT SUPPORT AND GOVERNANCE	120	117.00
	Total	1000	931

Part B : Criteria Summary

1 OUTCOME-BASED CURRICULUM (120)

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

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

Vision of the institute	To empower young minds through technology, research and innovation to produce technically competent and socially responsible professionals in high demand fields.
Mission of the institute	To deliver excellence in education through innovative teaching, imparting continuous skill development, preparing students to meet global challenges with expertise and ethical responsibility. To foster a transformative learning environment that integrates technology with practical experience, empowering students to become skilled professionals and conscious leaders. To cultivate a culture of lifelong learning and professional excellence through creativity, research, and community engagement, equipping students to thrive in a dynamic world. To provide a holistic educational experience that combines advanced learning, research, and community-focused learning, shaping students into professionals who contribute positively to society.
Vision of the Department	To bring out the competent and socially responsible engineers in the field of innovation.

Mission of the Department	Mission No.	Mission Statements
	M1	To Inculcate, the integration process of concepts in /
	M2	To equip AIML graduates with skills to meet Industry challenges by skill enhanced training.
	M3	To promote Research and ethical culture through int application in AIML domain.

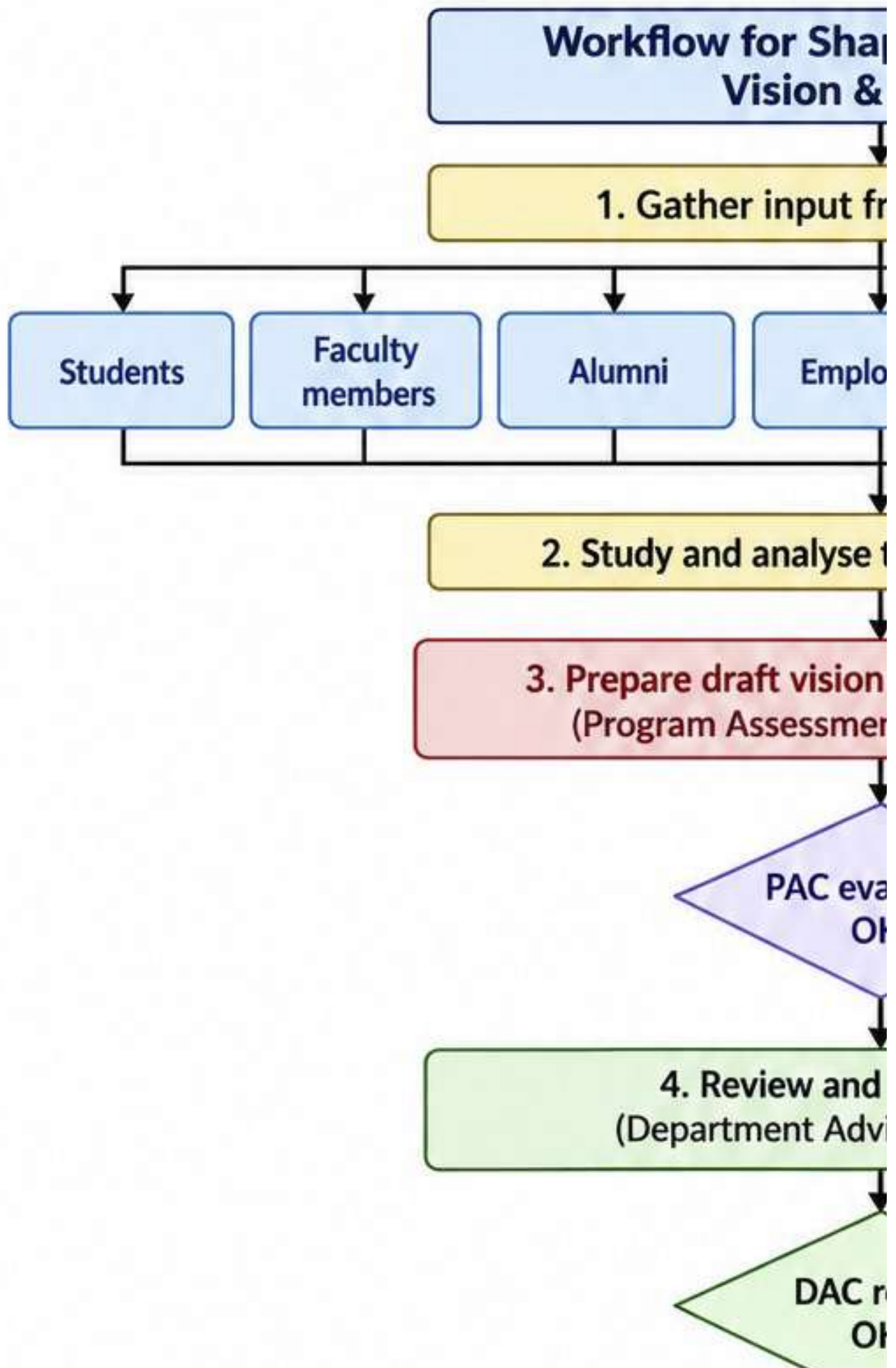
1.1.2 State PEOs of the Program (5)

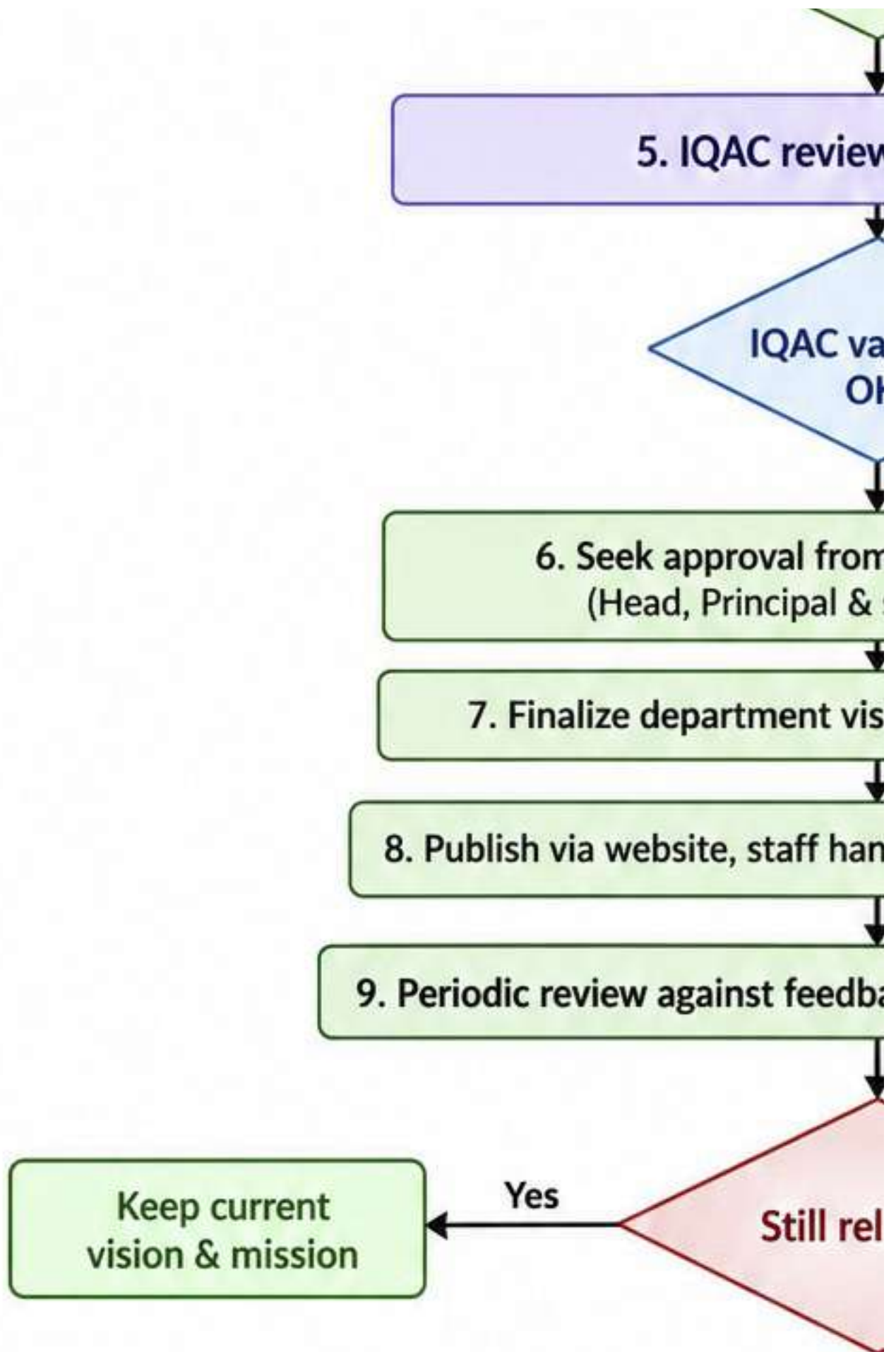
PEO No.	Program Educational Objectives Statements
PEO1	Develop competent profession in the field of Artificial Intelligence and M solving contemporary problems
PEO2	Pursue their professional on technical and progress towards Research ar
PEO3	Progress as skilled in team and adapting leadership qualities and ethical

1.1.3 Process of Defining Vision, Mission and PEOs (15)

1.1.3 a: Process involved in defining the Vision, Mission of the Department

The Vision and Mission of the Department of Artificial Intelligence and Machine Learning Institute's goals, industry requirements, and societal needs, as illustrated in Figure 1



**Fig1.1.3 a: Process of defini**

The process consists of the following steps:

Step 1: Gather Input from Stakeholders

The process begins by collecting input from a wide range of stakeholders, including

- Students
- Faculty members
- Alumni
- Employers
- Industry experts
- BOS (Board of Studies) members
- Recruiters

Step 2: Study and Analyse the Stakeholder Input

The inputs gathered from all stakeholder groups are consolidated and analyzed to identify common themes and concerns.

Step 3: Prepare Draft Vision & Mission Statements

The Program Assessment Committee (PAC) drafts preliminary vision and mission statements.

- **PAC Evaluation Check:** The PAC evaluates its own draft.
- If **No** → the draft is revised as per PAC feedback, and the statement returns to Step 3.
- If **Yes** → the process moves to Step 4.

Step 4: Review and Refine by DAC

The Department Advisory Committee (DAC) reviews and refines the draft statements.

- **DAC Review Check:**
- If **No** → the draft is revised as per DAC feedback, and it returns to Step 3.
- If **Yes** → the process moves to Step 5.

Step 5: IQAC Review & Validation

The Internal Quality Assurance Cell (IQAC) reviews and validates the statements.

- **IQAC Validation Check:**
- If **No** → sent back for revisions as per IQAC feedback, returning to Step 3.
- If **Yes** → the process moves to Step 6.

Step 6: Seek Approval from Competent Authority

The finalized draft is submitted to the Head, Principal, and senior leadership for formal approval.

Step 7: Finalize Department Vision & Mission Statements

Once approved, the vision and mission statements are finalized.

Step 8: Publish

The finalized statements are published and disseminated via the website, staff handbooks, and other communication channels.

Step 9: Periodic Review

The vision and mission statements undergo periodic review against ongoing feedback and changing circumstances.

- **Relevance Check ("Still relevant?"):**

- If **Yes** → the current vision and mission are retained.
- If **No** → the process loops back to Step 3 to redraft the statements.

Consistency between the Vision and Mission statements of the Institute and th

Table 1.1.3a : Alignment of In

Institute
To deliver excellence through innovative research, and development, preparing global challenges with and ethical responsibility
To foster a transformative environment that integrates research, and practice empowering students professionals and leaders.
To cultivate a culture and professional encouraging creativity community engagement students with the s dynamic world
To provide a h experience that co technology, hands-on community-focused students into co professionals who co society.

1.1.3 b: Process for Defining the Program Educational Objectives (PEOs)

The Program Educational Objectives (PEOs) of the Department of Artificial Intelligence and Machine Learning are developed and reviewed annually. The Program Educational Objectives (PEOs), incorporating inputs from the Department Vision and

The proposed PEOs are subsequently deliberated and approved by the Department Council. The approved PEOs are then communicated to stakeholders through appropriate channels and incorporate necessary revisions as part of the continuous improvement process.

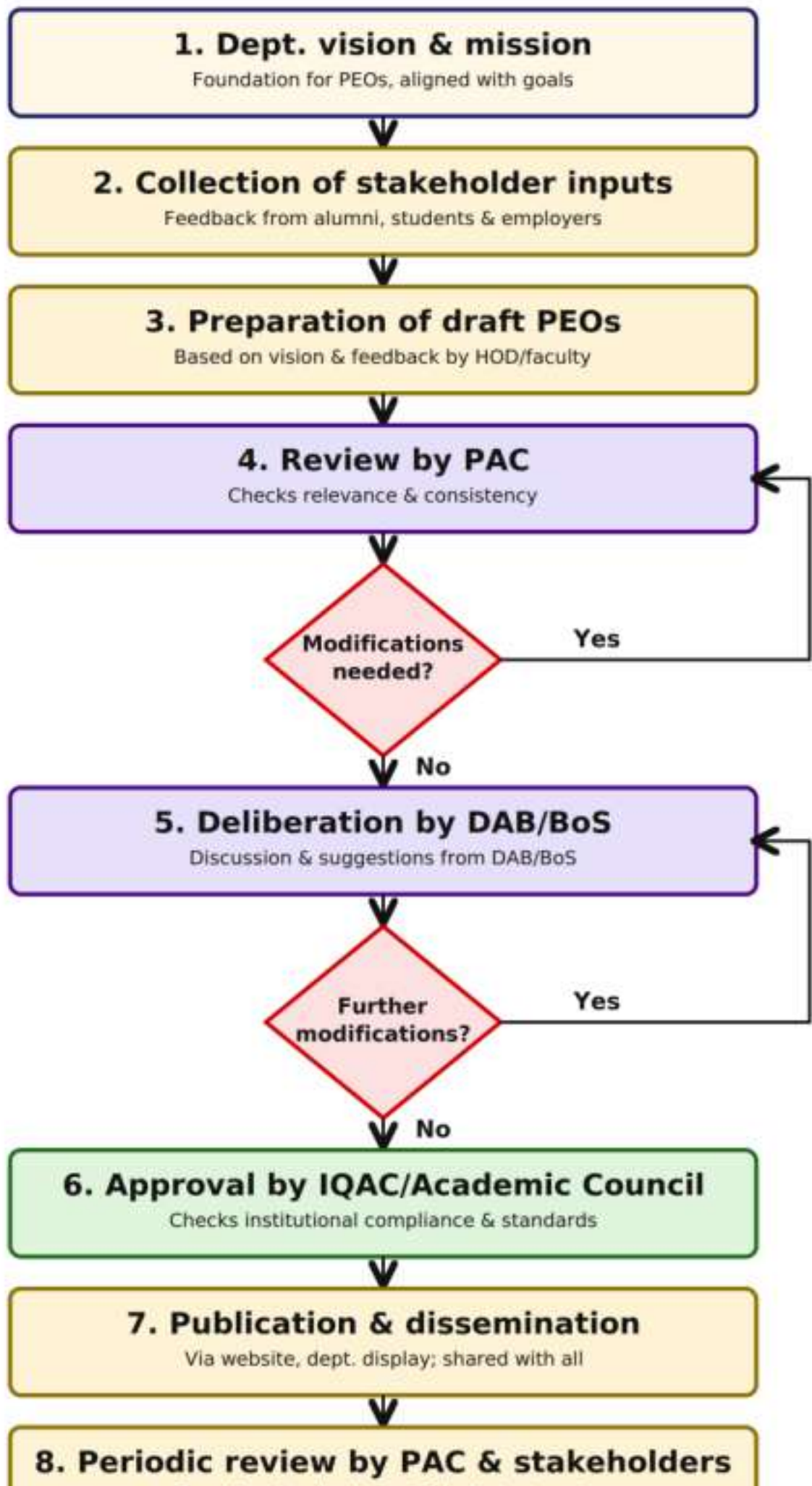


Fig 1.1.3 b: Process

The process consists of the following steps:

1. **Department Vision and Mission:** The Departments Vision and Mission the overall goals and direction of the department.
2. **Collection of Stakeholder Inputs:** Feedback is obtained from alumni, These inputs help identify the expectations of stakeholders and emerging pr
3. **Preparation of Draft PEOs:** Based on the Departments Vision and Mis draft Program Educational Objectives, reflecting the expected achievements
4. **Review by the Program Assessment Committee (PAC):** The draft PE consistency with stakeholder expectations. The committee incorporates nec
5. **Deliberation by DAB/BoS:** The revised PEOs are presented to the recommendations received during the deliberation are incorporated, wherev
6. **Approval by IQAC/Academic Council:** The recommended PEOs are academic policies and quality standards.
7. **Publication and Dissemination:** Upon approval, the PEOs are publi alumni, and other stakeholders through appropriate means.
8. **Periodic Review:** The Program Educational Objectives (PEOs) are rev technological advancements, industry requirements and academic developments. ensure that the PEOs remain relevant, effective and aligned with the evolving needs

1.1.4 Dissemination of Vision, Mission and PEOs (5)

1.1.4 a: Adequacy in Respect of Publication & Dissemination

The Vision, Mission and Programme Educational Objectives (PEOs) of the Department are displayed at the department entrance, classroom, and other key locations for students, faculty, alumni, parents, employers and other stakeholders.

1. **Institution Website:** Published on the official institute website under the department page.
2. **Display at Key Locations:** Displayed at the department entrance, classroom, and other key locations. Fig 1.1.4 a2. in the following figures with sample photos.
3. **Academic Documents:** Included in course files, laboratory manuals, student handbooks, etc.
4. **Meetings and Academic Forums:** Communicated during DAB, BoS, PAC, etc.
5. **Orientation and Department Activities:** Introduced during student induction events.



Fig.1.1.4 a2. Display at Key Locations - Hods Chamber.



Fig.1.1.4 a2.Display at Key Locations - AI&ML department staff room.



Fig.1.1.4 a2.Display at Key Locations - AI&ML Department Class Room.



Fig.1.1.4 a2.Display at Key Locations - AI&ML Department Corridor.

1.1.4 b:Stakeholder Engagement

The Department actively engaged stakeholders in understanding and supporting the Vision, Mission, and PEOs.

Students: The Vision, Mission, and PEOs are introduced to students during induction. Their feedback is collected and considered for the continuous improvement of the programme.

Faculty: Faculty members actively participate in the formulation, review, dissemination, and course planning, mentoring, and other academic activities.

Parents: Parents are made aware of the Vision, Mission, and PEOs during parent meetings. Their career aspirations are considered for programme enhancement.

Alumni: Alumni contribute to the dissemination and periodic review of the Vision, Mission, and PEOs by sharing professional experiences and industry perspectives.

Employers/Industry Experts: Employers and industry experts contribute through advisory committees and collaborative activities. Their inputs help align the programme with current industry requirements.

1.1.5 Mapping of PEOs with Mission (10)

PEO Statements	M1	M2
Develop competent profession in the field of Artificial Intelligence and Machine Learning towards advanced skills in solving contemporary problems	3 ▼	3 ▼
Pursue their professional on technical and progress towards Research and Entrepreneurship.	2 ▼	2 ▼
Progress as skilled in team and adapting leadership qualities and ethical values as per the society	2 ▼	3 ▼

The Program Educational Objectives (PEOs) of the Department of Artificial Intelligence Mission of the Department. The Department mission components define broad goals: professional ethics, and environmental consciousness. Each PEO is mapped to the mission's intent.

Justifications for PEO - Mission Mapping

PEO 1: Develop competent profession in the field of Artificial Intelligence and

PE01	M1	3	Aims to develop competent professionals in Artificial Intelligence and Machine Learning. M1 focuses on inculcating core AI concepts. Hence, there is a strong correlation, as sound conceptual knowledge is essential for solving contemporary AI problems.
	M2	3	Emphasizes advanced skills to solve contemporary problems. M2 focuses on equipping graduates with skills to meet industry and societal challenges. Hence, there is a strong correlation, as professional competence requires skill-based training and practical problem-solving ability.
	M3	2	Related to solving contemporary problems in AI&ML. M3 promotes research and innovation culture for broader AI&ML applications. Hence, there is a moderate correlation, as professional problem-solving may involve research awareness and ethical applications.

PEO 2: Pursue their professional on technical and progress towards Research

PEO2	M1	2	Focuses on professional growth in technical domains, research and entrepreneurship. M1 provides the foundation of AI&ML concepts required for such growth. Hence, there is a moderate correlation.
	M2	2	Emphasizes technical progress and entrepreneurship. M2 supports skill enhancement training to meet industry and societal needs. Hence, there is a moderate correlation, as industry-oriented skills help graduates move towards professional and entrepreneurial growth.
	M3	3	Directly focuses on research and entrepreneurship. M3 promotes research culture and broader applications in the AI&ML domain. Hence, there is a strong correlation.

PEO 3: Progress as skilled in team and adapting leadership qualities and ethical

PEO3	M1	2	Focuses mainly on teamwork, leadership and ethical values. M1 focuses on AI domain concepts. Hence, there is moderate correlation, as technical concepts indirectly support professional behaviour. Hence, technical concepts are not the main focus of this PEO.
	M2	3	Emphasizes teamwork and leadership qualities. M2 focuses on preparing graduates to meet industry and societal challenges. Hence, there is a strong correlation as industry and society require teamwork, leadership and collaborative skills.
	M3	3	Emphasizes ethical values and social responsibility. M3 promotes research and innovation, ethical culture for broader AI applications. Hence, there is a strong correlation.

1.2 Curriculum Structure and Features (30)

1.2.1 Program Curriculum Structure (5)

[Edit](#)

ID	Course Code	Course Title	Classroom In (in hours per
			L
1	BMATS101	Mathematics-I for CSE Stream	32
2	BPHYS102	Applied Physics For Cse Stream	32
3	BPOPS103	Principles of Programming Using C	32
4	BESCK104B	Introduction to Electrical Engineering	48
5	BETCK105E	Renewable Energy Sources	48
6	BENGK106	Communicative English	16
7	BICOK107	Indian Constitution	16
8	BIDTK158	Innovation and Design Thinking	16
9	BMATS201	Mathematics-II for CSE Stream	32
10	BCHE02	Applied Chemistry for CSE Stream	32
11	BCEDK203	Computer Aided Engineering Drawing	32
12	BESCK204D	Introduction to Mechanical Engineering	32
13	BPLCK205B	Introduction to Python Programming	32

14	BPWSK206	Professional Writing Skills In English	16
15	BKSKK207/BKBSK207	Santhi Kruthika Kannada/Balake Kannada	16
16	BSFHK258	Scientific Foundations of Health	16
17	BCS301	Mathematics for Computer Science	48
18	BCS302	Digital Design & Computer	48
19	BCS303	Operating Systems	48
20	BCS304	Data Structures and Application	48
21	BCSL305	Data Structures Lab	0
22	BCS306A	Object Oriented Programming	32
23	BSCK307	Social Connect And Responsible	0
24	BAI358D	PHP Programming	0
25	BCS401	Analysis & Design of Algorithm	48
26	BAD402	Artificial Intelligence	48
27	BCS403	Database Management System	48
28	BCSL404	Analysis & Design of Algorithm	0
29	BCS405A	Discrete Mathematics Structure	32
30	BDSL456B	MangoDB	0
31	BBOC407	Biology for Engineers	32

32	BUHK408	Universal Human Values Course	16
33	BCS501	Software Engineering & Project Management	48
34	BCS502	Computer Networks	48
35	BCS503	Theory of Computation	48
36	BAIL504	Data Visualization Lab	0
37	BAD515D	Distributed Systems	48
38	BAI586	Mini Project	0
39	BRMK557	Research Methodology and IPR	32
40	BCS508	Environmental Studies and E-Waste Management	30
41	BAI601	Natural Language Processing	48
42	BAI602	Machine Learning – I	64
43	BIS613D	Cloud Computing and Security	64
44	BEE654B	Technologies Of Renewable Energy Source	48
45	BAI685	Project Phase I	0
46	BAIL606	Machine Learning Lab	0
47	BAIL657C	Generative AI Lab	0
48	BAI701	Deep Learning & Reinforcement Learning	48

49	BAI702	Machine Learning – II	48
50	BAD703	Data Security & Privacy	64
51	BCS714D	Big Data Analytics	48
52	BCV755B	Conservation of Natural Resources	48
53	BAI786	Major Project Phase–II	0
54	BAI801x	Professional Elective (Online Course) Only Through Nptel/Swayam/Moocs	48
55	BAI802x	Open Elective (Online Course) Only Through Nptel/Swayam/Moocs	48
56	BAI803	Internship (Industry/Research)	0
		Total	1726

1.2.2 Components of Program Curriculum (5)

Course Components	Curriculum Content (% of total number of credits)
Basic Sciences	14.37
Basic Engineering	7.50
Humanities and Social Scie	8.12
Program Core	44.37
Program Electives	8.75
Open Electives	3.75
Project(s)	6.25
Internships/Seminars	6.25
Any other (Please specify)	0.62
Total number of Credits	

1.2.3 State the Process Used to Identify Extent of Compliance of the University Annexure II. Also Mention the Identified Curricular Gaps, if any (10)

Engineering education is undergoing continuous transformation to meet the required expectations. Being affiliated to Visvesvaraya Technological University (VTU), the Institute implements various academic initiatives that promote multidisciplinary learning, experiential education, and effective implementation of the curriculum while preparing students for professional careers.

The educational reform initiatives adopted by the Institute are grouped under the following categories:

1. Curriculum Flexibility

The Institute implements the Choice Based Credit System (CBCS) introduced by VTU, which includes Honors, and Minor Degree programmes. These provisions enable students to pursue specialized areas of interest.

2. Multidisciplinary and Interdisciplinary Learning

The curriculum encourages multidisciplinary learning through courses such as **Innovation and Social Responsibility (ISR)**, and interdisciplinary project work. Students are encouraged to collaborate across disciplines to solve complex problems.

3. Experiential Learning

To bridge the gap between theory and practice, the Institute promotes experiential learning through internships, laboratory courses, and field visits. The mandatory one-year internship ensures students gain practical classroom knowledge in professional environments.

4. Digital and Lifelong Learning

Students are encouraged to pursue online certification courses offered through NPTEL. The Institute provides an incentive policy for successful course completion, promoting self-learning and continuous education.

5. Academic Bank of Credits (ABC) and APAAR

In accordance with NEP 2020, the Institute has implemented the Academic Bank of Credits (ABC) for the secure storage, transfer, and redemption of academic credits earned through recognized flexible learning pathways.

6. Skill Enhancement and Emerging Technologies

The Institute supplements the VTU curriculum through Ability Enhancement Course (AEC) and certification courses in emerging technologies such as Artificial Intelligence, Data Science, and Cloud Computing, along with technical and employability skills.

7. Industry Interaction

Industry participation is strengthened through internships, expert lectures, industrial visits, and projects. These initiatives provide practical exposure, bridge the gap between academia and industry, and enhance the employability of students.

8. Community Engagement and Social Responsibility

The Social Connect and Responsibility (SCR) course, AICTE Activity Points, NSS a through interdisciplinary approaches while developing leadership, teamwork, ethical

9. Faculty Development

Faculty members regularly participate in Faculty Development Programmes (FDPs) knowledge, improve pedagogical practices, and effectively implement outcome-bas

10. Quality Assurance and Continuous Improvement

The Institute continuously monitors the effectiveness of curriculum implementation t Recommendations from Department Advisory Board (DAB), Board of Studies (BoS) considered for continuous improvement in teaching-learning processes and acadern

The Identified Curricular Gaps:

Gap Identification Process:

The Department of Artificial Intelligence and Machine Learning (AIML), Rajarajeswa to the Program Outcomes (POs) and Program Specific Outcomes (PSOs). The gap with the requirements of NBA, AICTE, VTU, industry expectations and emerging tec

The gap identification process consists of the following steps:

1. Preparation of Program Articulation Matrix

COs of every course are mapped with the Program Outcomes (PO1–PO11) and and 3 (High).

2. Analysis of PO and PSO Coverage

1. The Program Articulation Matrix is analyzed to determine the extent of cov
2. The number of courses contributing to each PO and PSO and the strength

3. Stakeholder Feedback

Feedback is collected from students, faculty members, alumni, employers, induc employability skills and industry expectations.

4. Benchmarking

The curriculum is benchmarked with AICTE Model Curriculum, VTU guidelines, frameworks to identify missing competencies.

5. Gap Identification

Based on the articulation matrix and stakeholder feedback, gaps are identified v

PO6 (The Engineer and the World:) is comparatively weak.

PO7 (Environment & Sustainability) is comparatively weak.

PO8 (Ethics) requires more explicit mapping in AI/ML and Generative AI courses.

PO9 (Individual & Team Work) should be reflected in more laboratory and project-

PO10 (Communication) needs stronger integration through seminars, technical wr

Table: 1.2.3 (a) Gap

PO	Observation	Gap Identified
PO1	Very heavily mapped throughout the curriculum.	No major gap.
PO2	Well covered from Semester I to VIII.	No major gap.
PO3	Strong coverage in core AI/ML courses.	No major gap.
PO4	Moderate coverage, mainly in analytical and AI courses.	Could be strengthened through more project-based investment activities in higher semesters.
PO5	Well represented in laboratory and AI/ML courses.	No major gap.
PO6	Limited coverage; appears mainly in Engineering, Environmental Studies, Human Values, Security and Internship courses.	Needs strengthening. Include ethical, legal, sustainability societal case studies in AI/ML courses.
PO7	Sparse mapping. Mostly covered in Renewable Energy, Constitution, Social Connect, Environmental Studies, Conservation of Natural Resources, Internship, etc.	Major gap. More sustainability related AI applications should be introduced.

PO	Observation	Gap Identified
PO8	Very few courses contribute. Mainly Constitution, Social Connect, Environmental Studies, Project and Internship.	Major gap. Ethics, AI governance, responsible AI professional ethics should be integrated into AI courses.
PO9	Limited mapping, mainly Communication, Design Thinking, Projects and Internship.	Moderate gap. Team-based laboratory assignments and collaborative projects can improve coverage.
PO10	One of the weakest POs. Mostly appears in Engineering Drawing, Data Structures, Java, PHP, ADA, Data Visualization, Cloud, Projects and Internship.	Major gap. Technical presentations, seminar evaluations and document activities should be embedded across semesters.
PO11	Reasonably covered through Mathematics, Renewable Energy, Research Methodology, AI/ML, Projects, NPTEL and Internship.	Coverage is acceptable but be strengthened with entrepreneurship and lifelong learning activities.

1.2.4 State the Delivery Details of the Content beyond the Syllabus for the Attainment

Table No.1.2.4.1: Details of events organized to cover content beyond the syllabus (CAYm1) 2024-25

S.No	PO/PSO as Gap Identified	Name of The Event	Date (DD/MM/Y Event
1	PO2, PO4, PO5, PO11, PS	Workshop on "Effortless De	24-02-2025
2	PO5, PO9, PO11, PSO1	FDP on "Enhancing Skill La	03-02-2025
3	PO3, PO5, PSO1	Technical Seminar	13-12-2024
4	PO5, PO11, PSO1	Seminar on 'Career and Hig	08-11-2024
5	PO5, PO11	Workshop on Full Stack Djs	21-10-2024
6	PO9, PO11	Seminar on Latest Technolo	26-09-2024
7	PO5, PO11	International Conference –	25,26-07-2024

(CAYm2) 2023-24

S.No	PO/PSO as Gap Identified	Name of The Event	Date (DD/MM/Y Event
1	PO1, PO5, PO11, PSO1	Alumni Talk on Impact of AI	26-06-2024
2	PO6, PO7, PO8	Career Development Progr	19-06-2024
3	PO3, PO5, PSO1	Workshop on Mongo DB	27-05-2024
4	PO1, PO5, PO11, PSO1	Generative AI and Prompt I	22,24-02-2024
5	PO3, PO5, PO11, PSO1	Angular JS Workshop	27,31-12-2023
6	PO6, PO7, PO8	Educational Outreach Prog	27-09-2023
7	PO8, PO10, PO11, PSO2	Motivational Session by Su	08-09-2023
8	PO1, PO2, PO4, PO5, PSC	Introduction to ML and Cas	01-09-2023
9	PO1, PO3, PO5, PSO1	Technical Seminar on IOT &	17-08-2023
10	PO8, PO9, PO10, PSO2	Entrepreneurship & Life Sk	07-08-2023
11	PO1, PO2, PO5, PO11, PS	Machine Learning and its A	4,8-07-2023

(CAYm3) 2022-23

S.No	PO/PSO as Gap Identified	Name of The Event	Date (DD/MM/Y Event
1	PO1, PO3, PO5, PSO1	Robotics Workshop	27-12-2022
2	PO11, PSO2	Awareness Program On "S	11-12-2022
3	PO2, PO4, PO5, PSO1	Data Analysis in Real Work	23-11-2022
4	PO11, PSO2	Self Learning & Skill Devel	18-11-2022

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

1.3.1 POs and PSOs (5)

PSO1	Design and develop AI & ML Solution, through modern er
PSO2	Ability to adapt continues changing AI & ML domain for in

1.3.2 Mapping between the Courses and POs/PSOs (10)

PO Number	List of Courses
PO1	BMATS101, BPHYS102, BPOPS103, BESCK104B, BID BCS303, BCS304, BCSL305, BCS306A, BSCK307, BA BCS502, BCS503, BAIL504, BAD515D, BRMK557, BC BCV755B, BAI786, BAI803.
PO2	BMATS101, BPHYS102, BPOPS103, BESCK104B, BID BCSL305, BCS306A, BSCK307, BAI358D, BCS401, BA BAD515D, BCS508, BAI601, BAI602, BIS613D, BAIL60
PO3	BPOPS103, BESCK104B, BIDTK158, BPLCK205B, BC BCS403, BCSL404, BBOC407, BCS501, BCS503, BAIL BAI702, BAD703, BCS714D, BCV755B, BAI786, BAI803.
PO4	BPHYS102, BPOPS103, BESCK104B, BIDTK158, BCS BCS502, BAIL504, BAD515D, BRMK557, BCS508, BAI BAI803.
PO5	BMATS101, BPOPS103, BESCK104B, BMATS201, BC BAI358D, BCS401, BAD402, BCS403, BCSL404, BDSL BAIL657C, BAI701, BAI702, BAD703, BCS714D, BAI78
PO6	BPOPS103, BESCK104B, BICOK107, BCHES202, BSK BAD402, BCS403, BCS405A, BBOC407, BUHK408, BC
PO7	BPHYS102, BESCK104B, BICOK107, BSFHK258, BCS BCV755B, BAI786, BAI803.
PO8	BPHYS102, BPOPS103, BCHES202, BPLCK205B, BPV
PO9	BPOPS103, BESCK104B, BENGK106, BCEDK203, BP BCS508, BAI786, BAI803.
PO10	BPOPS103, BCHES202, BPLCK205B, BCS303, BCS30
PO11	BMATS101, BPOPS103, BESCK104B, BMATS201, BPI BUHK408, BCS502, BRMK557, BCS508, BAI602, BIS6 (Professional Elective – NPTEL), BAI802x (Open Electiv

1.4 Course Outcomes and Course Articulation Matrix (30)

1.4.1 Course Outcome (Semester Wise) (15)

No. of Core Courses : 10

Note : Number of Outcomes for a Course is expected to be around 6.

Course Code :**BCS303**

Course Outcome	Statements
BCS303.1	Explain the structure and functionality of operating system
BCS303.2	Apply appropriate CPU scheduling algorithms for the given
BCS303.3	Analyse the various techniques for process synchronization
BCS303.4	Apply the various techniques for memory management
BCS303.5	Explain file and secondary storage management strategies
BCS303.6	Describe the need for information protection mechanisms

Course Code :**BCS304**

Course Outcome	Statements
BCS304.1	Explain different data structures and their applications.
BCS304.2	Apply Arrays, Stacks and Queue data structures to solve th
BCS304.3	Use the concept of linked list in problem solving.
BCS304.4	Develop solutions using trees and graphs to model the rea
BCS304.5	Explain the advanced Data Structures concepts such as H

Course Code :**BAD402**

Course Outcome	Statements
BAD402.1	Apply knowledge of agent architecture, searching and reas
BAD402.2	Compare various Searching and Inferencing Techniques.

BAD402.3	Develop knowledge base sentences using propositional logic.
BAD402.4	Describe the concepts of quantifying uncertainty.
BAD402.5	Use the concepts of Expert Systems to build applications.

Course Code :**BCS403**

Course Outcome	Statements
BCS403.1	Describe the basic elements of a relational database management system.
BCS403.2	Design entity relationship for the given scenario.
BCS403.3	Apply various Structured Query Language (SQL) statements.
BCS403.4	Analyse various normalization forms for the given application.
BCS403.5	Develop database applications for the given real world problem.
BCS403.6	Understand the concepts related to NoSQL databases.

Course Code :**BCS502**

Course Outcome	Statements
BCS502.1	Explain the fundamentals of computer networks.
BCS502.2	Apply the concepts of computer networks to demonstrate the design of a network.
BCS502.3	Analyze the principles of protocol layering in modern communication systems.
BCS502.4	Demonstrate various Routing protocols and their services in a network.

Course Code :**BAIL504**

Course Outcome	Statements
BAIL504.1	Design the experiment to create basic charts and graphs u
BAIL504.2	Develop the solution for the given real world problem.
BAIL504.3	Analyze the results and produce substantial written docum

Course Code :

BAI601

Course Outcome	Statements
BAI601.1	Apply the fundamental concept of NLP, grammar-based lar
BAI601.2	Model morphological analysis using Finite State Transduce
BAI601.3	Develop the Naïve Bayes classifier and sentiment analysis
BAI601.4	Apply the concepts of information retrieval, lexical semantic
BAI601.5	Identify the Machine Translation applications of NLP using

Course Code :

BAI602

Course Outcome	Statements
BAI602.1	Explain the machine learning techniques, their types and d
BAI602.2	Apply mathematical concepts for feature engineering and p
BAI602.3	Develop similarity-based learning models and regression n
BAI602.4	Develop probabilistic learning models and neural network r
BAI602.5	Utilize clustering algorithms to identify patterns in data .

Course Code :**BAI701**

Course Outcome	Statements
BAI701.1	Demonstrate the implementation of deep learning technique
BAI701.2	Examine various deep learning techniques for solving the r
BAI701.3	Design and implement research-oriented scenario using de

Course Code :**BAD703**

Course Outcome	Statements
BAD703.1	Explain the basic concepts of Security and Cryptography.
BAD703.2	Analyze various Cryptographic Algorithm.
BAD703.3	Describe various key management scenarios.
BAD703.4	Explain about IP security and Web security.
BAD703.5	Apply the Data security concepts for Text and images.

1.4.2 Course Articulation Matrix (10)

1 . course name : C2BCS303

Course	Statements	PO1	PO2	PO3	PO4	PC
BCS303.1	Explain the	2 ✓	- ✓	- ✓	- ✓	-
BCS303.2	Apply appro	3 ✓	3 ✓	2 ✓	- ✓	2
BCS303.3	Analyse the	3 ✓	3 ✓	- ✓	2 ✓	2
BCS303.4	Apply the v	3 ✓	2 ✓	- ✓	- ✓	2
BCS303.5	Explain file	2 ✓	- ✓	- ✓	- ✓	-
BCS303.6	Describe th	2 ✓	- ✓	- ✓	- ✓	-
Average		2.50	2.70	2.00	2.00	2.0

2 . course name : C2BCS304

Course	Statements	PO1	PO2	PO3	PO4	PC
BCS304.1	Explain diffi	2 ✓	- ✓	- ✓	- ✓	2
BCS304.2	Apply Array	3 ✓	3 ✓	- ✓	- ✓	-
BCS304.3	Use the cor	3 ✓	3 ✓	- ✓	- ✓	-
BCS304.4	Develop so	3 ✓	3 ✓	3 ✓	1 ✓	2
BCS304.5	Explain the	2 ✓	1 ✓	- ✓	1 ✓	2
Average		2.60	2.50	3.00	1.00	2.0

3 . course name : C2BAD402

Course	Statements	PO1	PO2	PO3	PO4	PC
BAD402.1	Apply know	3 ✓	2 ✓	2 ✓	- ✓	2

BAD402.2	Compare v	2	✓	3	✓	-	✓	2
BAD402.3	Develop kn	3	✓	-	✓	3	✓	-
BAD402.4	Describe th	2	✓	-	✓	-	✓	-
BAD402.5	Use the co	3	✓	2	✓	3	✓	2
Average		2.60		2.30		2.66	0.00	2.0

4 . course name : C2BCS403

Course	Statements	PO1	PO2	PO3	PO4	PC
BCS403.1	Describe th	2	✓	-	✓	-
BCS403.2	Design enti	3	✓	3	✓	2
BCS403.3	Apply vario	3	✓	2	✓	3
BCS403.4	Analyse vai	3	✓	3	✓	2
BCS403.5	Develop da	3	✓	3	✓	2
BCS403.6	Understand	2	✓	-	✓	3
Average		2.66	2.75	3.00	2.00	2.4

5 . course name : C3BCS502

Course	Statements	PO1	PO2	PO3	PO4	PC
BCS502.1	Explain the	3	✓	2	✓	-
BCS502.2	Apply the c	3	✓	3	✓	-
BCS502.3	Analyze the	3	✓	3	✓	3
BCS502.4	Demonstrat	3	✓	2	✓	3
Average		3.00	2.50	0.00	2.00	3.0

6 . course name : C3BAIL504

Course	Statements	PO1	PO2	PO3	PO4	PC
BAIL504.1	Design the	3 ✓	2 ✓	3 ✓	3 ✓	3
BAIL504.2	Develop the	3 ✓	3 ✓	3 ✓	- ✓	3
BAIL504.3	Analyze the	3 ✓	3 ✓	3 ✓	2 ✓	3
Average		3.00	2.66	3.00	2.50	3.00

7 . course name : C3BAI601

Course	Statements	PO1	PO2	PO3	PO4	PC
BAI601.1	Apply the fu	3 ✓	2 ✓	- ✓	- ✓	2
BAI601.2	Model morp	3 ✓	2 ✓	2 ✓	- ✓	2
BAI601.3	Develop the	3 ✓	2 ✓	3 ✓	- ✓	-
BAI601.4	Apply the c	3 ✓	2 ✓	- ✓	- ✓	3
BAI601.5	Identify the	2 ✓	2 ✓	2 ✓	- ✓	2
Average		2.80	2.00	2.33	0.00	2.20

8 . course name : C4BAI602

Course	Statements	PO1	PO2	PO3	PO4	PC
BAI602.1	Explain the	2 ✓	2 ✓	- ✓	3 ✓	2
BAI602.2	Apply math	3 ✓	2 ✓	2 ✓	3 ✓	2
BAI602.3	Develop sir	3 ✓	3 ✓	3 ✓	2 ✓	2
BAI602.4	Develop pro	3 ✓	2 ✓	3 ✓	2 ✓	2

BAI602.5	Utilize clust	3	✓	2	✓	3	✓	2	✓	2
Average		2.80		2.20		2.70		2.40		2.0

9 . course name : C4BAI701

Course	Statements	PO1	PO2	PO3	PO4	PC
BAI701.1	Demonstrat	3 ✓	2 ✓	- ✓	- ✓	2
BAI701.2	Examine va	3 ✓	2 ✓	2 ✓	- ✓	2
BAI701.3	Design and	3 ✓	2 ✓	3 ✓	- ✓	-
Average		3.00	2.00	2.60	0.00	2.0

10 . course name : C4BAD703

Course	Statements	PO1	PO2	PO3	PO4	PC
BAD703.1	Explain the	2	3	-	-	-
BAD703.2	Analyze val	3	3	-	2	2
BAD703.3	Describe va	2	-	-	-	-
BAD703.4	Explain abc	2	-	-	-	-
BAD703.5	Apply the D	3	2	2	-	-
Average		2.40	2.50	2.00	2.00	2.0

1 . Course Name : BCS303

Course	PSO1	PSO2
BCS303.1	1 ✓	1 ✓
BCS303.2	2 ✓	1 ✓
BCS303.3	1 ✓	1 ✓
BCS303.4	1 ✓	1 ✓
BCS303.5	1 ✓	1 ✓
BCS303.6	1 ✓	1 ✓
Average	1.16	1.00

2 . Course Name : BCS304

Course	PSO1	PSO2
BCS304.1	2 ✓	1 ✓
BCS304.2	1 ✓	1 ✓
BCS304.3	1 ✓	1 ✓
BCS304.4	2 ✓	1 ✓
BCS304.5	2 ✓	1 ✓
Average	1.60	1.00

3 . Course Name : BAD402

Course	PSO1	PSO2
BAD402.1	3 ✓	3 ✓

BAD402.2	3	▼	3	▼
BAD402.3	3	▼	3	▼
BAD402.4	3	▼	3	▼
BAD402.5	3	▼	3	▼
Average	3.00		3.00	

4 . Course Name : BCS403

Course	PSO1		PSO2	
BCS403.1	2	▼	1	▼
BCS403.2	2	▼	1	▼
BCS403.3	2	▼	1	▼
BCS403.4	2	▼	1	▼
BCS403.5	2	▼	1	▼
BCS403.6	2	▼	1	▼
Average	2.00		1.00	

5 . Course Name : BCS502

Course	PSO1		PSO2	
BCS502.1	1	▼	1	▼
BCS502.2	2	▼	2	▼
BCS502.3	2	▼	2	▼
BCS502.4	3	▼	3	▼
Average	2.00		2.00	

6 . Course Name : BAIL504

Course	PSO1	PSO2
BAIL504.1	2 ✓	1 ✓
BAIL504.2	2 ✓	1 ✓
BAIL504.3	1 ✓	1 ✓
Average	1.66	1.00

7 . Course Name : BAI601

Course	PSO1	PSO2
BAI601.1	3 ✓	3 ✓
BAI601.2	3 ✓	3 ✓
BAI601.3	3 ✓	3 ✓
BAI601.4	3 ✓	3 ✓
BAI601.5	3 ✓	3 ✓
Average	3.00	3.00

8 . Course Name : BAI602

Course	PSO1	PSO2
BAI602.1	3 ✓	3 ✓
BAI602.2	3 ✓	3 ✓
BAI602.3	3 ✓	3 ✓
BAI602.4	3 ✓	3 ✓

BAI602.5	3 ▼	3 ▼
Average	3.00	3.00

9 . Course Name : BAI701

Course	PSO1	PSO2
BAI701.1	3 ▼	3 ▼
BAI701.2	3 ▼	3 ▼
BAI701.3	3 ▼	3 ▼
Average	3.00	3.00

10 . Course Name : BAD703

Course	PSO1	PSO2
BAD703.1	2 ▼	2 ▼
BAD703.2	2 ▼	2 ▼
BAD703.3	2 ▼	2 ▼
BAD703.4	2 ▼	2 ▼
BAD703.5	2 ▼	2 ▼
Average	2.00	2.00

1.5 Program Articulation Matrix (5)

Program Articulation Matrix

(10)

Course Code	PO1	PO2	PO3	PO4
BMATS101	3	3	PO3	PO4
BPHYS102	2	2	PO3	3
BPOPS103	3	3	3	1
BESCK104B	3	3	2	2
BETCK105E	2	2	2	2
BENGK106	PO1	PO2	PO3	PO4
BICOK107	PO1	PO2	PO3	PO4
BIDTK158	2	2	3	1
BMATS201	3	2	PO3	PO4
BCHES202	1	1	PO3	PO4
BCEDK203	3	2	PO3	PO4
BESCK204D	2	2	PO3	PO4
BPLCK205B	3	2	2	PO4
BPWSK206	PO1	PO2	PO3	PO4
BSKK207/BK	1	PO2	PO3	PO4
BSFHK258	PO1	PO2	PO3	PO4
BCS301	2	3	2	2
BCS302	3	3	3	3
BCS303	3	3	2	2
BCS304	3	3	3	1
BCSL305	3	3	3	2
BCS306A	3	3	3	PO4

BSCK307	3	3	3	PO4
BAI358D	3	3	2	PO4
BCS401	3	3	2	2
BAD402	3	3	3	PO4
BCS403	3	3	3	2
BCSL404	3	3	3	3
BCS405A	3	3	PO3	PO4
BDSL456B	3	2	PO3	PO4
BBOC407	3	3	3	2
BUHK408	2	PO2	PO3	PO4
BCS501	3	3	3	2
BCS502	3	3	PO3	2
BCS503	3	3	3	PO4
BAIL504	3	3	3	3
BAD515D	3	3	3	3
BAI586	3	3	3	3
BRMK557	2	PO2	3	3
BCS508	2	2	PO3	3
BAI601	3	2	3	PO4
BAI602	3	3	3	3
BIS613D	3	3	3	2
BAI685	3	3	3	3
BAIL606	3	3	3	3

BEE654B	3	3	1	2
BAIL657C	3	3	3	3
BAI701	3	2	2	PO4
BAI702	3	3	3	3
BAD703	3	3	2	2
BCS714D	3	3	3	3
BCV755B	3	3	3	2
BAI786	3	3	3	3
BAI803	2	3	2	2

Course Code	PSO1
BAD402	3
BAD515D	2
BAD703	2
BAI358D	1
BAI586	2
BAI601	3
BAI602	3
BAI657C	3
BAI685	3
BAI701	3
BAI702	3
BAI786	3
BAI803	3

BAIL504	2
BAIL606	3
BBOC407	PSO1
BCEDK203	1
BCHES202	PSO1
BCS301	PSO1
BCS302	2
BCS303	2
BCS304	2
BCS306A	2
BCS401	2
BCS403	2
BCS405A	3
BCS501	2
BCS502	2
BCS503	2
BCS508	PSO1
BCS714D	2
BCSK307	PSO1
BCSL305	2
BCSL404	2
BCV755B	PSO1
BDSL456B	2

BEE654B	2
BESCK104B	PSO1
BESCK204D	PSO1
BETCK105E	PSO1
BICOK107	PSO1
BIDTK158	2
BIS613D	2
BMATS101	1
BMATS201	1
BPHYS102	PSO1
BPLCK205B	3
BPOPS103	2
BPWSK206	1
BRMK557	1
BSFHK258	PSO1
BSKK207/BK	PSO1
BUHK408	PSO1

2 OUTCOME-BASED TEACHING LEARNING (120)

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

2.1 Processes Followed to Ensure Quality of Teaching–Learning.

The Department of Artificial Intelligence and Machine Learning follows an Outcome based approach to ensure the intended learning outcomes. The teaching–learning process is implemented in accordance with the academic policies of the Institute. The department adopts a systematic process of planning, monitoring, and periodic review to ensure the quality of teaching and learning. The process is depicted in Figure 2.1.1. The subsequent sections describe the key practices adopted by the department in the teaching–learning process.



Fig 2.1.1: Teaching–

2.1.1 Adherence to Academic Calendar

The Department of Artificial Intelligence and Machine Learning ensures systematic adherence to the academic calendar of the University (VTU) and the Institute. Before the commencement of each semester, the department plans its activities in accordance with the academic calendar. Extracurricular activities such as internal assessments, laboratory sessions, seminars, and workshops are planned and executed within the academic calendar.

Course allocation is carried out by the Head of the Department (HoD) based on faculty availability and workload. The allocation is balanced by assigning teaching, laboratory, mentoring, project guidance, and other responsibilities to the faculty members.

Faculty members prepare Course Files containing the syllabus, Course Outcomes Lesson plans are aligned with COs to facilitate effective outcome-based teaching.

The implementation of the VTU, Institute, and Department academic calendars, pr reviews, lesson plan verification, attendance monitoring, Continuous Internal Evaluat

Any deviations are addressed through appropriate corrective actions to ensure time

This systematic planning and monitoring process ensures timely curriculum deliv quality.



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VISVESVARAYA TECHNOLOGICAL UNIVERSITY
 (Public University of Government of Karnataka)

Prof. Prasad B. Rampure, M. Sc., Ph.D.
REGISTRAR

To
 The Dean
 The Approver

Subject: Postponement of Academic Examinations
Reference: AICTE letter No. 1/2025
 VTU/Exam/2025
 The Dean
 The Approver

Dated on the AICTE letter, the examinations have been postponed vide Notification No. 25.10.2025.

Accordingly, the academic calendar has been updated and are hereby notified as follows:

	Academic Calendar Semester
Commencement of the Semester	04.08.2025
Commencement of Classes	04.08.2025
Last Working day of the Semester	04.12.2025
Theory Examinations	06.12.2025 To 03.01.2026
Practical Examination	04.01.2026 To 10.01.2026
Commencement of NEXT Semester	12.01.2026

ಶ್ರೀಮತಿ ಪ್ರಸಾದ್ ಬಿ. ರಾಂಪುರೆ - 590 018, ಕರ್ನಾಟಕ

Fig 2.1.2: Sam


RajaRajeswari

 [An Autonomous Institute, A]
 Approved by AICTE, UGC & GoK
 Sponsored by: MOOGAM

CALENDAR OF EVENTS: B
ODD SEMESTER: 9th

Week No.	Month	Day/Date		
		MON	TUE	WED
1	Sept 2024	9	10	11
2	Sept 2024	16 H	17	18
3	Sept 2024	23	24	25
4	Sept/Oct 2024	30	1	2 H
5	Oct 2024	7	8	9
6	Oct 2024	14	15	16
7	Oct 2024	21	22	23
8	Oct/Nov 2024	28	29	30
9	Nov 2024	4	5	6
10	Nov 2024	11	12	13
11	Nov 2024	18 H	19	20
12	Nov 2024	25	26	27
13	Dec 2024	2	3	4
14	Dec 2024	9	10	11
15	Dec 2024	16	17	18

****Internal Assessment-IA-1,IA-2, IA 3 IA 4**

Coverage	
1.5	
1.5	
2	
Last working Day	
21.12.2024	22

Campus: #14, Ramohalli Cross,

Phone: *91-80-28437174 / 28437175

En

Fig 2.1.3: Sample


Raja Rajeswari

(An Autonomous Institute, AIIT)

Approved by AICTE, UGC NE

Sponsored by: MOOGAMBHI

Department of Artificial Intelligence
**CALENDAR OF EVENTS
ACADEMIC YEAR 2024-2025**

Week No.	Month	Day/Date			
		MON	TUE	WED	
1	Feb 2025	10	11	12	
2	Feb 2025	17	18	19	
3	Feb/March 2025	24	25	26	
4	Mar 2025	3	4	5	
5	March 2025	10	11	12	
6	March 2025	17	18	19	
7	March 2025	24	25	26	
8	Mar/April 2025	31	1	2	
9	April 2025	7	8	9	
10	April 2025	14	15	16	
11	April 2025	21	22	23	
		1A-2	1A-2	1A-2	
12	April/May 2025	28	29	30	
				H	
13	May 2025	5	6	7	
14	May 2025	12	13	14	
15	May 2025	19	20	21	
		1A-3	1A-3	1A-3	
16	May 2025	26	27	28	

Internal Assessment-1A-1, 1A-2
Mentor Meeting & PTM

Coverage	
2	
1.5	
1.5	
Last working Day	Practical / V
31.05.2025	02.06.2025



Fig 2.1.4: Sample I

2.1.2 Instruction Methods

The Department of Artificial Intelligence and Machine Learning adopts a combination of methods to facilitate effective curriculum delivery. Faculty members select appropriate teaching methods based on the nature of the subject and students' learning needs.

The instructional methods adopted include:

- (i) Chalk-and-Talk:** Explains fundamental concepts, mathematical derivations, algorithms, and proofs.
- (ii) PPT-Enabled Lectures:** Uses presentations, diagrams, videos, animations, and interactive content.
- (iii) Tutorial Sessions:** Reinforces classroom learning through guided problem-solving and discussion.
- (iv) Interactive Discussions:** Encourages active participation through question-and-answer sessions.
- (v) Problem-Solving Sessions:** Develops analytical thinking and application skills through practical problems.
- (vi) Seminars and Expert Talks:** Provides exposure to emerging technologies, research trends, and industry insights.
- (vii) Flipped Classroom:** Promotes self-learning by sharing learning resources before class.

The integration of these theory, tutorial, laboratory, project-based, and interactive methods aims to enhance students' understanding, practical skills, analytical ability, communication skills, problem-solving skills, and innovation.

2.1.3 Pedagogical Initiatives

The Department of Artificial Intelligence and Machine Learning adopts learner-centered pedagogical initiatives to foster critical thinking, practical exposure, and attainment of Course Outcomes. Faculty members tailor the teaching approach to the nature of the subject.

The department adopts the following pedagogical initiatives:

- (i) Project-Based Learning:** Develops real-world problem-solving skills and innovation through hands-on projects.
- (ii) Experiential Learning:** Laboratory sessions, workshops, industrial visits, and field trips.
- (iii) Case-Based Learning:** Industry case studies to relate theoretical concepts to practical applications.
- (iv) Research and Self-Learning:** Literature surveys of research papers, advanced topics beyond the syllabus, and independent research projects.

(v) **AI-Assisted Learning:** Teaching AI tools for concept explanation, coding

These pedagogical initiatives create an interactive learning environment tha

2.1.4 Collaborative Learning

The Department promotes collaborative learning through group problem-solving, 1
Students work collectively to analyze problems, exchange ideas, develop solutions
solving and leadership skills. Faculty members facilitate and assess these activities
given in Table 2.1.1.

Table 2.1.1 Course wise

Instruction Method	
Chalk-and-Talk	BCS302 – Digital Design & Computer Organization; BCS Programming with Java; BCS401 – Analysis & Design of
PPT-Enabled Lectures	BCS302 – Digital Design & Computer Organization; BCS Engineering & Project Management; BCS502 – Compute
Tutorial Sessions	BCS304 – Data Structures and Applications; BCS306A – Artificial Intelligence; BAI602 – Machine Learning–I; BAI7
Interactive Discussions	BCS303 – Operating Systems; BAD402 – Artificial Intellig Processing; BAD703 – Data Security & Privacy; BCS714
Problem-Solving Sessions	BCS304 – Data Structures and Applications; BCS306A – Database Management Systems; BAD402 – Artificial Inte
Seminars and Expert Talks	BCS501 – Software Engineering & Project Management; Processing; BAI701 – Deep Learning & Reinforcement L
Project-Based Learning	BAI586 – Mini Project; BAI685 – Project Phase I; BAI786 BAI803 – Internship (Industry/Research)
Experiential Learning	BCSL305 – Data Structures Lab; BCSL404 – Analysis & BAIL657C – Generative AI Lab; BAI803 – Internship (Ind
Case-Based Learning	BAD402 – Artificial Intelligence; BCS403 – Database Mai – Deep Learning & Reinforcement Learning; BAD703 – C
Research and Self-Learning	BRMK557 – Research Methodology and IPR; BAI601 – I Machine Learning–II; BAI786 – Major Project Phase–II; E

AI-Assisted Learning	BAD402 – Artificial Intelligence; BAI601 – Natural Language Processing; BAI602 – Natural Language Generative AI Lab; BCS714D – Big Data Analytics
Flipped Classroom	BAD402 – Artificial Intelligence; BAI601 – Natural Language Processing; BAI602 – Natural Language Generative AI Lab; BAI702 – Machine Learning & Deep Learning & Reinforcement Learning; BAI786 – Major Project Phase–II
Collaborative Learning	BAD402 – Artificial Intelligence; BAI602 – Machine Learning & Deep Learning & Reinforcement Learning; BAI786 – Major Project Phase–II

2.1.5 Quality of Classroom Teaching and laboratory experience

The Department of Artificial Intelligence and Machine Learning ensures quality classroom pedagogies, integration of theory with practice, hands-on experimentation, exposure to real-world applications, given in Table 2.1.2. Laboratory activities emphasize practical competency, problem-solving skills, and teamwork.

Table 2.1.2. Quality of Classroom Teaching and Laboratory Experience

Sl. No.	Quality Parameter	Expected Practice
1	Course Preparedness	Prepare lesson plans, course materials, laboratory manuals before commencement.
2	Subject Knowledge & Technical Competency	Faculty demonstrates strong conceptual and technical developments.
3	Clarity of Classroom Teaching	Explain concepts using examples, diagrams, case studies.
4	Student-Centric Pedagogy	Use active learning, flipped classroom, case studies, group discussions.
5	ICT-Enabled Teaching	Use PPTs, videos, simulations, LMS, virtual laboratories.
6	Theory–Practice Integration	Relate theoretical concepts directly to laboratory applications.
7	Laboratory Preparedness	Provide experiment objectives, procedures, safety instructions.
8	Hands-on Laboratory Experience	Ensure every student actively performs experiments and implementation.

9	Modern Tools & Software	Provide exposure to contemporary software tools and equipment.
10	Experimental Analysis	Encourage students to analyze results, deviations/errors.
11	Problem-Solving Orientation	Include open-ended problems, debugging, design experiments.
12	Collaborative Learning	Encourage team experiments, pair programming.
13	Industry-Relevant Learning	Incorporate industry case studies, datasets, demonstrations.
14	Continuous Assessment	Evaluate student learning through unit tests, exercises, case studies, presentations, tech using appropriate rubrics.
15	Individual Skill Assessment	Assess individual contribution even when in teams.
16	CO-Oriented Teaching & Laboratory	Map classroom activities, experiments and Outcomes.
17	Laboratory Infrastructure	Maintain adequate equipment, computers, software.
18	Safety & Laboratory Discipline	Follow laboratory safety procedures, equipment conduct.
19	AI & Digital Tools	Use AI tools and digital platforms responsible learning support.
20	Student Feedback	Collect feedback on classroom teaching, lab experience.
21	Academic & Laboratory Monitoring	Periodically review syllabus coverage, experiments and laboratory utilization.
22	Continuous Improvement	Analyze feedback, results, CO attainment implement corrective actions.
23	Beyond-Syllabus Experiments	Conduct additional experiments, demonstrations.

24	Mini-Projects	Integrate course/laboratory-based mini-project
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2.1.6 Analysis of Data

The Department of Artificial Intelligence and Machine Learning systematically analyzes results, CO/PO attainment, student feedback, laboratory performance, internship predefined targets to identify gaps and trends. Root causes are discussed in academic continuous improvement in teaching-learning and student outcomes.

Table 2.1.3. Data ana

Sl. No.	Data / Parameter	Analysis to be Carried Out
1	Student Attendance	Identify low-attendance students and attend
2	CIE Performance	Compare test, quiz, assignment, and labo
3	Semester - End Results	Analyze pass percentage, grades, failure performance.
4	CO Attainment	Compare actual CO attainment with target
5	PO / PSO Attainment	Analyze program-level attainment trends.
6	Student Feedback	Analyze feedback on teaching, laboratory facilities.
7	Laboratory Performance	Analyze experiment completion, practical project performance.
8	Slow Learner Performance	Track students below defined academic threshold
9	Advanced Learner Performance	Identify consistently high-performing students
10	Placement Data	Analyze placement rate, package, company
11	Internship Data	Study internship participation, domain outcomes.

12	Project Data	Analyze quality, innovation, industry re outcomes.
13	Course Exit Survey	Analyze students perceived attainment of
14	Academic Audit Observations	Review deviations and non-conformities.

2.1.7 Encouraging advanced Learners

The Department of Artificial Intelligence and Machine Learning systematically identify and demonstrated technical abilities. Such students are encouraged to pursue academic competitive programming and professional activities as given in Table 2.1.4. Faculty leadership and career development.

Table 2.1.4. Advanced

Sl. No.	Initiative for Fast Learners	Expected Practice	Out
1	Identification of Fast Learners	Identify through CIE, SGPA/CGPA, faculty observations, coding/lab performance and aptitude.	Early identification of students capable of advanced learning
2	Advanced Learning Materials	Provide research papers, technical articles and challenging problems.	Deeper subject knowledge learning at advanced level
3	MOOCs / NPTEL / SWAYAM	Encourage completion of advanced online courses and certifications.	Additional learning and recognition certification
4	Industry Certifications	Encourage certifications from relevant technology providers and professional organizations.	Improved industry readiness and competencies
5	Research Activities	Involve students in faculty research, literature surveys, experimentation and paper writing.	Development of research and publication
6	Hackathons & Competitions	Encourage participation in hackathons, coding contests and innovation challenges.	Enhanced problem solving, creative and competitive skills

7	Peer Mentoring	Encourage advanced learners to support other students in coding, laboratory and problem-solving activities.	Improved communication and collaborative
8	Conferences / Technical Events	Encourage participation and presentation in conferences, workshops and technical symposiums.	Professional and technical communication
9	Higher Studies / Career Guidance	Provide guidance for GATE, GRE and other competitive/higher-study opportunities.	Better preparation for higher education and professional

2.1.8 Assisting Slow Learners

The Department systematically identifies slow learners based on academic performance. Appropriate interventions such as remedial classes, tutorials, additional laboratory and formative assessments are provided. Student progress is periodically monitored, and Remedial classes.

Table 2.1.5 Slow Learners

Sl. No.	Initiative for Slow Learners	Expected Practice	
1	Identification of Slow Learners	Identify students through CIE performance, prerequisite tests, attendance, laboratory performance and faculty observations.	Early student academic
2	Remedial Classes	Conduct additional classes for difficult concepts and weak areas.	Improve understanding and academic
3	Tutorial Classes	Provide additional numerical, programming and problem-solving sessions.	Improve problem-solving and collaborative

4	Faculty Mentoring	Assign faculty mentors and periodically review academic progress.	Pe an aci
5	Peer-Assisted Learning	Pair slow learners with academically stronger students for guided learning.	Im thr lea
6	Additional Learning Materials	Provide simplified notes, question banks, solved examples, videos and digital resources.	Ea an
7	Additional Laboratory Practice	Provide extra laboratory/coding sessions with faculty assistance.	Im pro col
8	Attendance Monitoring	Closely monitor attendance and counsel students with irregular attendance.	Im pa lea
9	Academic Counselling	Discuss learning difficulties, study habits and time management with students.	Im pra res
10	Parent/Guardian Interaction	Communicate persistent academic concerns where institution policy requires it.	Co stu ad
11	Progress Monitoring	Compare performance before and after remedial interventions.	Me eff col im

2.2 Quality of Student Capstone Project (25)

2.2.1 Introduction

The Capstone Project is an integral component of the Bachelor of Engineering programme. It provides students with an opportunity to integrate the knowledge of engineering problems.

The project enables students to identify a relevant problem, conduct literature methodology, and evaluate the results using modern engineering tools and techniques. It also covers project management, professional ethics, and lifelong learning.

The department encourages students to undertake projects in emerging areas of technology, thereby enhancing their technical competency, employability, and readiness for high-level jobs.

2.2.2 Capstone Project Process

The Department follows a structured and transparent process for planning, execution, timely completion, and achievement of the intended learning outcomes.



Figure 2.2.1 Illustrates the structured Capstone Project process adopted b

2.2.3 Project identification

It is carried out through student ideas, faculty guidance, industry inputs, research complexity, PO/PSO mapping, SDG linkage and availability of resources. The detail

Table 2.2.1 Project identification Process

Sl. No.	Parameter	Department Practice
1	Source of Project Ideas	Project ideas are collected from students, faculty needs and emerging technologies.
2	Problem Relevance	Projects are selected based on real-world relevance and technical feasibility.
3	Domain Relevance	Projects are aligned with AI, ML, Data Science, Cloud Computing and emerging technologies.
4	Complexity Check	Projects are verified for problem analysis, design and use of modern tools.
5	Sustainability / SDG Linkage	Projects are identified with consideration to sustainability, accessibility, smart cities and security.
6	PO/PSO Mapping	Projects are mapped with relevant POs and PSOs for communication and project management.
7	Feasibility Review	Availability of data, software, hardware, time, cost and resources.
8	Approval Process	Project titles are reviewed and approved by the department committee.

2.2.4 Project Guidelines

To ensure uniformity and quality in project execution, the department follows the following departmental guidelines.

The major guidelines include:

- Projects shall address a relevant engineering, industrial, societal, or research problem.
- Project topics shall be approved by the Department Project Review Committee.
- Each project must have a clearly defined problem statement, objectives, scope, and timeline.
- Students shall perform a comprehensive literature survey before implementation.
- Periodic project reviews shall be conducted to monitor progress and provide guidance.
- Students shall maintain project records and submit the required reports as per the guidelines.
- The final project shall be evaluated through demonstration, project report, and peer review.

- Students shall adhere to professional ethics, academic integrity, and plagiarism

These guidelines ensure systematic project execution, quality outcomes, and adherence

2.2.5 Project Topic Selection

The Department follows a systematic process for selecting Capstone Project topics to identify contemporary problems through literature review, industry interactions, and

Project topics are selected in consultation with faculty guides and approved by the Department. Factors such as complexity, availability of resources, and alignment with programme objectives. The selection process ensures that projects are technically sound, application-oriented, and aligned with

2.2.6 Guide Allocation

The Department follows a transparent and systematic process for allocating faculty members of the Department considering the faculty members domain expertise, research interests, and available teams to ensure effective supervision. Faculty members provide technical guidance, implementation, testing, documentation, and help them complete the project within the stipulated time for effective project execution.

2.2.7 Monitoring Mechanism

The Department has established a structured monitoring mechanism to ensure the timely completion of the project.

Project progress is monitored through:

- Periodic meetings between students and faculty guides.
- Phase-wise project reviews conducted by the Department Project Review Committee.
- Evaluation of literature survey, design, implementation, testing, and documentation.
- Review of project records, presentations, demonstrations, and progress reports.
- Continuous feedback and corrective guidance for timely completion.

Students incorporate the suggestions received during reviews, enabling continuous improvement.

Table 2.2.2 Review of project

Review	Components Evaluated
Review-I	Problem identification, literature survey, objectives
Review-II	Design, implementation progress

Review-III	Testing, validation, performance
Final Review	Demonstration, dissertation, presentation, viva

2.2.8 Evaluation Process

Capstone Projects are evaluated in accordance with the guidelines prescribed. Evaluation is carried out through continuous assessment during various project phases: planning, literature survey, methodology, implementation, testing, demonstration, etc.

The evaluation process is conducted by the faculty guide, Department Project Review Committee to ensure transparency, fairness, and uniformity.

2.2.9 Working Prototype Demonstration

Every student team demonstrates a functional prototype/software solution before the final evaluation. The evaluation criteria include innovation, usability, robustness, performance, achievement of project objectives, etc.

2.2.10 Assessment Rubrics

The Department adopts well-defined assessment rubrics to evaluate the overall quality and consistent evaluation across all student teams covering problem identification, documentation and presentation. The rubrics are mapped with relevant POs and attributes.

Table 2.2.3 Rubric for Capstone Projects

Rubric Code	Assessment Criteria	Weightage (%)
R1	Project Implementation	30
R2	Testing, Validation & Performance Analysis	25
R3	Result Analysis & Improvements	20
R4	Documentation & Dissertation	15
R5	Viva-Voce & Final Demonstration	10
Total		100

2.2.11 Capstone / Major Project course outcomes

The course outcomes of the capstone project enable students to identify real-world problems, and communicate project outcomes effectively are given in Table 2.2.4. The Rubric - CO Mapping and

Table 2.2.4: Capstone / Major Project course outcomes

Course Outcome	Statements
CO1	Identify and formulate a real-world engineering problem through literature survey and requirement analysis.
CO2	Analyse the problem and design a suitable methodology, system architecture or algorithm-based solution.
CO3	Develop and implement a working model, prototype or AI/ML-based solution using modern tools.
CO4	Test, validate and evaluate the developed solution using suitable performance metrics or test cases.
CO5	Prepare technical documentation and present the project outcomes effectively with ethical and sustainability considerations.

Table 2.2.5 Capstone / Major Project Rubric - CO Mapping

Rubric Code	Assessment Criteria	CO 1	CO 2	CO 3	CO 4	CO 5
R1	Project Implementation		✓	✓		
R2	Testing, Validation & Performance Analysis			✓	✓	
R3	Result Analysis & Improvements		✓		✓	
R4	Documentation & Dissertation	✓	✓			✓
R5	Viva-Voce & Final Demonstration			✓	✓	✓

Table 2.2.6 Capstone / Major Project Justification for Rubric - CO Mapping

Rubric	CO Mapping	
R1 Project Implementation	CO2, CO3	Project implementation requires working model/prototype using
R2 Testing, Validation & Performance Analysis	CO3, CO4	Testing and validation can be using suitable metrics or test
R3 Result Analysis & Improvements	CO2, CO4	Result analysis involves inter supports CO4 for evaluation and
R4 Documentation & Dissertation	CO1, CO2, CO5	Dissertation includes problem Hence, it supports CO1, CO2
R5 Viva-Voce & Final Demonstration	CO3, CO4, CO5	Final demonstration evaluates Hence, it supports CO3, CO4

The CO–PO/PSO mapping is justified based on the nature of capstone project documentation and presentation. The project work contributes strongly to PO2, PO using modern tools and AI&ML techniques. The CO–PO/PSO Mapping for Capstone

Table 2.2.7 Capstone / Major Project CO–PO and PSO Mapping

CO s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2
CO 1	2	3	--	2	–	2	–	–	1	–	3	1	2
CO 2	3	3	3	2	2	1	1	–	–	2	2	3	3
CO 3	3	2	3	2	3	1	1	2	–	2	2	3	3
CO 4	2	3	2	3	3	–	–	–	2	–	2	3	2
CO 5	–	1	–	–	1	2	2	3	3	2	2	2	2

Table 2.2.8 Capstone / Major Project Justification for CO–PO/PSO Mapping

CO	Mapped PO/PSO	Justification
CO 1	PO1, PO2, PO4, PO6, PO9, PO11, PSO1, PSO2	CO1 focuses on identifying and formulating real-world engineering problem through literature survey and requirement analysis. Hence, it supports problem analysis, investigation, societal relevance and self-learning.
CO 2	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO10, PO11, PSO1, PSO2	CO2 involves analysing the problem and designing a suitable methodology, architecture or algorithm. It supports engineering knowledge, solution design, modern tool selection, ethical considerations and project planning.
CO 3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO10, PO11, PSO1, PSO2	CO3 deals with implementation using modern technologies, programming languages or AI/ML techniques. It strongly supports design development, modern tool usage, teamwork and AI&ML-based solution development.
CO 4	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PSO1, PSO2	CO4 focuses on testing, validation and performance analysis. It supports investigation, data interpretation, use of tools, technical communication and continuous improvement of the developed system.
CO 5	PO2, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PSO1, PSO2	CO5 involves dissertation preparation, presentation, demonstration and viva-voce. It supports communication, teamwork, project management, ethics, sustainability and lifelong learning.

2.2.12 Outcome Attainment

The Capstone Project is an important direct assessment component for evaluating Student performance is assessed through project reviews, implementation, demonstration, and assessment results are incorporated into the Outcome-Based Education (OBE) framework.

2.2.13 Quality Indicators

The Department periodically monitors the quality of Capstone Projects using measures given in Table 2.2.9.

Table 2.2.9 Capstone projects/main project Quality Indicator

Quality Indicator	Typical Evidence
Industry-sponsored / Industry-relevant projects	Project records, MoUs, industry interaction reports
Interdisciplinary projects	Project allocation records
Functional prototype development	Prototype demonstrations
Research publications	Conference / Journal publications
Innovation, Patents / Copyrights	IPR records
Internship-linked projects	Internship reports and certificates
Participation in hackathons / competitions	Certificates and awards
Stakeholder adoption (where applicable)	User feedback / Deployment records

2.2.14 Continuous Improvement

The Department periodically reviews the Capstone Project process to enhance students, alumni, and industry experts is analyzed to identify areas for improvement. Encouraging projects in emerging AI & ML domains, strengthening industry collaboration, and improving project monitoring mechanisms is given in Table 2.2.10.

The observations and recommendations are documented through departmental reviews to ensure continuous enhancement of project quality and alignment with industry and academic standards.

Table 2.2.10 Continuous improvement in capstone projects

Design Consideration	Implementation in AIML Projects
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Environment	AI solutions are designed to optimize resource utilization and support environmentally beneficial applications wherever applicable.
Sustainability	Students consider energy-efficient algorithms, scalable computing, and solutions aligned with Sustainable Development Goals (SDGs).
Safety	Projects evaluate cybersecurity, operational safety, reliability, data confidentiality, and user safety.
Ethics	Students follow responsible AI practices, fairness, transparency, privacy, explainability, plagiarism-free work, and responsible use of datasets.
Cost	Students analyse implementation feasibility considering software, hardware, cloud computing, deployment, maintenance, and scalability costs.
Standards	Projects follow IEEE standards, software engineering practices, coding standards, documentation guidelines, and VTU regulations wherever applicable.

2.2.15 Types and relevance of the projects and their contribution towards the

The capstone/major projects carried out in the department of AI&ML are classified into agriculture, assistive technology, full stack development and industry/research-oriented industrial and sustainability-based problems. They contribute to the attainment of F and implement solutions, use modern tools, conduct testing and validation, work in t

Fig 2.2.11 Types and relevance of the projects

Sl. No.	Type of Projects	Relevance of Projects
1	AI & Machine Learning Projects	Useful for prediction, classification
2	Deep Learning / Computer Vision Projects	Relevant for image processing and recognition systems.

3	Natural Language Processing / GenAI Projects	Useful for chatbots, document information retrieval.
4	IoT-Based Projects	Relevant for real-time monitoring applications.
5	Cybersecurity / Data Privacy Projects	Useful for fraud detection, malware safety.
6	Healthcare AI Projects	Relevant for disease prediction healthcare systems.
7	Agriculture / Environmental Projects	Useful for crop monitoring, sustainability-based solutions.
8	Assistive Technology Projects	Relevant for supporting visually through AI-based solutions.
9	Web / Full Stack Application Projects	Useful for developing software digital automation tools.
10	Industry / Research-Oriented Projects	Relevant for solving real-time challenges.

2.2.16 The details of projects, guides, PO/PSO Mapping and SDG Mapping for

(i) Projects List (22 Batch) with PO/PSO Mapping and SDG Mapping

The list of students projects have selected real-world AI & ML-based capstone projects financial analytics given in Table 2.2.12. Examples include Diabetic Retinopathy Detection, Deepfake Detection, Parkinson's Disease Prediction, Kidney Stone Detection

Table 2.2.12 Student Projects List (22 Batch)

Batch No	USN	NAME	Title of project
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1	1RR22AI001	AKSHAY M	
	1RR22AI025	KARTHIK M	Diabetic
	1RR22AI060	VISHAWANTH GOWDA T M	Retinopathy Detection System
	1RR22AI061	VISHWAS K R	
2	1RR22AI054	SYED MUTHASSIM	
	1RR22AI055	SYED SHARIQ AHMED	Gesture controlled robot
	1RR22AI033	M D SADIQ AHMED	Car
	1RR22AI022	ISHRAR	
3	1RR22AI025	KUSHI H S	
	1RR22AI053	SWATI K	Fake reviews detection using python and machine learning
	1RR22AI007	ASHER SADHANA	
	1RR22AI014	DISHA M	
4	1RR22AI034	KARTHIGEYAN S	
	1RR22AI030	LOKITHA S	Smart Ambulance using IOT
	1RR22AI050	SRINIVAS S	
	1RR22AI015	GANAVI R	
5	1RR22AI018	HARSHINI L	Dual axis solar tracker using Arduino
	1RR22AI041	RANUSINGH S	
	1RR22AI059	VINUTHA T	

6	1RR22AI003	AKSHITHA N	IOT based food spoilage detection system
	1RR22AI034	NAYANABAI H M	
	1RR22AI038	POOJA S	
	1RR22AI039	PRIYADARSHINI	
7	1RR22AI010	BHARATH H S	IoT-Based Smart Farmland: Edge AI Pest Detection and Remote Irrigation Control
	1RR22AI012	CHETHAN B V	
	1RR22AI029	LIKITH GOWDAA	
	1RR22AI062	YESHWANTH L V	
8	1RR22AI063	YOGESH H C	AI powered real time crop price prediction
	1RR22AI026	KISHAN M N	
	1RR22AI047	SHASHANK S	
	1RR22AI045	SANDEEP KULKARNI	
9	1RR22AI058	VIDHYA SHREE S	Early brain tumor detection using Machine Learning Techniques
	1RR22AI057	VENNELA T	
	1RR22AI052	SWAROOPA K	
	1RR22AI005	AMRUTHA P	
10	1RR22AI035	NIDHISH R	AI-Human Resource Management System
	1RR22AI046	SANJAY V	
	1RR22AI048	SHIVA KUMAR N R	
	1RR22AI051	SUHAS M	

11	1RR22AI401	YASHWANTHA K G	Deep learning approach to identify blood group using fingerprint
	1RR22AI402	VISHAL V L	
	1RR22AI403	C VISHNU	
	1RR22AI404	GAGAN B G	
12	1RR22AI013	DHAMINI M	Deepfake Detection using deeplearning and heuristic Gyan
	1RR22AI019	HEMALATHA NETEKAL	
	1RR22AI020	HITHASHREE R	
	1RR22AI036	NITHIYA	
13	1RR22AI006	ANANYA	Predicting Parkinsons Disease Using Machine Learning
	1RR22AI031	MANASA H O	
	1RR22AI032	MANIKANTA SIDDAROODA	
	1RR22AI042	RISHITHA N	
14	1RR22AI004	Allamaprabhu C C	AI driven urine Analysis non Invasive Kidney Stone detection using ML
	1RR22AI056	Promodh V	
	1RR22AI044	Samayakth V	

2.3 Internship/Industrial Training (10)

2.3 Internship / Industrial Training (10)

Internship / Industrial Training is a mandatory curricular component of the Bachelor of Technology (B.Tech.) programme at Visvesvaraya Technological University (VTU). It provides students with practical engineering problems while enhancing their technical competence, professional skill

The Department of Artificial Intelligence and Machine Learning implements the internship through faculty approval, faculty mentoring, industrial supervision, periodic monitoring, assessment report, and viva-voce in accordance with the VTU evaluation scheme. The interns are evaluated against the Programme Specific Outcomes (PSOs) under the department's Outcome-Based Education (OBE) framework.

2.3.1 Internship Guidelines

The Department of Artificial Intelligence and Machine Learning conducts internship. The department follows a systematic framework for internship planning, execution, monitoring, and evaluation.

The major guidelines followed by the department are:

- Internship is a mandatory curricular requirement and is conducted as per the guidelines of VTU.
- Students are encouraged to undertake internships in industries, startups, research organizations, etc., relevant to the programme.
- Students obtain departmental approval before commencing the internship.
- Each student is assigned a Faculty Mentor to provide academic guidance.
- Students are required to adhere to the professional ethics, discipline, confidentiality, and safety norms.
- On completion of the internship, students submit the prescribed document.
- The internship is evaluated through Continuous Internal Evaluation (CIE) and End-Semester Examination (ESE).

The department periodically reviews the implementation of the internship program to improve the quality of the program and strengthen industry engagement.

2.3.2 Internship Process

The Department of Artificial Intelligence and Machine Learning follows a structured process for internship. The process ensures systematic implementation, monitoring, and evaluation. The workflow adopted by the department is shown in Fig. 2.3.1.



Fig. 2.3.1: Internsl

(i) Student Orientation

The department conducts an orientation programme to familiarize students with the scheme, and professional expectations.

(ii) Identification of Internship Opportunity

Students identify suitable internship opportunities in industries, startups, research or

(iii) Department Approval

Students submit the internship details for departmental verification. The Internship C

(iv) Faculty Mentor Allocation

Each student is assigned a Faculty Mentor to provide academic guidance, monitor p

(v) Internship Execution

Students undergo internship training under the supervision of the Industry Mentor and

(vi) Progress Review

The Faculty Mentor periodically reviews the students progress through discussions during the internship.

(vii) Report Submission

After completing the internship, students submit the internship report, completion certificate

(viii) Seminar Presentation and Viva-Voce

Students present their internship work before the departmental evaluation committee

(ix) Assessment and Outcome Evaluation

The internship is assessed through Continuous Internal Evaluation (CIE) and Semester Programme Outcomes (POs) and Programme Specific Outcomes (PSOs).

(x) Feedback and Review

Feedback from students and Industry Mentors is analyzed to strengthen internship program

2.3.3 Monitoring and Mentoring Mechanism

The Department has established a structured monitoring and mentoring mechanism for continuous interaction among the Internship Coordinator, Faculty Mentor, Industry Mentor at the completion of internship activities.

Table 2.3.1 Roles and Responsibilities in Internship Monitoring

Stakeholder	Roles and Responsibilities
Department Internship Coordinator	Plans and coordinates the internship programme, verifies proposals, assigns Faculty Mentors, maintains records, and monitors overall implementation.
Faculty Mentor	Provides academic guidance, reviews progress, interacts with the Industry Mentor, and monitors internship activities.
Industry Mentor	Supervises technical work, guides the students in the workplace, and evaluates professional performance.

Students	Completes assigned tasks, maintains professional conduct, submits reports, and presents the internship work for evaluation.
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The internship progress is monitored through periodic reviews, mentor interactive sessions, and academic support throughout the internship and ensures that the learning objectives are achieved.

The internship report, completion certificate, seminar presentation, and viva-voce examination from stakeholders is considered during departmental review meetings to further improve the program.

2.3.4 Internship Assessment and Evaluation

The Department evaluates the internship in accordance with the VTU Scheme of Evaluation, which includes theoretical knowledge, practical application of engineering knowledge, professional skills, and communication skills.

The internship is evaluated through Continuous Internal Evaluation (CIE) and Semester End Examination (SEE) to ensure uniformity.

(i) Assessment Parameters

The internship assessment considers the following aspects:

- Understanding of the assigned work and objectives.
- Application of engineering knowledge and problem-solving skills.
- Technical competency and use of modern engineering tools.
- Quality of internship report and technical documentation.
- Seminar presentation and communication skills.
- Professional conduct, ethics, and overall performance.

(ii) Assessment Scheme

The evaluation is carried based on Table 2.3.2 out by the Faculty Mentor and the Head of the Department to assess the student's performance and overall performance in the internship.

Table 2.3.2 Internship assessment scheme

2.3.5 Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)

The internship programme enables students to apply engineering knowledge in industry as given in Table 2.3.3. The learning outcomes achieved during the internship contribute to the PO/PSO mapping is given in Tables 2.3.4 and 2.3.5.

Table 2.3.3 Internship Course Outcome

CO	Course Outcome
CO 1	Identify and understand real-world industry problems, tools, technologies and work practices.
CO 2	Apply engineering knowledge and AI & ML-related skills to perform assigned tasks.
CO 3	Analyse, design, implement and validate solutions using appropriate modern technologies.
CO 4	Demonstrate professional ethics, teamwork, communication, discipline and project management during internship.
CO 5	Prepare internship report, present the work carried out and reflect on learning for professional development.

Table 2.3.4 Internship Programme Specific Outcomes

PSO	Statement
PSO 1	Design and develop AI & ML solutions using modern tools and programming skills.
PSO 2	Adapt emerging AI & ML technologies to solve innovative challenges.

Table 2.3.5 Internship CO- PO/PSOs mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO 1	PSO 2
CO 1	2	3	1	1	1	2	1	1	1	1	3	2	3
CO 2	3	2	2	2	3	1	1	1	1	1	2	3	3
CO 3	2	3	3	3	3	1	1	2	2	2	2	3	3
CO 4	1	1	1	1	1	2	3	3	2	3	2	1	2
CO 5	1	1	1	2	1	1	2	1	3	2	3	2	2

2.3.6 Continuous Improvement

The Department adopts a continuous improvement approach to enhance the quality of its programs. The Department's performance and host organizations is reviewed periodically to identify strengths, address gaps, and implement improvements.

Based on stakeholder feedback and internship performance analysis, the department has implemented the following improvements:

- Strengthened collaboration with industries, start-ups, and research organizations.
- Conducted pre-internship orientation programmes and technical skill development sessions.
- Enhanced the mentoring process through periodic progress reviews and feedback.
- Encouraged internships in emerging technology domains relevant to the program.
- Periodically reviewed internship assessment rubrics to ensure transparency and fairness.

2.3.7 Internship Statistics

The Department maintains a consolidated record of student internships, including details of the organization, duration, and student performance. These statistics are analyzed periodically to monitor student participation, identify industry trends, and inform program improvements. The statistics are given in Tables 2.3.6 and 2.3.7.

Table 2.3.6 Academic Year-wise Internship Statistics

Academic Year
2023–24
2024–25
2025–26

Table 2.3.7 Domain-wise Internship Distribution

Internship D
Artificial Inte Learning
Data Scienc
Computer \
Natural Lan
Cloud Com
Full Stack I
Other Emer

The internship statistics indicate consistent student participation and successful co
2.3.8. The department periodically reviews these statistics to strengthen industry co

Table 2.3.8 I

Category
Software & IT Companies
Startups

Research Organizations
Academic Institutions
Government / PSU

The number students with their USN selected internship domains during academic years 2025-26

Table 2.3.9 Domain-wise Students Distribution of Internships (2025-26)

Internship Domain
Artificial Intelligence Learning
Data Science & Analyt

Computer Vision
Natural Language Pro
Cloud Computing
Internet of Things (IoT
Cyber Security
Full Stack Developme
Other Emerging Techn

The number of organizations provided internships academic years 2025-26, 2024-2

Table 2.3.10 Category of Host Organizations (2025-26)

Category of Organization	Examples*
Software and IT Companies	Mind Matrix, QSpiders, Mevi Technologies, Skyll Technologies Pvt. Ltd., Movidu Technology Pvt. Ltd. Gleamator Technologies, APSIS Solutions
Startups	VisionAstra, Dhee Coding Lab, Innomatics, Take It Smart

Academic Institutions	UNLOX Academy, Edutainer
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Table 2.3.11 Domain-wise Distribution of Internships (2024-25)

Internship Domain	No. of Students	USN
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Artificial Intelligence & Machine Learning	38	1RR21AI001, 1RR21AI002, 1RR21AI004, 1RR21AI005, 1RR21AI006, 1RR21AI007, 1RR21AI010, 1RR21AI011, 1RR21AI012, 1RR21AI013, 1RR21AI015, 1RR21AI016, 1RR21AI017, 1RR21AI018, 1RR21AI019, 1RR21AI021, 1RR21AI022, 1RR21AI023, 1RR21AI025, 1RR21AI026, 1RR21AI027, 1RR21AI028, 1RR21AI029, 1RR21AI031, 1RR21AI032, 1RR21AI036, 1RR21AI038, 1RR21AI039, 1RR21AI040, 1RR21AI042, 1RR21AI044, 1RR21AI046, 1RR21AI050, 1RR21AI051, 1RR21AI053, 1RR21AI054, 1RR21AI058, 1RF
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Data Science & Analytics	11	1RR21AI002, 1RR21AI015, 1RR21AI020, 1RR21AI028, 1RR21AI031, 1RR21AI039, 1RR21AI040, 1RR21AI044, 1RR21AI058, 1RR21AI060, 1RF
Computer Vision	7	1RR21AI001, 1RR21AI003, 1RR21AI012, 1RR21AI013, 1RR21AI017, 1RR21AI052, 1RF
Natural Language Processing	3	1RR21AI010, 1RR21AI030, 1RF
Cloud Computing	1	1RR21AI061
Internet of Things (IoT)	0	
Cyber Security	0	
Full Stack Development	3	1RR21AI008, 1RR21AI030, 1RF
Other Emerging Technologies	1	1RR21AI049

Table 2.3.12 Category of Host Organizations (2024-25)

Category of Organization	Examples*
Software and IT Companies	Comsfot Technologies, JSpiders, RouteX, Catalytic Datum Pvt. Ltd., Datadecode.ai
Startups	Chainfly Tech Solution Pvt. Ltd., Devtown, Ejuke Averixis Solutions, Knowx, Feynn Labs

Research Organizations	DRDO–CAIR
Academic Institutions	Skill India Digital Hub (NSDC, PMKVY, Rooma Technologies, Wadhwani), Edukaizen
Government Organizations	Toyota Kirloskar Motor Pvt. Ltd. (<i>Industry</i>), DRDO–CAI (<i>Government R&D</i>)

Table 2.3.13 Domain-wise Distribution of Internships (2023-24)

Internship Domain
Artificial Intelligence Learning
Data Science & Anal
Computer Vision
Natural Language Pr

Cloud Computing
Internet of Things (IoT)
Cyber Security
Full Stack Development
Other Emerging Technologies

Table 2.3.14 Category of Host Organizations (2023-24)

Category of Organization
Software and IT Companies
Startups
Government Organizations



2.4 Seminar and Mini/Micro Projects (10)

The Department conducts seminars and mini/micro projects to enhance students' technical know Machine Learning, Data Science, Computer Vision, Natural Language Processing, IoT, Cybersec

2.4.1 Seminars

The Seminar is an important academic activity that enables students to explore em It encourages students to study recent developments in Artificial Intelligence and Department follows a structured process for the planning, execution, and evaluation

(i) Seminar Process

· Selection of Seminar Topic

Students select emerging topics in Artificial Intelligence and Machine Learning bas needs. The topic is finalized with the approval of the faculty mentor.

· Literature Survey and Report Preparation

Students conduct a literature survey by refering reputed journals, conference proce prescribed VTU/Institute format.

· Presentation Preparation

Students prepare a technical presentation highlighting the objectives, literature i diagrams, charts, and visual aids.

· Seminar Presentation

Students present the seminar before the evaluation committee, demonstrating tech Interactive discussions and question-and-answer sessions are encouraged.

· Assessment and Feedback

The seminar is evaluated using predefined rubrics covering topic selection, litera Constructive feedback is provided for improvement.

· Submission and Documentation

Students submit the final seminar report, presentation slides, and supporting re continuous improvement.

This structured process enhances students research orientation, technical commun and professional practice.

(ii) Seminar details with Pos/PSOs for the 2021 Batch

The PO/PSO mapping of seminars is justified as student's select recent technical documentation and present their learning is given in Table 2.4.1. The seminar activities and PO10 mapped wherever topics address societal, ethical, security, sustainability

Table 2.4.1: Technical seminar Details with Pos/PSOs for 2021 batch

Sl. No	USN
1	1RR21AI00 1
2	1RR21AI00 2
3	1RR21AI00 3
4	1RR21AI00 4
5	1RR21AI00 5

6	1RR21AI00 6
7	1RR21AI00 7
8	1RR21AI00 8
9	1RR21AI00 9
10	1RR21AI01 0
11	1RR21AI01 1
12	1RR21AI01 2

13	1RR21AI01 3
14	1RR21AI01 4
15	1RR21AI01 5
16	1RR21AI01 6
17	1RR21AI01 7
18	1RR21AI01 8
19	1RR21AI01 9

20	1RR21AI02 0
21	1RR21AI02 1
22	1RR21AI02 2
23	1RR21AI02 3
24	1RR21AI02 4
25	1RR21AI02 5
26	1RR21AI02 6

27	1RR21AI02 7
28	1RR21AI02 8
29	1RR21AI02 9
30	1RR21AI03 0
31	1RR21AI03 1
32	1RR21AI03 2
33	1RR21AI03 3

34	1RR21AI03 4
35	1RR21AI03 5
36	1RR21AI03 6
37	1RR21AI03 7
38	1RR21AI03 8
39	1RR21AI03 9

40	1RR21AI04 0
41	1RR21AI04 1
42	1RR21AI04 2
43	1RR21AI04 4
44	1RR21AI04 6
45	1RR21AI04 7
46	1RR21AI04 8

47	1RR21AI04 9
48	1RR21AI05 0
49	1RR21AI05 1
50	1RR21AI05 2
51	1RR21AI05 3
52	1RR21AI05 4
53	1RR21AI05 5

54	1RR21AI05 6
55	1RR21AI05 7
56	1RR21AI05 8
57	1RR21AI05 9
58	1RR21AI06 0
59	1RR21AI06 1
60	1RR21AI06 2

61	1RR21AI06 3
62	1RR23AI40 0
63	1RR23AI40 1
64	1RR23AI40 2

(iii) Seminar details with Pos/PSOs for the 2020 Batch

The PO/PSO mapping is justified as students select recent technical topics, conduct research and present their learning. The seminar activity mainly contributes to PO1, PO2, PO3 and PO4. The topic involves design, societal relevance, ethics, security or management aspects.

Table 2.4.2: Technical seminar Details with Pos/PSOs for 2020 batch

Sl. No.	USN
1	1RR20AI00 1

2	1RR20AI00 2
3	1RR20AI00 3
4	1RR20AI00 4
5	1RR20AI00 5
6	1RR20AI00 6
7	1RR20AI00 7
8	1RR20AI00 8

9	1RR20AI00 9
10	1RR20AI01 0
11	1RR20AI011
12	1RR20AI01 3
13	1RR20AI01 4
14	1RR20AI01 5
15	1RR20AI01 6

16	1RR20AI01 7
17	1RR20AI01 8
18	1RR20AI01 9
19	1RR20AI02 0
20	1RR20AI02 1

21	1RR20AI02 2
22	1RR20AI02 3
23	1RR20AI02 4
24	1RR20AI02 5
25	1RR20AI02 6
26	1RR20AI02 7

27	1RR20AI02 8
28	1RR20AI02 9
29	1RR20AI03 0
30	1RR20AI03 1

31	1RR20AI03 2
32	1RR20AI03 3
33	1RR20AI03 4

2.4.2 Mini/Micro Project work – Process flow and Guidelines

The Mini Project provides students with an opportunity to apply theoretical knowledge to practical project planning, technical communication, and hands-on learning. Students develop and test new ideas and other emerging technologies, thereby enhancing their technical competence and

(i) Mini Project Process

The Department follows a structured process for planning, executing, and evaluating

- Orientation on Project Guidelines

Students are briefed on project objectives, timelines, documentation requirements, and

- Identification of Project Topics

Project ideas are obtained from faculty members, student proposals, industry problems, and feasibility.

- Team Formation and Topic Selection

Students form teams of three to four members and select an approved project topic

- Allocation of Faculty Guides

- Project Approval

- Project Execution and Monitoring

· Final Evaluation

(ii) Details of Mini projects for the 2022Batch

Table 2.4.3. Mini projects details for the 2022 Batch

Sl.No	USN
1	1RR22AI04 7
	1RR22AI06 3
	1RR22AI02 6
	1RR22AI04 5

2	1RR22AI03 6
	1RR22AI01 9
	1RR22AI02 0
	1RR22AI01 3
3	1RR22AI06 0
	1RR22AI06 1
	1RR22AI00 1
	1RR22AI02 5
4	1RR22AI05 4
	1RR22AI02 1
	1RR22AI05 5
	1RR22AI03 3

5	1RR22AI04 0
	1RR22AI04 3
	1RR22AI00 5
	1RR22AI00 8
6	1RR22AI03 4
	1RR22AI03 9
	1RR22AI03 8
	1RR22AI00 3
7	1RR22AI05 8
	1RR22AI05 2
	1RR22AI05 7
8	1RR22AI05 3
	1RR22AI02 8
	1RR22AI00 7
	1RR22AI01 4

9	1RR22AI04 2
	1RR22AI03 1
	1RR22AI03 2
	1RR22AI00 6
10	1RR22AI02 4
	1RR22AI05 0
	1RR22AI03 0
	1RR22AI04 9
11	1RR22AI01 8
	1RR22AI01 5
	1RR22AI05 9
	1RR22AI04 1
12	1RR22AI01 0
	1RR22AI02 9
	1RR22AI06 2

13	1RR22AI05 1
	1RR22AI03 5
	1RR22AI04 6
	1RR22AI04 8
14	1RR22AI01 7
	1RR22AI01 2
	1RR22AI01 6
	1RR22AI02 7
15	1RR23AI40 0
	1RR23AI40 1
	1RR23AI40 2
	1RR23AI40 3

16	1RR22AI04 4
	1RR22AI00 2
	1RR22AI00 4
	1RR22AI05 6
17	1RR22AI00 9
	1RR22AI02 3
	1RR22AI02 2

(iii) Details of Mini projects for the 2021Batch

The assigned PO/PSO mapping shown in Table 2.4.4 is justified because the proj tool usage, teamwork, communication, ethical awareness and application of emergi

Table 2.4.4. Mini projects details for the 2021 Batch

Sl. No	USN
1	1RR21AI026
	1RR21AI005
	1RR21AI011
	1RR21AI029
	1RR21AI051

2	1RR21AI037 1RR21AI001
3	1RR21AI007 1RR21AI020
4	1RR21AI031 1RR21AI006
5	1RR21AI016 1RR21AI017 1RR21AI013
6	1RR21AI035 1RR21AI056 1RR21AI036
7	1RR21AI038 1RR21AI021 1RR21AI012 1RR22AI401

8	1RR21AI004 1RR21AI063 1RR21AI002
9	1RR21AI048 1RR21AI050 1RR21AI052 1RR21AI032
10	1RR21AI003 1RR21AI060 1RR21AI054 1RR21AI053
11	1RR21AI040 1RR21AI044 1RR21AI046 1RR21AI059
12	1RR21AI018 1RR21AI061 1RR22AI402 1RR22AI400

13	1RR21AI042 1RR21AI047 1RR21AI049 1RR21AI058
14	1RR21AI008 1RR21AI025 1RR21AI027 1RR21AI010
15	1RR21AI028 1RR21AI039 1RR21AI023
16	1RR21AI024

(iv) Details of Mini projects for the 2020Batch

The mini-project list in the Table 2.4.5, the projects mainly involve computer vis automation and assistive applications. The PO/PSO mapping is justified because teamwork, communication and application of AI/ML concepts to practical problems.

Table 2.4.5. Mini projects details for the 2020 Batch

Sl.No	USN	Stt
-------	-----	-----

1	1RR20AI01 5	Nih
	1RR20AI00 8	Gur
2	1RR20AI01 4	Ne
	1RR20AI01 7	Pall
	1RR20AI02 8	Shr
3	1RR20AI00 4	Ank
	1RR20AI01 0	Jes
4	1RR20AI01 6	Nis
	1RR20AI02 7	Say Hib
5	1RR20AI02 6	Sat
	1RR20AI02 5	Sar
6	1RR20AI00 1	Aas
	1RR20AI00 2	Aisl
7	1RR20AI02 2	Rav

8	1RR20AI01 3	Nar
	1RR20AI03 3	Yas
9	1RR20AI01 9	Rak
10	1RR20AI02 1	Rar
	1RR20AI03 4	Yuk
11	1RR20AI02 0	Rak
	1RR20AI02 3	Saç
12	1RR20AI03 0	Sry S
	1RR20AI03 1	Ver
13	1RR20AI03 2	Yas
14	1RR20AI00 7	Ch
	1RR20AI01 1	K C

15	1RR20AI02 9	Sid
	1RR20AI02 4	Sa
	1RR20AI00 3	Ana
16	1RR20AI00 9	Har
	1RR20AI00 6	Ch
17	1RR20AI01 8	Pre

2.5 Case Studies and Real-Life Examples (10)

The Department uses case studies and real-life examples in teaching to connect library automation, network simulation, dashboard analysis, machine learning projects, cyber security applications help students understand real-world problem-solving. design thinking, modern tool usage, communication, lifelong learning and AI&ML-based

Table 2.5.1 Case Studies and Real-Life Examples with PO/PSO Mapping

Sl. No.	Course / Subject	Topics of Case Studies
1	Software Engineering & Project Management	Library automation software, ERP system management system
2	Computer Networks	Network simulation, congestion control protocol analysis
3	Theory of Computation	Finite automata and regular expression search
4	Data Visualization Lab	Sales revenue analysis, GDP analysis, Amazon Prime dataset analysis
5	Computer Vision	Image enhancement, image segmentation, object recognition
6	Information Retrieval	Question-answering system, social media/web/XML retrieval system
7	Unix System Programming	Shell-level and API-level programming cases
8	Distributed Systems	Distributed file system, RPC/remote synchronization, mutual exclusion, election
9	Exploratory Data Analysis	Real-world dataset analysis using NumPy, Matplotlib, Seaborn and Scikit-learn
10	Environmental Studies & E-Waste Management	Air pollution case study, waste management case study, e-waste management case study
11	Big Data Analytics	Weather data mining, MovieLens dataset, MongoDB-based big data application

12	Machine Learning	ML-based real-world course project
13	Human-Centred AI	Trustworthy AI, safe AI system and AI case studies
14	Natural Language Processing	Text classification game, sentiment analysis, check and correction
15	Blockchain Technology	Blockchain application architecture, Hyperledger and smart contract case studies
16	Time Series Analysis	Stock price, weather, energy consumption forecasting case studies
17	Introduction to Artificial Intelligence	Expert system and NLP-based case studies
18	Deep Learning & Reinforcement Learning	CNN image classification, autoencoder classification, grid-world reinforcement learning
19	Statistical Machine Learning for Data Science	House price analysis, customer satisfaction testing, salary prediction, hospital visit prediction
20	Data Security and Privacy	Cryptographic algorithms, RSA, AES, steganography and data hiding case studies

The Department uses case studies and real-life examples to strengthen outcome through Problem-Based Learning, Practical-Based Learning, Course Projects, Case Studies in AI&ML, Data Science, Computer Vision, NLP, Block chain, Cyber security, Software development, enhancing problem analysis, design thinking, investigation, modern tool usage, communication skills.

2.6 SWAYAM/NPTEL/MOOC/Self Learning (10)

The Department of Artificial Intelligence and Machine Learning (AI&ML) actively employs various online platforms to supplement classroom learning and strengthen their technical competencies in emerging technologies in areas such as Programming in Java, Python, Modern C++, Cloud Computing, Industry 4.0 and Industrial Internet of Things (IIoT), Cyber Security, Ethical Hacking, and Data Science.

These online certification programs enable students to learn from reputed institutions, develop analytical thinking, and problem-solving skills. The department promotes self-learning, industry-relevant knowledge and globally recognized certifications.

Participation in these certification courses helps students improve their technical skills, develop multidisciplinary skills, and prepare for internships, research, higher education, and employment.

Number of Students registered

S.NO	STUDENT NAME
1.	Manoj Gowda B.S
2.	Thamizh Selvan R
3.	Manoj Gowda B.S
4.	Manoj Gowda B.S
5.	Pruthvi K L
6.	Jeevitha R
7.	Shivakumar N R

8.	Shivakumar N R
9.	Shivakumar N R
10.	Deepthi S
11.	Kuraba Chethana
12.	P Sharon Jothi
13.	Manisha AC
14.	Shreya B Pujar
15.	Aravinda K V
16.	Harshitha V R
17.	S Varsha
18.	Aravinda K V
19.	Ananya A P
20.	Ranusingh S

21.	Hithashree R
22.	Ganavi R
23.	Syed Mutassim
24.	Karthik.M
25.	Vinutha T
26.	Harshini L
27.	Syed Shariq Ahmed
28.	Priyadarshini S
29.	Vishwas K R
30.	Akshay M
31.	Karthigeyan S
32.	Yeshwanth L V
33.	Mamatha B

34.	Rajakanth C B
35.	Asharani
36.	Manisha A C
37.	Nayanabai H M
38.	Nayanabai H M
39.	Nayanabai H M
40.	Shivakumar N R
41.	Vishwa Nath N M
42.	Dhanvika K
43.	Mohammed Zubair
44.	Abhishek M
45.	Deekshitha R
46.	Jeevitha R

47.	Sanjana S
48.	Bhavana Parigi
49.	Abhishek S
50.	Yashaswini L
51.	Sowmya A N
52.	Preethi S
53.	Shivakumar N R
54.	Shivakumar N R
55.	Chethan BV
56.	Vidya Shree S
57.	Bhatath H S
58.	Chethan B V

59.	Likithagowda A
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2.7 Solving Complex Engineering Problems Incorporating Sustainability Goals

2.7.1 Objective

The Department of Artificial Intelligence and Machine Learning encourages students to engage in assignments, laboratory work, mini projects, project phase work, internships, hackathons, design thinking, investigation, modern tool usage, teamwork, communication, project management, and leadership.

The department ensures that students do not restrict their learning to routine problems. They are encouraged to consider environmental, ethical, economic and sustainability-related considerations. These are aligned with the Sustainable Development Goals.

2.7.2 Definition of complex Engineering problem

A complex engineering problem is a real-world, open-ended problem that requires the application of engineering knowledge, skills, and abilities, while considering societal, ethical, environmental, economic and sustainability-related constraints. The problem is defined by safety, ethics, societal necessity, environmental impact, and sustainability. In the development of algorithms or models. The solving complex engineering problems involves the mapping of relevant POs, PSOs, and Sustainable Development Goals.

(i) Program Outcomes (POs)

PO	
PO1 – Engineering Knowledge	Applying AI, ML, programming to solve real-world problems
PO2 – Problem Analysis	Identifying, formulating and analyzing problems
PO3 – Design / Development of Solutions	Designing models, systems, and solutions considering environmental considerations
PO4 – Conduct Investigations of Complex Problems	Conducting experiments, testing, and validation
PO5 – Engineering Modern Tool Usage	Using Python, ML/DL tools, IoT tools
PO6 – The Engineer and the World	Considering societal, health, safety, and environmental impact
PO7 – Ethics	Addressing privacy, fairness, bias, and security

PO8 – Individual and Collaborative Teamwork	Working individually and in team
PO9 – Communication	Preparing reports, presentation
PO10 – Project Management and Finance	Planning, scheduling, resource
PO11 – Lifelong Learning	Learning new tools, emerging needs

(ii) Program Specific Outcomes (PSOs)

PSO	Relevance
PSO1: Design and develop AI & ML solutions using modern engineering tools, programming languages and technical skills to generate meaningful insights.	This discipline model-disease
PSO2: Adapt to the continuously evolving AI & ML domain and apply emerging technologies to address innovative challenges.	This subject cloud, environ

(iii) List of SDGs

Sl. No.	Sustainable Development Goal (SDG)
1	No Poverty
2	Zero Hunger
3	Good Health and Well-being
4	Quality Education
5	Gender Equality
6	Clean Water and Sanitation
7	Affordable and Clean Energy

8	Decent Work and Economic Growth
9	Industry, Innovation and Infrastructure
10	Reduced Inequalities
11	Sustainable Cities and Communities
12	Responsible Consumption and Production
13	Climate Action
14	Life Below Water
15	Life on Land
16	Peace, Justice and Strong Institutions
17	Partnerships for the Goals

2.7.3 List of Core Course learning for Solving Complex Engineering Problems

The core courses in the curriculum provide opportunities for students to solve development, database design, artificial intelligence, machine learning, deep learning, data security. The list of Core Courses in the program for Solving Complex Engineering Problems enables students to apply engineering knowledge, analyse problems, design solutions, use case-based activities.

Table 2.7.1 List of Core Courses for Solving Complex Engineering Problems with m

Sl. No.	Core Course	Complex Engineering Problem Component
1	C Programming	Development of algorithmic solutions using pointers, arrays, functions, pointers and memory programming
2	Python Programming	Development of computational solutions using data structures, files, functions and object-oriented programming

3	Mathematics for Computer Science	Mathematical modelling, probability, statistics problem-solving for computing applications
4	Digital Design & Computer Organization	Design and analysis of digital logic, process memory and I/O systems
5	Operating Systems	Process scheduling, synchronization, memory and resource optimization problems
6	Data Structures and Applications	Selection and implementation of suitable data efficient problem-solving
7	Data Structures Lab	Implementation of linear and non-linear data world computational problems
8	ESC / ETC / PLC Course	Programming or emerging-technology-based development depending on the selected cou
9	Analysis & Design of Algorithms	Design, comparison and analysis of efficient complex computational problems
10	Artificial Intelligence	Search, reasoning, knowledge representation solution development
11	Database Management Systems	Data modelling, normalization, query design application development
12	Analysis & Design of Algorithms Lab	Practical implementation and empirical analy solutions
13	Software Engineering & Project Management	Requirement analysis, software design, testing management and project planning
14	Computer Networks	Network design, protocol analysis, routing an system problem-solving
15	Theory of Computation	Formal modelling of computation, automata c computational complexity analysis
16	Data Visualization Lab	Data analysis, dashboard development and v support for real-world datasets
17	Natural Language Processing	Language processing, text classification, sen information retrieval and machine translation

18	Machine Learning – I	Feature engineering, classification, regression, predictive model development
19	Machine Learning Lab	Hands-on implementation of ML algorithms, clustering, reduction, regression, classification and clustering
20	Deep Learning & Reinforcement Learning	Design and training of deep learning and reinforcement learning models for complex applications
21	Machine Learning – II	Advanced supervised, unsupervised and probabilistic models for complex data-driven problems
22	Data Security & Privacy	Secure data handling, cryptography, privacy, ethical digital systems

2.7.4 List of Mini projects with SDG to address Complex Engineering Problem

The mini projects demonstrate complex engineering problem-solving through IoT, safety systems and assistive technologies. The projects are mapped with SDGs related to accessibility and secure systems. The list of mini projects for 2022, 2021 and 2020 are given in Tables 2.7.2, 2.7.3, and 2.7.4.

Table 2.7.2 The list of mini projects of 2022 batch with SDG mapping

Sl. No.	Title of Mini Project	Complex Engineering Problem Components	
1	Library Management	Database design, user management, book tracking, transaction handling and automation of library services	SD SD
2	Fire and Smoke Detection	Sensor/image-based fire and smoke identification, alert generation and real-time safety monitoring	SD SD

3	Flood Monitoring System using Machine Learning Approach	Weather/water-level data analysis, flood prediction, early warning and disaster-risk reduction	SD SD
4	Financial Fraud Detection using ML	Transaction analysis, anomaly detection, fraud classification and secure financial decision support	SD SD
5	Weather Forecast Prediction using Python	Time-series/weather data analysis, prediction modelling and decision support for climate-related planning	SD SD
6	IoT-Based Electric Control Bulb using Smartphone	IoT-based device control, wireless communication, mobile interface and energy usage automation	SD SD
7	Stocks Prediction using ML	Financial data analysis, time-series forecasting, risk prediction and investment decision support	SD SD
8	Thyroid Detection using Sensor	Sensor-based health data collection, disease indication analysis and preliminary healthcare monitoring	SD
9	LPG Gas Detector using IoT	Gas leakage sensing, IoT-based alert system, safety monitoring and accident prevention	SD SD
10	Real-Time Sign Language Recognition System for Hearing Impaired using Machine Learning	Gesture/image recognition, real-time classification, assistive communication and accessibility support	SD
11	Air Quality Monitoring System using IoT	Sensor-based pollution monitoring, real-time environmental data collection and air-quality analysis	SD SD SI

12	iClass – Intelligent Classroom Automation System	Smart classroom automation, IoT/device control, resource optimization and learning-environment enhancement	SD and
13	Automated Plant Watering System	Sensor-based soil moisture detection, automated irrigation and water-resource optimization	SD SD SD
14	Smart Door Locking System using IoT	IoT-based access control, authentication, remote monitoring and security automation	SD SD
15	Mountain Climber Health and GPS Tracker for Search and Rescue	Health monitoring, GPS tracking, emergency alert system and rescue-support mechanism	SD SD
16	Cardiovascular Disease Risk Prediction using Machine Learning	Healthcare data analysis, risk prediction, classification model development and early diagnosis support	SD

Table 2.7.3 The list of mini projects of 2021 batch with SDG mapping

Sl. No.	Title of Mini Project	Complex Engineering Prok
1	Facial Expression Recognition	Image processing, facial human-computer interacti
2	Automatic Speech Recognition System for Student Attendance	Speech signal processing real-time student identity v
3	Image Forgery Detection System	Digital image analysis, ta forensic image processing
4	Home Automation using Arduino and Personal Assistant	IoT-based device control interface and smart energy

5	Building Neural Networks for Image Recognition Algorithm	Neural network design, in performance evaluation
6	AI-Driven Interior Design Assistant	AI-based recommendation user-personalized decision
7	Smart Mouse – Interaction with Gestures	Gesture recognition, com assistive input-control syst
8	Companion App: A Mental Health Tracker	User behaviour tracking, mental health support thro
9	Medicinal Plant Leaf Identification	Leaf image processing, pla knowledge-support system
10	Exploratory Analysis of Geolocational Data	Spatial data analysis, loca decision support for planni
11	Pose Correction using MediaPipe and OpenCV	Human pose estimation, r corrective feedback gener
12	Plant Leaves Disease Detection	Leaf image analysis, plan and AI-based agricultural s
13	Advanced Fake News Detection	Text analysis, misinformati and trustworthy informatio

Table 2.7.4. The list of mini projects of 2020 batch with SDG mapping

Sl. No.	Title of Mini Project	Complex Engineering Problem Component
1	Virtual Mouse	Hand gesture recognition, computer vision, interaction without physical input devices
2	Color Recognition	Image processing, feature extraction, col interpretation

3	Car Parking Lot Availability	Image/video analysis, object detection, parking support
4	Image Decomposition	Image processing, feature separation, image for further interpretation
5	Currency Detection	Image recognition, currency classification, currency notes
6	Invisible Color	Image masking, colour segmentation, background visual effect generation
7	Cartooning and Layout of Image	Image filtering, edge detection, image transformation, computer vision techniques
8	Verification of Signature	Signature image analysis, pattern recognition, handwriting analysis
9	Traffic Sign Recognition	Image classification, traffic sign detection, image enhancement
10	Drowsy Driver Face Detection	Face detection, eye-state analysis, driver fatigue alert system

2.7.5 List of Project Phase I and II with SDG Mapping to address Complex Engineering Problems

The projects address complex engineering problems by involving real-world problem prediction, automation and validation. The projects are mapped with relevant Sustainable Development Goals (SDGs). The projects are mapped with relevant SDGs: smart systems, responsible consumption, economic growth and ethical digital systems. Problem Components and SDG mapping are addressed in Tables 2.7.5, 2.7.6, and 2.7.7.

Table 2.7.5. The list of major projects of 2022 batch with SDG mapping

Sl. No.	Title of Project	Complexity
1	Diabetic Retinopathy Detection System	Medical and healthcare

2	Gesture Controlled Robot Car	Sensor real-time
3	Fake Reviews Detection using Python and Machine Learning	Text cl suppor
4	Smart Ambulance using IoT	Real-time healthc
5	Dual Axis Solar Tracker using Arduino	Solar renewa
6	IoT-Based Food Spoilage Detection System	Sensor food sa
7	IoT-Based Smart Farmland: Edge AI Pest Detection and Remote Irrigation Control	Edge , agricult
8	AI-Powered Real-Time Crop Price Prediction	Agricul farmer
9	Early Brain Tumor Detection using Machine Learning Techniques	Medica diagno

10	AI-Human Resource Management System	AI-based automation
11	Deep Learning Approach to Identify Blood Group using Fingerprint	Biometric identification
12	Deepfake Detection using Deep Learning and Heuristic Techniques	Multimedia cyber security
13	Predicting Parkinson's Disease using Machine Learning	Healthcare and elderly care
14	AI-Driven Urine Analysis for Non-Invasive Kidney Stone Detection using ML	Medical decision support
15	Drone Leveraging using Machine Learning and IoT	Drone-based decision support
16	Stock Market Analysis and Forecast using Machine Learning	Financial decision support

Table 2.7.6. The list of major projects of 2021 batch with SDG mapping

Sl. No.	Title of Project	
---------	------------------	--

1	AI-Powered Real-Time Surveillance: Crowd Management and Crime Prevention on Existing CCTV Infrastructure	Real-time anomaly CCTV infr
2	Biometric Watermarking using Rubik's Cube Encryption and Decryption Algorithm	Secure b authentica
3	Intelligent Systems for Disaster Management	Disaster sensor/da disasters
4	Drug Discovery using Quantum Machine Learning	Molecular discovery healthcare
5	AI-Powered Doppelganger for Time Management	AI-based analysis, &
6	Blood Registry Implementation using Blockchain with a Smart Blood Carrier System	Secure bl logistics, il
7	Meta Human Represents a 3D Immersive Entity that Brings Digital Humans to Life	3D huma human int
8	Border Guard: AI-Powered Border Surveillance System for Military Operations	AI-based : and secur

9	CNN-Based Traffic Sign Detection System	Image cla support ar
10	Recipe Generation from Food Image	Food im generator
11	Transit Guardian: Secured Passage System for Critical Transit	Secure tra protection
12	Plant Leaves Disease Detection	Leaf imag based agr
13	Smart Glasses for Visually Impaired	Assistive and acces
14	Printed Circuit Board Defect Detection using CNNs and Image Processing	Industrial and manu
15	Colorectal Cancer Diagnosis	Medical in and early
16	Anomaly Detection using WSN with Optimization and ML Techniques	Wireless optimizatio

17	Credit Card Fraud Detection	Financial risk predic
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Table 2.7.7.The list of major projects of 2020 batch with SDG mapping

Sl. No.	Title of Project	Complex
1	Drug Recommendation on Symptoms using Deep Learning	Symptom recommender accuracy
2	GenAI for Advanced Legal Assistance and Image Synthesis Solution	Legal document synthesis,
3	Conversational AI for Semantic Document Analysis with NLP	Natural language question answer
4	Deep Learning-Based Malware	Malware classification learning-based
5	Safety and Reliability in Autonomous Vehicles using Integrated Vehicle System and Deep Learning	Sensor input reliability enhancement
6	Educational Data Analysis Toolkit Web Application	Student data analysis and decision support
7	Audio-Enabled Email for Visually Challenged	Speech-to-text technology

8	Cyber Hacking Breaches Prediction using Machine Learning	Cyber attack and proactive
9	IoT-Based Border Security System using Machine Learning	IoT sensor and real-time monitoring
10	AI Tool for Preliminary Diagnosis of Dermatology Manifestations	Medical image analysis and diagnosis
11	Forensic Portrait Identification and Fabrication	Facial recognition and generation

2.7.6 List of Internship-based learning for Solving Complex Engineering Problems

The internship domains expose students to real-world complex engineering problems in cyber security, IoT integration and emerging technologies. The list of Internship-based learning is tabulated in Table 2.7.8. The internships support SDGs related to health, education, and industry, innovation and infrastructure.

Table 2.7.8. The list of Internship-based learning for Solving Complex Engineering Problems

Sl. No.	Internship Domain	Complex Engineering Problem Comp
1	Artificial Intelligence & Machine Learning	Development of intelligent models for support using real-world datasets

2	Data Science & Analytics	Data collection, preprocessing, visualization, insight generation for decision-making
3	Computer Vision	Image/video processing, object detection, computer vision intelligence for real-world applications
4	Natural Language Processing	Text analysis, sentiment analysis, document classification and semantic information extraction
5	Cloud Computing	Cloud deployment, scalable application development and distributed system management
6	Internet of Things (IoT)	Sensor-based monitoring, real-time data processing, intelligent control systems
7	Cyber Security	Threat detection, vulnerability analysis, malware/fraud detection and risk mitigation
8	Full Stack Development	Design and development of end-to-end applications, APIs, testing and deployment

9	Other Emerging Technologies	Application of new technologies such automation to solve industry/societal pro
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2.7.7 Hackathons / competitions

Hackathons support problem analysis, solution design, modern tool usage, teamwork activities. The list is tabulated in Table 2.7.9.

Table 2.7.9. List of hackathons participated

Sl. No.	Student Name	Event
1	Shivakumar N R, Bharath H S, Suhas M, Yashwanth L V	Code Brew Challenge
2	Likith Gowda, Bharath H S, Suhas M, Shivakumar N R, Sanjay V, Yashwanth L V	Sentinel
11	Suhas M, Likith Gowda, Yashwanth L V, Bharath H S	CellVerse 2025

2.8 Steps Taken for Enhancing Industry Institute Partnerships (15)

2.8.1 Industry-oriented Laboratories / AI Tools / Software Facilities

The Department provides industry-supported laboratories, AI tools and software facilities as shown in Table 2.8.1. Students use modern tools such as Python, Jupyter Notebook, Scikit-learn, TensorFlow, PyTorch and related tools for laboratory work, mini projects, capstone projects, inter contribute to the attainment of POs and PSOs through problem analysis, solution design, modern tool usage, communication skills.

Table 2.8.1 Industry-oriented Laboratories / AI Tools / Software Facilities

Sl. No.	Facility / Support	Description
1	AI & ML Laboratory	Lab equipped with systems, Python, Jupyter, Scikit-learn, TensorFlow, PyTorch and related tools
2	Industry AI Tools / Platforms	Use of tools such as GitHub, Google Colab, Kaggle, Tableau, cloud platforms and AI coding assistants
3	Cloud Facility	Cloud-based -supported environment for AI model experimentation
4	Data Analytics / Visualization Lab	Power BI, Tableau, Excel, Python visualization libraries and dashboard development tools
5	IoT / Edge AI Facility	Arduino, Raspberry Pi, sensors, cameras and edge computing devices
6	Project / Innovation Facility Lab	Dedicated facility for mini projects, capstone projects and prototype development

2.8.2 Partial Delivery of Regular Courses by Industry Experts/Expert Academics

The Department involves industry experts and experts from institutes for partial delivery of regular courses as shown in Table 2.8.2. Experts deliver selected topics related to AI, ML, Data Science, Cloud Computing, IoT, and Edge AI. These sessions enhance students' practical understanding, modern tool usage, employment readiness, and attainment through problem analysis, solution design, modern tool usage, communication skills.

Table 2.8.2 Partial Delivery of Regular Courses by Industry Experts/Expert Academics

Sl. No.	Course / Subject	Topic Delivered by Industry Expert
---------	------------------	------------------------------------

1	Machine Learning	Model building, model evaluation and deployment practices
2	Deep Learning	CNN, transfer learning and real-time AI applications
3	Data Science / Big Data Analytics	Data preprocessing, dashboarding and big-data tools
4	Cloud Computing / MLOps	Cloud deployment, Docker, GitHub, MLflow and CI/CD basics
5	Cybersecurity / Data Security	Security threats, privacy, encryption and AI for cybersecurity
6	NLP / GenAI	Chatbots, LLMs, prompt engineering and RAG applications
7	Software Engineering / Project Management	Agile, Scrum, DevOps and software project workflow

2.8.3 Industrial Visit

The Department organizes industrial visits to provide students with practical exposure. These visits enable students to connect classroom learning with real-world applications in professional work environments.

Table 2.8.2 Industrial Visit (<https://www.>

Sl.No	Venu	Date	Outcomes	PO/PSO Mapping
1	Industrial Visit at RUBIXe Technologies	12-12-2025	Provides industry exposure and enhances awareness of emerging technologies and workplace practices.	PO1, PO5, PO11, PSO1, I
2	Industrial Visits to Channapatna Craft Park	18-01-2023	Provides practical exposure to traditional crafts, entrepreneurship and sustainable local industries.	PO6, PO7, PO11, PSO2

3	Industrial Visit to UR RAO Satellite Centre	08-07-2022	Provides exposure to space technology, innovation and real-world engineering applications.	PO1, PO3, PO10, PSO1,
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2.8.4 List of MOU

The Department has established Memoranda of Understanding (MoUs) with relevant industry as shown in Table 2.8.4. These MoUs facilitate opportunities for collaborative projects, research and placement support. Such collaborations help students understand current trends and technologies in Artificial Intelligence and Machine Learning.

Table 2.8.4

Sl No.	Company Name	Duration		Purpose
		From	To	
1.	Innomatics Research Labs	16 th Mar 2026	16 th Mar 2027 (1 Year)	· Industry –relevant and hands-on exposure to industry tools and technologies · Internship opportunities · Career guidance, assistance and professional development.

2	Prodapt Solutions Pvt. Ltd.,	16 th Jan 2026	16 th Jan 2027 (1Year)	· Non-commercial, Research and Development (R&D). · Technical evaluation of-Concept (POC) to feasibility assessment · Workshops, Technical sessions and co-developments discussions. · Internship opportunity placement assistance
3	Pelwhiz Technologies Private Limited	10 th jun 2025	10 th jun 2028 (3 Years)	· Offering Value Added (VAC) , aimed to their skills and employment line with industry requirements · Develop an specialized training program · Specialized training for placement · Placement and development structured training.
4	ERTIA Gen LLP	19 th Feb 2025	19 th Feb 2030 (5 Years)	· Software development Research and Software and Hardware and Development, and Technical Training House Trainings, Training, Training, Soft skill Placement and Internship Job Support, Research Development Services along with also train on Robotics

5	ACCURATE-INFO SOLUTION	02 nd Jan 2023	02 nd Jan 2028 (5 Years)	· In-House Corporate Training, One Trainings, Trainings, Assistance and Career Guidance Acquisition, On-Jc Research and C Consultancy Serv with this they als Robotics and IOT.
6	MEVI TECHNOLOGIES LLP	01 st Aug 2023	01 st Aug 2025 (2Years)	· Short and Long T Programs. · Internship and I Practice. · Student C Program(SDP) · Faculty C Program(FDP) · Short Term Programs(STTPs) · Technical Assistar
7	DEVMinds Incorporation	20 th Feb 2024	20 th Feb 2026 (2 Years)	· Internship Program · Workshops ar sessions.
8	3Q Sutantra LLP	Aug 2025	Aug 2028 (3 Years)	· Employability an Capabilities throug collaborations in Ir Management S Industry – aligne Certifications and initiatives..

3 OUTCOME-BASED ASSESSMENT (120)

3.1 Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term

3.1 Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term

The Department follows a systematic and transparent continuous assessment process. Assessment is constructively aligned with the Course Outcomes (COs), Revised Block

A. Process for Setting and Evaluation of Internal Assessment Question Papers

Internal Assessment Test (IAT) question papers are prepared by the course faculty based on the following criteria:

1. Syllabus and CO coverage: Questions are framed to cover the prescribed topics.
2. Cognitive-level alignment: Questions are designed at appropriate RBT levels.
3. Question paper and valuation scheme review: Coverage, difficulty level, clarity.
4. Evaluation: Answer scripts are evaluated using the approved scheme of valuation.
5. Documentation: Question papers, CO mapping/blueprints, valuation schemes.

PCC and IPCC – Continuous Assessment and Examination Structure

Course Type	Assessment Component	Sub-Component	Marks	Assessment Evaluation Method
PCC Theory	CIE	Internal Assessment Tests (IAT)	25	Three IATs, each worth 25 marks; the best scores are averaged and scaled to 25
		Assignment / Quiz / Other CCE Activities	25	Continuous assessment through assignments, quizzes and approved CCE activities
		Total CIE	50	50% of course credit
	SEE	Semester End Examination	50	Examination credit for 100 marks awarded to 50
	Total		100	CIE 50% + SEE 50%

**IPCC
Theory**

Theory CIE	Internal Assessment Tests (IAT)	15	Three IATs, each marks; the best scores are averaged 15
	Assignment / Quiz / Other CCE Activities	10	Continuous assessment through assignments, quizzes and approved CCE
	Total Theory CIE	25	
	Continuous Laboratory Evaluation	15	Experiment completion record/write-up voice, as appropriate
	Lab CIE		
	Laboratory Test	10	Test conducted on completion of practical experiment
	Total Practical CIE	25	
	CIE	50	50% of course credit
	SEE	50	Theory examination conducted for 1 hour and scaled
	Total	100	CIE 50% + SEE 50%



MOOGAMBIGAI CHARITABLE
Rajarajeswari College of Engineering and Technology
(An Autonomous Institution under Vellore University)

Department Of Artificial Intelligence

SET A

INTER

Subject : COMPUTER NETWORKS
Subject Code : BCS502
Semester & Section : 5TH / A

Note: Answer any

Q. No.	Q
1	A. Write a note on Routing Information
	B. Explain DHCP and its importance?
2	A. Write a program for Bellman ford algorithm
	B. Explain Go-Back-N protocol working
3	A. With neat sketch, explain three establishment.
	B. List and explain various services provided by SSH.
4	A. Briefly explain Secure Shell (SSH).
	B. Write a note on Request message and its response
5	A. With neat diagram, explain the basic architecture of electronic mail
	B. Describe the architecture of electronic mail

Bloom's Taxonomy (BT)

1	2	3
Remembering	Understanding	Applying



Fig 3.1a: S

 MOODAMBIGAI CHARITABLE AND EDUCATIONAL TRUST Rajarajeswari College of Engineering (An Autonomous Institution under Vellore Institute of Technology, Bengaluru) Department of Artificial Intelligence and machine learning	
ACADEMIC YEAR 2025-26 (ODD SEM)	
INTERNAL ASSESSMENT -III	
Subject: COMPUTER NETWORKS	Duration: 90 min (2:15-3:45pm)
Subject Code: BCS502	Date: 1/12/2025
Semester & Section: 5 th / A	Max Marks: 50
Q. No	Scheme and Solutions
1.	Routing Information Protocol (RIP) - 10 Marks Routing Information Protocol (RIP) is a distance vector routing protocol that uses hop count as its routing metric. It operates at the application layer and uses UDP port 520. Working: • Routers exchange routing tables periodically. • Shortest path is chosen based on minimum hop count. • Maximum hop count is 15. Advantages: • Simple to implement. • Suitable for small networks. Limitations: • Slow convergence. • Not suitable for large networks. Marks Split-up: Definition - 2 Working - 4 Features - 2 Advantages & Limitations - 2 Total - 10
2.	DHCP - 10 Marks Dynamic Host Configuration Protocol (DHCP) automatically assigns IP addresses. Components: • DHCP Client • DHCP Server • DHCP Relay Working (DORA): Discover, Offer, Request, Acknowledge Importance: • Avoids manual IP assignment

 MOODAMBIGAI CHARITABLE AND EDUCATIONAL TRUST Rajarajeswari College of Engineering (An Autonomous Institution under Vellore Institute of Technology, Bengaluru) Department of Artificial Intelligence and machine learning	
ACADEMIC YEAR 2025-26 (ODD SEM)	
INTERNAL ASSESSMENT -III	
Subject: COMPUTER NETWORKS	Duration: 90 min (2:15-3:45pm)
Subject Code: BCS502	Date: 1/12/2025
Semester & Section: 5 th / A	Max Marks: 50
Q. No	Scheme and Solutions
1.	Prevents IP conflicts Marks Split-up: Definition - 2 Components - 2 Working - 4 Importance - 2 Total - 10
2.	Bellman-Ford Algorithm - 10 Marks Bellman-Ford algorithm finds shortest paths and supports negative weights. Steps: • Initialize distances • Relax edges (V-1) times • Detect negative cycles Marks Split-up: Algorithm - 2 Logic - 2 Program - 4 Output - 2
3.	Go-Back-N Protocol - 10 Marks Go-Back-N is a sliding window protocol. Working: • Sender sends multiple frames • Retransmits frames on error. Marks Split-up: Definition - 2 Working - 4 Flow diagram - 4
3.	TCP Three Way Handshaking - 10 Marks TCP connection establishment uses: 1. SYN 2. SYN-ACK 3. ACK Marks Split-up: Definition - 2 Steps - 5 Diagram - 2 Total - 10

MOOGAMBIGAI CHARITABLE AND EDUCATIONAL TRUST Rajarajeswari College of Engineering (As Autonomous Institution under Vigneeswara Technological University, Belagavi) Department of Artificial Intelligence and machine learning		
UDP Services - 10 Marks UDP is a connectionless protocol. Services: • Fast transmission • No error recovery Marks Split-up: Definition - 2 Services - 6 Applications - 2 Total - 10		2+6+2=10
Secure Shell (SSH) - 10 Marks SSH provides secure remote login. Features: • Encryption • Authentication Marks Split-up: Definition - 2 Working - 3 Features - 3 Applications - 2 Total - 10		2+3+3+2=10
HTTP Request & Response - 10 Marks HTTP request contains request line, headers, body. HTTP response contains status line, headers, body. Marks Split-up: Definition - 2 Request explanations with diagram - 4 Response explanations with diagram - 4 Total - 10		2+4+4=10
FTP Basic Model - 10 Marks FTP uses control and data connections. Marks Split-up: Definition - 2 Model explanation - 4 Diagram - 4		2+4+4=10

Campus: #14, Ramohalli Cross, Kumbalgarh, Mysore Road, Bangalore - 560074
Phone: +91-80-28437124 / 28437173
Email: h.ape@rcet.org
Website: <https://www.rcet.org>

MOOGAMBIGAI CHARITABLE AND EDUCATIONAL TRUST Rajarajeswari College of Engineering (As Autonomous Institution under Vigneeswara Technological University, Belagavi) Department of Artificial Intelligence and machine learning		
E-mail Architecture - 10 Marks E-mail architecture includes: • User Agent • Mail Server • SMTP, POP, IMAP Marks Split-up: Definition - 2 Components explanations - 6 Protocols explanations - 2 Total - 10		2+6+2=10
Name of the Faculty _____ Course Coordinator _____		
Campus: #14, Ramohalli Cross, Kumbalgarh, Mysore Road, Bangalore - 560074 Phone: +91-80-28437124 / 28437173 Email: h.ape@rcet.org Website: https://www.rcet.org		

Fig 3.1b: Sample Scheme of Valuation

B. Quality of Questions and CO Mapping

Assessment quality is ensured through the alignment:

- Questions are framed to assess appropriate knowledge, application, analysis
- Each question/task is mapped to the relevant CO and appropriate RBT level.
- CO-PO/PSO mapping is established through the approved mapping matrix.
- Assignments, quizzes, CCE activities, and IPCC practical assessments are a

C. Assessment of CO Coverage

CO coverage is ensured across all prescribed continuous assessment components.

- PCC: IATs, assignments, quizzes, and other CCE activities.
- IPCC: Theory IATs/CCE activities and practical assessments, including labora
- CO-wise student performance is consolidated to determine CO attainment.
- The results are analyzed to identify learning gaps and initiate appropriate cor

E. Post-Evaluation Feedback

Faculty provides feedback through evaluated scripts, assignment review, classroom and identified learning gaps are addressed through remedial teaching, additional ex

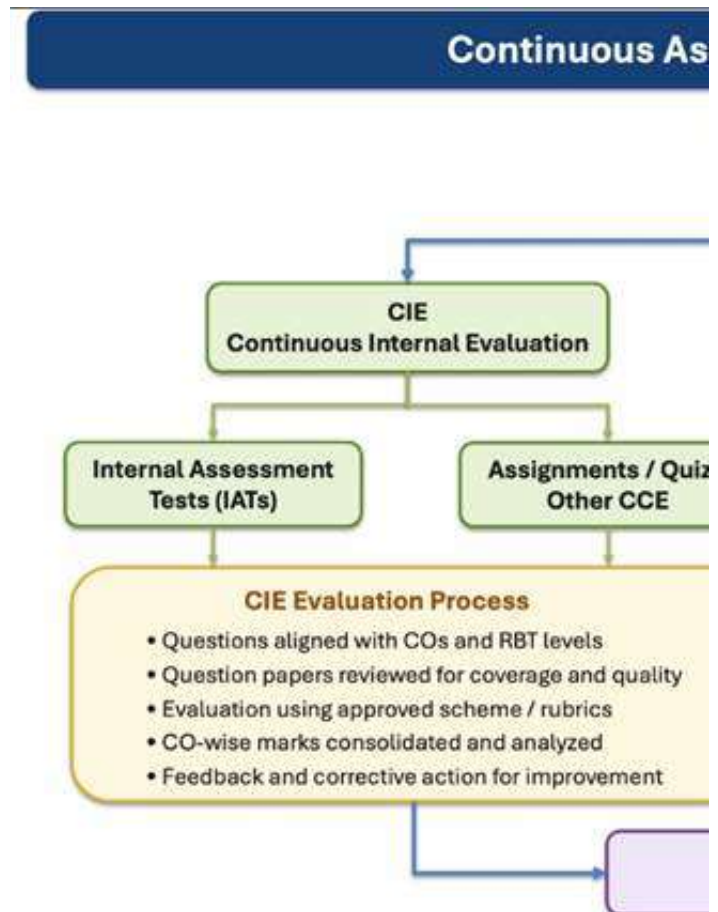


Fig 3.1c: Representa

Thus, the Departments continuous assessment system integrates VTU-prescribed F corrective action to support effective CO attainment and alignment with POs/PSOs.

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

3.2 Evaluation of Semester End Examination (SEE) Question Paper

The Semester End Examination (SEE) is conducted and evaluated by VTU as per the ensures that the SEE process is appropriately considered within the Outcome-Based

- The SEE question paper is set based on the prescribed VTU syllabus and ex
- The question paper undergoes the VTU-prescribed scrutiny/moderation process appropriate difficulty level, and marks distribution.
- The SEE question paper is designed to assess the intended Course Outcome assessment framework.
- The Department maintains SEE question papers and available examination-r
- Since SEE is conducted and evaluated centrally by VTU, CO-wise SEE mark independently generate CO-wise SEE attainment from VTU evaluation data.
- The SEE results received from VTU are considered along with the available C

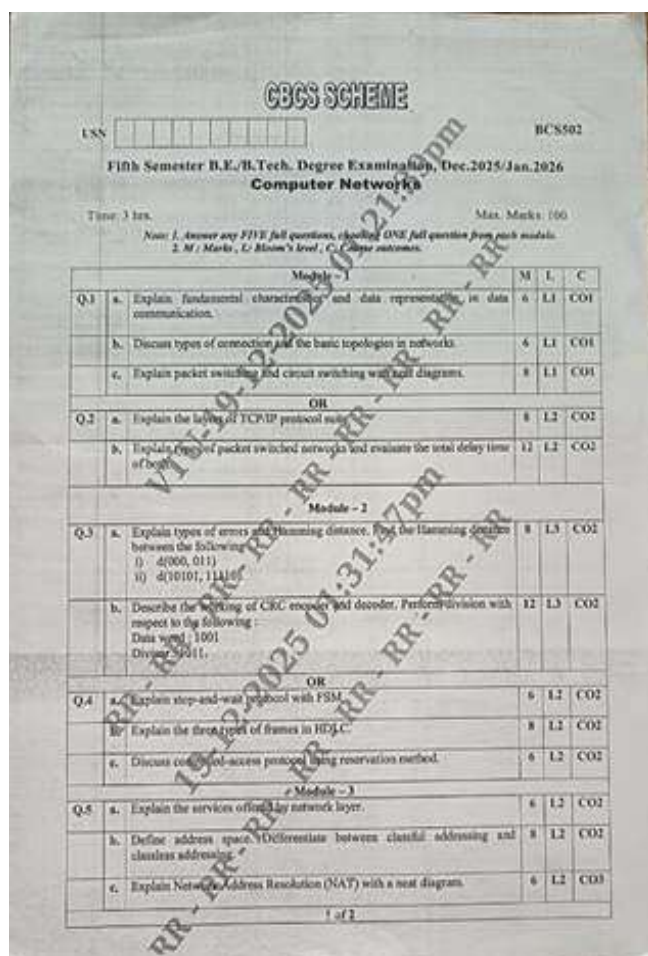


Fig 3.2a: Sample VTU Question Paper

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

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

The Department follows a systematic and outcome-based process for evaluating laboratory work and workshop. The process includes Continuous Evaluation (SEE) as prescribed by the applicable VTU scheme. The assessment includes practical skills, documentation, and conceptual understanding. Assessment parameters are mapped to the program outcomes.

A. Evaluation of Experiments Conducted in Laboratories/Workshops

Laboratory Assessment Structure

Assessment Component	Marks	Evaluation
Continuous Laboratory Evaluation	30	Experiment preparation, conduction/experiment viva-voce
Laboratory Test	20	Independent execution of assigned experiments viva-voce, as applicable
CIE Total	50	Continuous laboratory evaluation + laboratory test
Semester End Examination (SEE)	50	Practical examination conducted as per the scheme
Total	100	CIE 50% + SEE 50%

Continuous Laboratory Evaluation

Students are evaluated during scheduled laboratory sessions based on:

- Preparation and understanding of the experiment
- Correct execution/procedure
- Observation, calculation and result
- Analysis and interpretation
- Record/write-up
- Viva-voce

The performance is recorded periodically and consolidated for the 30-mark continuous evaluation.

Laboratory Test

After completion of the prescribed experiments, a laboratory test is conducted to assess the student's understanding of the experiment. It includes procedure, execution, practical skills, result/output, analysis and viva-voce.

Semester End Examination

The laboratory SEE is conducted as per the VTU-prescribed examination scheme as such as write-up, result/analysis and viva-voce.

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

The Department uses defined evaluation parameters, rubrics and checklists to ensure to relevant COs and, through the approved CO–PO/PSO mapping matrix, contribute

Ass Pa
Experim Understa
Experim Executic
Result &
Record/I on
Viva-Voc

CO Mapping and Data Analysis

For each experiment/activity, the relevant COs are identified and mapped with the a CO–PO/PSO mapping matrix.

Marks obtained from continuous laboratory evaluation, laboratory tests and SEE are corrective measures such as additional practice, demonstrations, remedial sessions

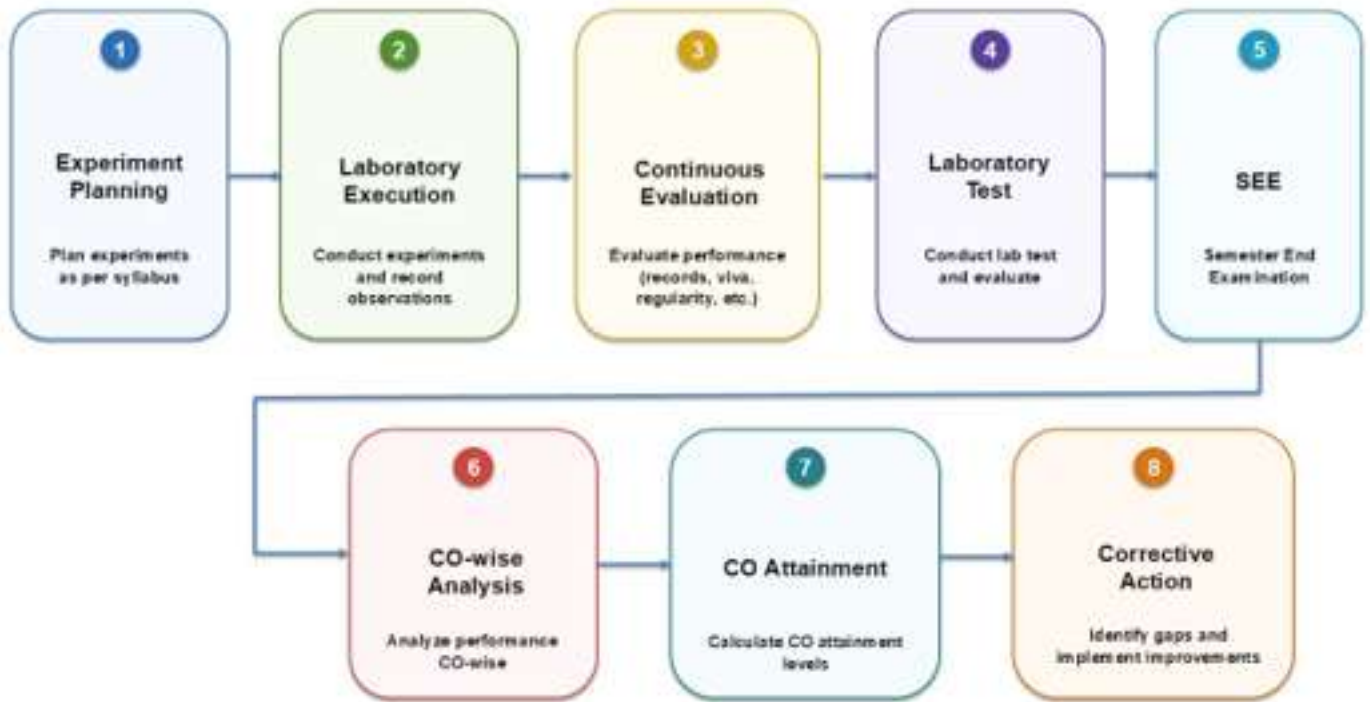


Fig. 3.3a: Process Flow

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

3.4 Evaluation of Industrial Training / Internship

The Department follows the VTU-prescribed process for evaluating Industrial Training achievement of intended learning outcomes.

The internship is completed during the period specified in the VTU Scheme of Teaching institute, or reputed educational institution. The Department nominates an Internal Guide

A. Relevance of Internship / Industrial Training

The Department ensures the relevance of internship through the following process:

- Internship is undertaken in an organization relevant to the students discipline
- An Internal Guide is assigned to facilitate and supervise the student.
- Students report their progress to the guide at regular intervals and seek guidance
- The Internal Guide visits the internship organization at least once during the internship
- On completion, students submit the internship report, attendance certificate, and external guides.
- The internship provides exposure to practical application, technical skills, professional

B. Assessment Criteria for Industrial Training / Internship

Student performance is assessed using defined criteria for the Internship Report, Seminar /

Assessment Component	
Internship Report	70
Seminar / Presentation	30
Viva-Voce	10

Internship Assessment Structure

The Internal Guide evaluates the Seminar and Internship Report and also acts as the maximum CIE marks.

CO–PO/PSO Alignment and Evidence

The internship activities are aligned with the relevant COs and targeted POs/PSOs. Evaluation records, and viva-voce records are maintained in the respective internship

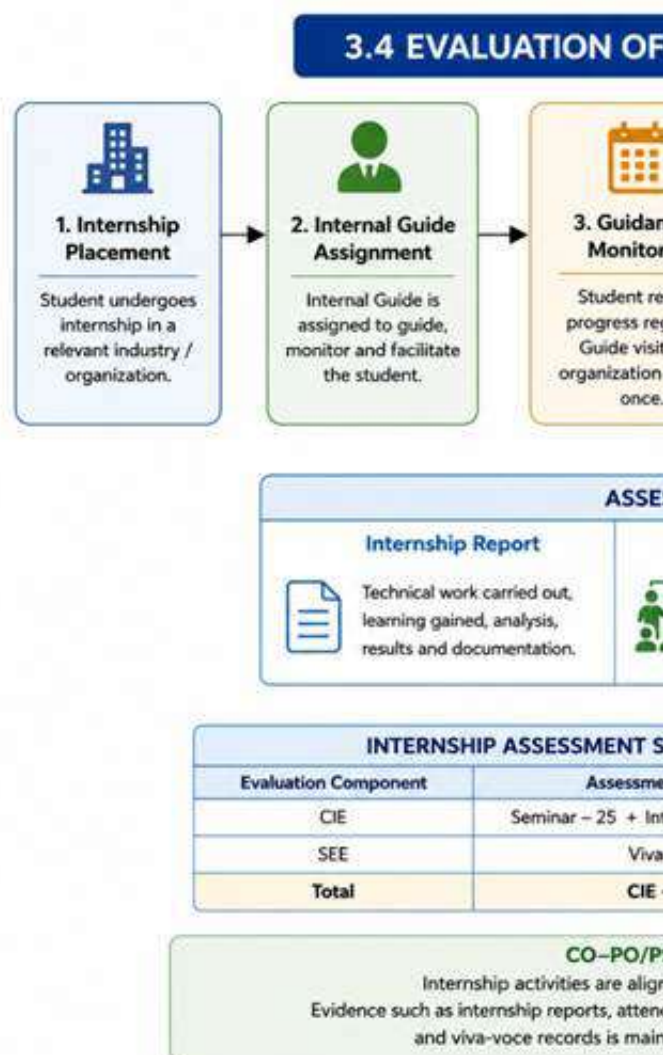


Fig. 3.4 a Process for Eval

Thus, the Departments internship evaluation process provides a structured mechanism for evaluating the skills in accordance with the applicable VTU requirements.

3.5 Evaluation of Projects (20)

3.5 Evaluation of Projects

The Department follows the VTU-prescribed, outcome-based process for evaluating knowledge, problem-solving, implementation, documentation, presentation, teamwork COs, POs and PSOs.

Project Assessment Structure

Project Type	Assessment Components
Mini-Project	Project Report
	Presentation Skills
	Question & Answer
	Total CIE
Project Phase-I	Literature Survey & Project Report
	Presentation Skills
	Question & Answer
	Total CIE
Project Phase-II	Project Work Report
	Presentation Skills
	Question & Answer
	Total CIE

A. Assessment of Project Complexity, Relevance and Sustainability

Project work is evaluated using defined assessment criteria covering:

- Problem definition and complexity
- Technical relevance and application of knowledge
- Problem-solving and implementation
- Innovation, wherever applicable
- Quality of results and analysis
- Documentation and completeness
- Environmental relevance and sustainability, wherever applicable

These aspects are considered during project reviews, report evaluation, presentation

B. Assessment of Teamwork, Communication and Project Management

The following aspects are considered during project evaluation:

- **Teamwork:** Coordination, participation and sharing of responsibilities
- **Communication:** Technical presentation, documentation and interaction
- **Planning:** Work scheduling, task allocation and progress monitoring
- **Professionalism:** Regularity, initiative and adherence to timelines
- **Individual contribution:** Understanding of the project and ability to explain a

CO–PO/PSO Alignment and Evidence

Project activities and evaluation components are aligned with the relevant COs and attainment.

Relevant evidence such as project proposals/synopsis, review records, CO–PO/PSO respective project/course files.

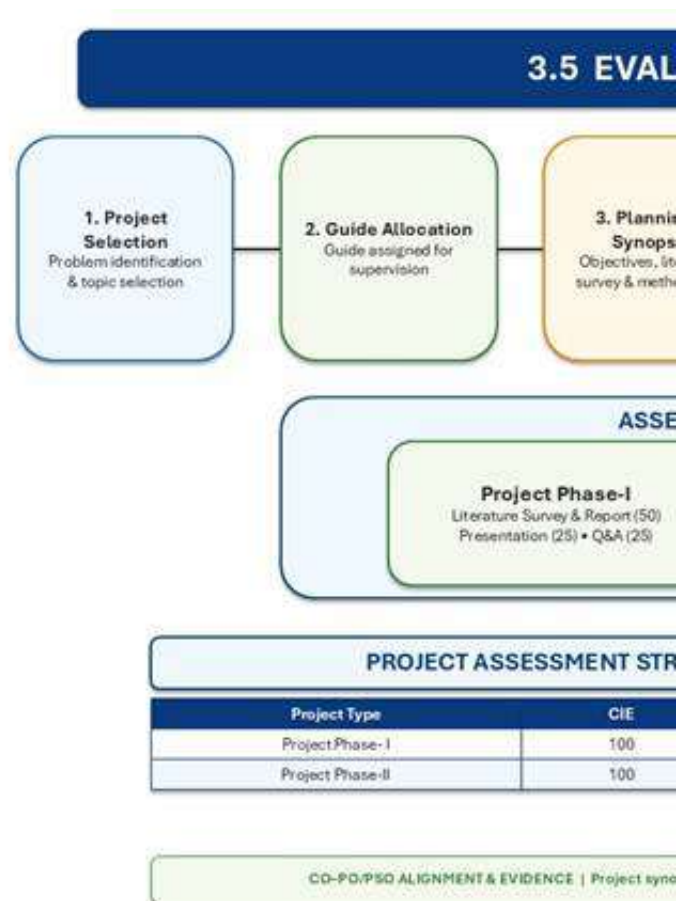


Fig 3.5 a: Pro

Thus, the project evaluation process provides a systematic and transparent mechanism for individual understanding in accordance with the applicable VTU requirements.

3.6 Evidence of Addressing Sustainable Development Goals (SDG) (10)

3.6 Evidence of Addressing Sustainable Development Goals:

- Sustainable Development Goals (SDGs) can be effectively achieved through lectures, value-added programmes, infrastructure development, and active st
- Projects and mini projects engage students in real-world problem-solving, cor electives focused on sustainability, environmental studies, and social justice t
- Guest lectures by industry experts provide valuable insights and global persp added programmes enhance employability and promote social responsibility t supports eco-friendly practices. Finally, active participation in clubs and meml

Fig 3.6.1 presents the Representation of Evidence for Addressing Sustainable Deve



Fig 3.6.1 Methods of Addressing Sustainable Development Goals

Table 3.6.1 Evidence of Addressing Sustainable Development Goals

Batch No	USN	N
----------	-----	---

1	1RR22AI001	A
	1RR22AI025	K
	1RR22AI060	V G
	1RR22AI061	V
	1RR22AI054	S M
2	1RR22AI055	S A
	1RR22AI033	M A
	1RR22AI022	IS
3	1RR221025	K
	1RR22AI053	S
	1RR22AI007	A S
	1RR22AI014	D
	1RR22AI034	K S
4	1RR22AI030	L
	1RR22AI050	S
	1RR22AI015	G
5	1RR22AI018	H
	1RR22AI041	R
	1RR22AI059	V

6	1RR22AI003	A
	1RR22AI034	N
	1RR22AI038	P
	1RR22AI039	P
7	1RR22AI010	B
	1RR22AI012	C
	1RR22AI029	L A
	1RR22AI062	Y V
	1RR22AI063	Y
8	1RR22AI026	K
	1RR22AI047	S
	1RR22AI045	S K
	1RR22AI058	V S
9	1RR22AI057	V
	1RR22AI052	S
	1RR22AI005	A
	1RR22AI035	N
10	1RR22AI046	S
	1RR22AI048	S N
	1RR22AI051	S

		1RR22AI401	Y. G
11		1RR22AI402	V
		1RR22AI403	C
		1RR22AI404	G
		1RR22AI013	D
12		1RR22AI019	H N
		1RR22AI020	H
		1RR22AI036	N
		1RR22AI006	A
		1RR22AI031	M
13		1RR22AI032	M S
		1RR22AI042	R
		1RR22AI004	A C
14		1RR22AI056	P
		1RR22AI044	S
		1RR22AI002	A
15		1RR22AI040	R
		1RR22AI022	JI
		1RR22AI009	B
16		1RR22AI016	R
		1RR22AI017	H
		1RR22AI027	K

Table 3.6.2 Evidence of Addressing Sustai

Batch No	USN	NAME	Guide Name	Title of project
1	1RR22AI047	Shashank	Prof. Soniya R	Library Management
	1RR22AI063	Yogesh		
	1RR22AI026	Kishan		
	1RR22AI045	Sandeep		
2	1RR22AI036	Nithya K	Prof. Deepali A Dixit	Fire and Smoke detection
	1RR22AI019	Hemalatha N		
	1RR22AI020	Hithashree R		
	1RR22AI013	Dhamini M		
3	1RR22AI060	Vishwanath	Dr. Rajesh K S	Flood monitoring system using machine learning approach
	1RR22AI061	Vishwas		
	1RR22AI001	Akshay M		
	1RR22AI025	Karthik M		
4	1RR22AI054	Mutassim	Prof. Deepa K R	Financial fraud detection using ML
	1RR22AI021	Ishrar		
	1RR22AI055	Shariq		
	1RR22AI033	Sadiq		

5	1RR22AI040	Rahul T G	Prof. Mamatha K R	Weather forecast prediction using python
	1RR22AI043	Sameer		
	1RR22AI005	Amrutha		
	1RR22AI008	Ayush		
6	1RR22AI034	Nayanabhai	Prof. Deepa K R	IoT based electric control bulb using smart phone
	1RR22AI039	Priyadarshini		
	1RR22AI038	Pooja		
	1RR22AI003	Akshitha		
7	1RR22AI058	Vidhyashree	Dr. Rajesh K S	Stocks prediction using ML
	1RR22AI052	Swaroop		
	1RR22AI057	Vennela		
	1RR22AI058	Vidhyashree		
8	1RR22AI053	Swathi K	Prof. Deepali A Dixit	Thyroid Detection using sensor
	1RR22AI028	Kushi		
	1RR22AI007	Asher sadhana		
	1RR22AI014	Disha M		

9	1RR22AI042	Rishitha N	-	
	1RR22AI031	Manasa H O		
	1RR22AI032	Manikanta siddarood		Health Monitor
	1RR22AI006	Ananya		
	1RR22AI024	Karthigeyan		
10	1RR22AI050	Srinivas	Prof. Rashmi N K	LPG Gas detector using IOT
	1RR22AI030	Lokitha		
	1RR22AI049	Sindhura		
	1RR22AI018	Harshini		
11	1RR22AI015	Ganavi	Prof. Rashmi N K	Real time sign language recognition system for hearing impaired using machine learning
	1RR22AI059	Vinutha		
	1RR22AI041	Ranu Singh		
12	1RR22AI010	Bharath H S	Prof. Mamatha K R	Air quality monitoring system using IOT
	1RR22AI029	Likhith		
	1RR22AI062	Yeshwanth		

13	1RR22AI051	SUHAS M	Dr. Rajesh K S	iClass - Intelligent Classroom Automation System
	1RR22AI035	NIDHISH R		
	1RR22AI046	SANJAY V		
	1RR22AI048	SHIVA KUMAR N R		
14	1RR22AI017	Harsha	Prof. Deepa K R	Automated plant watering system
	1RR22AI012	Chethan		
	1RR22AI016	Rithvik		
	1RR22AI027	Kushal		
15	1RR23AI400	C Vishnu	Prof. Soniya R	Smart Door Locking System using IOT
	1RR23AI401	Gagan B G		
	1RR23AI402	Vishal V C		
	1RR23AI403	Yashwantha K G		
16	1RR22AI044	Samyakth V Jain	Prof. Mamatha K R	Mountain climber health and gps tracker for search and rescue
	1RR22AI002	Akshay kumar		
	1RR22AI004	Allama Prabhu		
	1RR22AI056	Pramodh veeradhi		
17	1RR22AI009	Balaji T	Prof. Deepali A Dixit	Cardiovascular disease risk prediction using machine learning.
	1RR22AI023	Karan S		
	1RR22AI022	Jnanesh N		

Table 3.6.3 Evidence of Addressing S

Sl. No	USN	Name of Student	TITLE
1	1RR21AI001	AASTHA SAMEER SHASTRI	AI-Based Early Detection of Cardiovascular Diseases Using Deep Learning
2	1RR21AI002	ABHISHEK B.O	Quantum Machine Learn in Disease Detection and Prediction: A Survey of Applications an Future Possibilities
3	1RR21AI003	ABISHYANTH.S	Analog VLSI Implementation Subthreshold Spiking Neural Networks and I Application to Reservoir Computing
4	1RR21AI004	AISHWARYA M G	Large Languag Models in Corporate Investment: An Analysis of ChatGPTs Transformative Applications, Strategic Impac and Future Opportunities

Empowering
Security
Operation Cent
with Artificial
Intelligence and
Machine Learn

AI-Driven Smar
Traffic

Management
System Using
Computer Visic

Deep Learning
Automated Plai
Disease Detect

Intelligent Wast
Segregation
Using Compute
Vision

Securing Cloud
Workloads:
Protecting
Generative AI
Models from
Adversarial
Attacks

Brain MRI
Classification a
Segmentation c
Glioma, Pituitar
and Meningiom
Tumors using
Deep Learning
Approaches

5

1RR21AI005

AISIRI P

6

1RR21AI006

AJEESH REEGAN A

7

1RR21AI007

AIOK A E

8

1RR21AI008

ANUSHA G

9

1RR21AI009

ANUSHA.M.S

10

1RR21AI010

B BALAJI

11	1RR21AI011	B C BASAVARAJ GANIGA	Copy-Move Forgery Detect Technique Usin Graph Convolutional Networks Featu Extraction
12	1RR21AI012	BATAPPAGARI SAI SIDHARTHA	Large Languag Models in Drug Discovery: A Comprehensive Analysis of Dru Target Interacti Prediction
13	1RR21AI013	CHRIS AARON RODRIGUES	Towards Interpretable S Prompts
14	1RR21AI014	DARSHAN .R	AI-Powered Smart Water Quality Monitor System
15	1RR21AI015	DHANUSH N	Fake News Detection Using Natural Langua Processing
16	1RR21AI016	DURGESH BABU P	Key Technologi of Space Artific Intelligence

Interdependence
Attack-Aware
Secure and
Performant Virt
Machine
Allocation Polic
With Low Attac
Efficiency and
Coverage

Securing Cloud
Workloads:
Protecting
Generative AI
Models from
Adversarial
Attacks

AI-Based Fores
Fire Prediction
Using Satellite
Images

A Comprehens
Review on
Generative AI f
Education

Political Bias in
Large Languag
Models: A
Comparative
Analysis of
ChatGPT-4,
Perplexity, Goo
Gemini, and
Claude

17	1RR21AI017	GAGAN K.M
18	1RR21AI018	GEETHANJALI.M
19	1RR21AI019	HEMASHREE.M
20	1RR21AI020	HIMANSHU KUMAR
21	1RR21AI021	HIMASHREE P G

Automated
Attendance
System Using
Face Recogniti

Whole-Body
Humanoid Rob
Locomotion Wi
Human
Reference.

AI-Based Road
Accident Sever
Prediction

Smart Energy
Consumption
Prediction Usin
Machine Learn

Unveiling the
Future: Explori
AI Applications
the Indian Judic
System

AI Chatbot for
Healthcare
Assistance

Real-Time Air
Quality Monitor
with Edge AI ar
Machine Learn
Algorithm

Farming in the
Digital Age: AI-
Infused Digital
Twins for
Agriculture

22	1RR21AI022	JAN ABHINAV G R
23	1RR21AI023	JEEVITHA B
24	1RR21AI024	JEEVITHA S
25	1RR21AI025	KUSUMA.M.S
26	1RR21AI026	L. SNEHA
27	1RR21AI027	LINGA JAHNAVI
28	1RR21AI028	M V CHANDANA
29	1RR21AI029	MANISH .K. JAIN

30	1RR21AI030	MOHAMMEDOVEZ	
31	1RR21AI031	MRUDULA N S	A Reinforcement Learning System for Generating Instantaneous Quality Random Sequences
32	1RR21AI032	NAVEEN.S	Crop Yield Prediction Using Machine Learning
33	1RR21AI033	NEHA .R	AI-Based Student Performance Prediction System
34	1RR21AI034	NITIN L GOWDA	Intelligent Disaster Management Using Machine Learning
35	1RR21AI035	NITIN MOHAN	Hybridization of Apriori Algorithm and Genetic Algorithm for Association Rule Mining in Generative AI Enabled Machine Learning
36	1RR21AI036	OMKAR N	Machine Learning in Precision Agriculture: A Survey on Trends, Applications and Evaluations Over Two Decades

37	1RR21AI037	OMKAR S.PATIL	AI-Based Resu Screening and Recruitment System
38	1RR21AI038	POOJA SHARMA .N	Real-Time Driv Drowsiness Detection Using Computer Visic
39	1RR21AI039	PRASHANTHI BOPPANN A	A Hybrid Machi Learning Mode for Efficient XM Parsing
40	1RR21AI040	PRIYANKA S	Deploying Orac Machine Learn AutoML Model Oracle APEX Analytics
41	1RR21AI041	PURUSHOTHAM B S	Blockchain- Enabled Secur Electronic Heal Records
42	1RR21AI042	RAKSHITHA S	Tuberculosis Detection Using Deep Learning
43	1RR21AI044	RITIKA MUKHERJEE	MLink: Linking Black-Box Mod From Multiple Domains for Collaborative Inference

Swarm Robots
a Mission:
Optimizing
Inspections with
Fuzzy Logic and
Particle Swarm
Optimization

Optimizing
Fantasy Sports
Team Selection
with Deep
Reinforcement
Learning

AI-Based
Financial Fraud
Detection Systems

Smart Irrigation
System Using IoT
and AI

AI-Based Emotion
Recognition for
Mental Health
Monitoring

AI-Driven
Predictive
Maintenance for
Industrial
Equipment

Machine
Learning-Based
Credit Risk
Assessment

44	1RR21AI046	S ARTHI
45	1RR21AI047	SAI SHIVANI PALADUGU
46	1RR21AI048	SAMARTHAGOWDA
47	1RR21AI049	SANJANA.K
48	1RR21AI050	SHASHANK K. C
49	1RR21AI051	SHRAVANI R S
50	1RR21AI052	SHREYAS P

Private-AI: A
Hybrid Approach
to Privacy-
Preserving AI

Detecting and
Preventing Child
Cyberbullying
Using Generative
Artificial
Intelligence

Intelligent Web
Service System
for Detecting
Cyberbullying on
Twitter Based on
SVM & RF

AI-Powered Sign
Language
Recognition
System

AI and Blockchain
Integration for
Secure and
Transparent
Carbon Credit
Trading

Deep Learning-
Based Skin
Cancer Detection

51 1RR21AI053 SHRUNGA G.V

52 1RR21AI054 SRUJANA V H

53 1RR21AI055 SUHAS.N

54 1RR21AI056 TEJAS.S

55 1RR21AI057 THANUSHREE T.S

56 1RR21AI058 VAISHNAVI.M.D

57 1RR21AI059 VAMSHI.S

Exploring
Features and
Products in E-
Commerce on
Consumers
Behavior Using
Cognitive
Affective

AI-Based Flooc
Prediction and
Early Warning
System

Transformative
Potential of IoT
Developing Sm
Agriculture
System: A
Systematic
Review

An Ensemble
Approach to
Stock Price
Prediction Usin
Deep Learning
and Time Serie
Models

Explainable
Artificial
Intelligence for
Drug Discovery
and Developme

AI-Powered
Personalized
Learning
Recommendati
System

58

1RR21AI060

VARSHA M.K

59

1RR21AI061

VARSHA.V.VATI

60

1RR21AI062

VARUN A

61

1RR21AI063

VIJAYALAKSHMI V

62

1RR23AI400

NISCHAL PRAKASH
DURGADMATH

63

1RR23AI401

SHASHANK N

64

1RR23AI402

YASHAS M

Securing Electr
Vehicle
Performance:
Machine
Learning-Driven
Fault Detection
and Classificati

Sl. No.	Subject Name	Code
1	Computer Networks	BCS
2	Computer Networks	BCS
3	Natural Language Processing	BAI6
4	Natural Language Processing	BAI6

5	Machine Learning – I	BAI6
6	Machine Learning – I	BAI6
7	Data Security & Privacy	BAD
8	Data Security & Privacy	BAD
9	Machine Learning – II	BAI7
10	Machine Learning – II	BAI7

11	Deep Learning & Reinforcement Learning	BAI7
12	Deep Learning & Reinforcement Learning	BAI7
13	Software Engineering & Project Management	BCS
14	Software Engineering & Project Management	BCS

Table 3.6.5 Infra

Sl.No	Description of Infrastructural Facility available with the department aligning with SDGs	SDGs Align
1	Computer Aided Engineering Drawing Laboratory	SDG 4 – Quality Education SDG 9 – Industry, Innovation and Infrastructure

2	Machine Learning Laboratory	SDG 4 – Quality Education Industry, Innovation and I
3	CN Laboratory	SDG 4 – Quality Education Industry, Innovation and I
4	DS laboratory	SDG 4 – Quality Education Industry, Innovation and I

Table 3.6.

Sl. No.	Professional Membership / Association	SDG Align
1	Indian Society for Technical Education (ISTE)	SDG
2	IEEE (Institute of Electrical and Electronics Engineers, USA) – Member No. 80382729	SDG SDG
3	ISTE (Indian Society for Technical Education) – LM 127515	SDG
4	ACCS (Advanced Computing and Communications Society, IISc, Bangalore)	SDG
5	ACEEE (Association of Computer Electronics and Electrical Engineers) – Fellow Member	SDG SDG
6	IACSIT (International Association of Computer Science and Information Technology) – Senior Member	SDG SDG

3.7 Attainment of Course Outcomes (25)

3.7.1. Describe the Assessment Tools and Processes Used to Gather the Data

3.7 Attainment of Course Outcomes

3.7.1 Assessment Tools and Processes Used to Gather Data for Evaluation of

The Department uses **Direct and Indirect Assessment Tools** for evaluating Courses. Available assessment data are consolidated and analyzed to determine CO attainment.

(a) Assessment Tools

Direct Assessment – 80% Weightage

Direct CO attainment is determined from course-specific assessment components as applicable.

Table: 3.7.1a

Course / Activity

Theory – PCC

Theory – IPCC

Laboratory

Mini-Project

Project Phase-I

Project Phase-II

Internship

Technical Semina

Indirect Assessment – 20% Weightage

The **Course Exit Survey (CES)** is used as the indirect assessment tool.

- The survey is conducted at the end of the semester for the respective course
- CO-wise statements are prepared based on the course outcomes.
- Students provide their responses using a **1–5 rating scale**.
- The responses are consolidated and converted to the prescribed **1–3 attainment**
- The consolidated result is used to determine **Indirect CO Attainment**.

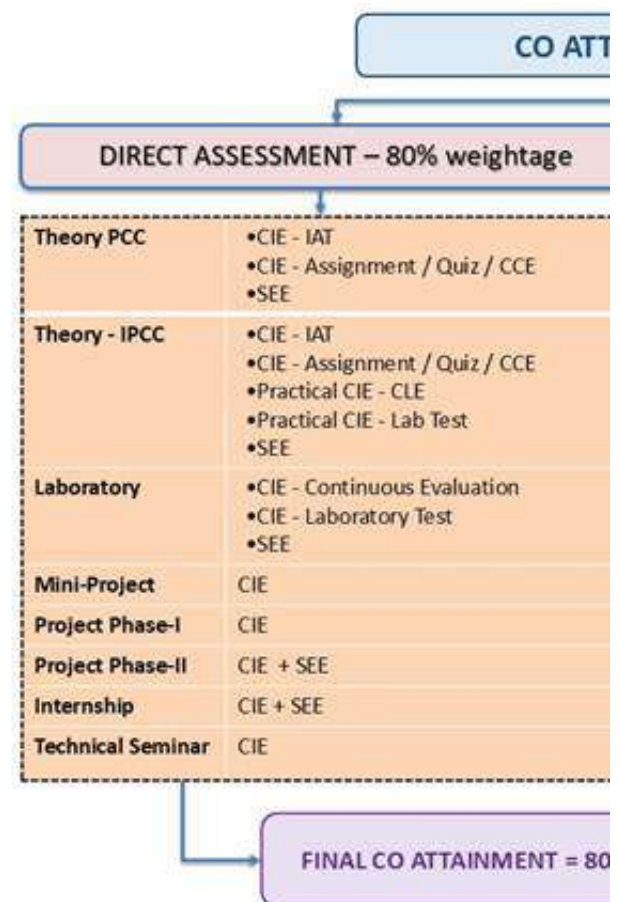


Fig. 3.7.1 a

(b) Process of Data Collection

The Department follows a systematic process for CO attainment:

1. Define COs: COs are established in accordance with course objectives and c
2. Identify Assessment Tools: Direct and indirect tools are selected for each cou
3. Map Assessments to COs: Questions, assignments, experiments, tasks and i
4. Conduct Assessments: Assessments are conducted as per the approved ass
5. Evaluate Performance: Student performance is assessed using answer keys,
6. Record and Consolidate Data: Marks are recorded and consolidated CO-wise
7. Calculate Attainment: Direct, indirect and final CO attainment are calculated u

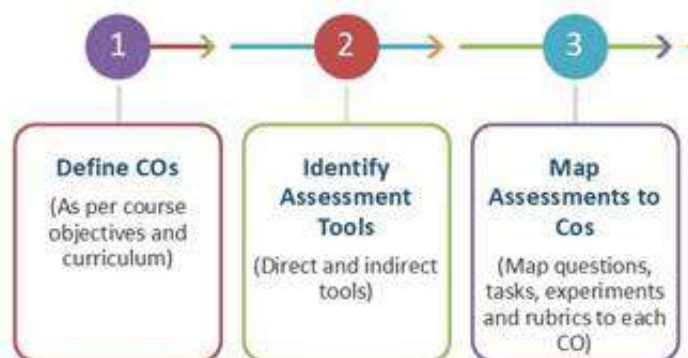


Fig. 3.7.1 b Process of

(c) Process for Calculation of Course Outcome Attainment

Direct CO Attainment

Direct attainment is calculated from CIE and SEE performance.

- CIE Attainment: Based on the percentage of students achieving the prescribe
- SEE Attainment: Based on the percentage of students achieving the prescribe
- Overall Direct Attainment: CIE and SEE attainment are combined using the p

Direct CO Attainment = CIE Attainment (

Indirect CO Attainment

Indirect attainment is obtained from the Course Exit Survey. Student responses rega scale.

(c) Process for Calculation of Course Outcome Attainment

1. Direct CO Attainment

Direct attainment is determined from the available **CIE and applicable assessmen**

- **CIE Attainment:** Calculated from the percentage of students achieving the p

- **SEE:** SEE is conducted and evaluated by **VTU**. The Department considers the **SEE data are not available**.
- **Overall Direct Attainment:** The available direct assessment components are

2. Indirect CO Attainment

Indirect CO attainment is determined from the **Course Exit Survey**. Student responses

3. Final CO Attainment

The final CO attainment is calculated as:

Final CO Attainment = (0.80 × Direct CO Attainment) + (0.20 × Indirect CO Attainment)

The resulting value is used to determine the attainment level of each CO.

CO Attainment Levels

Direct Assessment

Attainment Level
Level 3
Level 2
Level 1
Level 0

Indirect Assessment

Attainment Level
Level 3
Level 2
Level 1

The Department maintains relevant evidence such as CO–assessment mapping, IA assessment records, available VTU SEE results, Course Exit Survey results, CO att

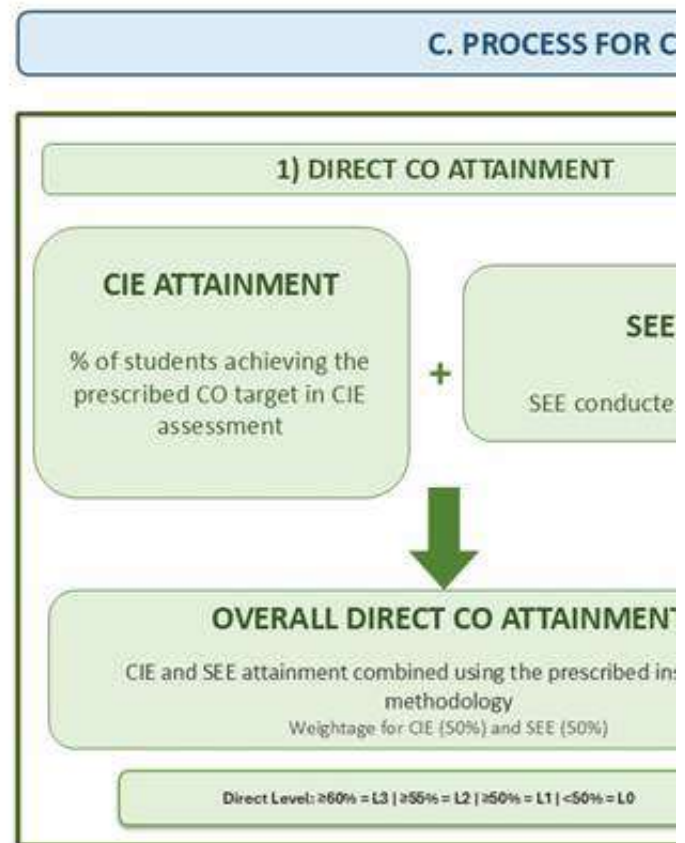


Fig.3.7.1 c P

Thus, the Department follows a systematic and evidence-based process for measuring CO attainment, which involves initiating appropriate improvement measures.

Process for PO Attainment Computation

The Department determines **Program Outcome (PO) attainment** by combining Direct and Indirect PO attainment.

1. Direct PO Attainment – 80%

For each course, the average CO attainment is determined from the applicable assessment records. The average CO attainment is then mapped to the CO–PO mapping matrix using the CO–PO mapping value from the approved CO–PO mapping matrix.

Direct PO Attainment = Average C

The consolidated Direct PO Attainment contributes **80%** to the overall PO attainment

2. Indirect PO Attainment – 20%

Indirect PO attainment is determined from stakeholder feedback collected through the following activities:

- Program Exit Survey
- Industrial Visit Survey
- Guest Talk by Industry Person
- Short-Term Training Programme
- Alumni Survey

The feedback obtained from these activities is analyzed and consolidated to determine the Indirect PO Attainment.

3. Final PO Attainment

The overall PO attainment is calculated by combining Direct and Indirect Attainment.

$$\text{Final PO Attainment} = (0.80 \times \text{Direct PO Attainment}) + (0.20 \times \text{Indirect PO Attainment})$$

Thus, the PO attainment process integrates student performance through direct assessment and indirect assessment, providing a comprehensive evidence-based measure of PO achievement.

3.7.2 Record the Attainment of Course Outcomes of all Courses with Respect to POs

3.7.2 Record the Attainment of Course Outcomes of all Courses with Respect

S.No	Subject Name	Subject Code	Course Code	CO1	CO2	
1	Mathematics-I for CSE Stream	BMATS101	C101	2.3	1.89	
2	Applied Physics For Cse Stream	BPHYS102	C102	1.89	1.76	
3	Principles of Programming Using C	BPOPS103	C103	1.6	1.89	
4	Introduction to Electrical Engineering	BESCK104B	C104	1.5	1.8	
5	Renewable Energy Sources	BETCK105E	C105	2.1	1.9	
6	Innovation and Design Thinking	BIDTK158	C106	2.89	2.5	
7	Mathematics-II for CSE Stream	BMATS201	C107	1.56	1.32	
8	Applied Chemistry for CSE Stream	BCHE02	C108	2.13	2.1	
9	Computer Aided Engineering Drawing	BCEDK203	C109	2.45	1.89	
10	Introduction to Mechanical Engineering	BESCK204D	C110	1.89	1.98	

11	Introduction to Python Programming Mathematics for Computer Science	BPLCK205B	C111	2.2	2.1
12	Digital Design & Computer Organization	BCS301	C201	1.56	1.89
13	Operating Systems	BCS302	C202	2.28	2.03
14	Data Structures and Applications	BCS303	C203	1.21	1.12
15	Data Structures Lab	BCS304	C204	2.43	2.25
16	Object Oriented Programming With Java	BCSL305	C205	2.38	2.1
17	PHP Programming Analysis & Design Of Algorithms	BCS306A	C206	2.33	2.11
18	Artificial Intelligence	BAI358D	C207	3	3
19	Database Management Systems	BCS401	C208	2.31	2.52
20	Analysis & Design of Algorithms Lab	BAD402	C209	2.39	2.57
21	Discrete Mathematics Structures	BCS403	C210	2.87	2.9
22		BCSL404	C211	2.15	2.1
23		BCS405A	C212	1.78	1.9

24	MangoDB	BDSL456B	C213	1.52	1.6
25	Software Engineering & Project Management	BCS501	C301	2.66	2.79
26	Computer Networks	BCS502	C302	1.67	1.56
27	Theory of Computation	BCS503	C303	2.26	2.41
28	Data Visualization Lab	BAIL504	C304	2.56	2.38
29	Distributed System	BCS515D	C305	2.52	2.6
30	Mini Project Research	BAI586	C306	3	3
31	Methodology and IPR	BRMK557	C307	2.45	2.37
32	Environmental Studies and E-Waste Management	BCS508	C308	2.36	2.12
33	Natural Language Processing	BAI601	C309	2.36	2.45
34	Machine Learning – I	BAI602	C310	2.38	2.38
35	Cloud Computing and Security	BIS613D	C311	1.22	1.08
36	Technologies Of Renewable Energy Source	BEE654B	C312	2.21	2.12
37	Project Phase I	BAI685	C313	3	3
38	Machine Learning Lab	BAIL606	C314	2.25	1.23

39	Generative AI Lab	BAIL657C	C315	2.15	1.89
40	Deep Learning & Reinforcement Learning	BAI701	C401	1.99	2.11
41	Machine Learning – II	BAI702	C402	1.5	0.85
42	Data Security & Privacy	BAD703	C403	1.58	1.48
43	Big Data Analytics	BCS714D	C404	2.39	2.25
44	Conservation of Natural Resources	BCV755B	C405	1.89	1.87
45	Major Project Phase–II	BAI786	C406	3	3
46	Internship	BAI803	C407	3	3

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

PO Attainment

Course	PO1	PO2	PO3	PO4
C101	1.65	1.38	PO3	PO4
C102	1.52	1.08	PO3	1.62
C103	1.59	1.25	1.31	0.57
C104	1.46	1.14	0.83	1.04
C105	1.58	1.52	1.83	1.22
C106	1.23	1.47	1.72	0.74
C107	1.52	1.02	PO3	PO4
C108	0.66	0.66	PO3	PO4
C109	1.96	1.13	PO3	PO4
C111	1.89	1.02	1.31	PO4
C201	1.83	1.96	1.31	1.83
C202	1.76	1.58	1.89	1.58
C203	0.73	0.79	0.58	0.58
C204	1.77	1.70	2.04	0.68
C205	2.18	2.04	1.67	1.46
C206	2.03	1.76	1.89	PO4
C207	3	2.5	2.8	PO4
C301	2.12	2.27	1.51	1.51
C302	2.12	1.88	2.20	PO4
C303	2.57	2.67	2.86	1.91
C304	2.03	1.76	2.03	2.03

C305	1.66	1.55	PO3	PO4
C306	1.54	0.83	PO3	PO4
C307	2.45	2.62	2.19	1.75
C308	1.84	1.54	PO3	1.23
C309	1.87	1.65	2.15	PO4
C310	2.28	2.05	2.28	1.9
C311	1.93	1.58	2.07	2.07
C313	3	2.3	3	3
C314	1.57	1.15	0.52	1.05
C315	1.61	1.61	1.56	1.44
C401	1.91	1.36	1.57	PO4
C402	1.16	0.89	0.96	0.89
C403	1.40	1.46	1.17	1.17
C404	1.94	1.6	2.08	2.08
C405	1.58	1.52	1.83	1.22
C110	1.9	1.1	PO3	PO4
C312	2.4	2.13	2.78	2.6
C406	2.4	2.13	2.78	2.6
C407	1.8	2	1.6	1.8

PO Attainment Indirect

Course	PO1	PO2	PO3	PO4
EXIT SURVE	2.7	2.8	2.6	2.8
ALUMNI SUF	2.7	2.5	2.3	2.6

EMPLOYER	2.7	2.8	2.7	2.6
----------	-----	-----	-----	-----

PO Attainment Level

Note: The Institution can fix the weightage of the indirect attainment maximum u

Define the Weightage for Indirect Attainment:

Course	PO1	PO2	PO3	PO4
Direct Attainment	1.84	1.59	1.82	1.54
InDirect Attainment	2.7	2.7	2.53	2.67
Overall Attainment	2.01	1.81	1.96	1.77

PSO Attainment

Course	PSO1
C101	0.55
C102	PSO1
C103	1.14
C104	PSO1
C105	PSO1
C106	1.47
C107	0.58
C108	PSO1
C109	0.75
C110	PSO1
C111	2.18

C201	PSO1
C202	0.76
C203	0.34
C204	1.09
C205	1.46
C206	1.08
C207	1
C208	1.01
C209	2.45
C210	1.91
C211	1.35
C212	1.66
C213	0.69
C301	1.57
C302	0.77
C303	1
C304	1.26
C305	1.38
C306	2
C307	0.79
C308	PSO1
C309	2.03
C310	2.18
C311	1.16

C312	2.10
C313	3
C314	0.63
C315	1.73
C401	2.04
C402	1.16
C403	1.17
C404	1.39
C405	PSO1
C406	2.25
C407	2.2

PSO Attainment Indirect

Survey	PSO1
EXIT SURVEY	2.7
ALUMNI SURVEY	2.6
EMPLOYER SURVEY	2.8

PSO Attainment Level

Course
Direct Attainment
InDirect Attainment
Overall Attainment

4 STUDENTS' PERFORMANCE (120)

Table No. 4A: Admission details for the program excluding those admitted thrc

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)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	60	60	60
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	113	60	59	60

N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	5	8	4
N3=Separate division if any	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	6	3	3	3
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	119	68	70	67

Table No. 4B: Admission details for the program through multiple entry and ex

	Item (No. of students admitted/ multiple entry and exit points) i batch
N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	N52=No. of students admitted in : entry and exit points in same batch
N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	N53=No. of students admitted in : entry and exit points in same batch
N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	N54=No. of students admitted in : entry and exit points in same batch
$N5=N52+N53+N54$	$N5=N52+N53+N54$
N61=No. of students exits after 1st year via multiple entry and exit points in same batch	N61=No. of students exits after 1: entry and exit points in same batch
N62=No. of students exit after 2nd year via multiple entry and exit points	N62=No. of students exit after 2n entry and exit points
N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	N63=No. of students exit after 3rc entry and exit points in same batch
$N6=N61+N62+N63$	$N6=N61+N62+N63$

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

Year of entry	Total no. of students (N1 + N2 + N3+ N4 + N5 - N6 as defined above)	Number of students enrolled in the 1st year
2025-26 (CAY)	119	
2024-25 (CAYm1)	68	63
2023-24 (CAYm2)	70	62
2022-23 (CAYm3)	67	63
2021-22 (LYG)	65	63
2020-21 (LYGm1)	33	33
2019-20 (LYGm2)	0	0

4.1 Enrolment Ratio (20)

[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)
2025-26 (CAY)	120	113
2024-25 (CAYm1)	60	60
2023-24 (CAYm2)	60	59

Average [(ER1 + ER2 + ER3) / 3] = 102.50 $\approx$ 100

Assessment : 20.00

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

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

Item
A*= (No. of students admitted in the 1st year of that batch and those actually admitted through multiple entry (if any) and separate division if applicable, minus the number
B=No. of students who graduated from the program in the stipulated course duration
Success Rate (SR)= (B/A) * 100

Average SR of three batches $((SR_1 + SR_2 + SR_3)/3)$: 76.73

SR Points : 11.51

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

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

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

Academic Performance
Mean of CGPA or mean percentage of all successful students(X)
Y=Total no. of successful students
Z=Total no. of students appeared in the examination
API $[X*(Y/Z)]$

Average API[$(AP1+AP2+AP3)/3$] : 6.27

Assessment = Average API : 6.27

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

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

Academic Performance
X=(Mean of 2nd year grade point average of all successful students on a 10-point s percentage of marks of all successful students in 2nd year/10)
Y=Total no. of successful students
Z=Total no. of students appeared in the examination
API [$X * (Y/Z)$]

Average API [$(AP1 + AP2 + AP3)/3$] : 7.84

Assessment [AverageAPI] : 7.84

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

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

Academic Performance
X=(Mean of 3rd year grade point average of all successful students on a 10-point s percentage of marks of all successful students in 3rd year/10)
Y=Total no. of successful students
Z=Total no. of students appeared in the examination
API [$X*(Y/Z)$]:

Average API [$(AP1 + AP2 + AP3)/3$] : 8.71

Assessment [$1.5 * \text{AverageAPI}$] : 8.71

4.6 Placement, Higher Studies and Entrepreneurship (30)

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

Item	LYG (2021-2
FS*=Total no. of final year students	65.00
X=No. of students placed	49.00
Y=No. of students admitted to higher studies	3.00
Z= No. of students taking up entrepreneurship	0.00
Placement Index(P) = $((X + Y + Z)/FS) * 100$:	80.00

Average Placement Index = $(P_1 + P_2 + P_3)/3$: 60.00

Placement Index Points: 18.00

4.7 Professional Activities (25)

4.7.1 Professional Societies/ Bodies, Chapters, Clubs, and Professional Engine

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	Tech Trends - Club
2	Coding Club
3	Creative Club
4	Green Club
5	IEE
6	ISTE
7	Innovation Club
8	CSI Student Chapter

**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/Program
1	Tech Trends	Technical Seminar
2	Tech Trends	Seminar on "Career Development"
3	ISTE	Mastering Soft Skills
4	Green Club	Go Green. Breathing Life into the Environment
5	CSI Student Chapter	Engineers Day
6	Innovation Club	Workshop on "Innovation and Creativity"
7	Innovation Club	Leadership Training and Development

(CAYm2) 2023-24

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the
1	ISTE	Higher education
2	Tech Trends	Machine Learning
3	Tech Trends	Introduction to
4	Tech Trends	Generative AI
5	Creative club	Ice breaking, C
6	HERITAGE Club	Heritage Artcr
7	HERITAGE Club	Heritage Walk
8	HERITAGE Club	Suggi Habba
9	Innovation Club	Leadership Te GIGEconomy
10	CSI Student Chapter	Expert talk on

(CAYm3) 2022-23

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the
1	CSI Student Chapter	National level
2	Tech Trends	International
3	Tech Trends	International
4	Tech Trends	Awareness Values
5	ISTE	"Awareness
6	CSI Student Chapter	Sensitization 2023
7	Innovation Club	Innovate 2k

4.7.2 Student's Participations in Professional Events (10)

**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
1	Likith gowda A	Udemy-“Feature engineering for Machine Learning
2	Likith gowda A	Infosys Springboard- “Python Fundamentals”
3	Akshita Napolla	Infosys Springboard-“ Basic of Business Commun
4	Vidya shree S	Workshop-“Generative AI and Prompt Engineering
5	Srinivas S	Bootcamp on Job readiness and Trending Techno
6	Srinivas S	Workshop- “Introduction to Django Full stack”
7	Shiva Kumar N R	CODE BREAKER-GAT
8	Bharat H S	SENTINEL HACK 5.0
9	Yashwanth L V	CELLVERSE DOCATHON
10	Vinutha Thimmaiah	Infosys Springboard-“ Introduction to Data Science
11	Harshini L	Infosys Springboard-“Introduction to Deep learning
12	Ganavi R	Infosys Springboard-“Introduction to NLP”
13	Gagan	Training-“Web Development”
14	Swathi konnuri	Udemy-“The Complete Front-End Web Developm
15	Swaroop K	Training-“Web Development”

(CAYm2) 2023-24

S.No	Name of the Student	Name of the Event
1	Vidya shree S	Infosys Springboard-“Python Programming”
2	Srinivas S	Workshop- “Introduction to Django Full stack”
3	Ananya	Workshop-“AI tools”
4	Manasa H O	Great Learning-“ Python for Machine Learning”
5	Ritvik G M	Workshop-“Generative AI & prompt Engineering”
6	Swathi konnuri	Bootcamp on Job readiness and Trending Technolo
7	Syed Mutassim	Workshop-“Generative AI & prompt Engineering”
8	Neha M	Webinar-“Cloud computing fundamentals: Building
9	Bhoomika M	Webinar-“Cloud computing fundamentals: Building
10	Minchu	Webinar-“Cloud computing”
11	Manjunath S	Webinar-“Generative AI Certification”
12	Saiprakash	Webinar-“Generative AI Certification”
13	Rohit	Webinar-“Generative AI Certification”
14	Praveen S	Webinar-“Generative AI Certification”
15	Sanjay Ram	Webinar-“Generative AI Certification”

(CAYm3) 2022-23

S.No	Name of the Student	Name of the Event	State / I
1			

4.7.3 Publication of Journals, Magazines, Newsletters, etc. in the Department (

Table No. 4.7.3.1: List of students involved in publication of journals, magazine (CAYm1) 2024-25

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor
1	Suddhipatra -Newslettter(ODD SEM)	Dr.Rajesh K S and
2	Suddhipatra -Newslettter(EVEN SEM)	Dr.Rajesh K S and
3	ANAHATA-Magazine	Dr.Rajesh K S and

(CAYm2) 2023-24

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor
1	Suddhipatra -Newslettter(ODD SEM)	Dr.Rajesh K S and
2	Suddhipatra -Newslettter(EVEN SEM)	Dr.Rajesh K S and
3	ANAHATA-Magazine	Dr.Rajesh K S and

(CAYm3) 2022-23

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor
1	Suddhipatra -Newslettter(ODD SEM)	Dr.Rajesh K S and
2	Suddhipatra -Newslettter(EVEN SEM)	Dr.Rajesh K S and
3	ANAHATA-Magazine	Dr.Rajesh K S and

4.7.4 Student Publications (5)

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

S.No	Name of the Paper	Name of the Student	Semester	Name of Publishe
1	AI Based Mental Health Chatbot	Varun A	8	IJARESM
2	AI Based Mental Health Chatbot	Darshan R	8	IJARESM
3	AI Based Mental Health Chatbot	Jeevitha S	8	IJARESM
4	AI Based Mental Health Chatbot8	Purushotham B S	8	IJARESM
5	Organ Donation System using Blockchain	Nitin L Gowda	8	IJARESM
6	Organ Donation System using Blockchain	Varsha V Vati	8	IJARESM
7	Organ Donation System using Blockchain	Thanushree TS	8	IJARESM
8	Organ Donation System using Blockchain	Hemashree M	8	IJARESM
9	Air Quality Monitoring System	Bharath H S	6	GIJET
10	Air Quality Monitoring System	LikithGowda A	6	GIJET
11	Air Quality Monitoring System	Yeshwanth L V	6	GIJET

(CAYm2) 2023-24

S.No	Name of the Paper	Name of the Student	Semester	N P
1	Smart home Automation using Arduino and Personal Assistant	Durgesh Babu P	6	IJ
2	Smart home Automation using Arduino and Personal Assistant	Gagan KM	6	IJ
3	Smart home Automation using Arduino and Personal Assistant	Ajeesh Reegan A	6	IJ
4	Auto Encoder Based Malware Detection Using Machine Learning	Pallavi S V	8	JE
5	Auto Encoder Based Malware Detection Using Machine Learning	Nisarga Raj S	8	JE
6	Auto Encoder Based Malware Detection Using Machine Learning	Neha B R	8	JE
7	Machine Learning Model for Predicting Chronic Diseases	Abishyanth S	6	IJ
8	Machine Learning Model for Predicting Chronic Diseases	Shrunga G V	6	IJ
9	Machine Learning Model for Predicting Chronic Diseases	Srujana V H	6	IJ
10	Machine Learning Model for Predicting Chronic Diseases	Varsha M K	6	IJ
11	Exploratory Analysis of Geolocational Data	Sanjana K	6	IJ
12	Exploratory Analysis of Geolocational Data	Saishivani Paladugu	6	IJ
13	Exploratory Analysis of Geolocational Data	Vaishnavi M D	6	IJ
14	Development of NLP-Powered Semantic Analysis for Document Understanding	Venkatesh K	6	IJ

15	Development of NLP-Powered Semantic Analysis for Document Understanding	Naresh A	6	IJ
16	Development of NLP-Powered Semantic Analysis for Document Understanding	Srujansheel M S	6	IJ

(CAYm3) 2022-23

S.No	Name of the Paper	Name of the Student	Semester	Name of the
1				

5 FACULTY INFORMATION (100)

Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	Highest degree	Univers
1	Dr R Balakrishna	AHWDR9999N	NA	Ph.D	KRISHNA UNIVER
2	Dr S Usha	BBEPS4104F	NA	Ph.D	Sathyab Universi
3	DR S Vijayanand	AFHPV2088P	NA	Ph.D	KRISHNA UNIVER
4	DR S Jeyabalan	AFTPJ4615C	NA	Ph.D	Dr MGR
5	DR A K Mariappan	AHLPM1410C	NA	Ph.D	JNTU, H
6	DR B LAKSHMA REDDY	ACAPL2412P	559749242206	Ph.D	KRISHNA UNIVER
7	DR. KAMAL RAJ T	AWSPK3338D	650241326064	Ph.D	Dr.M.G. Educatio Research
8	DR.D.KIRUBHA	BFCPK0172H	235179031160	Ph.D	ANNA L
9	DR.PILLAI C S	AISPC7290G	565050031214	Ph.D	VINAYA MISSIO UNIVER
10	DR.KARUPPASAMY M	BUWPK2795M	NA	Ph.D	KALAS/ ACADE RESEAI EDUCA

11	DR. SHASHIDHAR V	AHEPV0291M	NA	Ph.D	VTU, Belga
12	DR M SELVI	CCKPS7495F	NA	Ph.D	VTU, Belga
13	DR. LAKSHMI C	AGQPL7953H	767315822854	Ph.D	SRI PAI MAHILA VISVAV
14	DR. B.HARI CHANDANA	AWPPC2071A	NA	Ph.D	SRI KRISHNA UNIVERSITY
15	DR. RAJASHEKHAR S A	ALRPA7382B	121070497716	Ph.D	VTU, Belga
16	DR. RICHARD WILLIAM	ANSPR3148R	118085936468	Ph.D	ANNA UNIVERSITY
17	Mr. Saravanaperumal	BSNPS7694Q	160836976536	M.E.	ANNA UNIVERSITY
18	Mrs.DEVI T	BVHPD1342K	NA	M.E.	ANNA UNIVERSITY
19	MR.AUNTIN JOSE T	AXCPA4542N	652580813233	M.Tech	Dr.M.G. Educational Research
20	MR. PRABHARAN J	AVPPJ8111R	NA	M.E.	ANNA UNIVERSITY
21	Mrs Manasa G V Kumar	ISUPK1673K	NA	M.Tech	VTU, Belga
22	Mr. Rajkumar R	AWAPR1933M	862466292555	M.Tech	ANNA UNIVERSITY
23	Mrs Deepa Konnur	CTGPK2216R	NA	M.Tech	VTU, Belga
24	Mr. Sunil A	ISJPS2121F	NA	M.Tech	VTU, Belga

25	Mrs. Rashmi B R	BVOPR1722G	NA	M.Tech	VTU, Be
26	Mrs. Sriraksha P J	GPJPS6591Q	NA	M.Tech	VTU, Be
27	Mr. Jeniga Gemsy Thepora	ARSPJ8283B	NA	M.Tech	SRM Ur
28	Mrs Hemavathi J	ALAPH5551L	NA	M.Tech	VTU, Be
29	Mr Sagar D C	GESPS8732D	NA	M.Tech	VTU, Be
30	Mrs. Josna O	AAOPO0314K	416422783101	M.Tech	Nagarju
31	Mrs Ojashwini R N	ABIPO5508N	NA	M.Tech	VTU, Be
32	Mrs Suhasini Bagalkot	BJWPB9951M	NA	M.Tech	VTU, Be
33	Mrs. Yeshaswini R	AHCPY5623Q	NA	M.Tech	VTU, Be
34	Mrs. Priyanka V Gudada	BINPG4874Q	NA	M.Tech	VTU, Be
35	Mrs. Mohana Divya	EDRPM3606Q	NA	M.Tech	ANNA L
36	Mrs. Deepika M	EDUPD6638E	204878571294	M.Tech	VTU, Be
37	Mrs. Pallavi S	EIVPP5299B	NA	M.Tech	VTU, Be
38	Mrs. Yashaswini H R	AOQPY2360H	NA	M.Tech	VTU, Be
39	Mrs. Ushasree N	AUQPN9416K	NA	M.Tech	JNTU

40	Mrs. Archana A	EGLPA0912E	78163406109	M.E.	ANNA L
41	Ms. Sandhya H	MILPS5410B	797237641317	M.Tech	VTU, Be
42	Ms. Chaithra P	CEKPC0267F	901101117688	M.Tech	VTU, Be
43	Mrs. Priyadharshini M	EZAPP8062C	251604439844	M.E.	ANNA L
44	Ms. Indra S	AHJPI4129C	363702285385	M.E.	ANNA L
45	Mr. Chandan B	AMNPB6940K	NA	M.Tech	JNTU
46	Mrs. Lakshmi P	AQMPT6301K	NA	M.Tech	JNTU
47	Dr. Bharath J	BNOPB5714L	NA	Ph.D	VTU, Be
48	Mr. Karthik N	BIUPK9510Q	NA	M.Tech	ANNA L
49	Mr. Vignesh M	ASMPV3183B	NA	M.Tech	ANNA L
50	DR. T C MANJUNATH	AAXPM7337B	433319178429	Ph.D	IIT Bom
51	Mr. T V Manohar	EVKPM0263E	NA	M.Tech	JNTU
52	Mrs. Renuka H N	FJDPR6716K	481831700692	M.Tech	VTU, Be
53	Mrs Rishika K	CLDPG8555J	102283810138	M.Tech	VTU, Be
54	Mr. Nitheesh Kumar G	DYMPG0258K	931643899368	M.Tech	VTU, Be

55	Mrs. Bhagyalaxmi P T	AQZPT2399C	935078866397	M.Tech	VTU, Be
56	Mrs. Priya L C	ANKPC4656R	578255263255	M.Tech	VTU, Be
57	Dr D Sivakumar	CKBPS7732L	868479317707	Ph.D	ANNA L
58	Dr. G SADASHIVAPPA	AIMPS3831R	NA	Ph.D	VTU, Be
59	DR M SELVI	CCKPS7495F	NA	Ph.D	VTU, Be
60	DR. MURUGANANDHAM S K	DNUPM5858N	NA	Ph.D	Jadavpu Kolkata
61	Mr. GHOUSE PASHA	AWPPG5310C	NA	M.Tech	VTU, Be
62	Mrs. RUBITHRA A	BJCPR3310J	NA	M.Tech	ANNA L
63	MS. MAHALAKSHMI B	CILPB4356D	NA	M.E.	ANNA L
64	Mrs.MALATHI V	AKSPV3592L	NA	M.Tech	VTU, Be
65	Mr. ACHUTHAN S	CGZPA8224K	NA	M.E.	Bharath Enginee
66	MS. ANUSHA S	DXDPA4366L	NA	MCA and PhD	VTU, Be
67	DR. SHASHIDHAR V	AHEPV0291M	NA	Ph.D	VTU, Be

68	DR RAMIREDDY GAN GADHAR REDDY	AQAPR2592N	NA	Ph.D	Sunrise
69	DR. T. R. GOPALAKRISHNA NAIR	AFDPP9368N	NA	Ph.D	VTU, Be
70	DR.THANGADURAI T	AFDPT6151K	NA	Ph.D	Bharath
71	Mrs. Smitha M S	DWOPS4056R	NA	M.Tech	VTU, Be
72	Mrs. Poornamathi S	DFAPP0009C	NA	M.E.	ANNA L
73	Mrs. Bhavana H V	BMBPH1644F	NA	M.Tech	VTU, Be
74	Dr Sreenivasa Murthy Vankamamidi	ADTPV3020B	230002973653	Ph.D	RAYALA UNIVER
75	Dr Amutharaj J	AJLPA0750H	NA	Ph.D	ANNA L
76	Dr Thippeswamy G R	AEZPT7874G	807837881667	Ph.D	BUNDE UNIVER
77	Dr T Dharani	AVWPD7100R	NA	Ph.D	PERIYA UNIVER
78	Dr D Sivakumar	CKBPS7732L	868479317707	Ph.D	ANNA L
79	Mr Dineshkumar M	AMOPD6880D	471729672466	M.E.	ANNA L
80	Ms Sinchana M N	IBHPS4410J	NA	M.Tech	Visvesv Technol Universi

81	Mrs Chaitra R Gowda	BKEPG5481D	640001032986	M.Tech	Visvesva Technol Universi
82	Mrs Sana Fatima	AGYPF3441Q	743248944417	M.Tech	JAWAH NEHAR TECHN UNIVER HYDER
83	Ms Meghana V	DZYPM2097B	781442142493	M.Tech	JSS SC TECHN UNIVER MYSOR
84	Mr Lokesh K	BASPL3650C	302760351613	M.E.	Anna Un
85	Mr Azar Jamal	DRGPS8473K	NA	MS	UNIVER HERTF
86	Mr Prem M	BBWPP3917K	NA	M.E.	ANNA U
87	Mrs Sridevi Hiremath	AKGPH5781D	NA	M.Tech	VISVES TECHN UNIVER
88	Mrs Sowmya M	DDAPS9146B	NA	M.Tech	VISVES TECHN UNIVER
89	Mrs Yamunashree S	EGFPS7119H	NA	M.Tech	VISVES TECHN UNIVER

90	Mrs. Lipika Rajanandhini Sahu	EEOPS8125A	NA	M.Tech	GANDH FOR TECHN ADVANC BHUBA ODISHA
91	Mrs Rathidevi T	COYPR3439A	NA	M.E.	ANNA L
92	Mrs Vijayalakshmi Joshi	CUDTK5370A	NA	M.Tech	VISVES TECHN UNIVER
93	Mr Shantha Kumar T	AKWPT3881A	NA	M.E.	ANNA L
94	Ms Rakshitha K	DEHPR3227A	NA	M.E.	VISVES TECHN UNIVER
95	Mrs Pavithra N	BYNPP0076R	NA	M.Tech	VISVES TECHN UNIVER
96	Dr Neha Singhal	BTGPS8480L	NA	Ph.D	VISVES TECHN UNIVER
97	Mrs. Supritha B	KOFPS0199M	NA	M.Tech	Visvesva Technol Universi
98	Dr. Mamatha B	CEMPM3417F	529555208152	Ph.D	VISVES TECHN UNIVER
99	Dr. K .B.Raja	ACAPR1583K	353789315241	Ph.D	Bangalc
100	Dr.Rajesh K S	AJKPR8233K	NA	Ph.D	Rayalas Universi

101	Dr.S Jagannathan	AEDPJ1230L	140057157470	Ph.D	Mysore
102	Soniya R	CMXPR3807H	992823567186	M.Tech	Bangalc
103	Shivaprasad D S	IHKPS2852E	NA	M.Tech	VISVES TECHN UNIVER
104	Deepa K.R	BASPD0623B	NA	M.Tech	VISVES TECHN UNIVER
105	Mamatha K R	BYFPM4591N	371954935603	M.Tech	VISVES TECHN UNIVER
106	Dr. Prakash P K	ANSPP4674Q	NA	Ph.D	Bangalc
107	Rajakanth C B	CFIPB3812C	320604232932	M.Tech	Bangalc
108	Deepali A Dixit	AQMPD1305K	747172690407	M.Tech	VISVES TECHN UNIVER
109	Pavan Kumar	CNPPP5160G	586136071200	M.Tech	Visvesv Technol Universi
110	Naveed Rahaman	AMBPR5130R	NA	M.Tech	Visvesv Technol Universi
111	Abubakar Sithik M	BEKPA6159M	449496935885	M.E.	Anna Ur
112	Rashmi K	CEAPK9989L	NA	M.Tech	Bangalc
113	Mrs. P Deepa	BRPPD4065D	706018430436	M.Tech	Anna Ur

114	Mr. Saiprakash	OPXPS0045P	413312037186	M.Tech	UNIVER VISVES COLLE ENGINE
115	Mr. Harsha C N	AZHPH0246D	287904821739	M.Tech	UNIVER VISVES COLLE ENGINE
116	Mr. Rajath S Shetty	LAEPS7362E	551658790535	MS	UNIVER MASSA

5.1 Student-Faculty Ratio (SFR) (30)

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

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

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 clusters

No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be counted

F=Total no. of regular or contractual faculty members (Full Time) in the Department, (excluding part-time faculty members teaching load in the first-year courses)).

UG

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

Artificial			
Year of Study	CAY		
	(2025-26)		
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake
2nd Year	60	5	60
3rd Year	60	6	60
4th Year	60	4	60
Sub-Total	180	15	180
Total	195		193

C			
Year of Study	CAY		
	(2025-26)		
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake
2nd Year	240	24	180
3rd Year	180	15	180
4th Year	180	17	180
Sub-Total	600	56	540
Total	656		590

Year of Study	CAY		
	(2025-26)		
	Sanction Intake	Actual admitted through lateral entry students	Sanc Intak
2nd Year	120	3	60
3rd Year	60	6	60
4th Year	60	6	60
Sub-Total	240	15	180
Total	255		197

Year of Study	CAY		
	(2025-26)		
	Sanction Intake	Actual admitted through lateral entry students	Sanc Intak
2nd Year	60	1	60
3rd Year	60	3	0
4th Year	0	0	0
Sub-Total	120	4	60
Total	124		63

Computer Science and Engineering (Ir			
Year of Study	CAY		
	(2025-26)		
	Sanction Intake	Actual admitted through lateral entry students	Sanc Intak
2nd Year	60	4	60
3rd Year	60	1	60
4th Year	60	5	0
Sub-Total	180	10	120
Total	190		126
Grand Total		1420	

PG

No. of PG Programs in the Department 0

Grand Total	
-------------	--

SFR

No. of UG Programs in the Department 1

No. of PG Programs in the Department 0

Artificial Intelligence and Machine Learning Computer Science and Engineering Informatics and Cyber Security including Blockchain Technology)

Description
UG1.B
UG1.C
UG1.D
UG1: Artificial Intelligence and Machine Learning
UG2.B
UG2.C
UG2.D
UG2: Computer Science and Engineering
UG3.B
UG3.C
UG3.D
UG3: Information Science & Engineering
UG4.B
UG4.C
UG4.D
UG4: Computer Science and Design
UG5.B
UG5.C
UG5.D
UG5: Computer Science and Engineering (Internet of Things and Cyber Security)
DS=Total no. of students in all UG and PG programs in the Department
AS=Total no. of students of all UG and PG programs in allied departments
S=Total no. of students in the Department (DS) and allied departments (AS)

Description
DF=Total no. of faculty members in the Department
AF= Total no. of faculty members in the allied Departments
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)
FF=The faculty members in F who have a 100% teaching load in the first-year course
Total faculty (TF = F - FF)
Student Faculty Ratio (SFR)=S/(F-FF)
Average SFR for 3 years

Average SFR for three assessment years : 18.96

Assessment SFR : 22

5.2 Faculty Qualification (25)

Year	X	Y
2025-26(CAY)	27	46
2024-25(CAYm1)	22	48
2023-24(CAYm2)	17	35

Average Assessment : 16.39

5.3 Faculty Cadre Proportion (25)

Year	Professors	
	Required F1	Available
CAY(2025-26)	8.00	17.00
CAYm1(2024-25)	6.00	12.00
CAYm2(2023-24)	6.00	11.00
Average Numbers	6.67	13.33

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

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

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

S.No	Name of the Person	Designation
1	Prof.Vijay Narasimhamurthy	professor of practice

(CAYm2) 2023-24

S.No	Name of the Person	Designation	Organization
1	Dr.Kalyanam kannan	CEO	Generis technologies

(CAYm3) 2022-23

S.No	Name of the Person	Designation
1	Pongu Vindoth	CEO & Chief Startup Designer, Pongu Venture

5.5 Faculty Retention (10)

Description
RF=No. of required faculty in the Department to adhere to the 20:1 Student-Faculty requirements as per section 5.1 of SAR; (RF=DS/20).
AF=The no. of available faculty members in the Department including allied Depart
A= The no. of faculty members at the current institute with less than 1 year of exper
B= The no. of faculty members at the current institute with more than 1 year and les
C= The no. of faculty members at the current institute with more than 2 years and le
D= The no. of faculty members at the current institute with more than 3 years and le
E= The no. of faculty members at the current institute with more than 4 years of exp
$FR = (((A*0) + (B*1) + (C*2) + (D*3) + (E*4)) / RF) * 2.50$ (points limited to 10)

Average : 10.00

Assessment Marks : 10.00

6 FACULTY CONTRIBUTIONS (120)

6.1 Professional Development Activities (60)

6.1.1 Memberships in Profession Societies at National/International Levels (5)

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
1	Dr. Raja K B	Indian Society for Technical Education
2	Dr. Rajesh K S	Indian Society for Technical Education
3	Dr. Mamatha B	Indian Society for Technical Education.
4	Dr. Raja K B	IEEE (Institute of Electrical and Electronics
5	Dr. Raja K B	ISTE (Indian Society for Technical Educatio
6	Dr. Raja K B	ACCS (Advanced Computing and Commun
7	Dr. Raja K B	ACEEE (Association of Computer Electronic
8	Dr. Raja K B	IACSIT (International Association of Compu

6.1.2 Faculty as Resource Persons or Participants in STTPs/FDPs (15)

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 event (CAYm1) 2024-25

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP
1	Dr Rajesh KS	Linux for Cyber Security
2	Dr Rajesh KS	International Conference on re Engineering(ICRRCE)
3	Dr Raja K B	Interdisciplinary Project-Based
4	Dr. Mamatha B	Motivational Talk

(CAYm2) 2023-24

S.No	Name of the Faculty as Resource Person	
1		

(CAYm3) 2022-23

S.No	Name of the Faculty as Resource Person	
1		

6.1.2.2 Faculty Members' Participation in STTPs/FDPs (10)

Name of the faculty	
	2024-
Dr. S. Jagannathan	1.00
Dr. Raja K B	0.00
Dr. Rajesh K S	4.00
Dr. Prakash P K	0.00
Dr. Mamatha B	5.00
Deepa K R	5.00
Mamatha K R	5.00
Rashmi K	5.00
Soniya R	5.00
Deepali A Dixit	5.00
Shivaprasad D S	5.00
Rajakanth C B	5.00
Pavan Kumar	5.00
Naveed Rahaman	5.00
Abubakar Sithik M	5.00
Dr. H R Gireesh	0.00

Sum	60.00
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).	9.75
Assessment Points (AP)= 2 * (Sum/(0.5* RDF)) (Points limited to 5 for each assessment year)	10.00

Average assessment over 3 years: 9.66

6.1.3 Faculty Certification of MOOCs through SWAYAM, etc. (10)

Table No. 6.1.4.1: List of faculty members obtained certification of MOOCs for

S.No	Name of the Faculty	Name of Course Passed
1	Dr.Mamatha B	Big Data Computing
2	Deepa K R	Big Data Computing
3	Deepa K R	NBA Accreditation and Teaching-Learning i
4	Mamatha K R	NBA Accreditation and Teaching-Learning i
5	Deepali A Dixit	NBA Accreditation and Teaching-Learning i
6	Soniya R	Fundamentals of Artificial Intelligence
7	Soniya R	NBA Accreditation and Teaching-Learning i
8	Dr.Mamatha B	Python for Data Science
9	Dr.Mamatha B	Data Analytics with Python
10	Mamatha K R	Software Engineering
11	Deepa KR	Big Data Computing
12	Deepa KR	NBA Accreditation and Teaching-Learning i
13	Mamatha K R	NBA Accreditation and Teaching-Learning i
14	Deepali A Dixit	NBA Accreditation and Teaching-Learning i
15	Rashmi N Kuppast	Software Testing
16	Dr.Mamatha B	Introduction to Internet of things
17	Deepali A Dixit	Cloud Computing
18	Deepali A Dixit	Deep Learning for Natural Language Proce
19	Dr.Mamatha B	Cyber security and privacy
20	Rajakanth C B	Cyber security and privacy
21	Dr.Mamatha B	Exploratory Data Analysis for Data Science
22	Dr.Mamatha B	Data Mining for Decision Making

6.1.4 FDP/STTP Organized by the Department (10)

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

S.No	Name of the Program	Date of Program
1	5-Day Workshop on “Data Analytics and Image Processing Using Python”	14/11/20
2	5 Days FDP on program on enrichment of lab skills	22/06/20
3	FDP on “Enhancing Skill Labs”	3/02/202

(CAYm2) 2023-24

S.No	Name of the Program	Date of the Program(DD/MM/
1	Work shop on Full Stack Django	21/10/ 2024
2	Generative AI and Prompt Engineering	22/2/2024

(CAYm3) 2022-23

S.No	Name of the Program	Date of the Program(DD/MM/
1	Workshop on machine Learning and its applications using Python	4/7/2023
2	Angular JS Workshp	27/07/2023
3	Robotics Workshop	27/12/2022

6.1.5 Faculty Support in Student Innovative Projects (10)

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
1	Dr. Rajesh K. S.	AI-Powered Real-Time Surveillance: Crowd Management using CCTV Infrastructure
2	Prof. Deepali A. Dixit	Biometric Watermarking using Rubik's Cube Encryption
3	Prof. Rashmi N. Kuppast	Intelligence systems for disaster management
4	Prof. Deepa K. R.	Drug Discovery Using Quantum Machine Learning
5	Prof. Mamatha	AI powered doppelganger for time management
6	Prof. Soniya R.	Blood Registry Implementation Using Blockchain technology
7	Prof. Mamtha K. R	Meta human represents a 3D, immersive entity that interacts with the environment
8	Dr. Rajesh K. S.	BorderGuard : AI-Powered Border Surveillance System
9	Prof. Rashmi N. Kuppast	CNN-Based Traffic sign detection system
10	Prof. Deepa K. R.	Recipe Generation from food image
11	Prof. Soniya R.	TransitGuardian: Secured Passage System for Critical Infrastructure
12	Dr. Rajesh K. S.	Plant leaf disease detection
13	Dr. S. Jagannathan	Smart Glasses for Visually Impaired
14	Prof. Deepali A. Dixit	Printed circuit board defect detection using CNNs and Image Processing
15	Prof. Soniya R.	Colorectal Cancer Diagnosis
16	Prof. Deepali A. Dixit	Anomaly detection using WSN using optimization algorithms
17	Dr. Prakasha P K	Credit Card Fraud Detection

(CAYm2) 2023-24

S.No	Name of the Faculty	Name of the Event
1	Prof Soniya R	Drug Recommendation on Symptoms Using Deep
2	Prof. Rashmi N. Kuppast	GenAI for Advanced Legal Assistance and Image
3	Prof. Deepa K. R.	Conversational AI for Semantic Document Analysis
4	Prof. Mamtha K. R	Deep learning based malware detection using auto
5	Dr. Rajesh K. S.	Safety and reliability in Autonomous Vehicles using Learning
6	Dr. Prakash P. K.	Educational Data analysis toolkit web application
7	Dr. Rajesh K. S.	Audio-Enabled Email for Visually Challenged
8	Dr. Rajesh K. S.	Cyber hacking breaches prediction using machine
9	Prof Soniya R	IoT Based Border Security System using Machine
10	Prof. Rashmi N. Kuppast	AI tool for preliminary diagnosis of dermatology m
11	Prof. Keerthana A.	Forensic Portrait Identification And Fabrication

(CAYm3) 2022-23

S.No	Name of the Faculty	Name of the Event
1	Dr. Rajesh K S	Flood monitoring system using machine learning ap
2	Prof. Rashmi N K	Real time sign language recognition system for hea
3	Prof. Mamatha K R	Air quality monitoring system using IOT
4	Prof. Deepali A Dixit	Cardiovascular disease risk prediction using machir

6.1.6 Faculty Internship/Training/Collaboration with Industry (10)

Table No. 6.1.7.1: Faculty internship/training/collaboration details.

S.No	Name of the Faculty	Name of the Internship/ Training/ Collaboration	Na
1	Dr.Mamatha B	AI and Machine Learning Training	Inn
2	Dr. Rajesh K. S.	Industry-Oriented Technical Training	Pr
3	Rajakanth C B	Emerging Technology Training	Pe Be
4	Deepa K. R.	AI and Software Development Training	ER
5	Rashmi N. Kuppast	IoT and Robotics Training	Ac
6	Deepali A. Dixit	Faculty Development Training	ME
7	Prakasha P. K	Industry Training and Workshop	DE
8	Dr. S. Jagannathan	Technical and Industry Collaboration	3Q

6.2 Research and Development Activities (60)

6.2.1 Academic Research (10)

Table No. 6.2.1.1: Faculty publication details.

S.No.	Item
1	No. of peer reviewed journal papers published
2	No. of peer reviewed conference papers published
3	No. of books/book chapters published

6.2.2 Development Activities (10)

The department encourages faculty members to contribute to research, innovation, activities carried out during the assessment period are summarized below.

6.2.3.1 Patents Granted

Table 6.2

Sl. No.	Patent
1	Biosensor De Detection of (

6.2.3.2 Patents Published

Table 6.2.1

Sl. No.	Patent
1	AIDORYX: A Multilingual Assistance Intelligence System with I Response & Guida
2	AGRI-JEEV: Agriculture M and Sma Managemen Using Pre Analytics an Detec
3	A Quantum- Optimization & Quantum Anr AI-ML Integ Combinatori Solvi

4	AI-Powered Analytics S Real-Time Maki
5	Environment Aware (Optimization Using Carbo Prediction
6	Automatic H Generation fi Images Us
7	IoT-Based No Sensors fo Disease Det Body Par Monitc
8	Cyber Sec Cloud-Based Payroll wi Tracking Sys Image Proc Techn
9	Analysis o Implant Sys Radiograph Machine L Meth
10	Automatic H Generation fi Images Us

Explanation: Faculty members have actively participated in intellectual property gen healthcare, agriculture, quantum computing, cybersecurity, and sustainable computi

6.2.3.3 Books

Table 6.2.

Sl. No.	Book Title
1	AI Systems De From Concep Implementat
2	Mastering Generative / Theory, Techni and Real-Wc Application
3	Cyber Crim

Faculty members have contributed to technical book publication in emerging areas i dissemination and professional development.

6.2.3.4 Faculty Awards

Table 6.2.3.4: Fac

Sl. No.	Award / Recogniti
---------	----------------------

1	Education I Award–20
2	NPTEL St

Faculty members have received state-level and national-level recognition for their a teaching, professional development, and academic excellence.

6.2.3 Sponsored Research Project (15)

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept. where project is sanctioned
Dr. RAJESH K S	RANUSINGH S Ms. GANAVIR R Ms. HARSHINI L Ms. VINUTHA	Artificial and machine learning
MAMATHA K. R	Ms. NAYANABAI H M Ms. AKSHITHA N Ms. POOJA S Ms. PRIYADARSHINI	Artificial and machine learning

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title
DEEPA K. R	Mr. VENKATESH K Mr. NARESH A. Mr. SRUJANSHEEL M.	Artificial and machine learning	D
			A

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned

Total Amount (Lacs) Received for the Past 3 Years:**Note*:**

- Only sponsored research projects will be considered. Infrastructure-based projects v

6.2.4 Consultancy Work (15)

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the D project is sanc
Dr. RAJESH K S	Ms. RANUSINGH S Ms. GANAVIR R Ms. HARSHINI L Ms. VINUTHA	Artificial and ma
MAMATHA K. R	Ms. NAYANABAI H M Ms. AKSHITHA N Ms. POOJA S Ms. PRIYADARSHINI S	Artificial and ma

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	P
DEEPA K. R.	Mr. VENKATESH K Mr. NARESH A. Mr. SRUJANSHEEL M.S	Artificial and machine learning	[A

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctio

Total amount (Lacs) received for the past 3 years:

Note*:

- Only consultancy projects will be considered. Infrastructure-based projects will not b

6.2.5 Institution Seed Money or Internal Research Grant to its Faculty for Rese**6.2.5 A Amount received (6)**

2024-25 (CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project
Dr.Mamatha B	Aidoryx – Multilingual AI based citizen assistance platform	11 Months

2023-24 (CAYm2)

Faculty name	Project title/ Support for Activity	Duration of tl

2022-23 (CAYm3)

Faculty name	Project title/ Support for Activity	Duration of t project
Dr. RAJESH K S	AUTOMATIC HTML CODE GENERATION FROM DRAWN IMAGES USING CNN	8 months

Total amount (Lacs) received for the past 3 years : 7.00

6.2.5 B Amount utilized (4)

Title: Aid oryx – Multilingual AI based citizen assistance platform

Amount Utilized – ₹4.25 Lakh

Sl. No.	Month
1	Month 1
2	Month 2
3	Month 3
4	Month 4
5	Month 5
6	Month 6
7	Month 7
8	Month 8
Total Amount Utili:	
Balance Amount	
Sanctioned Amou	

Title: Automatic html code generation from drawn images using CNN

Amount Utilized – ₹2.25 Lakh

Sl. No.	Month	Major Expenditure	Amo
---------	-------	-------------------	-----

1	Month 1	Project planning, requirement analysis and initial resources	20
2	Month 2	Hardware, components and development materials	35
3	Month 3	Software/tools and technical resources	25
4	Month 4	Prototype development and implementation	35
5	Month 5	Testing, validation and integration	30
6	Month 6	Additional components and development resources	25
7	Month 7	Performance testing, refinement and documentation	30
8	Month 8	Final implementation, testing and project documentation	25
Total Utilized			₹2,2
Balance			₹25
Sanctioned Amount			₹2,5

Note: Out of the sanctioned amount of ₹2.50 lakh, ₹2.25 lakh was utilized during the project documentation. The remaining ₹25,000 remained unutilized.

7 FACILITIES AND TECHNICAL SUPPORT (100)

7.1 Adequate and well equipped laboratories, and technical manpower (40)

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the c for which the l utilized)
1	Machine Learn	32	Lenovo ThinkC	Fully Utilized
2	CN & SS Lab	30	Lenovo Intel® i	Fully Utilized
3	DS/DAA Lab	30	Lenovo Intel® i	Fully Utilized
4	Skill Lab	60	LENOVO 32 S	Fully Utilized

7.2 Additional Facilities Created for Improving the Quality of Learning Experie

Sr. No	Name of the Facility	Details	Purpose for creating facility	Utilization
1	Dept Library	Maintaining Text Books, Reference Books, Project Reports, Seminar reports, Internship Reports	To meet the requirements of the students, to provide reference services, to refer advanced information for subject, laboratories, projects, to know about the past research activities undertaken by the students.	As per requirement
2	E-journal Facility	IEEE, Springer and Science Direct with comfortable desk and chairs,	Easy access for materials and research articles for project activities. It is useful to know about emerging trends in science and technology	As per requirement
3	Seminar hall with smart classroom	Hall is equipped with LCD projector and smart class software and furnished with comfortable desk and chairs.	For purpose of presentation and offering enriched learning experiences	
4	Room with Smart Interactive Projector	The laboratory is equipped with computers/workstations with required software, programming tools, Python environments, ML/DL frameworks and internet connectivity to support AI & ML practical activities.	To provide students with hands-on experience in Artificial Intelligence, Machine Learning, Deep Learning, data analytics and implementation of computational algorithms.	Used for course material assignment, resources, coding, and project development

7.3 Maintenance of laboratories and overall ambiance (10)

7.3.1. Maintenance Policy and Practices

The department implements systematic maintenance of all computing resources and

- **Total Systems:** 159 computer systems are installed across the department, distributed as follows:
 - Machine Learning / OO Design Pattern Lab (Room 3): 32 systems
 - CN & SS Lab (Room 513): 30 systems
 - DA & Data Structure Lab (Room 514): 30 systems
 - Skill Lab (Room No. 60/609): 60 Systems
 - HOD Room: 1 system
 - Faculty Rooms: 6 systems
- **Software License Maintenance:** Systems are regularly maintained and updated with the following software:
 - Jupyter Notebook (utilized for Artificial Intelligence, Machine Learning, and Data Science)
 - MongoDB (utilized for Mongo DB)
 - Oracle Database (utilized for DBMS)
 - Ubuntu OS (utilized for Angular JS)
 - Xilinx (utilized for DDCO)
 - Xampp (utilized for PHP)
 - Turbo C++ (utilized for DSA)
 - Microsoft Office (Licensed - utilized for general lab applications)

Maintenance Schedules: Computing equipment is maintained by the designated staff (Sudhakar and Sharada) through daily startup checks, weekly software updates, and periodic hardware maintenance.

7.3.2 Overall Ambience and Infrastructure

The laboratories are designed to support active learning and provide an optimal environment for students.

- **Machine Learning / OO Design Pattern Lab (Room 3):** Carpet Area of 70 Sq.m. LED Lights, and White Board
- **CN & SS Lab (Room 513):** Carpet Area of 97 Sq.m. LED Lights, and White Board
- **DS/DAA Lab (Room 514):** Carpet Area of 97 Sq.m. LED Lights, and Centralized /
- **Skill Lab (Room 60/609):** Carpet Area of 134.608 Sq.m. LED Lights, White Board

Common Features Across All Labs:

- Adequate natural and artificial lighting.
- Wheelchair accessibility in all laboratories
- Ergonomic seating arrangements

- Provision of white boards

7.3.3. Continous Improvement

Based on the feedback received in the last two academic years, the following impro

- Improved cable management to reduce tripping hazards.
- Periodic Upgradation of Operating Systems

7.4 Safety measures in laboratories (10)

Sr. No	Laboratory Name	Safety Measures
1	Machine Learning / OO Design Pattern Lab (Room No. 3)	· Fire extinguisher Proper electrical wiring Lab coats and gloves Safety devices for lighting for
2	CN & SS Lab (Room No. 513)	· Fire extinguisher Proper electrical wiring protective equipment Proper cable management working · PPE
3	DS/DAA Lab (Room No. 514)	· Fire extinguisher Proper electrical wiring protective equipment Proper cable management working · PPE
4	Skill Lab (Room No. 609)	· Fire extinguisher Proper electrical wiring protective equipment managing workstation
5	Research and Development Center (501)	· Adequate ventilation for handling hazardous inspection and testing safety procedures safe working conditions facilities are

7.5 Project laboratory/research laboratory /centre of excellence (20)

7.5.1 Lab Photographs:



Figu



Figure 7.5



Figure 7.5



Figure 7.5.



Fig



Figure 7.5..6: Smoke



Figure 7.5.7: E

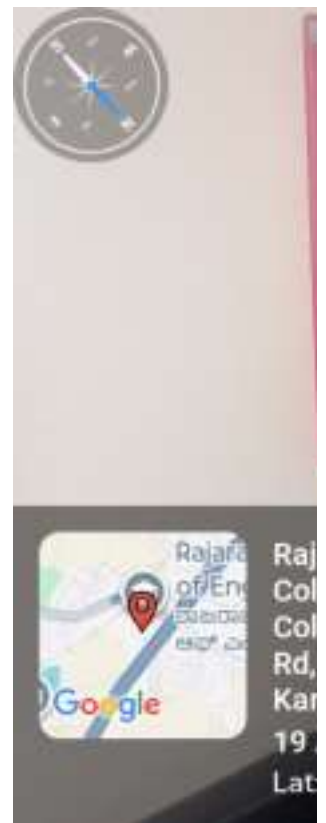


Figure 7.5.8:

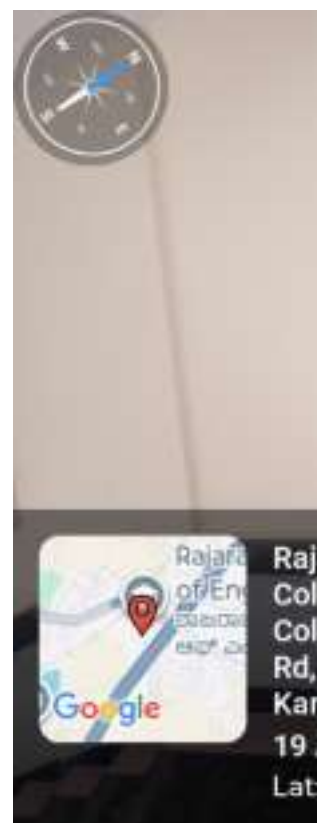


Figure 7.5.9:



Figure 7.5.10:



Figure

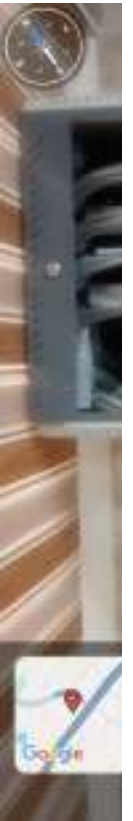


Figure 7.5.12:



Figure 7.5.13:



Figure 7.5.14: Roc

7.5.2 Research Laboratory:

The R&D Lab of the Department of Artificial Intelligence and Machine Learning (AIML) is est emerging areas of Artificial Intelligence and Machine Learning. The laboratory supports students validating models using modern computational tools and technologies.

The R&D Lab provides facilities for Data Analytics, Machine Learning, Deep Learr enables students, and faculty, to work on real-world problems, experiment with diffe solutions.

The laboratory promotes a research-oriented and innovation-driven learning e publications, industry-oriented applications, and interdisciplinary problem-solving. I learners for higher studies, research, entrepreneurship, and professional careers in

7.5.3 AI & ML Instructional Area

The following tables list the details of the instructional area allocated to the Department

SI. No.
1
2
3
4
5
6
7

8

9

10

11

Summary - AIML Room Count

Room
CLASS ROOM
LAB
SEMINAR HALL
Tutorial
Total Rooms

8 CONTINUOUS IMPROVEMENT (80)

8.1 Actions taken based on the results of evaluation of each of the COs, POs &

8.1.1 Actions Taken Based on the Results of Evaluation of the COs Attainment

8.1.1 Actions Taken Based on the Results of Evaluation of the COs Attainment

Based on the analysis of Course Outcomes (COs) attainment levels, the department Engineering & Deep Learning Systems. To address these gaps, the following measures are taken:

Curriculum Enhancement

- Industry case studies & real-world dataset-based problem integration
 - Software tools: Python, TensorFlow, PyTorch, Scikit-learn, Jupyter, Google Cloud AI
 - Laboratory upgrades with GPU-enabled computing infrastructure
 - MLOps practices & Industry 4.0/5.0 concepts (Cloud AI, Edge AI)

Pedagogical Methods

- Flipped classroom & active learning
- Visualization through Jupyter notebooks & interactive dashboards
- Guest lectures by industry experts (AI/ML practitioners, data scientists)
- Capstone/mini-projects with iterative model optimization
- Competency-based evaluation rubrics

Student Support

- Supplementary video tutorials
- Access to NPTEL, Coursera, Infosys Springboard, Kaggle Learn
- Industrial visits & internship programs with AI-driven companies
- Peer teaching & micro presentations (paper reading sessions)
- Virtual laboratory sessions & cloud-based GPU access (Colab, AWS, Azure)

Targeted Interventions for Low-Performing Areas

- Hands-on coding/experimentation preceding theoretical concepts
- Weekly mentoring & doubt-clearing sessions
- Dedicated coding bootcamps for foundational programming gaps

- Bridge courses in mathematics for ML (linear algebra, probability, statistics)

Course Code		BMATS101				Course Name		Mathematical CSE	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
1.8	2.3	1.8	1.89	1.8	1.56	1.8	1.2	1.8	1.3

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce calculus, matrices and differential-equation concepts through CO-wise problem sets.

Add computational examples linking mathematical models with AI and engineering applications.

Reinforce calculus, matrices and differential-equation concepts through CO-wise problem sets.

Pedagogical Initiatives

Use worked examples followed by guided problem solving and peer discussion.

Conduct diagnostic quizzes on symbolic manipulation and numerical steps.

Support System Improvements

Provide formula sheets, solved problems and practice worksheets.

Use Python-based demonstrations for selected mathematical models.

Course Code		BPHYS102				Course Name		Applied Cse	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.89	1.8	1.76	1.8	0.57	1.8	2.1	1.8	1.8

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen mechanics, waves, optics and modern-physics concepts through CO-mapped applications.

Add technology-oriented cases connecting physical principles with computing devices.

Pedagogical Initiatives

Use simulation-supported demonstrations before numerical problem solving.

Conduct experiment-to-concept discussions using visual evidence.

Support System Improvements

Provide concise concept notes and numerical practice.

Create a repository of simulation videos and application questions.

Course Code		BPOPS103		Course Name		Prin Program	
CO Attainments							
CO1		CO2		CO3		CO4	
						CO5	

Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.6	1.8	1.89	1.8	1.59	1.8	1.56	1.8	1.89

Actions taken based on the results of evaluation

Curriculum Interventions

Increase practice on control structures, arrays, pointers and functions for the lower-attained COs.

Add debugging tasks requiring students to trace and correct C programs.

Pedagogical Initiatives

Use live coding followed by individual implementation tasks.

Introduce pair programming and peer code review.

Support System Improvements

Provide C coding templates and debugging worksheets.

Offer additional compiler-based practice exercises.

Course Code		BESCK104B		Course Name		Intro El Eng			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.5	1.8	1.8	1.8	1.5	1.8	1.4	1.8	1.6

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce circuit analysis and electrical fundamentals using outcome-wise numerical problems.

Introduce simulation activities for COs showing comparatively lower attainment.

Pedagogical Initiatives

Use circuit-solving demonstrations followed by guided practice.

Conduct troubleshooting scenarios using circuit diagrams.

Support System Improvements

Provide solved circuit worksheets and simulation tutorials.

Use virtual circuit tools for additional practice.

Course Code		BETCK105E				Course Name		Renewable Science	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
1.8	2.1	1.8	1.9	1.8	1.87	1.8	1.56	1.8	1.32

Actions taken based on the results of evaluation

Curriculum Interventions

Expand solar, wind, biomass and energy-storage coverage through application-oriented cases.

Add current energy-system examples for comparison and evaluation.

Pedagogical Initiatives

Use design-oriented mini activities for renewable-energy sizing.

Conduct group analysis of real installation performance data.

Support System Improvements

Provide renewable-energy datasets and design templates.

Arrange expert interaction on renewable-energy applications.

Course Code**BIDTK158****Course Name****Innov
Desig****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.89	1.8	2.5	1.8	1.89	1.8	1.56	-	-

Actions taken based on the results of evaluation**Curriculum Interventions**

Strengthen ideation, user-need analysis and prototyping through structured challenges.

Introduce authentic problem statements requiring evidence-based solution selection.

Pedagogical Initiatives

Apply reflection rubrics at each design stage.

Use studio-based rapid ideation, prototyping and peer feedback.

Support System Improvements

Provide prototyping templates and innovation examples.

Create a repository of design-thinking case studies.

Course Code**BMATS201****Course Name****Mather
CSE****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.56	1.8	1.32	1.8	1.86	1.8	1.89	1.8	2.13

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce calculus, matrices and differential-equation concepts through CO-wise problem sets.

Add computational examples linking mathematical models with AI and engineering applications.

Pedagogical Initiatives

Use worked examples followed by guided problem solving and peer discussion.

Conduct diagnostic quizzes on symbolic manipulation and numerical steps.

Support System Improvements

Provide formula sheets, solved problems and practice worksheets.

Use Python-based demonstrations for selected mathematical models.

Course Code		BCHES202		Course Name		Applied for C3			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.13	1.8	2.1	1.8	2.25	1.8	1.89	1.8	1.6

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce chemical bonding, materials and electrochemistry using engineering applications.

Connect chemistry concepts with computing materials, energy and environmental issues.

Pedagogical Initiatives

Use molecular visualizations and short demonstrations.

Introduce application-based worksheets instead of recall-only questions.

Support System Improvements

Provide visual concept maps and curated videos.

Use additional practice quizzes with immediate feedback.

Course Code		BCEDK203		Course Name		Comp Eng Di			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.45	1.8	1.89	1.8	2.23	1.8	2.56	1.8	2.15

Actions taken based on the results of evaluation

Curriculum Interventions

Increase guided practice on projections, sections and CAD drawing conventions.

Add component-modelling tasks progressing from 2D interpretation to 3D representation.

Pedagogical Initiatives

Use screen-capture CAD demonstrations followed by hands-on tasks.

Conduct peer checking with standardized drawing rubrics.

Support System Improvements

Provide CAD templates and tutorial videos.

Schedule additional supervised CAD practice.

Intro
Mech
Eng**Course Code****BESCK204D****Course Name****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.89	1.8	1.98	1.8	2.54	1.8	2.36	1.8	2.2

Actions taken based on the results of evaluation**Curriculum Interventions**

Strengthen manufacturing, machines, materials and energy fundamentals through cases.

Map lower-attained COs to focused mechanical-engineering examples.

Pedagogical Initiatives

Use demonstration-based teaching and short case discussions.

Introduce interdisciplinary problem-solving activities connecting mechanical systems with computing.

Support System Improvements

Provide illustrated notes and industry videos.

Arrange workshop/laboratory demonstration sessions.

Intro
P
Prog**Course Code****BPLCK205B****Course Name****CO Attainments****CO1****CO2****CO3****CO4****CO5**

Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.2	1.8	2.1	1.8	2.6	1.8	2.1	1.8	1.89

Actions taken based on the results of evaluation

Curriculum Interventions

Increase practice on functions, data structures, file handling and modular Python programming.

Add debugging and automation problems using Python libraries.

Pedagogical Initiatives

Use notebook-based live coding followed by incremental tasks.

Introduce pair programming and code-review checklists.

Support System Improvements

Provide Python notebooks and debugging exercises.

Create a repository of coding practice problems.

Course Code		BCS301				Course Name		Mathe Compu	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.56	1.8	1.89	1.8	1.98	1.8	2.01	1.8	2.3

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce discrete structures, logic, relations and combinatorial reasoning with computing examples.

Add outcome-mapped problems requiring formal reasoning and derivation.

Pedagogical Initiatives

Use proof-by-example, peer explanation and puzzle-based learning.

Conduct diagnostic tests after each concept cluster.

Support System Improvements

Provide solved problem banks and concept sheets.

Use visualization tools for graphs and logic.

Course Code		BCS302		Course Name		Digital Co		Orga	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.28	1.8	2.03	1.8	1.87	1.8	1.72	1.8	1.55

Actions taken based on the results of evaluation

Curriculum Interventions

Increase practice on Boolean algebra, combinational/sequential circuits and organization concepts.

Introduce HDL and simulation examples connecting logic design with implementation.

Pedagogical Initiatives

Use waveform simulation and interactive circuit demonstrations.

Assign small design-and-verify tasks with immediate feedback.

Support System Improvements

Provide simulator tutorials and HDL examples.

Offer additional laboratory exercises for weaker CO areas.

Course Code		BCS303		Course Name		Operati			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.21	1.8	1.12	1.8	0.55	1.8	0.94	1.8	0.72

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce process management, synchronization, memory and file-system concepts through CO-wise cases.

Use system-level examples to address lower-attained outcomes.

Pedagogical Initiatives

Conduct trace-based activities for scheduling and synchronization.

Use Linux demonstrations and small experiments to connect theory with execution.

Support System Improvements

Provide command-line practice sheets and visual process diagrams.

Create an OS experiment and troubleshooting repository.

Course Code		BCS304		Course Name		Data Str App			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	

Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.43	1.8	2.25	1.8	1.99	1.8	1.95	1.8	1.58

Actions taken based on the results of evaluation

Curriculum Interventions

Increase implementation practice for trees, graphs, hashing and related structures.

Add complexity-focused coding problems connecting implementation with performance.

Pedagogical Initiatives

Use visualizations and dry runs before coding.

Adopt incremental coding tasks with debugging checkpoints.

Support System Improvements

Provide reusable coding templates and visualization resources.

Offer additional problem sets by data-structure type.

Course Code		BCSL305		Course Name		Data Str			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
3	2.38	3	2.1	3	1.89	3	2.36	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Add more hands-on implementations for the lower-attained data-structure COs.

Include debugging and performance-analysis tasks for major experiments.

Pedagogical Initiatives

Use demonstration-then-practice lab cycles with checkpoints.

Conduct peer code reviews using a common rubric.

Support System Improvements

Provide starter code and experiment videos.

Schedule an additional practice session for reinforcement.

Course Code		BCS306A		Course Name		Objectives		Program	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.33	1.8	2.11	1.8	2.04	1.8	1.93	1.8	1.73

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce classes, inheritance, polymorphism and exception handling through Java applications.

Add design-oriented coding exercises mapped to weaker COs.

Pedagogical Initiatives

Use live refactoring demonstrations and UML-to-code activities.

Conduct pair-programming exercises followed by code review.

Support System Improvements

Provide Java project templates and debugging checklists.

Create a repository of sample applications.

Course Code		BAI358D		Course Name		PHP Pr	
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CO Attainments

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	3	2.4	3	2.4	3	2.4	3	2.4	3

Actions taken based on the results of evaluation**Curriculum Interventions**

Extend server-side programming practice through forms, sessions, database connectivity and security.

Add small web applications targeting lower-attained COs.

Pedagogical Initiatives

Use incremental web-app development with live debugging.

Conduct code walkthroughs on validation and database interaction.

Support System Improvements

Provide PHP starter projects and local-server guides.

Offer additional database-backed application exercises.

Course Code		BCS401		Course Name		Analysis Of AI			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.31	1.8	2.52	1.8	2.16	1.8	2.16	1.8	2.16

Actions taken based on the results of evaluation**Curriculum Interventions**

Reinforce algorithm design, recurrence, greedy, divide-and-conquer and graph techniques.

Add complexity-comparison and algorithm-selection problems for weaker COs.

Pedagogical Initiatives

Use dry runs, visual traces and counterexamples before formal analysis.

Conduct timed problem-solving followed by solution comparison.

Support System Improvements

Provide an algorithm pattern handbook and solved problems.

Use visualization tools for sorting and graph algorithms.

Course Code		BAD402		Course Name		Artificial Intelligence			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.39	1.8	2.57	1.8	2.55	1.8	2.38	1.8	2.35

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen search, knowledge representation, reasoning and learning concepts through AI cases.

Add small implementation tasks using standard AI techniques for lower-attained COs.

Pedagogical Initiatives

Use state-space visualizations and interactive search demonstrations.

Conduct case discussions where students justify AI method selection.

Support System Improvements

Provide Python notebooks, datasets and AI concept maps.

Create a repository of mini AI experiments.

Course Code		BCS403		Course Name		Da Man Sy			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.87	1.8	2.9	1.8	2.72	1.8	2.98	1.8	2.84

Actions taken based on the results of evaluation

Curriculum Interventions

Increase practice on normalization, SQL, transactions and database design using realistic datasets.

Add query-optimization and transaction scenarios for lower-attained COs.

Pedagogical Initiatives

Use progressive SQL challenges and schema-design exercises.

Conduct peer review of ER models and SQL solutions.

Support System Improvements

Provide sample databases and SQL practice scripts.

Offer additional exercises on transaction and performance concepts.

Course Code		BCSL404		Course Name		Analysis of Algorithms	
CO Attainments							
CO1		CO2		CO3		CO4	
						CO5	

Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	2.15	2.4	2.1	2.4	1.78	2.4	1.6	2.4	2.5

Actions taken based on the results of evaluation

Curriculum Interventions

Increase implementation practice of sorting, graph and optimization algorithms indicated by CO performance.

Add performance-measurement experiments comparing alternative algorithms.

Pedagogical Initiatives

Use code tracing followed by hands-on implementation and debugging.

Introduce mini challenges requiring appropriate algorithm selection.

Support System Improvements

Provide experiment templates and test datasets.

Create additional coding exercises for independent practice.

Course Code		BCS405A		Course Name		Discrete Math Structures			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.78	1.8	1.9	1.8	1.23	1.8	1.5	1.8	1.9

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce logic, sets, relations, functions and graph reasoning through computing examples.

Add stepwise problem-solving exercises for weaker COs.

Pedagogical Initiatives

Use puzzle-based and peer-instruction activities.

Conduct short quizzes followed by application problems.

Support System Improvements

Provide visual graph examples and proof templates.

Offer topic-wise question banks.

Course Code		BDSL456B				Course Name				Ma
CO Attainments										
CO1		CO2		CO3		CO4		CO5		
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	
2.4	1.52	2.4	1.6	2.4	1.32	2.4	2.16	-	-	

Actions taken based on the results of evaluation

Curriculum Interventions

Map lower-attained COs in MangoDB to focused content reinforcement and application exercises.

Introduce MangoDB-specific case problems requiring concept application.

Pedagogical Initiatives

Use guided problem solving and formative assessment for weaker COs.

Include a mini application task to improve transfer of learning.

Support System Improvements

Provide additional MangoDB notes and solved examples.

Create a digital repository of topic-wise questions and demonstrations.

Course Code	BCS501	Course Name	Sc Engin Project
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CO Attainments

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	2.66	2.4	2.79	2.4	2.4	2.4	2.68	2.4	2.59

Actions taken based on the results of evaluation

Curriculum Interventions

Increase application of requirements, design, testing and project-management concepts using software cases.

Integrate agile and DevOps practices into outcome-aligned activities.

Pedagogical Initiatives

Use case-based requirements and design workshops.

Conduct sprint-style group activities with reviews and retrospectives.

Support System Improvements

Provide SRS, UML and test-plan templates.

Use collaborative project tools for practice.

Course Code	BCS502	Course Name	Comput
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CO Attainments

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.67	1.8	1.56	1.8	1.64	1.8	2.22	-	2.12

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce OSI/TCP-IP layers, routing, addressing and security with packet-level examples.

Add configuration and troubleshooting cases for lower-attained COs.

Pedagogical Initiatives

Use packet-analysis demonstrations and network simulations.

Conduct scenarios where students diagnose connectivity issues.

Support System Improvements

Provide simulation files and protocol diagrams.

Offer virtual networking practice environments.

Course Code		BCS503		Course Name				Th Corr	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	2.26	2.4	2.41	2.4	2.15	2.4	2.13	2.4	1.81

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen automata, regular languages, CFGs and computability through construction problems.

Add conversion and language-recognition exercises for weaker COs.

Pedagogical Initiatives

Use state-machine visualizations and construction-by-example.

Conduct peer solution sessions for grammar and automata problems.

Support System Improvements

Provide automata simulators and solved worksheets.

Create a repository of university-style problems.

Course Code		BAIL504		Course Name		Discrete Structures		Dr. David L. Duggan	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
2.4	2.56	2.4	2.38	2.4	1.89	-	-	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Increase practice in data cleaning, chart selection and visual storytelling using real-world datasets.

Add mini analytics tasks requiring justification of visualization choices.

Pedagogical Initiatives

Use notebook demonstrations followed by hands-on visualization tasks.

Conduct peer critique of dashboards using a rubric.

Support System Improvements

Provide curated datasets and visualization templates.

Offer additional practice with Python visualization libraries.

Course Code**BCS515C****Course Name****Univ
Prog****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	2.52	2.4	2.6	2.4	2.38	2.4	2.14	2.4	1.38

Actions taken based on the results of evaluation**Curriculum Interventions**

Reinforce shell commands, scripting, process management and system programming through practical tasks.

Add troubleshooting scenarios aligned with lower-attained COs.

Pedagogical Initiatives

Use terminal demonstrations followed by script-writing exercises.

Conduct timed shell challenges and debugging activities.

Support System Improvements

Provide command cheat sheets and script templates.

Maintain a virtual Linux environment for experimentation.

Course Code**BAI586****Course Name****Min****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	3	2.4	3	2.4	3	2.4	3	2.4	3

Actions taken based on the results of evaluation**Curriculum Interventions**

Strengthen project planning, requirements and implementation through milestone-based mini projects.

Encourage integration of AI/ML components where aligned with project objectives.

Pedagogical Initiatives

Use proposal reviews, sprint demonstrations and peer feedback.

Conduct problem-definition and solution-justification presentations.

Support System Improvements

Provide project templates, rubrics and sample repositories.

Offer faculty mentoring clinics for design and implementation.

Course Code		BRMK557		Course Name		Re		Metho	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.45	1.8	2.37	1.8	2.27	1.8	2.61	1.8	2.19

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen problem formulation, literature review, research design and technical writing using research papers.

Add focused activities on citation, IPR, plagiarism avoidance and research ethics.

Pedagogical Initiatives

Use paper-reading circles and literature-mapping exercises.

Conduct proposal critique sessions to improve research reasoning.

Support System Improvements

Provide digital-library and reference-management guidance.

Create a repository of exemplar proposals and papers.

Course Code		BCS508		Course Name		Envir Studies Man			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.36	1.8	2.12	1.8	2.56	-	-	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce pollution, resource management and e-waste concepts with technology-sector cases.

Add computing-industry examples on responsible e-waste handling.

Pedagogical Initiatives

Use case-study discussions and local environmental problem-solving.

Conduct short awareness projects with measurable outcomes.

Support System Improvements

Provide updated environmental reports and e-waste guidelines.

Arrange interaction with recycling/environment practitioners.

Course Code	BAI601	Course Name	Natural Resource Management and Conservation
CO Attainments			

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.36	1.8	2.45	1.8	1.89	1.8	1.36	1.8	2.1

Actions taken based on the results of evaluation

Curriculum Interventions

Increase practice in preprocessing, feature representation, sequence models and evaluation.

Add practical NLP tasks using domain-specific corpora and benchmark datasets.

Pedagogical Initiatives

Use notebooks for tokenization, embeddings and model evaluation.

Conduct mini challenges comparing NLP approaches.

Support System Improvements

Provide curated corpora and Python notebooks.

Create a repository of preprocessing and modelling examples.

Course Code		BAI602		Course Name		Machine Learning			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.38	1.8	2.38	1.8	2.45	1.8	2.07	1.8	1.62

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce learning algorithms, evaluation, model selection and optimization through CO-mapped experiments.

Add datasets requiring preprocessing, feature engineering and model comparison.

Pedagogical Initiatives

Use experiment cycles emphasizing interpretation of metrics.

Conduct model-comparison and error-analysis sessions.

Support System Improvements

Provide curated datasets and starter notebooks.

Create additional practice modules for tuning and evaluation.

Course Code		BIS613D		Course Name		Cloud and			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.22	1.8	1.08	1.8	2.25	1.8	2.36	1.8	1.76

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen virtualization, cloud architecture, security and service-model concepts through practical scenarios.

Add hands-on secure deployment and resource-management activities.

Pedagogical Initiatives

Use cloud architecture case studies and configuration demonstrations.

Conduct threat-analysis exercises for cloud applications.

Support System Improvements

Provide sandbox/cloud-lab access and architecture templates.

Maintain troubleshooting and deployment checklists.

Course Code		BEE654B		Course Name		Techno Renew S			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.21	1.8	2.12	1.8	2.25	1.8	2.12	1.8	1.8

Actions taken based on the results of evaluation

Curriculum Interventions

Expand solar, wind, biomass and energy-storage coverage through application-oriented cases.

Add current energy-system examples for comparison and evaluation.

Pedagogical Initiatives

Use design-oriented mini activities for renewable-energy sizing.

Conduct group analysis of real installation performance data.

Support System Improvements

Provide renewable-energy datasets and design templates.

Arrange expert interaction on renewable-energy applications.

Course Code		BAI685		Course Name		Proje			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	

Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	3	2.4	3	2.4	3	2.4	3	2.4	3

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen problem definition, literature review, methodology and preliminary prototype planning.

Require explicit CO mapping in project proposals and review documents.

Pedagogical Initiatives

Use milestone reviews with rubrics for proposal and preliminary implementation.

Conduct peer presentations to improve technical communication.

Support System Improvements

Provide proposal templates and literature-review guides.

Schedule structured faculty mentoring for early project issues.

Course Code		BAIL606		Course Name		Machir			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	2.25	2.4	1.23	2.4	1.56	2.4	1.23	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Increase hands-on experiments in preprocessing, training, evaluation and hyperparameter tuning.

Add debugging and error-analysis tasks for lower-attained COs.

Pedagogical Initiatives

Use implement–evaluate–interpret experiment cycles.

Conduct peer reviews of notebooks and model results.

Support System Improvements

Provide curated datasets and starter notebooks.

Maintain an additional practice environment for ML implementations.

Course Code		BAIL657C				Course Name		General Education	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
2.4	2.15	2.4	1.89	2.4	1.65	2.4	1.23	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen prompt design, generative-model usage, evaluation and responsible-AI practices.

Add experiments comparing prompt strategies and output quality.

Pedagogical Initiatives

Use iterative prompt-engineering challenges with rubric-based evaluation.

Demonstrate retrieval, generation and hallucination mitigation.

Support System Improvements

Provide approved datasets and prompt templates.

Create a repository of responsible generative-AI lab exercises.

Course Code**BAI701****Course Name****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.99	1.8	2.11	1.8	2.07	1.8	2.2	1.8	1.84

Actions taken based on the results of evaluation**Curriculum Interventions**

Reinforce neural networks, optimization, regularization and evaluation through outcome-mapped experiments.

Add CNN, sequence-model and training-diagnostic tasks for weaker COs.

Pedagogical Initiatives

Visualize forward/backward propagation, loss curves and gradient behavior.

Conduct notebook-based model comparison and error analysis.

Support System Improvements

Provide compute guidance, datasets and starter notebooks.

Maintain model-training troubleshooting guides.

Course Code**BAI702****Course Name****Machin****CO Attainments**

CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.5	1.8	0.85	1.8	1.1	1.8	1.18	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce learning algorithms, evaluation, model selection and optimization through CO-mapped experiments.

Add datasets requiring preprocessing, feature engineering and model comparison.

Pedagogical Initiatives

Use experiment cycles emphasizing interpretation of metrics.

Conduct model-comparison and error-analysis sessions.

Support System Improvements

Provide curated datasets and starter notebooks.

Create additional practice modules for tuning and evaluation.

Course Code		BAD703		Course Name		Data Science		P	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.58	1.8	1.48	1.8	1.9	1.8	1.93	1.8	1.86

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen cryptography, authentication, privacy and secure-system concepts using threat scenarios.

Add security case studies involving breaches, access control and privacy risks.

Pedagogical Initiatives

Use attack-defense discussions and guided cryptographic exercises.

Conduct secure-design reviews of sample applications.

Support System Improvements

Provide security tool demonstrations and reference sheets.

Create a repository of current security cases and standards.

Course Code		BCS714D				Course Name		Big Data	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	2.39	1.8	2.25	1.8	2.05	1.8	1.64	-	-

Actions taken based on the results of evaluation

Curriculum Interventions

Reinforce distributed storage, processing, analytics and scalable pipelines using realistic datasets.

Add hands-on tasks involving partitioning and parallel processing.

Pedagogical Initiatives

Use cluster/dataflow visualizations and guided analytics.

Conduct mini projects requiring technology-choice justification.

Support System Improvements

Provide sample big-data datasets and sandbox environments.

Offer workflow templates and troubleshooting guides.

Course Code		BCV755B		Course Name		Conservation Natural			
CO Attainments									
CO1		CO2		CO3		CO4		CO5	

Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
1.8	1.89	1.8	1.87	1.8	1.98	1.8	1.89	1.8	1.5

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen resource conservation, biodiversity and sustainable-management concepts using regional cases.

Connect conservation decisions with data-driven monitoring and technology applications.

Pedagogical Initiatives

Use field-based case analysis and group problem solving.

Conduct data-interpretation activities for conservation indicators.

Support System Improvements

Provide updated reports, maps and conservation datasets.

Arrange expert interaction on sustainable resource management.

Course Code		BAI786		Course Name				Majc PI	
CO Attainments									
CO1		CO2		CO3		CO4		CO5	
Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent	Targ et	Attainm ent
2.4	3	2.4	3	2.4	3	2.4	3	2.4	3

Actions taken based on the results of evaluation

Curriculum Interventions

Strengthen system integration, validation and documentation through outcome-mapped milestones.

Require evidence of testing, performance analysis and responsible engineering decisions.

Pedagogical Initiatives

Use design reviews, prototype demonstrations and structured peer feedback.

Introduce validation clinics focused on reproducibility and presentation.

Support System Improvements

Provide testing templates and documentation checklists.

Allocate targeted laboratory/compute support for integration.

8.1.2 Actions Taken Based on the Results of Evaluation of the POs/PSOs Attain

Corrective Action

Course Code	Course Name	PO1	Gap	Detailed Cor
BMATS101	Mathematics-I for CSE Stream	1.65	Moderate conceptual understanding of differential calculus, matrices, vector calculus and problem-solving techniques	For Mathematical Stream, assign increasing difficulty wise marking scheme for differential calculus, vector calculus, solving techniques, focused reinforcement that consolidate an applied series improvement through follow-up assessments before the next internal exam.
BPHYS102	Applied Physics For Cse Stream	1.52	Moderate conceptual understanding of mechanics, waves, optics and modern-physics principles	For Applied Physics Stream, assign increasing difficulty wise marking scheme for mechanics, wave modern-physics through a focused activity that consolidate concept in an applied and track improvement through a short follow-up assessment before the next

BPOPS103	Principles of Programming Using C	1.59	Moderate conceptual understanding of C programming fundamentals, control structures and logic building	For Principles Using C, assign increasing difficulty wise marking scheme. C programming control structures building, through reinforcement consolidates the applied setting improvement through follow-up assessment next internal examination.
BESCK104 B	Introduction to Electrical Engineering	1.46	Weak conceptual understanding of electrical and electronics fundamentals	For Introduction Engineering, run clinics with weak and a grade covering electrical electronics through structured supervised correction with prompt feedback improvement through follow-up assessment next internal examination.
BETCK105 E	Renewable Energy Sources	1.58	Moderate conceptual understanding of solar, wind, biomass and renewable-energy systems	For Renewable assign a project increasing difficulty wise marking scheme solar, wind, renewable-energy through a focus activity that covers concept in an and track improvement a short follow-up before the next

BIDTK158	Innovation and Design Thinking	1.23	Weak conceptual understanding of design thinking and innovation methodology	For Innovation Thinking, run clinics with weak and a grade covering design innovation methodology structured, close corrective practical feedback, improvement through follow-up assessments next internal exam
BMATS201	Mathematics-II for CSE Stream	1.52	Moderate conceptual understanding of differential equations, transforms and numerical methods	For Mathematics Stream, assign increasing difficulty wise marking scheme differential transforms and methods, through reinforcement consolidates the applied setting improvement through follow-up assessments next internal exam

BCHES202	Applied Chemistry for CSE Stream	0.66	Very weak conceptual understanding of chemical bonding, materials, electrochemistry and engineering applications	For Applied Chemistry Stream, run diagnostic followed by core worked example chemical bonding, electrochemistry engineering through scaffolded real diagnostic chemistry stage, and train through a self assessment by internal exam.
BCEDK203	Computer Aided Engineering Drawing	1.96	Moderate conceptual understanding of engineering drawing, projections, sections and CAD modelling	For Computer Engineering Drawing problem set difficulty with marking scheme engineering projections, section modelling, through reinforcement consolidates the applied setting improvement through follow-up assessment next internal exam

BESCK204 D	Introduction to Mechanical Engineering	1.90	Moderate conceptual understanding of machines, materials, mechanisms and manufacturing processes	For Introduction Engineering, a set of increasing step-wise ma covering mach mechanisms an processes, thro reinforcement consolidates th applied settin improvement tl follow-up asses next internal exa
BPLCK205 B	Introduction to Python Programming	1.89	Moderate conceptual understanding of Python programming, functions, data structures, file handling and modular coding	For Introduction Programming, a set of increasing step-wise ma covering Pytho functions, data handling and through a focus activity that c concept in an and track impro a short follow before the next

BCS301	Mathematics for Computer Science	1.83	Moderate conceptual understanding of discrete structures, logic, relations, functions and combinatorial reasoning	For Mathematic Science, assign increasing difficulty wise marking scheme for discrete structures, relations, functions and combinatorial through a focus activity that covers concept in an and track improvement a short follow-up before the next
BCS302	Digital Design & Computer Organization	1.76	Moderate conceptual understanding of digital logic and computer organization concepts	For Digital Design Organization, a set of increasing step-wise marking scheme covering digital computer organization through a focus activity that covers concept in an and track improvement a short follow-up before the next
BCS303	Operating Systems	0.73	Very weak conceptual understanding of process, memory and file management concepts	For Operating Systems, assign diagnostic quiz concept-clinics examples covering memory and file concepts, through closely scaffolded with diagnostic stage, and track improvement through a self-assessment before internal exam.

BCS304	Data Structures and Applications	1.77	Moderate conceptual understanding of trees, graphs, hashing and data-structure implementation	For Data Structures Applications, a set of increasing step-wise marks covering trees, and implementation, focused reinforcement that consolidate an applied scenario improvement through follow-up assessments next internal examination
BCSL305	Data Structures Lab	2.18	Good conceptual understanding of data structures and algorithm implementation	For Data Structures an application connecting the AI/ML scenarios structures a implementation, enrichment activities the concept to advanced or re and track improvement a short follow-up before the next

BCS306A	Object Oriented Programming With Java	2.03	Good conceptual understanding of classes, inheritance, polymorphism, exception handling and Java application design	For Object Programming V an application connecting the AI/ML scena classes, polymorphism, handling and , design, through activity that exte toward a more a world context improvement tl follow-up asses: next internal exa
BAI358D	PHP Programming	3.00	Strong conceptual understanding of web application programming using PHP	For PHP Prog peer-tutoring of an advance problem cc application prog PHP, through ar directed exten sustains and strength, and tra through a s assessment b internal exam.

BCS401	Analysis & Design Of Algorithms	2.12	Good conceptual understanding of algorithm design, recurrence, greedy methods and divide-and-conquer techniques	For Analysis Algorithms, application-level connecting the AI/ML scenario algorithm design greedy methods conquer technique enrichment activities the concept to advanced or re and track improve a short follow before the next
BAD402	Artificial Intelligence	2.12	Good conceptual understanding of search, knowledge representation and machine-learning concepts	For Artificial Intelligence an application connecting the AI/ML scenario knowledge representation machine-learning through an environment that extends the a more advanced context, and track through a self-assessment by internal exam.

BCS403	Database Management Systems	2.57	Strong conceptual understanding of database design, normalization, SQL, transactions and query optimization	For Database Systems, invite juniors and se application pro database design SQL, transaction optimization, advanced, extension task t showcases this track improv short follow-u before the next
BCSL404	Analysis & Design of Algorithms Lab	2.03	Good conceptual understanding of implementation and performance comparison of algorithms	For Analysis Algorithms La application-level connecting the AI/ML scena implementation performance algorithms, enrichment activ the concept t advanced or re and track impro a short follow before the next

BCS405A	Discrete Mathematics Structures	1.66	Moderate conceptual understanding of sets, relations, graph theory and combinatorics	For Discrete Structures , as set of increasing step-wise ma covering sets, theory and through a focus activity that c concept in an and track imprc a short follow- before the next
BDSL456B	MangoDB	1.54	Moderate conceptual understanding of NoSQL database (MongoDB) concepts	For MangoDB, a set of increasing step-wise ma covering NoSQL (MongoDB) con focused reinfor that consolidate an applied se improvement tl follow-up asses next internal exa
BCS501	Software Engineering & Project Management	2.45	Good conceptual understanding of requirements engineering, software design, testing and project management	For Software Project Manage application-level connecting the AI/ML scena requirements software design project management enrichment acti the concept t advanced or re and track imprc a short follow- before the next

BCS502	Computer Networks	1.84	Moderate conceptual understanding of networking concepts and protocols	For Computer Networks, a problem set with moderate difficulty with marking scheme for networking protocols, through reinforcement consolidates the applied setting for improvement through follow-up assessments and next internal examination.
BCS503	Theory of Computation	1.87	Moderate conceptual understanding of automata, grammars and computability concepts	For Theory of Computation, assign a problem set with increasing difficulty for automata, grammars, computability concepts, a focused reinforcement that consolidates the applied setting for improvement through follow-up assessments and next internal examination.
BAIL504	Data Visualization Lab	2.28	Good conceptual understanding of data cleaning, chart selection, visual storytelling and dashboard design	For Data Visualization, assign an applied problem connected to an AI/ML scenario for data cleaning, visual storytelling, dashboard design, enrichment activities, the concept of advanced or reinforcement and track improvement through a short follow-up assessment before the next internal examination.

BCS515C	Unix System Programming	1.93	Moderate conceptual understanding of UNIX commands, shell scripting, processes and system programming	For Unix System assign a project increasing difficulty wise marking scheme. UNIX command processes programming, the reinforcement consolidates the applied setting improvement through follow-up assessment next internal exam.
BRMK557	Research Methodology and IPR	1.59	Moderate conceptual understanding of problem formulation, literature review, research methodology, IPR and technical writing	For Research Methodology IPR, assign a project increasing difficulty wise marking scheme. problem formulation review, research IPR and technical through a focus activity that concept in an and track improvement a short follow-up before the next

BCS508	Environmental Studies and E-Waste Management	1.56	Moderate conceptual understanding of environmental sustainability, pollution control, resource management and e-waste	For Environmental E-Waste Management problem set difficulty with marking scheme environmental pollution control management through a focus activity that concept in an and track improvement a short follow-up before the next
BAI601	Natural Language Processing	1.90	Moderate conceptual understanding of text preprocessing, feature representation, sequence models and NLP evaluation	For Natural Language Processing, as set of increasing step-wise modules covering text feature sequence model evaluation, through reinforcement consolidates the applied setting improvement through follow-up assessment next internal exam

BAI602	Machine Learning – I	2.03	Good conceptual understanding of supervised/unsupervised learning algorithms and model evaluation	For Machine assign an problem connect to an AI/ML so supervised/unsu learning algorithm evaluation, enrichment acti the concept t advanced or re and track imprc a short follow- before the next
BIS613D	Cloud Computing and Security	1.39	Weak conceptual understanding of cloud service models, virtualization and security concepts	For Cloud (Security, run clinics with wo and a grade covering cloud virtualization concepts, thro closely superv practice with p and track imprc a short follow- before the next
BAIL606	Machine Learning Lab	3.00	Moderate conceptual understanding of machine learning and AI model implementation	For Machine assign a pr increasing diffic wise marking s machine learnir implementation, focused reinfor that consolidate an applied se improvement tl follow-up asses next internal exa

BEE654B	Technologies of Renewable Energy Sources	1.57	Adequate conceptual understanding of renewable energy resources, solar energy conversion, biomass, hydrogen and ocean energy technologies, with scope for strengthening application of fundamental concepts.	For Technologies Energy Sou concept-reinforc covering solar thermal system energy, biomass ocean energy application-base module-wise strengthen unc assess improve follow-up asses
BAIL657C	Generative AI Lab	1.61	Moderate conceptual understanding of generative AI concepts, prompt engineering and model usage	For Generative problem set difficulty with marking sch generative AI c engineering an through a focus activity that c concept in an and track imprc a short follow before the next

BAI701	Deep Learning & Reinforcement Learning	1.91	Moderate conceptual understanding of neural network architectures, deep learning and reinforcement-learning concepts	For Deep Reinforcement a problem set difficulty with marking scheme network architecture learning and learning concepts focused reinforcement that consolidate an applied set improvement the follow-up assessment next internal exam
BAI702	Machine Learning – II	1.16	Weak conceptual understanding of advanced machine learning and ensemble/optimisation techniques	For Machine Learning short conceptual worked example practice set covering machine learning ensemble/optimisation techniques, through closely supervised practice with projects and track improvement a short follow-up before the next

BAD703	Data Security & Privacy	1.40	Weak conceptual understanding of data security, privacy and cryptography concepts	For Data Security short conceptual worked example practice set security, p cryptography co structured, clo corrective pract feedback, improvement tl follow-up asses next internal exa
BCS714D	Big Data Analytics	1.94	Moderate conceptual understanding of big data storage, processing frameworks and analytics	For Big Data Ar problem set difficulty with marking schem data storage frameworks i through a focus activity that c concept in an and track impro a short follow before the next
BCV755B	Conservation of Natural Resources	1.58	Moderate conceptual understanding of natural-resource conservation and environmental impact	For Conservat Resources, as set of increasing step-wise ma covering conservation ar impact, throug reinforcement consolidates th applied settin improvement tl follow-up asses next internal exa

BAI786	Major Project Phase–II	2.00	Good conceptual understanding of system integration, validation, testing and documentation	For Major Project assign an problem connected to an AI/ML system integration testing and through an environment that extends the a more advanced context, and track through a self-assessment by internal exam.
	Internship (Industry/Research) (14–20 Weeks)	3.00	Strong conceptual understanding of industry/research tasks, professional tools and problem solving	For (Industry/Research Weeks), invite juniors and seniors application professional industry/research professional tool solving, through self-directed exploration sustains and strength, and track through a self-assessment by internal exam.

Course Code	Course Name	PO2	Gap	Detailed Correlation
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BMATS101	Mathematics-I for CSE Stream	1.38	Weak analytical and problem-solving ability in differential calculus, matrices, vector calculus and problem-solving techniques	In Mathematics Stream, use a group of problems moving to independent differential calculus, vector calculus, solving techniques, structured, close corrective practical feedback, with credits correct well as the final
BPHYS102	Applied Physics For Cse Stream	1.08	Weak analytical and problem-solving ability in mechanics, waves, optics and modern-physics principles	In Applied Physics Stream, use a group of problems moving to independent mechanics, wave modern-physics through structured supervised correction with prompt feedback rubric that formulation as answer.
BPOPS103	Principles of Programming Using C	1.25	Weak analytical and problem-solving ability in C programming fundamentals, control structures and logic building	In Principles of Programming Using C, use a sequence of problems from guided solving on C fundamentals, control and logic building, structured, close corrective practical feedback, with credits correct well as the final

BESCK104 B	Introduction to Electrical Engineering	1.14	Weak analytical and problem- solving ability in electrical and electronics fundamentals	In Introduction Engineering, a sequence of p from guided solving on electronics through struc supervised cor with prompt fe rubric that formulation as answer.
BETCK105 E	Renewable Energy Sources	1.52	Moderate analytical and problem- solving ability in solar, wind, biomass and renewable-energy systems	In Renewable I introduce mult that require st each step of biomass and re systems, throu reinforcement consolidates th applied setting, credits correct well as the final
BIDTK158	Innovation and Design Thinking	1.47	Weak analytical and problem- solving ability in design thinking and innovation methodology	In Innovation Thinking, use sequence of p from guided solving on des innovation meth structured, clo corrective pract feedback, with credits correct well as the final

BMATS201	Mathematics-II for CSE Stream	1.02	Weak analytical and problem-solving ability in differential equations, transforms and numerical methods	In Mathematic Stream, use a g of problems mo to independence differential transforms a methods, thro closely superv practice with p with a rubric th formulation as answer.
BCHES202	Applied Chemistry for CSE Stream	0.66	Very weak analytical and problem-solving ability in chemical bonding, materials, electrochemistry and engineering applications	In Applied Che Stream, break guided suk checkpoint chemical bonc electrochemistry engineering through found scaffolded rel diagnostic che stage, with a r correct formula the final answer
BCEDK203	Computer Aided Engineering Drawing	1.13	Weak analytical and problem-solving ability in engineering drawing, projections, sections and CAD modelling	In Computer Ai Drawing, use sequence of p from guided solving on engi projections, sec modelling, thro closely superv practice with p with a rubric th formulation as answer.

BESCK204 D	Introduction to Mechanical Engineering	1.09	Weak analytical and problem-solving ability in machines, materials, mechanisms and manufacturing processes	In Introduction Engineering, a sequence of problems from guided solving on machine mechanisms and processes, through closely supervised practice with problems with a rubric that formulates the answer.
BPLCK205 B	Introduction to Python Programming	1.02	Weak analytical and problem-solving ability in Python programming, functions, data structures, file handling and modular coding	In Introduction Programming, a sequence of problems from guided solving on Python functions, data handling and structures through supervised collaboration with prompt feedback rubric that formulates the answer.
BCS301	Mathematics for Computer Science	1.96	Moderate analytical and problem-solving ability in discrete structures, logic, relations, functions and combinatorial reasoning	In Mathematics for Computer Science, introductory problems that require students to justify each step of their solutions, logical structures, logical functions and reasoning, through reinforcement consolidates the concepts in an applied setting, credits correct solutions as well as the final

BCS302	Digital Design & Computer Organization	1.58	Moderate analytical and problem-solving ability in digital logic and computer organization concepts	In Digital Design Organization, step problems students to just digital logic organization concepts a focused reinforcement that consolidate an applied setting that credits concepts as well as the final
BCS303	Operating Systems	0.79	Very weak analytical and problem-solving ability in process, memory and file management concepts	In Operating problems into concepts with checkpoints process, memory management concepts foundational, concepts remediation concepts checks at every rubric that formulation as answer.
BCS304	Data Structures and Applications	1.70	Moderate analytical and problem-solving ability in trees, graphs, hashing and data-structure implementation	In Data Structures Applications, step problems students to just trees, graphs, hash structure through a focus activity that concepts concept in an with a rubric that formulation as answer.

BCSL305	Data Structures Lab	2.04	Good analytical and problem-solving ability in data structures and algorithm implementation	In Data Structures, open-ended problems are more than one valid data structures implementation, enrichment activities, the concept to be advanced or reinforced with a rubric that formulates the answer.
BCS306A	Object Oriented Programming With Java	1.76	Moderate analytical and problem-solving ability in classes, inheritance, polymorphism, exception handling and Java application design	In Object Oriented Programming With Java, introductory problems that require students to justify each step of inheritance, exception handling, application design, focused reinforcement that consolidates an applied setting that credits completion as well as the final answer.
BAI358D	PHP Programming	2.50	Strong analytical and problem-solving ability in web application programming using PHP	In PHP Programming, competition-style problems are flavoured problem-solving practice on web application programming through an extended, directed extension that sustains and strengthens, with credits correct as well as the final answer.

BCS401	Analysis & Design Of Algorithms	2.27	Good analytical and problem-solving ability in algorithm design, recurrence, greedy methods and divide-and-conquer techniques	In Analysis Algorithms, assess problems with valid solution p design, recur methods an conquer technic enrichment acti the concept t advanced or re with a rubric th formulation as answer.
BAD402	Artificial Intelligence	1.88	Moderate analytical and problem-solving ability in search, knowledge representation and machine-learning concepts	In Artificial introduce mult that require stu each step on se representation learning conce focused reinfor that consolidate an applied setti that credits col as well as the fi
BCS403	Database Management Systems	2.67	Strong analytical and problem-solving ability in database design, normalization, SQL, transactions and query optimization	In Database Systems, set a or research-fla for advanced database desig SQL, transacti optimization, advanced, extension task t showcases this rubric that formulation as answer.

BCSL404	Analysis & Design of Algorithms Lab	1.76	Moderate analytical and problem- solving ability in implementation and performance comparison of algorithms	In Analysis Algorithms Lab, step problems students to just implementation performance algorithms, thro reinforcement consolidates th applied setting, credits correct well as the final
BCS405A	Discrete Mathematics Structures	1.55	Moderate analytical and problem- solving ability in sets, relations, graph theory and combinatorics	In Discrete Structures , intr problems that to justify each relations, grap combinatorics, focused reinfor that consolidate an applied setti that credits cor as well as the fir
BDSL456B	MangoDB	0.83	Very weak analytical and problem-solving ability in NoSQL database (MongoDB) concepts	In MangoDB, into guided checkpoint feed database (Mong through found scaffolded rei diagnostic che stage, with a r correct formula the final answer

BCS501	Software Engineering & Project Management	2.62	Strong analytical and problem-solving ability in requirements engineering, software design, testing and project management	In Software Project Management, a competition-style, problem-solving practice on engineering, software testing and management, an advanced, extension task that showcases this rubric that formulation as answer.
BCS502	Computer Networks	1.54	Moderate analytical and problem-solving ability in networking concepts and protocols	In Computer Networks, introduce multiple steps that require students to understand each step, concepts and protocols, a focused reinforcement that consolidates an applied setting that credits correct as well as the final
BCS503	Theory of Computation	1.65	Moderate analytical and problem-solving ability in automata, grammars and computability concepts	In Theory of Computation, introduce multiple steps that require students to understand each step, grammars and concepts, through reinforcement consolidates the applied setting, credits correct well as the final

BAIL504	Data Visualization Lab	2.05	Good analytical and problem-solving ability in data cleaning, chart selection, visual storytelling and dashboard design	In Data Vis assign open-e with more th solution path o chart selec storytelling a design, through activity that exte toward a more a world context, v credits correct well as the final
BCS515C	Unix System Programming	1.58	Moderate analytical and problem-solving ability in UNIX commands, shell scripting, processes and system programming	In Unix System introduce mult that require st each step on L shell scripting, system program focused reinfor that consolidate an applied setti that credits cor as well as the fir
BCS508	Environmental Studies and E-Waste Management	1.56	Moderate analytical and problem-solving ability in environmental sustainability, pollution control, resource management and e-waste	In Environmental Waste Manage multi-step probl students to just environmental pollution con management through a focus activity that c concept in an with a rubric th formulation as answer.

BAI601	Natural Language Processing	1.35	Weak analytical and problem-solving ability in text preprocessing, feature representation, sequence models and NLP evaluation	In Natural Processing, use sequence of p from guided solving on tex feature sequence mo evaluation, thro closely superv practice with p with a rubric tha formulation as answer.
BAI602	Machine Learning – I	1.60	Moderate analytical and problem-solving ability in supervised/unsupervised learning algorithms and model evaluation	In Machine introduce mult that require stu each ; supervised/unsu learning algorit evaluation, thro reinforcement consolidates the applied setting, credits correct well as the final
BIS613D	Cloud Computing and Security	1.33	Weak analytical and problem-solving ability in cloud service models, virtualization and security concepts	In Cloud C Security, use sequence of p from guided solving on clouc virtualization concepts, thro closely superv practice with p with a rubric tha formulation as answer.

BEE654B	Technologies Of Renewable Energy Source	1.15	Moderate ability to analyse renewable energy systems, interpret technical parameters and solve application-based energy conversion problems	For Technologies Energy Source, analytical ex solar radiation, performance, efficiency and resource asses structured practice with w and numerical track improv short follow-up a
BAIL606	Machine Learning Lab	2.30	Weak analytical and problem-solving ability in machine learning and AI model implementation	In Machine Lea graded sequen moving from independent sol learning and implementation, structured, clo corrective pract feedback, with credits correct well as the final
BAIL657C	Generative AI Lab	1.61	Moderate analytical and problem-solving ability in generative AI concepts, prompt engineering and model usage	In Generative A multi-step probl students to just generative AI c engineering an through a focus activity that c concept in an with a rubric th formulation as answer.

BAI701	Deep Learning & Reinforcement Learning	1.36	Weak analytical and problem-solving ability in neural network architectures, deep learning and reinforcement-learning concepts	In Deep Reinforcement graded sequen moving from independent sc network archi learning and learning conc structured, clo corrective pract feedback, with credits correct well as the final
BAI702	Machine Learning – II	0.89	Very weak analytical and problem-solving ability in advanced machine learning and ensemble/optimisati on techniques	In Machine Lea problems into g with checkpoin advanced mach ensemble/optim techniques, foundational, cl remediation v checks at ever rubric that formulation as answer.
BAD703	Data Security & Privacy	1.46	Weak analytical and problem-solving ability in data security, privacy and cryptography concepts	In Data Security a graded seque moving from independent s security, p cryptography co structured, clo corrective pract feedback, with credits correct well as the final

BCS714D	Big Data Analytics	1.60	Moderate analytical and problem-solving ability in big data storage, processing frameworks and analytics	In Big Data Analytics, students are assigned multi-step problems to justify each concept in an applied setting with a rubric that consolidates an applied setting that credits conceptual understanding as well as the final answer.
BCV755B	Conservation of Natural Resources	1.52	Moderate analytical and problem-solving ability in natural-resource conservation and environmental impact	In Conservation of Natural Resources, students are introduced to problems that require them to justify each resource conservation concept in an environmental impact focused reinforcement that consolidates an applied setting that credits conceptual understanding as well as the final answer.
BAI786	Major Project Phase-II	2.20	Good analytical and problem-solving ability in system integration, validation, testing and documentation	In Major Project Phase-II, students are assigned open-ended problems with more than one solution path for integration, validation, and documentation enrichment activities. The concept is tested at an advanced or research level with a rubric that consolidates an applied setting that credits conceptual understanding as well as the final answer.

In
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Weeks), set a
or research-fla
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professional too
solving, through
self-directed ex
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strength, with
credits correct
well as the final

BAI803	Internship (Industry/Research) (14–20 Weeks)	2.50	Strong analytical and problem- solving ability in industry/research tasks, professional tools and problem solving
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Course Code	Course Name	PO3	Gap	Detailed Corr
BPOPS103	Principles of Programming Using C	1.31	Weak ability to design and develop solutions using C programming fundamentals, control structures and logic building	For Principles of Using C, provide completed design students must justify control programming control structure building, through closely supervised practice with project and assess the a solution-design

BESCK104 B	Introduction to Electrical Engineering	0.83	Very weak ability to design and develop solutions using electrical and electronics fundamentals	For Introduction Engineering, wa worked design attempting a centred on electronics through founda scaffolded rer diagnostic che stage, and asse against a solutio
BETCK105 E	Renewable Energy Sources	1.83	Moderate ability to design and develop solutions using solar, wind, biomass and renewable-energy systems	For Renewable assign a small task with a p design review c wind, biomass energy system focused reinfor that consolidate an applied setti the outcome ag design rubric.
BIDTK158	Innovation and Design Thinking	1.72	Moderate ability to design and develop solutions using design thinking and innovation methodology	For Innovation Thinking, assign and-build task mentor design re design thinking methodology, th reinforcement consolidates the applied setting, outcome again design rubric.

BPLCK205 B	Introduction to Python Programming	1.31	Weak ability to design and develop solutions using Python programming, functions, data structures, file handling and modular coding	For Introductory Programming, p completed design students must justify centrec programming, structures, file modular coc structured, clos corrective pract feedback, and outcome again design rubric.
BCS301	Mathematics for Computer Science	1.31	Weak ability to design and develop solutions using discrete structures, logic, relations, functions and combinatorial reasoning	For Mathematic Science, provi completed design students must justify centred structures, lo functions and reasoning, thro closely superv practice with pi and assess the a solution-design
BCS302	Digital Design & Computer Organization	1.89	Moderate ability to design and develop solutions using digital logic and computer organization concepts	For Digital Des Organization, a design-and-build peer or mentor centred on di computer organi through a focus activity that c concept in an and assess the a solution-design

BCS303	Operating Systems	0.58	Very weak ability to design and develop solutions using process, memory and file management concepts	For Operating through a fully example before simplified task process, mem management cc foundational, cl remediation v checks at eve assess the out solution-design r
BCS304	Data Structures and Applications	2.04	Good ability to design and develop solutions using trees, graphs, hashing and data-structure implementation	For Data S Applications, as design brief acceptable solu off analysis ce graphs, hashir structure through an eni that extends the a more advanc context, and ass against a solutio
BCSL305	Data Structures Lab	1.67	Moderate ability to design and develop solutions using data structures and algorithm implementation	For Data Structu a small design with a peer or review centre structures a implementation, focused reinfor that consolidate an applied setti the outcome ag design rubric.

BCS306A	Object Oriented Programming With Java	1.89	Moderate ability to design and develop solutions using classes, inheritance, polymorphism, exception handling and Java application design	For Object Programming W a small design with a peer or review centrec inheritance, exception hanc application des focused reinfor that consolidate an applied setti the outcome ag design rubric.
BAI358D	PHP Programming	2.80	Strong ability to design and develop solutions using web application programming using PHP	For PHP Progr extended design real constraints solutioning cer application prog PHP, through ar directed extens sustains and strength, and outcome again design rubric.
BCS401	Analysis & Design Of Algorithms	1.51	Moderate ability to design and develop solutions using algorithm design, recurrence, greedy methods and divide-and-conquer techniques	For Analysis Algorithms, as design-and-build peer or mentor centred on al recurrence, gree divide-and-conq through a focus activity that c concept in an and assess the a solution-design

BAD402	Artificial Intelligence	2.20	Good ability to design and develop solutions using search, knowledge representation and machine-learning concepts	For Artificial Intelligence, an open design challenge with multiple acceptable solutions and trade-off analysis. The student will design, implement, and test a search algorithm, evaluate its performance, and assess the quality of the solution-design.
BCS403	Database Management Systems	2.86	Strong ability to design and develop solutions using database design, normalization, SQL, transactions and query optimization	For Database Management Systems, the student will design, implement, and test a database system that meets the requirements of a given problem. The student will design, implement, and test a database system that meets the requirements of a given problem. The student will design, implement, and test a database system that meets the requirements of a given problem.
BCSL404	Analysis & Design of Algorithms Lab	2.03	Good ability to design and develop solutions using implementation and performance comparison of algorithms	For Analysis & Design of Algorithms Lab, the student will design, implement, and test a solution that meets the requirements of a given problem. The student will design, implement, and test a solution that meets the requirements of a given problem. The student will design, implement, and test a solution that meets the requirements of a given problem.

BCS501	Software Engineering & Project Management	2.19	Good ability to design and develop solutions using requirements engineering, software design, testing and project management	For Software Project Manage open design br acceptable solu off analysis requirements software design project manager enrichment activ the concept to advanced or rea and assess the a solution-design
BCS503	Theory of Computation	2.15	Good ability to design and develop solutions using automata, grammars and computability concepts	For Theory o assign an open multiple accep and trade-off an automata, gr computability cc an enrichment extends the co more advanced context, and ass against a solutio
BAIL504	Data Visualization Lab	2.28	Good ability to design and develop solutions using data cleaning, chart selection, visual storytelling and dashboard design	For Data Vis assign an open multiple accep and trade-off an data cleaning, visual storytelling design, through activity that exte toward a more a world context, outcome again design rubric.

BCS515C	Unix System Programming	2.07	Good ability to design and develop solutions using UNIX commands, shell scripting, processes and system programming	For Unix System assign an open multiple accept and trade-off and UNIX commands processes programming, enrichment activities the concept to advanced or real and assess the a solution-design
BRMK557	Research Methodology and IPR	2.38	Good ability to design and develop solutions using problem formulation, literature review, research methodology, IPR and technical writing	For Research Methodology and IPR, assign an open multiple solutions and trade-off centred on problem literature review methodology, IPR writing, through activity that extends toward a more a world context, outcome against design rubric.

BAI601	Natural Language Processing	1.56	Moderate ability to design and develop solutions using text preprocessing, feature representation, sequence models and NLP evaluation	For Natural Language Processing, as design-and-build peer or mentor centred on text feature sequence model evaluation, through reinforcement consolidates the applied setting, outcome against design rubric.
BAI602	Machine Learning – I	2.03	Good ability to design and develop solutions using supervised/unsupervised learning algorithms and model evaluation	For Machine Learning, an open design multiple acceptance and trade-off and supervised/unsupervised learning algorithm evaluation, enrichment activities the concept to advanced or real and assess the a solution-design
BIS613D	Cloud Computing and Security	1.73	Moderate ability to design and develop solutions using cloud service models, virtualization and security concepts	For Cloud Computing and Security, assign and-build task mentor design real cloud service virtualization concepts, through reinforcement consolidates the applied setting, outcome against design rubric.

BEE654B	Technologies Of Renewable Energy Source	0.52	Weak ability to design suitable renewable energy systems and develop solutions based on specified energy requirements and system constraints	For Technologies Energy Source, design activity sizing and components for solar water-he requiring student system block c design param component s estimate expect through closely practice followed mini design task
BAIL606	Machine Learning Lab	3.00	Very weak ability to design and develop solutions using machine learning and AI model implementation	For Machine Le through a fully example before simplified task machine learning implementation, foundational, clo remediation v checks at eve assess the out solution-design r
BAIL657C	Generative AI Lab	1.56	Moderate ability to design and develop solutions using generative AI concepts, prompt engineering and model usage	For Generative , small design-and a peer or mentor centred on concepts, prom and model use focused reinfor that consolidate an applied setti the outcome ag design rubric.

BAI701	Deep Learning & Reinforcement Learning	1.57	Moderate ability to design and develop solutions using neural network architectures, deep learning and reinforcement-learning concepts	For Deep Reinforcement Learning, a small design with a peer or review centre network architecture learning and learning concepts focused reinforcement that consolidate an applied setting the outcome against design rubric.
BAI702	Machine Learning – II	0.96	Very weak ability to design and develop solutions using advanced machine learning and ensemble/optimisation techniques	For Machine Learning through a fully example before simplified task advanced machine ensemble/optimisation techniques, foundational, check remediation with checks at every assess the outcome solution-design rubric
BAD703	Data Security & Privacy	1.17	Weak ability to design and develop solutions using data security, privacy and cryptography concepts	For Data Security provide a partial design template must complete centred on data and cryptography through structured supervised correlation with prompt assess the outcome solution-design rubric

BCS714D	Big Data Analytics	2.08	Good ability to design and develop solutions using big data storage, processing frameworks and analytics	For Big Data / an open des multiple accep and trade-off an; big data stora frameworks a through an en that extends the a more advanc context, and ass against a solutio
BCV755B	Conservation of Natural Resources	1.83	Moderate ability to design and develop solutions using natural-resource conservation and environmental impact	For Conservati Resources, as design-and-build peer or mentor centred on conservation an impact, throug reinforcement consolidates the applied setting, outcome again design rubric.
BAI786	Major Project Phase-II	2.00	Good ability to design and develop solutions using system integration, validation, testing and documentation	For Major Pr assign an open multiple accep and trade-off an; system integra testing and through an en that extends the a more advanc context, and ass against a solutio

For
(Industry/Research Weeks), assign brief with multiple solutions and tasks centred on industry tasks, professional problem solving enrichment activities the concept to advanced or research and assess the a solution-design

BAI803	Internship (Industry/Research) (14–20 Weeks)	2.00	Good ability to design and develop solutions using industry/research tasks, professional tools and problem solving
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Course Code	Course Name	PO4	Gap	Detailed Correlation
BPHYS102	Applied Physics For Cse Stream	1.62	Moderate investigative and analytical ability in mechanics, waves, optics and modern-physics principles	In Applied Physics Stream, assignments based on data analysis are built around mechanics, optics and principles, through reinforcement consolidates the applied setting, short written or findings.

BPOPS103	Principles of Programming Using C	0.57	Very weak investigative and analytical ability in C programming fundamentals, control structures and logic building	In Principles of Using C, demonstrated guided mini-investigation students attend around C fundamentals, control and logic building foundational, close remediation with checks at culminating in a oral analysis of
BESCK104 B	Introduction to Electrical Engineering	1.04	Weak investigative and analytical ability in electrical and electronics fundamentals	In Introduction Engineering, structured investigation with checkpoint inference built and electronics through structured supervised correction with prompt culminating in a oral analysis of
BETCK105 E	Renewable Energy Sources	1.22	Weak investigative and analytical ability in solar, wind, biomass and renewable-energy systems	In Renewable Energy provide a investigation checkpoints of inference built wind, biomass energy system structured, close corrective practical feedback, culminating written or oral findings.

BIDTK158	Innovation and Design Thinking	0.74	Very weak investigative and analytical ability in design thinking and innovation methodology	In Innovation Thinking, demo guided mini-inve students after around design innovation meth foundational, cl remediation v checks at culminating in a oral analysis of
BCS301	Mathematics for Computer Science	1.83	Moderate investigative and analytical ability in discrete structures, logic, relations, functions and combinatorial reasoning	In Mathematics Science, assign based investig data analysis a built around dis logic, relations combinatorial through a focus activity that c concept in an culminating in a oral analysis of
BCS302	Digital Design & Computer Organization	1.58	Moderate investigative and analytical ability in digital logic and computer organization concepts	In Digital Desi Organization, a study based requiring data interpretation bu logic and comp concepts, thro reinforcement consolidates th applied setting, short written or findings.

BCS303	Operating Systems	0.58	Very weak investigative and analytical ability in process, memory and file management concepts	In Operating Systems, demonstrate a fundamental investigation attempt one process, memory management concepts, foundational, remediation checks at culminating in a oral analysis of
BCS304	Data Structures and Applications	0.68	Very weak investigative and analytical ability in trees, graphs, hashing and data-structure implementation	In Data Structures Applications, demonstrate a guided mini-investigation students attempt around trees, and implementation, foundational, remediation checks at culminating in a oral analysis of
BCSL305	Data Structures Lab	1.46	Weak investigative and analytical ability in data structures and algorithm implementation	In Data Structures Lab, demonstrate a structured template with data and inference data structures implementation, structured, corrective practical feedback, culminating in written or oral findings.

BCS401	Analysis & Design Of Algorithms	1.51	Moderate investigative and analytical ability in algorithm design, recurrence, greedy methods and divide-and-conquer techniques	In Analysis Algorithms, assessment based investigative data analysis is built around a recurrence, greedy divide-and-conquer through a focused activity that culminates in an oral analysis of
BCS403	Database Management Systems	1.91	Moderate investigative and analytical ability in database design, normalization, SQL, transactions and query optimization	In Database Systems, assessment based investigative data analysis is built around database normalization, SQL and query optimization a focused reinforcement that consolidates an applied setting in a short written report of findings.
BCSL404	Analysis & Design of Algorithms Lab	2.03	Good investigative and analytical ability in implementation and performance comparison of algorithms	In Analysis Algorithms Lab, investigative tasks are literature-linked around implementing performance algorithms, enrichment activities the concept to advanced or research culminating in an oral analysis of

BCS501	Software Engineering & Project Management	1.75	Moderate investigative and analytical ability in requirements engineering, software design, testing and project management	In Software Project Management case-study has requiring data interpretation requirements software design project management focused reinforcement that consolidate an applied setting in a short written report of findings.
BCS502	Computer Networks	1.23	Weak investigative and analytical ability in networking concepts and protocols	In Computer Networks a structured template with data and inference networking concepts, protocols, through closely supervised practice with practical culminating in a oral analysis of
BAIL504	Data Visualization Lab	1.90	Moderate investigative and analytical ability in data cleaning, chart selection, visual storytelling and dashboard design	In Data Visualization assign a case investigation analysis and in around data selection, visual dashboard design focused reinforcement that consolidate an applied setting in a short written report of findings.

BCS515C	Unix System Programming	2.07	Good investigative and analytical ability in UNIX commands, shell scripting, processes and system programming	In Unix System assign an open task with a short hypothesis build commands, processes programming, enrichment activities the concept to advanced or re culminating in a oral analysis of
BRMK557	Research Methodology and IPR	2.38	Good investigative and analytical ability in problem formulation, literature review, research methodology, IPR and technical writing	In Research Methodology IPR, assign investigative to literature-linked around problem literature review methodology, IPR writing, through activity that extends toward a more a world context, short written or findings.

BCS508	Environmental Studies and E-Waste Management	2.35	Good investigative and analytical ability in environmental sustainability, pollution control, resource management and e-waste	In Environmental Waste Management open investigation short literature-built around sustainability, resource management, waste, through activity that extends toward a more global world context, short written or findings.
BAI602	Machine Learning – I	1.74	Moderate investigative and analytical ability in supervised/unsupervised learning algorithms and model evaluation	In Machine Learning a case-study investigation analysis and in around supervised learning algorithm evaluation, through reinforcement consolidates the applied setting, short written or findings.
BIS613D	Cloud Computing and Security	1.16	Weak investigative and analytical ability in cloud service models, virtualization and security concepts	In Cloud Computing Security, provide investigation checkpoints for inference built service model and security concepts structured, close corrective practical feedback, culminated written or findings.

BEE654B	Technologies Of Renewable Energy Source	1.05	Moderate ability to investigate renewable energy system performance and interpret technical or experimental data	For Technologies Energy Source focused investigation PV or solar thermal data involving temperature, current, require calculate parameters and results, through investigation and a short technical review.
BAIL606	Machine Learning Lab	3.00	Weak investigative and analytical ability in machine learning and AI model implementation	In Machine provide a investigation checkpoints for inference built learning and implementation, structured, close corrective practical feedback, culminating in written or oral findings.
BAIL657C	Generative AI Lab	1.44	Weak investigative and analytical ability in generative AI concepts, prompt engineering and model usage	In Generative AI structured investigation with checkpoints for inference built generative AI concepts engineering and through structured supervised correlation with prompt culminating in a oral analysis of

BAI702	Machine Learning – II	0.89	Very weak investigative and analytical ability in advanced machine learning and ensemble/optimisation techniques	In Machine Learning, students demonstrate a foundation in machine learning investigation techniques, attempt one advanced machine learning ensemble/optimisation techniques, foundational, classification, remediation and checks at the end, culminating in a final oral analysis of the results.
BAD703	Data Security & Privacy	1.17	Weak investigative and analytical ability in data security, privacy and cryptography concepts	In Data Security & Privacy, students provide a foundation in investigation checkpoints for inference built on security, privacy, cryptography concepts, structured, closed, corrective practical feedback, culminating in written or oral findings.
BCS714D	Big Data Analytics	2.08	Good investigative and analytical ability in big data storage, processing frameworks and analytics	In Big Data Analytics, students open investigation short literature-based built around big data processing frameworks, analytics, through activity that extends toward a more global world context, short written or oral findings.

BCV755B	Conservation of Natural Resources	1.22	Weak investigative and analytical ability in natural-resource conservation and environmental impact	In Conservation Resources, provide investigation checkpoints for inference built resource conservation environmental structured, close corrective practical feedback, culminate written or oral findings.
BAI786	Major Project Phase-II	2.20	Good investigative and analytical ability in system integration, validation, testing and documentation	In Major Project assign an open task with a short hypothesis built integration, validation and documentation enrichment activities the concept to advanced or research culminating in a oral analysis of
BAI803	Internship (Industry/Research) (14–20 Weeks)	2.00	Good investigative and analytical ability in industry/research tasks, professional tools and problem solving	In (Industry/Research Weeks), assist investigative to literature-linked around industry professional tools solving, through activity that extend toward a more global world context, short written or findings.

Course Code	Course Name	PO5	Gap	Detailed Correlation
BMATS101	Mathematics-I for CSE Stream	1.65	Moderate exposure to modern tools for differential calculus, matrices, vector calculus and problem-solving techniques	For Mathematics Stream, assignments follow independent tasks on an software/simulating environment calculus, matrix calculus and techniques, through reinforcement consolidates the applied setting students to selection, of limitations.
BPOPS103	Principles of Programming Using C	0.57	Very weak exposure to modern tools for C programming fundamentals, control structures and logic building	For Principles of Programming Using C, run a self-orientation session independent appropriate software/simulating environment programming control structures building, through closely scaffolded with diagnostic stage, and require document tools and limitations.

BESCK104 B	Introduction to Electrical Engineering	1.14	Weak exposure to modern tools for electrical and electronics fundamentals	For Introductio Engineering, pa usage exercise independent fol an software/simulat g environment f electronics through struc supervised cor with prompt require student tool selection, limitations.
BMATS201	Mathematics-II for CSE Stream	1.75	Moderate exposure to modern tools for differential equations, transforms and numerical methods	For Mathemati Stream, assign exercise follo independent tas on an software/simulat g environment equations, tra numerical meth focused reinfor that consolidate an applied setti students to selection, c limitations.

BCHE202	Applied Chemistry for CSE Stream	1.33	Weak exposure to modern tools for chemical bonding, materials, electrochemistry and engineering applications	For Applied Chemistry Stream, pair a group exercise with independent fol an software/simulat g environment bonding, electrochemistry engineering through struc supervised cor with prompt require student tool selection, limitations.
BCEDK203	Computer Aided Engineering Drawing	2.26	Good exposure to modern tools for engineering drawing, projections, sections and CAD modelling	For Computer Aided Drawing, assign mini-project guidance on software/simulat g environment drawing, projec and CAD mode enrichment activ the concept to advanced or re and require document tool s and limitations.

BESCK204 D	Introduction to Mechanical Engineering	2.19	Good exposure to modern tools for machines, materials, mechanisms and manufacturing processes	For Introduction Engineering, ass mini-project guidance on software/simulat g environment materials, me manufacturing through an eni that extends the a more advanc context, and rec document tool s and limitations.
BPLCK205 B	Introduction to Python Programming	1.31	Weak exposure to modern tools for Python programming, functions, data structures, file handling and modular coding	For Introductio Programming, p usage exercise independent fol an software/simulat g environmen programming, structures, file modular coc structured, clos corrective pract feedback, and to document outputs and limit

BCS301	Mathematics for Computer Science	1.63	Moderate exposure to modern tools for discrete structures, logic, relations, functions and combinatorial reasoning	For Mathematic Science, assign exercise follow independent task on an software/simulating environment structures, logic functions and reasoning, through reinforcement consolidates the applied setting students to selection, constraints and limitations.
BCS302	Digital Design & Computer Organization	1.58	Moderate exposure to modern tools for digital logic and computer organization concepts	For Digital Design Organization, assign exercise follow independent task on an software/simulating environment and computer concepts, through reinforcement consolidates the applied setting students to selection, constraints and limitations.

BCS303	Operating Systems	0.58	Very weak exposure to modern tools for process, memory and file management concepts	For Operating fully guided session before use on all software/simulating environment memory and file concepts, through closely scaffolded with diagnostic stage, and require document tools and limitations.
BCS304	Data Structures and Applications	1.36	Weak exposure to modern tools for trees, graphs, hashing and data-structure implementation	For Data Structures Applications, pass usage exercise independent for an software/simulating environment for hashing and implementation, structured, close corrective practice feedback, and to document outputs and limitations.

BCSL305	Data Structures Lab	1.46	Weak exposure to modern tools for data structures and algorithm implementation	For Data Structures, a guided tool-based task on a software/simulating environment structures a implementation, structured, close corrective practical feedback, and to document outputs and limit
BCS306A	Object Oriented Programming With Java	1.83	Moderate exposure to modern tools for classes, inheritance, polymorphism, exception handling and Java application design	For Object Oriented Programming, a guided exercise independent task on an software/simulating environment inheritance, exception handling application design focused reinforcement that consolidate an applied setting students to selection, and limitations.

BAI358D	PHP Programming	2.80	Strong exposure to modern tools for web application programming using PHP	For PHP Program an advanced, s based task with of choices on software/simulat g environmen application prog PHP, through ar directed extens sustains and strength, and re document tool s and limitations.
BCS401	Analysis & Design Of Algorithms	1.74	Moderate exposure to modern tools for algorithm design, recurrence, greedy methods and divide-and-conquer techniques	For Analysis Algorithms, as exercise follo independent tas on an software/simulat g environment design, recur methods and conquer technic focused refor that consolidate an applied setti students to selection, c limitations.

BAD402	Artificial Intelligence	1.63	Moderate exposure to modern tools for search, knowledge representation and machine-learning concepts	For Artificial Intelligence, a guided exercise independent task on an software/simulating environment knowledge representation machine-learning through a focused activity that covers the concept in an and require document tools and limitations.
BCS403	Database Management Systems	2.29	Good exposure to modern tools for database design, normalization, SQL, transactions and query optimization	For Database Systems, assign mini-project guidance on software/simulating environment design, normalization, transactions optimization, enrichment activities the concept to advanced or require document tools and limitations.

BCSL404	Analysis & Design of Algorithms Lab	2.03	Good exposure to modern tools for implementation and performance comparison of algorithms	For Analysis Algorithms Lab, based mini-proj guidance on software/simulat g environ implementation performance algorithms, enrichment activ the concept to advanced or re and require document tool s and limitations.
BDSL456B	MongoDB	1.65	Moderate exposure to modern tools for NoSQL database (MongoDB) concepts	For MongoDB, exercise follo independent tas on an software/simulat g environmen database (Mong through a focus activity that c concept in an and require document tool s and limitations.

BCS501	Software Engineering & Project Management	2.62	Strong exposure to modern tools for requirements engineering, software design, testing and project management	For Software Project Management, advanced, self-based task with choices on software/simulating environment, engineering, software testing and project management through an advanced directed extension sustains and strength, and re document tool s and limitations.
BCS502	Computer Networks	1.84	Moderate exposure to modern tools for networking concepts and protocols	For Computer Networks, a guided exercise independent task on an software/simulating environment concepts and project a focused reinforcement that consolidate an applied setting students to selection, and limitations.

BAIL504	Data Visualization Lab	2.28	Good exposure to modern tools for data cleaning, chart selection, visual storytelling and dashboard design	For Data Vis assign a tool-based activity with limited graphical design, through activity that extends toward a more applied world context, students to selection, and limitations.
BCS515C	Unix System Programming	1.52	Moderate exposure to modern tools for UNIX commands, shell scripting, processes and system programming	For Unix System assign a graphical activity followed by an activity using the tool or software/simulating environment commands, system processes programming, the reinforcement consolidates the applied setting students to selection, and limitations.

BAI601	Natural Language Processing	1.56	Moderate exposure to modern tools for text preprocessing, feature representation, sequence models and NLP evaluation	For Natural Language Processing, as an exercise follows an independent task on an software/simulating environment for text preprocessing, representation, models and NLP through a focus activity that covers the concept in an and require document tools and limitations.
BAI602	Machine Learning – I	1.45	Weak exposure to modern tools for supervised/unsupervised learning algorithms and model evaluation	For Machine Learning, as an exercise follows a guided tool-usage on a short independent task on a software/simulating environment for supervised/unsupervised learning algorithm evaluation, through closely supervised practice with projects and require document tools and limitations.

BIS613D	Cloud Computing and Security	1.73	Moderate exposure to modern tools for cloud service models, virtualization and security concepts	For Cloud Security, assign exercise following independent task on an software/simulating environment for models, virtual security concepts focused reinforcement that consolidate an applied setting students to selection, constraints and limitations.
BEE654B	Technologies Of Renewable Energy Source	1.05	Moderate ability to select and apply modern tools for renewable energy analysis, modelling and performance evaluation	For Technologies Energy Source, supported a spreadsheet-based suitable simulation solar radiation output and re performance, modelling exercise an independent assignment students to generated result

BAIL606	Machine Learning Lab	3.00	Weak exposure to modern tools for machine learning and AI model implementation	For Machine Learning, a guided tool with a short independent task on software/simulating environment learning and implementation, structured, close corrective practice feedback, and to document outputs and limit
BAIL657C	Generative AI Lab	1.61	Moderate exposure to modern tools for generative AI concepts, prompt engineering and model usage	For Generative AI, a guided exercise independent task on an software/simulating environment for concepts, prompt and model usage focused reinforcement that consolidate an applied setting students to selection, and limitations.

BAI701	Deep Learning & Reinforcement Learning	1.57	Moderate exposure to modern tools for neural network architectures, deep learning and reinforcement-learning concepts	For Deep Reinforcement Learning, a guided exercise on an independent task on a software/simulating environment. network architecture learning and learning concepts focused reinforcement learning that consolidate an applied setting. students to selection, strengths and limitations.
BAI702	Machine Learning – II	1.08	Weak exposure to modern tools for advanced machine learning and ensemble/optimisation techniques	For Machine Learning, a guided tool-based task on a software/simulating environment. machine learning ensemble/optimisation techniques, through closely supervised practice with projects and require document tools and limitations.

BAD703	Data Security & Privacy	1.17	Weak exposure to modern tools for data security, privacy and cryptography concepts	For Data Security a guided tool with a short introduction task on software/simulating environment for privacy and concepts, through closely supervised practice with projects and require document tools and limitations.
BCS714D	Big Data Analytics	2.08	Good exposure to modern tools for big data storage, processing frameworks and analytics	For Big Data Analytics a tool-based module with limited guidance on appropriate software/simulating environment storage, processing and analytics, enrichment activities the concept to advanced or real-time and require document tools and limitations.

BAI786	Major Project Phase–II	2.40	Good exposure to modern tools for system integration, validation, testing and documentation	For Major Pr
				assign a tool-ba with limited gr appropriate software/simulat g environmen integration, va and documenta enrichment activ the concept to advanced or re and require document tool s and limitations.
BAI803	Internship (Industry/Resea rch) (14–20 Weeks)	2.50	Strong exposure to modern tools for industry/research tasks, professional tools and problem solving	For (Industry/Resea Weeks), assign self-directed too documentation c appropriate software/simulat g environ industry/researc professional too solving, through self-directed ext sustains and strength, and re document tool s and limitations.

Course Code	Course Name	PO6	Gap	Detailed Correc
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BPOPS103	Principles of Programming Using C	0.57	Very weak linkage of C programming fundamentals, control structures and logic building to societal, health, safety, legal or cultural considerations	For Principles of Prog C, introduce the angle through a example first around fundamentals, control logic building, through closely scaffolded re diagnostic checks a requiring a short n assessed with awareness rubric.
BESCK104 B	Introduction to Electrical Engineering	0.73	Very weak linkage of electrical and electronics fundamentals to societal, health, safety, legal or cultural considerations	For Introduction Engineering, introduce societal/safety angle worked example electrical and fundamentals, through closely scaffolded re diagnostic checks a requiring a short n assessed with awareness rubric.
BETCK105 E	Renewable Energy Sources	1.70	Moderate linkage of solar, wind, biomass and renewable-energy systems to societal, health, safety, legal or cultural considerations	For Renewable En add a case study topic with a real soc community context wind, biomass ar energy systems, through reinforcement a consolidates the c applied setting, req reflective report as contextual-awareness

BCHES202	Applied Chemistry for CSE Stream	1.33	Weak linkage of chemical bonding, materials, electrochemistry and engineering applications to societal, health, safety, legal or cultural considerations	For Applied Chem Stream, add a sho study linking the topic safety context arc bonding, materials, e and engineering through structur supervised corrective prompt feedback, re reflective report as contextual-awareness
BCS303	Operating Systems	0.58	Very weak linkage of process, memory and file management concepts to societal, health, safety, legal or cultural considerations	For Operating Syst the societal/safety a fully worked exampl process, memory management conc foundational, close remediation with dia at every stage, rec reflective report as contextual-awareness
BCS304	Data Structures and Applications	0.68	Very weak linkage of trees, graphs, hashing and data-structure implementation to societal, health, safety, legal or cultural considerations	For Data Str Applications, int societal/safety angle worked example fir graphs, hashing and implementation, foundational, close remediation with dia at every stage, rec reflective report as contextual-awareness

BCSL305	Data Structures Lab	0.73	Very weak linkage of data structures and algorithm implementation to societal, health, safety, legal or cultural considerations	For Data Structures the societal/safety a fully worked example data structures & implementation, foundational, close remediation with dia at every stage, rec reflective report as contextual-awareness
BCS306A	Object Oriented Programming With Java	1.35	Weak linkage of classes, inheritance, polymorphism, exception handling and Java application design to societal, health, safety, legal or cultural considerations	For Object Oriented With Java, add a study linking the topic safety context and inheritance, exception handling application design structured, closely corrective practice feedback, requiring a report assessed with awareness rubric.
BAI358D	PHP Programming	1.50	Moderate linkage of web application programming using PHP to societal, health, safety, legal or cultural considerations	For PHP Programming study connecting the real societal, safety context around web programming using PHP focused reinforcement consolidates the concept applied setting, requires reflective report as contextual-awareness

BCS401	Analysis & Design Of Algorithms	0.76	Very weak linkage of algorithm design, recurrence, greedy methods and divide-and-conquer techniques to societal, health, safety, legal or cultural considerations	For Analysis & Design introduce the societal through a fully worked around algorithm design greedy methods a conquer technique foundational, close remediation with dia at every stage, rec reflective report as contextual-awareness
BAD402	Artificial Intelligence	1.63	Moderate linkage of search, knowledge representation and machine-learning concepts to societal, health, safety, legal or cultural considerations	For Artificial Intelligence study connecting the real societal, safety context around search representation and machine-learning concepts, through reinforcement a consolidates the c applied setting, req reflective report as contextual-awareness

BCS403	Database Management Systems	1.91	Moderate linkage of database design, normalization, SQL, transactions and query optimization to societal, health, safety, legal or cultural considerations	For Database Systems, add a connecting the topic societal, safety context around data normalization, SQL and query optimization focused reinforcement consolidates the context applied setting, requires reflective report as contextual-awareness
BCS405A	Discrete Mathematics Structures	1.11	Weak linkage of sets, relations, graph theory and combinatorics to societal, health, safety, legal or cultural considerations	For Discrete Mathematics, add a short guide linking the topic to safety context around graph theory and through structure supervised corrective prompt feedback, requires reflective report as contextual-awareness
BCS502	Computer Networks	1.23	Weak linkage of networking concepts and protocols to societal, health, safety, legal or cultural considerations	For Computer Networks guided case study link a societal or safety networking concepts through structure supervised corrective prompt feedback, requires reflective report as contextual-awareness

BAIL504	Data Visualization Lab	0.76	Very weak linkage of data cleaning, chart selection, visual storytelling and dashboard design to societal, health, safety, legal or cultural considerations	For Data Visualization the societal/safety a fully worked example data cleaning, chart storytelling and dashboard through foundational scaffolded remedial diagnostic checks and requiring a short presentation assessed with a contextual-awareness rubric.
BRMK557	Research Methodology and IPR	1.59	Moderate linkage of problem formulation, literature review, research methodology, IPR and technical writing to societal, health, safety, legal or cultural considerations	For Research Methodology add a case study topic with a real social community context and formulation, literature research methodology technical writing, through reinforcement and consolidates the concepts applied setting, requires reflective report and contextual-awareness

BCS508	Environmental Studies and E-Waste Management	2.35	Good linkage of environmental sustainability, pollution control, resource management and e-waste to societal, health, safety, legal or cultural considerations	For Environmental & Waste Management stakeholder-impact minimal guidance environmental pollution control management and e-waste an enrichment activity the concept towards advanced or real-world requiring a short presentation assessed with awareness rubric.
BIS613D	Cloud Computing and Security	0.58	Very weak linkage of cloud service models, virtualization and security concepts to societal, health, safety, legal or cultural considerations	For Cloud Computing introduce the societal impact through a fully worked around cloud service virtualization and security through foundational scaffolded remedial diagnostic checks and requiring a short presentation assessed with awareness rubric.

BEE654B	Technologies Of Renewable Energy Source	1.05	Moderate ability to assess the societal, safety and practical implications of renewable energy technologies and their implementation	For Technologies of Renewable Energy Source, use case studies of PV, solar water electrification, biohydrogen system students to examine safety implementation cost societal benefits, structured case-analysis short follow-up assessment
BAD703	Data Security & Privacy	1.17	Weak linkage of data security, privacy and cryptography concepts to societal, health, safety, legal or cultural considerations	For Data Security & Privacy, use short guided case study topic to a societal or environmental around data security cryptography concepts structured, closely corrective practice feedback, requiring a report assessed with awareness rubric.
BCV755B	Conservation of Natural Resources	1.70	Moderate linkage of natural-resource conservation and environmental impact to societal, health, safety, legal or cultural considerations	For Conservation of Natural Resources, add a connecting the topic societal, safety context around conservation and impact, through reinforcement a consolidates the context applied setting, requires reflective report as contextual-awareness

BAI786	Major Project Phase-II	1.40	Weak linkage of system integration, validation, testing and documentation to societal, health, safety, legal or cultural considerations	For Major Project P short guided case si topic to a societal or around system validation, tes documentation, thro closely supervise practice with pror requiring a short n assessed with awareness rubric.
BAI803	Internship (Industry/Research) (14–20 Weeks)	1.50	Moderate linkage of industry/research tasks, professional tools and problem solving to societal, health, safety, legal or cultural considerations	For Internship (Ind (14–20 Weeks), adc connecting the topi societal, safety c context around in tasks, professional problem solving, thro reinforcement a consolidates the c applied setting, req reflective report as contextual-awareness

Course Code	Course Name	PO7	Gap	Detailed Correc
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BPHYS102	Applied Physics For Cse Stream	1.08	Weak awareness of the environmental and sustainability impact of mechanics, waves, optics and modern-physics principles	For Applied Phys Stream, add environmental-impact to the topic covering waves, optics and principles, through closely supervise practice with proper evaluated through a on resource use strategies.
BESCK104 B	Introduction to Electrical Engineering	1.56	Moderate awareness of the environmental and sustainability impact of electrical and electronics fundamentals	For Introduction Engineering, add an impact assessment evaluated through covering electrical & fundamentals, through reinforcement a consolidates the c applied setting, evaluate short write-up on res mitigation strategies.
BETCK105 E	Renewable Energy Sources	1.22	Weak awareness of the environmental and sustainability impact of solar, wind, biomass and renewable-energy systems	For Renewable En add a guided environment worksheet tied to the solar, wind, biomass energy systems, through closely supervise practice with proper evaluated through a on resource use strategies.

BCS303	Operating Systems	0.58	Very weak awareness of the environmental and sustainability impact of process, memory and file management concepts	For Operating S through a fully worked example before any covering process, management concepts foundational, close remediation with diagrams at every stage, evaluation short write-up on remediation strategies.
BAI358D	PHP Programming	1.00	Weak awareness of the environmental and sustainability impact of web application programming using PHP	For PHP Program guided environment worksheet tied to the web application programming PHP, through structured supervised corrective prompt feedback, evaluation a short write-up on remediation strategies.

BRMK557	Research Methodology and IPR	2.38	Good awareness of the environmental and sustainability impact of problem formulation, literature review, research methodology, IPR and technical writing	For Research Method assign a resource-use analysis task with literature review methodology, IPR writing, through an activity that extend toward a more advanced world context, evaluate short write-up on resource mitigation strategies.
BCS508	Environmental Studies and E-Waste Management	2.35	Good awareness of the environmental and sustainability impact of environmental sustainability, pollution control, resource management and e-waste	For Environmental & Waste Management resource-use / life-cycle task with limited guidelines environmental pollution control management and evaluation an enrichment activity the concept toward advanced or real-evaluated through a on resource use strategies.

BIS613D	Cloud Computing and Security	1.16	Weak awareness of the environmental and sustainability impact of cloud service models, virtualization and security concepts	For Cloud Computing add a guided environment worksheet tied to the cloud service model and security concepts, structured, closely corrective practice feedback, evaluated write-up on resource mitigation strategies.
BEE654B	Technologies Of Renewable Energy Source	1.46	Moderate understanding of environmental sustainability and the environmental impact of renewable energy technologies	For Technologies Energy Source, comparative sustain covering solar, bio and ocean energy requiring students environmental impact emission reduction utilization and sustain through an application comparison report sustainable energy project
BAD703	Data Security & Privacy	1.63	Moderate awareness of the environmental and sustainability impact of data security, privacy and cryptography concepts	For Data Security & environmental-impact component evaluation analysis covering privacy and cryptography through a focused activity that consolidates in an applied setting through a short write-up and mitigation strategies

BCV755B	Conservation of Natural Resources	1.22	Weak awareness of the environmental and sustainability impact of natural-resource conservation and environmental impact	For Conservation Resources, add environmental-impact to the topic cover resource conservation environmental impact structured, closely corrective practice feedback, evaluated write-up on resource mitigation strategies.
BAI786	Major Project Phase—II	1.60	Moderate awareness of the environmental and sustainability impact of system integration, validation, testing and documentation	For Major Project Phase II environmental-impact component evaluation analysis covering system validation, testing documentation, through reinforcement a consolidates the current applied setting, evaluation short write-up on resource mitigation strategies.

BAI803	Internship (Industry/Research) (14–20 Weeks)	3.00	Strong awareness of the environmental and sustainability impact of industry/research tasks, professional tools and problem solving	For Internship (Ind (14–20 Weeks), independent study for advancement covering industry/research professional tools solving, through an directed extension task and showcases evaluated through a on resource use strategies.
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Course Code	Course Name	PO8	Gap	Detailed Correction
BPHYS102	Applied Physics For Cse Stream	1.62	Moderate integration of professional ethics into mechanics, waves, optics and modern-physics principles	For Applied Physics Stream, embed a project module using real studies tied to mechanics and optics principles, through reinforcement a consolidates the concept applied setting, assessment short reflective exercises responsibilities involving

BPOPS103	Principles of Programming Using C	0.57	Very weak integration of professional ethics into C programming fundamentals, control structures and logic building	For Principles of Programming C, introduce ethics through a worked case discussion. Independent task programming fundamental structures and logic building foundational, close remediation with diagnostic at every stage, assessment short reflective exercises responsibilities involved.
BCHE202	Applied Chemistry for CSE Stream	1.99	Moderate integration of professional ethics into chemical bonding, materials, electrochemistry and engineering applications	For Applied Chemistry Stream, embed a professional module using real studies tied to chemical materials, electrochemical engineering applications focused reinforcement consolidates the concepts applied setting, assessment short reflective exercises responsibilities involved.
BPLCK205 B	Introduction to Python Programming	0.73	Very weak integration of professional ethics into Python programming, functions, data structures, file handling and modular coding	For Introduction to Programming, introduce through a fully discussion before a task tied to Python functions, data handling and modular through foundational scaffolded remediation diagnostic checks are assessed through a essay on the involved.

BCS501	Software Engineering & Project Management	1.75	Moderate integration of professional ethics into requirements engineering, software design, testing and project management	For Software Engineering Management, embed ethics module using case studies tied to engineering, software and project management focused reinforcement consolidates the c applied setting, asse short reflective e responsibilities involv
BRMK557	Research Methodology and IPR	1.59	Moderate integration of professional ethics into problem formulation, literature review, research methodology, IPR and technical writing	For Research Methodology embed a professional ethics module using real incident case studies to problem formulation, review, research methodology and technical writing focused reinforcement consolidates the c applied setting, asse short reflective e responsibilities involv
BCS508	Environmental Studies and E-Waste Management	1.96	Moderate integration of professional ethics into environmental sustainability, pollution control, resource management and e-waste	For Environmental Studies & Waste Management embed professional-ethics module using real incident case studies on environmental pollution control management and e-waste focused reinforcement consolidates the c applied setting, asse short reflective e responsibilities involv

BEE654B	Technologies Of Renewable Energy Source	1.05	Moderate understanding of professional ethics, safety practices and responsible engineering considerations in renewable energy applications	For Technologies Energy Source, conduct discussions on safe operation of photothermal, hydrogen systems, requiring identify safety risks, concerns and engineering practice structured safety-ar and preparation of responsibility checklis
BAI786	Major Project Phase-II	1.80	Moderate integration of professional ethics into system integration, validation, testing and documentation	For Major Project Phase professional-ethics real incident case system integration testing and document a focused reinforcement consolidates the c applied setting, assessment short reflective es responsibilities involv
BAI803	Internship (Industry/Research) (14–20 Weeks)	3.00	Strong integration of professional ethics into industry/research tasks, professional tools and problem solving	For Internship (Industry/Research) (14–20 Weeks), independent ethics advanced student industry/research tasks tools and problem s an advanced, self-directed task that sustains a this strength, assessment short reflective es responsibilities involv

**Course
Code**

Course Name

PO9

Gap

Detailed Correction

BPOPS103	Principles of Programming Using C	0.57	Very weak team-based, collaborative learning exposure in C programming fundamentals, control structures and logic building	In Principles of Prog C, introduce teamw small, closely mento first around C fundamentals, contro logic building, throug closely scaffolded re diagnostic checks a and assess team alongside technical peer-assessment rub
BESCK104 B	Introduction to Electrical Engineering	0.52	Very weak team-based, collaborative learning exposure in electrical and electronics fundamentals	In Introduction Engineering, introdu through a small, clo paired task first arou electronics fundame foundational, close remediation with dia at every stage, and effectiveness along output using a p rubric.
BCEDK203	Computer Aided Engineering Drawing	1.13	Weak team-based, collaborative learning exposure in engineering drawing, projections, sections and CAD modelling	In Computer Aide Drawing, restructure coursework into a assignment with around engineeri projections, section modelling, throug closely supervise practice with prompt assess team effective technical output u assessment rubric.

BESCK204 D	Introduction to Mechanical Engineering	1.10	Weak team-based, collaborative learning exposure in machines, materials, mechanisms and manufacturing processes	In Introduction to Engineering, restructure the coursework into assignment with around machines mechanisms and processes, through closely supervise practice with prompt assess team effective technical output u assessment rubric.
BPLCK205 B	Introduction to Python Programming	1.45	Weak team-based, collaborative learning exposure in Python programming, functions, data structures, file handling and modular coding	In Introduction Programming, restructure of the coursework into assignment with around Python functions, data s handling and mc through structure supervised corrective prompt feedback, an effectiveness along output using a p rubric.
BCSL404	Analysis & Design of Algorithms Lab	2.03	Good team-based, collaborative learning exposure in implementation and performance comparison of algorithms	In Analysis & Design Lab, assign a larger peer-led role allow implementation and comparison of algorithm an enrichment activity the concept towards advanced or real-world assess team effective technical output u assessment rubric.

BAIL504	Data Visualization Lab	2.28	Good team-based, collaborative learning exposure in data cleaning, chart selection, visual storytelling and dashboard design	In Data Visualization larger team task with allocation around chart selection, vis and dashboard design enrichment activity the concept toward a more real-world context, an effectiveness along output using a pre rubric.
BRMK557	Research Methodology and IPR	2.14	Good team-based, collaborative learning exposure in problem formulation, literature review, research methodology, IPR and technical writing	In Research Method assign a larger team led role allocation and formulation, literature research methodology technical writing, enrichment activity the concept toward a more real-world context, an effectiveness along output using a pre rubric.

BCS508	Environmental Studies and E-Waste Management	2.35	Good team-based, collaborative learning exposure in environmental sustainability, pollution control, resource management and e-waste	In Environmental S Waste Management, team task with allocation around sustainability, pollution resource management through an enrichment extends the concept advanced or real-world assess team effective technical output using assessment rubric.
BAI786	Major Project Phase-II	2.00	Good team-based, collaborative learning exposure in system integration, validation, testing and documentation	In Major Project Phase larger team task with allocation around system validation, testing documentation, enrichment activity the concept toward a more real-world context, and effectiveness along output using a project rubric.
BAI803	Internship (Industry/Research) (14–20 Weeks)	3.00	Strong team-based, collaborative learning exposure in industry/research tasks, professional tools and problem solving	In Internship (Industry (14–20 Weeks), assigned team project with minimum intervention industry/research tasks tools and problem solving an advanced, self-directed task that sustains and this strength, and effectiveness along output using a project rubric.

Course Code	Course Name	PO1 0	Gap	Detailed Correction
BPOPS103	Principles of Programming Using C	0.57	Very weak technical communication ability in C programming fundamentals, control structures and logic building	For Principles of Programming Using C, provide a fully scaffolded template before an independent writing task. For programming fundamentals, control structures and logic building, provide a non-specialist audience focused remediation with diagnostic checks at every stage, as assessed with a communication rubric.
BCHES202	Applied Chemistry for CSE Stream	1.99	Moderate technical communication ability in chemical bonding, materials, electrochemistry and engineering applications	For Applied Chemistry for CSE Stream, add a 1 component requiring a report or poster explaining chemical bonding, materials, electrochemistry and engineering applications. For non-specialist audience focused remediation, consolidate the communication rubric.
BPLCK205 B	Introduction to Python Programming	0.73	Very weak technical communication ability in Python programming, functions, data structures, file handling and modular coding	For Introduction to Python Programming, provide a report template with independent writing scaffolding. For Python programming, functions, data structures, file handling and modular coding, provide a non-specialist audience focused remediation through foundational scaffolding, diagnostic checks and assessment with a communication rubric.

BCS303	Operating Systems	0.88	Very weak technical communication ability in process, memory and file management concepts	For Operating Systems fully guided report template any independent explaining process, resource management concepts specialist audience foundational, close remediation with dialogue at every stage, as communication rubric
BCS304	Data Structures and Applications	0.68	Very weak technical communication ability in trees, graphs, hashing and data-structure implementation	For Data Structures Applications, provide report template independent writing trees, graphs, hash structure implementation specialist audience foundational, close remediation with dialogue at every stage, as communication rubric
BCSL305	Data Structures Lab	0.73	Very weak technical communication ability in data structures and algorithm implementation	For Data Structures fully guided report template any independent explaining data structures algorithm implementation specialist audience foundational, close remediation with dialogue at every stage, as communication rubric

BCS306A	Object Oriented Programming With Java	0.68	Very weak technical communication ability in classes, inheritance, polymorphism, exception handling and Java application design	For Object Oriented With Java, provide report template independent writing classes, inheritance, exception handling application design to audience, through closely scaffolded re diagnostic checks a assessed with a rubric.
BAI358D	PHP Programming	3.00	Strong technical communication ability in web application programming using PHP	For PHP Programm independent present for advanced student web application prog PHP to a non-spec through an advance extension task that showcases this stre with a communication
BCS401	Analysis & Design Of Algorithms	0.76	Very weak technical communication ability in algorithm design, recurrence, greedy methods and divide-and-conquer techniques	For Analysis & Design provide a fully template before an writing task explain design, recurrence, g and divide-and-conq to a non-specialist au foundational, close remediation with dia at every stage, as communication rubric

BCS501	Software Engineering & Project Management	1.75	Moderate technical communication ability in requirements engineering, software design, testing and project management	For Software Engineering Management, add a 1 component requiring report or poster requirements engineering design, testing management to a audience, through reinforcement a consolidates the c applied setting, ass communication rubric
BAIL504	Data Visualization Lab	0.76	Very weak technical communication ability in data cleaning, chart selection, visual storytelling and dashboard design	For Data Visualization fully guided report t any independent explaining data c selection, visual s dashboard design to audience, through closely scaffolded re diagnostic checks a assessed with a rubric.
BIS613D	Cloud Computing and Security	0.58	Very weak technical communication ability in cloud service models, virtualization and security concepts	For Cloud Computing provide a fully template before an writing task explainin models, virtualization concepts to a audience, through closely scaffolded re diagnostic checks a assessed with a rubric.

BAI786	Major Project Phase-II	2.20	Good technical communication ability in system integration, validation, testing and documentation	For Major Project PI a short presentatic specialist audience guidance explain integration, validation documentation to a audience, through activity that extend toward a more adv world context, ass communication rubric
BAI803	Internship (Industry/Research) (14–20 Weeks)	2.50	Strong technical communication ability in industry/research tasks, professional tools and problem solving	For Internship (Ind (14–20 Weeks), independent present for advanced student industry/research tasks tools and problem solving specialist audience advanced, self-directed task that sustains a this strength, ass communication rubric

Course Code	Course Name	PO11	Gap	Detailed Cor
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BMATS101	Mathematics-I for CSE Stream	0.55	Very weak exposure to project planning, scheduling and resource management in differential calculus, matrices, vector calculus and problem-solving techniques	For Mathematics Stream, walk worked example before attempt for different matrices, vector problem-solving through found scaffolded re diagnostic check stage, followed reflection and adherence to decisions.
BPOPS103	Principles of Programming Using C	0.57	Very weak exposure to project planning, scheduling and resource management in C programming fundamentals, control structures and logic building	For Principles Using C, walk worked example before attempt for fundamentals, structures and through found scaffolded re diagnostic check stage, followed reflection and adherence to decisions.

BESCK104 B	Introduction to Electrical Engineering	1.04	Weak exposure to project planning, scheduling and resource management in electrical and electronics fundamentals	For Introductory Engineering, project-planning covering timelines for electrical fundamentals, structured, clear corrective practices, feedback, follow-up reflection and adherence to decisions.
BETCK105 E	Renewable Energy Sources	1.83	Moderate exposure to project planning, scheduling and resource management in solar, wind, biomass and renewable-energy systems	For Renewable Sources, including planning activities, objectives, milestone tracking, wind, biomass energy system focused reinforcement that consolidates an applied set of a brief reflective adherence to decisions.

BMATS201	Mathematics-II for CSE Stream	0.58	Very weak exposure to project planning, scheduling and resource management in differential equations, transforms and numerical methods	For Mathematics Stream, walk worked example before attempt for equations, to numerical methods foundational, c remediation checks at every by a brief reflection adherence & decisions.
BPLCK205 B	Introduction to Python Programming	0.73	Very weak exposure to project planning, scheduling and resource management in Python programming, functions, data structures, file handling and modular coding	For Introduction to Programming, fully worked example before attempt programming, structures, file modular code foundational, c remediation checks at every by a brief reflection adherence & decisions.

BCS303	Operating Systems	0.29	Very weak exposure to project planning, scheduling and resource management in process, memory and file management concepts	For Operating through a fully planning exam student attempt memory and 1 concepts, through closely scaffold with diagnostic stage, followed reflection adherence & decisions.
BCS304	Data Structures and Applications	2.04	Good exposure to project planning, scheduling and resource management in trees, graphs, hashing and data-structure implementation	For Data Structures Applications, a planning task guidance and for trees, graph data-structure through an environment that extends to a more advanced context, followed reflection adherence & decisions.

BAD402	Artificial Intelligence	1.63	Moderate exposure to project planning, scheduling and resource management in search, knowledge representation and machine-learning concepts	For Artificial include a activity require timeline and m for search representation learning conce focused reinfo that consolidate an applied set a brief reflecti adherence & decisions.
BCS502	Computer Networks	1.84	Moderate exposure to project planning, scheduling and resource management in networking concepts and protocols	For Compu include a activity require timeline and m for networking protocols, thro reinforcement consolidates th applied setting brief reflection adherence & decisions.

BRMK557	Research Methodology and IPR	2.06	Good exposure to project planning, scheduling and resource management in problem formulation, literature review, research methodology, IPR and technical writing	For Research IPR, assign a task with limited mentor review formulation, li research metho technical writi enrichment act the concept advanced or re followed by a k schedule ac corrective decis
BCS508	Environmental Studies and E-Waste Management	2.11	Good exposure to project planning, scheduling and resource management in environmental sustainability, pollution control, resource management and e-waste	For Environme E-Waste Mana a project-plan limited guidanc review for sustainability, resource mana waste, through activity that concept tow advanced or re followed by a k schedule ac corrective decis

BAI602	Machine Learning – I	1.45	Weak exposure to project planning, scheduling and resource management in supervised/unsupervised learning algorithms and model evaluation	For Machine provide a project planning timeline and supervised/unsupervised learning algorithm evaluation, through closely supervised practice with project followed by a timeline schedule and corrective decisions
BIS613D	Cloud Computing and Security	1.16	Weak exposure to project planning, scheduling and resource management in cloud service models, virtualization and security concepts	For Cloud Computing and Security, provide project-planning covering timeline for cloud service virtualization concepts, through closely supervised practice with project followed by a timeline schedule and corrective decisions

BEE654B	Technologies Of Renewable Energy Source	1.05	Moderate ability to communicate renewable energy concepts, technical findings and engineering solutions effectively	For Techn Renewable E assign a techn and short repc renewable en covering its w system performance advantages, applications, th presentation p technical comr and improvement.
BAIL606	Machine Learning Lab	2.00	Weak exposure to project planning, scheduling and resource management in machine learning and AI model implementation	For Machine provide a (planning terr timeline and machine learni implementation structured, clo corrective prac feedback, follo reflection (adherence & decisions.

BAIL657C	Generative AI Lab	1.33	Weak exposure to project planning, scheduling and resource management in generative AI concepts, prompt engineering and model usage	For Generative a guided template cover resources for concepts, pro and model structured, clo corrective prac feedback, follc reflection adherence & decisions.
BAI702	Machine Learning – II	0.77	Very weak exposure to project planning, scheduling and resource management in advanced machine learning and ensemble/optimisati on techniques	For Machine L through a fully planning exam student attempt machine I ensemble/optin techniques, foundational, c remediation checks at ever by a brief reflec adherence & decisions.
BAD703	Data Security & Privacy	0.76	Very weak exposure to project planning, scheduling and resource management in data security, privacy and cryptography concepts	For Data Sec walk through project-planning before any stu data security cryptography c foundational, c remediation checks at ever by a brief reflec adherence & decisions.

BCV755B	Conservation of Natural Resources	1.83	Moderate exposure to project planning, scheduling and resource management in natural-resource conservation and environmental impact	For Conservation Resources, in planning and objectives, milestone tracking resource conservation environmental a focused reinforcement that consolidates an applied set a brief reflective adherence and decisions.
BAI786	Major Project Phase-II	2.40	Good exposure to project planning, scheduling and resource management in system integration, validation, testing and documentation	For Major Project assign a project with limited guidance mentor review integration, validation and documentation enrichment activities the concept advanced or reinforced followed by a key schedule and corrective decisions

BAI803	Internship (Industry/Research) (14–20 Weeks)	2.00	Good exposure to project planning, scheduling and resource management in industry/research tasks, professional tools and problem solving	For (Industry/Research Weeks), assist in planning task guidance and for industry/research professional to solving, through activity that concept toward advanced or research followed by a task schedule and corrective decisions
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POs	Target Level
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, eng	
PO1	1.94
Action: 1. Introduce concept-reinforcement and problem-solving sessions linking fundam 2. Conduct diagnostic tests with remedial classes for foundational courses	

PO 2: Problem analysis: Identify, formulate, review research literature, and analyze natural sciences, and engineering sciences.

PO2	1.79	1.84	Target
			Attainr
			Student problem principle

Action:

1. Develop problem-based lab modules requiring literature review before ex
2. Conduct workshops on research methodology, literature databases, and c

PO 3: Design/development of solutions: Design solutions for complex engineer consideration for the public health and safety, and the cultural, societal, and environ

PO3	1.67	1.95	Target
			Attainr
			The sig societa constra technic

Action:

1. Integrate design thinking methodology across curriculum
2. Incorporate public health, safety, and cultural considerations in design course

PO 4: Conduct investigations of complex problems: Use research-based kno synthesis of the information to provide valid conclusions

PO4	1.74	1.73	Target
			Attainm
			Resear interpre investig

Action:

1. Establish extended lab sessions for complex experiments
2. Include statistical analysis and data interpretation in core curriculum

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, re activities with an understanding of the limitations.

PO5	1.79	1.94	Target
			Attainm
			Studer platform based Engine

Action:

1. Implement certification tracks for key industry software
2. Establish industry mentorship program for advanced tool training
3. Conduct Workshops in the areas of modern technology

PO 6: The engineer and society: Apply reasoning informed by contextual knowlec professional engineering practice.

PO6	1.50	1.51	Target
			Attainment
			The pe enginee enhance CMTI e strength

Action:

1. Integrate case studies on the societal impact of computing/AI into technical cours
2. Conduct guest lectures connecting coursework to real-world/social contexts

PO 7: Environment and sustainability: Understand the impact of professional en
sustainable development.

PO7	1.51	1.64	Target
			Attainment
			low attainmen Limited exposi

Action:

1. Introduce sustainability-focused case studies (green/responsible computing, ene
2. Assign environment-impact analysis tasks in project-based courses

PO 8: Ethics: Apply ethical principles and commit to professional ethics and respor

PO8	1.60	
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Action:

1. Incorporate case-based discussions on professional and data ethics across course
2. Include ethics-based scenario questions in IA and project evaluation

PO 9: Individual and team work: Function effectively as an individual, and as a member of a team

PO9	1.60	
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Action:

1. Introducing multidisciplinary team projects across departments
2. Establish mentorship program where senior students guide junior teams
3. Value Added Programs with team-based project components
4. Establish inter-departmental project coordination mechanisms

PO 10: Communication: Communicate effectively on complex engineering activities, effective reports and design documentation, make effective presentations, and give

PO10	1.40	1.60	Target
			Attain
			Techn curric

Action:

1. Integrate technical writing workshops with English department
2. Include presentation and report writing components in all project courses
3. Continuing emphasis on written and oral communication
4. Develop digital communication skills: video presentations, infographics

PO11: Project management and finance: Demonstrate knowledge and understanding and leader in a team, to manage projects and in multidisciplinary environments.

PO11	1.51	1.58	Target
			Attain
			Stude plann

Action:

1. Introduce a mini-project planning phase (objectives, timeline, cost/resource estimation)
2. Include mentor review of project planning and execution against plan

**Course
Code**

Course Name

**PSO
1**

Gap

Detailed Cori

BMATS101	Mathematics-I for CSE Stream	0.55	Very weak ability to apply differential calculus, matrices, vector calculus and problem-solving techniques to design and develop AI/ML-based intelligent software solutions	For Mathematics Stream, run a 1 AI/ML exercise independent application differential calculus vector calculus solving techniques foundational, corrective remediation v checks at reinforcing end solution development under PSO1.
BPOPS103	Principles of Programming Using C	1.14	Weak ability to apply C programming fundamentals, control structures and logic building to design and develop AI/ML-based intelligent software solutions	For Principles Using C, pair application exercise independent follow programming control structure building, through closely supervised practice with peer reinforcing end solution development under PSO1.
BIDTK158	Innovation and Design Thinking	1.47	Weak ability to apply design thinking and innovation methodology to design and develop AI/ML-based intelligent software solutions	For Innovation Thinking, pair application exercise independent follow design thinking methodology, structured, closely corrective practice feedback, reinforce AI/ML solution expected under

BMATS201	Mathematics-II for CSE Stream	0.58	Very weak ability to apply differential equations, transforms and numerical methods to design and develop AI/ML-based intelligent software solutions	For Mathematics Stream, run a 1 AI/ML exercise independent ap differential equa and numerical n foundational, cl remediation v checks at reinforcing en solution develop under PSO1.
BCEDK203	Computer Aided Engineering Drawing	0.75	Very weak ability to apply engineering drawing, projections, sections and CAD modelling to design and develop AI/ML-based intelligent software solutions	For Computer A Drawing, run a 1 AI/ML exercise independent ap engineering projections, sec modelling, throu closely scaffold with diagnostic stage, reinforce AI/ML solution expected under

BPLCK205 B	Introduction to Python Programming	2.18	Good ability to apply Python programming, functions, data structures, file handling and modular coding to design and develop AI/ML-based intelligent software solutions	For Introductio Programming, participation i hackathon or k using this co Python program data structures, modular codin enrichment activ the concept t advanced or re reinforcing en solution develo under PSO1.
BCS302	Digital Design & Computer Organization	0.76	Very weak ability to apply digital logic and computer organization concepts to design and develop AI/ML- based intelligent software solutions	For Digital Des Organization, ru mini AI/ML exer independent ap digital logic organization co foundational, cl remediation v checks at reinforcing en solution develo under PSO1.
BCS303	Operating Systems	0.34	Very weak ability to apply process, memory and file management concepts to design and develop AI/ML- based intelligent software solutions	For Operating fully guided min before any application bui memory and fi concepts, throu closely scaffold with diagnostic stage, reinforc AI/ML solutio expected under

BCS304	Data Structures and Applications	1.09	Weak ability to apply trees, graphs, hashing and data-structure implementation to design and develop AI/ML-based intelligent software solutions	For Data Structures Applications, pa application exer independent fol trees, graphs, ha structure through struc supervised cor with prompt reinforcing en solution develo under PSO1.
BCSL305	Data Structures Lab	1.46	Weak ability to apply data structures and algorithm implementation to design and develop AI/ML-based intelligent software solutions	For Data Struct guided AI/M exercise with independent fol data structures implementation, structured, clo corrective pract feedback, reinfo AI/ML solution expected under
BCS306A	Object Oriented Programming With Java	1.08	Weak ability to apply classes, inheritance, polymorphism, exception handling and Java application design to design and develop AI/ML-based intelligent software solutions	For Object Programming V guided AI/M exercise with independent fol classes, polymorphism, handling and , design, throu closely superv practice with p reinforcing en solution develo under PSO1.

BAI358D	PHP Programming	1.00	Weak ability to apply web application programming using PHP to design and develop AI/ML-based intelligent software solutions	For PHP Program guided AI/ML exercise with independent for web application using PHP, through closely supervised practice with peer reinforcing environment solution development under PSO1.
BCS401	Analysis & Design Of Algorithms	1.01	Weak ability to apply algorithm design, recurrence, greedy methods and divide-and-conquer techniques to design and develop AI/ML-based intelligent software solutions	For Analysis Algorithms, pair application exercise independent for algorithm design greedy methods conquer techniques structured, closely corrective practice feedback, reinforcement AI/ML solution expected under
BAD402	Artificial Intelligence	2.45	Good ability to apply search, knowledge representation and machine-learning concepts to design and develop AI/ML-based intelligent software solutions	For Artificial encourage participation AI/ML hackathon task using this search, representation learning concept enrichment activities the concept to advanced or reinforcement environment solution development under PSO1.

BCS403	Database Management Systems	1.91	Moderate ability to apply database design, normalization, SQL, transactions and query optimization to design and develop AI/ML-based intelligent software solutions	For Database Systems, assign project that apply content end-to-end database design SQL, transaction optimization, the reinforcement consolidates the applied setting, to-end AI/ML development & PSO1.
BCSL404	Analysis & Design of Algorithms Lab	1.35	Weak ability to apply implementation and performance comparison of algorithms to design and develop AI/ML-based intelligent software solutions	For Analysis Algorithms Lab AI/ML application short independent on implementation performance algorithms, through closely supervised practice with peer reinforcing end solution development under PSO1.
BCS405A	Discrete Mathematics Structures	1.66	Moderate ability to apply sets, relations, graph theory and combinatorics to design and develop AI/ML-based intelligent software solutions	For Discrete Structures , as mini-project the course content on sets, relation and combinatorics focused reinforcement that consolidate an applied set end-to-end AI/ML development & PSO1.

BDSL456B	MangoDB	0.69	Very weak ability to apply NoSQL database (MongoDB) concepts to design and develop AI/ML-based intelligent software solutions	For MangoDB, r mini AI/ML exer independent ap NoSQL databa concepts, throu closely scaffold with diagnostic stage, reinforce AI/ML solution expected under
BCS501	Software Engineering & Project Management	1.57	Moderate ability to apply requirements engineering, software design, testing and project management to design and develop AI/ML-based intelligent software solutions	For Software Project Manage AI/ML mini-proj the course cor built on engineering, s testing and proje through a focus activity that c concept in an reinforcing en solution develop under PSO1.
BCS502	Computer Networks	0.77	Very weak ability to apply networking concepts and protocols to design and develop AI/ML-based intelligent software solutions	For Computer I fully guided min before any application built concepts and p foundational, cl remediation v checks at reinforcing en solution develop under PSO1.

BCS503	Theory of Computation	1.00	Weak ability to apply automata, grammars and computability concepts to design and develop AI/ML-based intelligent software solutions	For Theory of C a guided AI/ exercise with independent fo automata, gr computability co structured, clo corrective pract feedback, reinfo AI/ML solutio expected under
BAIL504	Data Visualization Lab	1.26	Weak ability to apply data cleaning, chart selection, visual storytelling and dashboard design to design and develop AI/ML-based intelligent software solutions	For Data Visual a guided AI/ exercise with independent fo data cleaning, visual storytelling design, throu closely superv practice with p reinforcing en solution develo under PSO1.
BCS515C	Unix System Programming	1.38	Weak ability to apply UNIX commands, shell scripting, processes and system programming to design and develop AI/ML-based intelligent software solutions	For Unix System pair a guided A exercise with independent fo UNIX command processes programming, structured, clo corrective pract feedback, reinfo AI/ML solutio expected under

BAI586	Mini Project	2.00	Good ability to apply mini-project scoping, design and implementation to design and develop AI/ML-based intelligent software solutions	For Mini Proj participation i hackathon or K using this conte project scoping implementation, enrichment activ the concept t advanced or re reinforcing en solution develo under PSO1.
BRMK557	Research Methodology and IPR	0.79	Very weak ability to apply problem formulation, literature review, research methodology, IPR and technical writing to design and develop AI/ML-based intelligent software solutions	For Research M IPR, run a fu AI/ML exercis independent ap problem formu review, researc IPR and tec through found scaffolded rei diagnostic che stage, reinforc AI/ML solutio expected under

BAI601	Natural Language Processing	2.03	Good ability to apply text preprocessing, feature representation, sequence models and NLP evaluation to design and develop AI/ML-based intelligent software solutions	For Natural Language Processing, participation in a hackathon or KDD using this context for preprocessing, representation, models and NLP through an environment that extends the a more advanced context, reinforcing AI/ML solution expected under
BAI602	Machine Learning – I	2.18	Good ability to apply supervised/unsupervised learning algorithms and model evaluation to design and develop AI/ML-based intelligent software solutions	For Machine Learning encourage participation in AI/ML hackathon task using this supervised/unsupervised learning algorithm evaluation, enrichment activities the concept to advanced or reinforcing environment solution development under PSO1.

BIS613D	Cloud Computing and Security	1.16	Weak ability to apply cloud service models, virtualization and security concepts to design and develop AI/ML-based intelligent software solutions	For Cloud Computing and Security, pair students with an application expert to develop an independent solution for cloud service virtualization concepts, through closely supervised practice with peer reinforcing and solution development under PSO1.
BEE654B	Technologies Of Renewable Energy Source	0.63	Good ability to apply solar, wind and biomass conversion technologies and sustainable power generation to design and develop AI/ML-based intelligent software solutions	For Technologies Of Renewable Energy Source, participate in a hackathon or K-12 challenge using this content to develop wind and biomass technologies as a power generation enrichment activity. The concept to be advanced or reinforced is solution development under PSO1.

BAI685	Project Phase I	2.10	Strong ability to apply problem formulation, literature review, dataset identification and project methodology to design and develop AI/ML-based intelligent software solutions	For Project Phase I, student to mention on an AI/ML model this content by problem formulation, literature review, dataset identification, methodology, advanced, extension task to showcases the reinforcing end solution development under PSO1.
BAIL606	Machine Learning Lab	3.00	Very weak ability to apply machine learning and AI model implementation to design and develop AI/ML-based intelligent software solutions	For Machine Learning, fully guided minimum before any application built learning and implementation, foundational, checks at reinforcing end solution development under PSO1.
BAIL657C	Generative AI Lab	1.73	Moderate ability to apply generative AI concepts, prompt engineering and model usage to design and develop AI/ML-based intelligent software solutions	For Generative AI, an AI/ML model applies the concepts, prompt and model usage focused reinforcing that consolidate an applied set end-to-end AI development under PSO1.

BAI701	Deep Learning & Reinforcement Learning	2.04	Good ability to apply neural network architectures, deep learning and reinforcement-learning concepts to design and develop AI/ML-based intelligent software solutions	For Deep Reinforcement encourage part AI/ML hackathon task using this neural network deep learning reinforcement-learning through an environment that extends the a more advanced context, reinforcement AI/ML solution expected under
BAI702	Machine Learning – II	1.16	Weak ability to apply advanced machine learning and ensemble/optimisation techniques to design and develop AI/ML-based intelligent software solutions	For Machine Learning guided AI/ML exercise with independent for advanced machine ensemble/optimisation techniques, through closely supervised practice with performance reinforcing environment solution development under PSO1.
BAD703	Data Security & Privacy	1.17	Weak ability to apply data security, privacy and cryptography concepts to design and develop AI/ML-based intelligent software solutions	For Data Security a guided AI/ML exercise with independent for data security, cryptography concepts structured, closely corrective practice feedback, reinforcement AI/ML solution expected under

BCS714D	Big Data Analytics	1.39	Weak ability to apply big data storage, processing frameworks and analytics to design and develop AI/ML-based intelligent software solutions	For Big Data / guided AI/ML exercise with independent for big data storage frameworks & through struc supervised cor with prompt reinforcing en solution develop under PSO1.
BAI786	Major Project Phase-II	2.60	Strong ability to apply system integration, validation, testing and documentation to design and develop AI/ML-based intelligent software solutions	For Major Pr invite the student junior team on project using this system integra testing and through an & directed exten sustains and strength, reinforce AI/ML solution expected under

For
(Industry/Research Weeks), invite
mentor a junior
AI/ML mini-project
content
industry/research
professional to
solving, through
self-directed ext
sustains and
strength, reinforce
AI/ML solution
expected under

BAI803
Internship
(Industry/Research)
(14–20 Weeks)

2.50

Strong ability to
apply
industry/research
tasks, professional
tools and problem
solving to design
and develop AI/ML-
based intelligent
software solutions

**Course
Code**

Course Name

**PSO
2**

Gap

Detailed Correlation

BPOPS103

Principles of
Programming
Using C

0.57

Very weak
practical, industry-
oriented application
of C programming
fundamentals,
control structures
and logic building

For Principles
Using C, run
closely
practical/industry-
centred on C
fundamentals, c
and logic building
foundational, clear
remediation v
checks at
strengthening
industry-ready
expected of AI&I

BIDTK158	Innovation and Design Thinking	1.47	Weak practical, industry-oriented application of design thinking and innovation methodology	For Innovation Thinking, pair a exercise with independent follow-up centre thinking and methodology, structured, close corrective practical feedback, stress practical, application experience graduates.
BPLCK205 B	Introduction to Python Programming	2.18	Good practical, industry-oriented application of Python programming, functions, data structures, file handling and modular coding	For Introductory Programming, a task modelled use-case with centred on Python functions, data handling and through an environment that extends the a more advanced context, stress practical, application experience graduates.

BCS302	Digital Design & Computer Organization	0.63	Very weak practical, industry-oriented application of digital logic and computer organization concepts	For Digital Design Organization, run closely practical/industry-centred on digital computer organization through foundation scaffolded remedial diagnostic check stage, strengthen practical, application experience graduates.
BCS303	Operating Systems	0.29	Very weak practical, industry-oriented application of process, memory and file management concepts	For Operating Systems, fully guided, closely practical/industry-centred on process and file management through foundation scaffolded remedial diagnostic check stage, strengthen practical, application experience graduates.

BCS304	Data Structures and Applications	0.68	Very weak practical, industry-oriented application of trees, graphs, hashing and data-structure implementation	For Data Structures Applications, run closely practical/industry-centred on hashing and implementation, foundational, checks at strengthening industry-ready expected of AI&I
BCSL305	Data Structures Lab	0.73	Very weak practical, industry-oriented application of data structures and algorithm implementation	For Data Structures fully guided, practical/industry-centred on data algorithm through found scaffolded re-diagnostic che stage, stren practical, application exp graduates.

BCS306A	Object Oriented Programming With Java	0.68	Very weak practical, industry-oriented application of classes, inheritance, polymorphism, exception handling and Java application design	For Object Programming V fully guided, cl practical/industry centred on clas polymorphism, handling and , design, throug closely scaffold with diagnostic stage, stren practical, application exp graduates.
BAI358D	PHP Programming	1.00	Weak practical, industry-oriented application of web application programming using PHP	For PHP Progr guided practical short independent follow-up cent application prog PHP, through st supervised cor with promp strengthening industry-ready expected of AI&I

BCS401	Analysis & Design Of Algorithms	0.76	Very weak practical, industry-oriented application of algorithm design, recurrence, greedy methods and divide-and-conquer techniques	For Analysis Algorithms, run closely practical/industry-centred on all recurrence, greedy divide-and-conquer through found scaffolded real diagnostic check stage, strengthen practical, application experience graduates.
BAD402	Artificial Intelligence	2.45	Good practical, industry-oriented application of search, knowledge representation and machine-learning concepts	For Artificial Intelligence, a practical task industry use-case guidance centre knowledge representation machine-learning through an environment that extends the a more advanced context, strengthen practical, application experience graduates.

BCS403	Database Management Systems	0.95	Very weak practical, industry-oriented application of database design, normalization, SQL, transactions and query optimization	For Database Systems, run closely practical/industry-centred on data normalization, SQL and query optimization. Foundational, close remediation v checks at strengthening industry-ready expected of AI&I
BCSL404	Analysis & Design of Algorithms Lab	0.68	Very weak practical, industry-oriented application of implementation and performance comparison of algorithms	For Analysis Algorithms Lab guided, close practical/industry-centred on implementation performance algorithms, through closely scaffolded with diagnostic stage, strengthen practical, application expected graduates.

BCS405A	Discrete Mathematics Structures	1.66	Moderate practical, industry-oriented application of sets, relations, graph theory and combinatorics	For Discrete Structures , aligned practical using real or re centred on sets, theory and through a focus activity that c concept in an strengthening industry-ready expected of AI&I
BDSL456B	MangoDB	0.55	Very weak practical, industry-oriented application of NoSQL database (MongoDB) concepts	For MangoDB guided, close practical/industry centred on No (MongoDB) co foundational, cl remediation v checks at strengthening industry-ready expected of AI&I
BCS501	Software Engineering & Project Management	0.87	Very weak practical, industry-oriented application of requirements engineering, software design, testing and project management	For Software Project Manage guided, close practical/industry centred on engineering, s testing and proje through found scaffolded rei diagnostic che stage, stren practical, application exp graduates.

BCS502	Computer Networks	0.61	Very weak practical, industry-oriented application of networking concepts and protocols	For Computer I fully guided, cl practical/industry centred on netw and protoc foundational, cl remediation v checks at strengthening industry-ready expected of AI&I
BCS503	Theory of Computation	0.72	Very weak practical, industry-oriented application of automata, grammars and computability concepts	For Theory of C a fully gu supervised p style task fir automata, gi computability co foundational, cl remediation v checks at strengthening industry-ready expected of AI&I
BAIL504	Data Visualization Lab	0.76	Very weak practical, industry-oriented application of data cleaning, chart selection, visual storytelling and dashboard design	For Data Visuali fully guided, cl practical/industry centred on data selection, visual dashboard de foundational, cl remediation v checks at strengthening industry-ready expected of AI&I

BCS515C	Unix System Programming	1.38	Weak practical, industry-oriented application of UNIX commands, shell scripting, processes and system programming	For Unix System pair a guided p with a shor industry-style fo on UNIX co scripting, proces programming, structured, clo corrective pract feedback, stre practical, application exp graduates.
BAI586	Mini Project	2.00	Good practical, industry-oriented application of mini-project scoping, design and implementation	For Mini Pro practical task r industry use-ca guidance centre scoping, c implementation, enrichment activ the concept t advanced or re strengthening industry-ready expected of AI&I

BRMK557	Research Methodology and IPR	0.79	Very weak practical, industry-oriented application of problem formulation, literature review, research methodology, IPR and technical writing	For Research Methodology and IPR, run a fully supervised project style task first problem formulation review, research IPR and technical writing through found scaffolding and diagnostic check stage, strengthen practical, application expected of graduates.
BAI601	Natural Language Processing	2.03	Good practical, industry-oriented application of text preprocessing, feature representation, sequence models and NLP evaluation	For Natural Language Processing, as a task modelled use-case with industry centred on text feature sequence model evaluation, enrichment activities the concept to advanced or research strengthening industry-ready expected of AI&ML

BAI602	Machine Learning – I	2.18	Good practical, industry-oriented application of supervised/unsupervised learning algorithms and model evaluation	For Machine Learning, a practical task industry use-case guidance supervised/unsupervised learning algorithm evaluation, enrichment activities the concept to advanced or re-strengthening industry-ready expected of AI&ML
BIS613D	Cloud Computing and Security	1.16	Weak practical, industry-oriented application of cloud service models, virtualization and security concepts	For Cloud Computing Security, pair a exercise with independent follow-up center service models and security concepts structured, close corrective practical feedback, strengthen practical, application expected graduates.

BEE654B	Technologies Of Renewable Energy Source	1.05	Good practical, industry-oriented application of solar, wind and biomass conversion technologies and sustainable power generation	For Technologies Energy Source practical task r industry use-ca guidance centre and biomass technologies a power generati enrichment activ the concept t advanced or re strengthening industry-ready expected of AI&I
BAI685	Project Phase I	2.10	Strong practical, industry-oriented application of problem formulation, literature review, dataset identification and project methodology	For Project Phase independent, capstone-level advanced pract problem formu review, dataset i project methodo advanced, extension task t showcases t strengthening industry-ready expected of AI&I

BAIL606	Machine Learning Lab	3.00	Weak practical, industry-oriented application of machine learning and AI model implementation	For Machine Learning, a guided practical, a short independent style follow-up machine learning implementation, structured, close corrective practical feedback, strong practical, application experience graduates.
BAIL657C	Generative AI Lab	1.59	Moderate practical, industry-oriented application of generative AI concepts, prompt engineering and model usage	For Generative AI, industry-aligned assignment using data/tools centered AI concepts, practical and model usage focused reinforcement that consolidate an applied setting the practical, application experience graduates.

BAI701	Deep Learning & Reinforcement Learning	2.04	Good practical, industry-oriented application of neural network architectures, deep learning and reinforcement-learning concepts	For Deep Reinforcement Learning, a practical task industry use-case guidance centre network architecture learning and learning concept enrichment activities the concept to advanced or re-strengthening industry-ready expected of AI&I
BAI702	Machine Learning – II	1.16	Weak practical, industry-oriented application of advanced machine learning and ensemble/optimisation techniques	For Machine Learning, guided practical short independent follow-up centre machine learning ensemble/optimisation techniques, through closely supervised practice with project strengthening industry-ready expected of AI&I

BAD703	Data Security & Privacy	1.17	Weak practical, industry-oriented application of data security, privacy and cryptography concepts	For Data Security a guided practical a short independent style follow-up security, p cryptography co structured, clo corrective pract feedback, stre practical, application exp graduates.
BCS714D	Big Data Analytics	1.39	Weak practical, industry-oriented application of big data storage, processing frameworks and analytics	For Big Data / guided practical short independent follow-up centre storage, proces and analyti structured, clo corrective pract feedback, stre practical, application exp graduates.
BAI786	Major Project Phase-II	2.60	Strong practical, industry-oriented application of system integration, validation, testing and documentation	For Major Pr assign an indep style capstone advanced pract system integra testing and through an a directed exten sustains and strength, stre practical, application exp graduates.

BAI803	Internship (Industry/Research) (14–20 Weeks)	2.00	Good practical, industry-oriented application of industry/research tasks, professional tools and problem solving	For (Industry/Research Weeks), assign modelled on a case with learner centred on industry tasks, professional problem solving enrichment activities the concept to advanced or research strengthening industry-ready expected of AI&ML
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PSOs Attainment Levels and Actions for improvement

PSOs	Target Level	Attainment Level	Observations
PSO 1: Apply the concepts of programming, data structures, algorithms a			
PSO1	1.65	1.68	Target
			Attainment
			Students demonstrated re (data preparation through attainment below 1.5.
Action:			
1. Introduce industry-aligned AI/ML mini-projects spanning multiple courses (data st			
2. 2. Encourage participation in AI/ML hackathons and Kaggle-style competitions			
PSO 2: Evaluate thermal performance of Heating, Ventilation & Air-Conditioning sy			
CFD tools and design these systems for better performance			

PSO2	1.55	1.59	Target
			Attainment
			Attainment i gaps in hanc

Action:

1. Strengthen hands-on lab hours on cloud/big-data platforms (AWS/Azure, Hadoop)
2. Partner with industry for data-analytics case studies and guest sessions

8.2 Academic Audit and actions taken thereof during the period of Assessment

Artificial Intelligence and Machine Learning (AI&ML) Department

Key Findings and Major Takeaways from AAA Audit Observations

The Artificial Intelligence and Machine Learning (AI&ML) Department demonstrates student mentoring, and industry-oriented skill development. The department has a focus on continuous improvement. However, opportunities exist to further strengthen faculty development, systematic documentation of laboratories, software resources, and departmental activities.

Curriculum and Teaching–Learning Processes

The department follows a formal and systematic curriculum design process that involves faculty, employers, and industry experts. The curriculum is aligned with emerging areas such as Data Science, Image Processing, Computer Vision, and Generative AI. Course syllabi are maintained systematically. The department uses Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs) for assessment.

The department promotes entrepreneurship, innovation, and skill development through various activities. Courses in data analytics, artificial intelligence, cloud computing, deep learning, and emerging technologies and project-based learning provide students with opportunities to develop practical skills.

Lesson plans, academic calendars, course files, CO/PO attainment analysis, student performance, and Continuous monitoring of academic performance and implementation of corrective actions for continuous improvement.

Major Takeaways

- Structured curriculum design with stakeholder participation and feedback mechanism
- Effective implementation of Outcome-Based Education (OBE) through CO-PO-PSO
- Strong emphasis on AI/ML emerging technologies and industry-relevant skills
- Promotion of experiential learning, internships, projects, hackathons, and competitions
- Systematic documentation of lesson plans, academic calendars, course files, and syllabi
- Strengthening of industry interaction and professional development opportunities
- Scope for improvement in faculty seed funding, sponsored research, conferences, and publications
- Need for more systematic documentation and periodic updating of AI/ML laboratories
- Continued enhancement of entrepreneurship, innovation, start-up activities, and incubation

Faculty Profile and Student–Faculty Ratio

For the 2022–23 academic year, the department had 6 faculty members (2 with PhD and 4 with M.Tech).

Research, Innovation, and Extension

Research Projects and Sponsored Research:

CAYm1:2024–25

Dr. Mamatha B. undertook the project titled “Aidoryx – Multilingual AI-Based Citizen Assistance” which ₹4.25 Lakhs was utilized. The project resulted in the development of a citizen assistance, integration of location-aware and service-related features, and pilot deployment.

CAYm3:2022-23

During CAYm3, Dr. Rajesh K. S. undertook the project titled “Automatic HTML Code Generation Using Image Recognition” amount of ₹2.50 Lakhs, of which ₹2.25 Lakhs was utilized. The project developed image recognition, thereby supporting automated user-interface development techniques.

Year-wise Sponsored Research Projects

CAY(2025–26):

During CAY (2025–26), the Department of Artificial Intelligence and Machine Learning received **one sponsored research project** titled “*Using Arduino*” under the PI-ship of **Dr. Rajesh K. S.** and “*Food Spoilage Detection*” under the PI-ship of **Dr. Mamatha B.**

CAYm2(2023–24):

During CAYm2 (2023–24), the Department received **one sponsored research project** titled “*Understanding*”, under the PI-ship of **Prof. Deepa K. R.**, with a funding amount of ₹2.50 Lakhs.

Overall:

Thus, during the reported assessment years, the Department received **three external sponsored research projects**.

Academic Research

(Provide details of compiled list including research papers, available online or in print. Only research papers where faculty members affiliation aligned with the current institution are considered. Each publication should be cited properly.)

Year-wise Faculty Publication Details

CAY(2025–26):

During CAY (2025–26), the faculty members of the Department published **8 peer-reviewed** publications indexed in **Scopus/Web of Science**, wherever applicable.

CAYm1(2024–25):

During CAYm1 (2024–25), the faculty members published **18 peer-reviewed journals**

CAYm2(2023–24):

During CAYm2 (2023–24), the faculty members published **27 peer-reviewed conference papers**

CAYm3(2022–23):

During CAYm3 (2022–23), **no peer-reviewed journal papers, conference papers**

CAYm4(2021–22):

During CAYm4 (2021–22), **no peer-reviewed journal papers, conference papers**

Overall:

Overall, the department demonstrates a **progressive research and publication** record in journals, conference papers, books/book chapters, particularly during **2025–26 and 2024–25**.

MOUs:**Industry-Academia Collaborations through MoUs – AIML Department**

The Artificial Intelligence and Machine Learning (AIML) Department has established collaborations with industry for internships, placements, research and development, and professional development.

2026:

The department has active MoUs with Innomatics Research Labs (16 March 2026 to 16 March 2027) for collaborations focus on industry-relevant training, hands-on exposure to emerging technologies, Proof-of-Concept development, and technical co-development.

2025:

The department has an MoU with Pelwhiz Technologies Private Limited (10 June 2025 to 10 June 2026) for employability development, placement support, and career development. The department also has an MoU with 3Q Sutantra LLP (August 2025 to August 2026) for AI research and solutions, software and hardware development, technical support, and career development. The department also has an MoU with 3Q Sutantra LLP (August 2025 to August 2026) for employability development, placement support, and career development.

2023:

The department established an MoU with MEVI Technologies LLP (1 August 2023 to 1 August 2024) for industry practice, Student Development Programs (SDPs), Faculty Development Programs, and career development. The department also has an MoU with Accurate-Info Solution (2 January 2023 to 2 January 2028) for guidance, talent acquisition, on-job support, R&D consultancy, Robotics, and IoT training.

2024:

The department had an MoU with DEV Minds Incorporation (20 February 2024) to implement various programs.

Overall:

Overall, the AIML Department has established eight industry collaborations/MoUs that have added courses, skill development, certifications, career guidance, placement assistance, and contribute significantly to enhancing students' technical competencies, employability, and industry exposure.

Infrastructure and Resources

The AIML Department is equipped with modern computer laboratories, and essential software tools, and project-based learning.

The department continuously upgrades its ICT infrastructure, software resources, and industry-relevant tools.

Student Support and Career Outcomes

The Artificial Intelligence and Machine Learning (AIML) Department provides continuous support through added courses, technical sessions, and hands-on projects in areas such as AI, ML, and related technologies. Industry collaborations and MoUs provide students with opportunities for internships, assistance, and exposure to real-world projects, thereby strengthening their technical skills.

The department also focuses on improving students' employability and career readiness through skill learning, coding and technical assessments, and interaction with industry professionals on projects, and industry-sponsored activities, enabling them to develop problem-solving skills, improved placement opportunities, higher studies, entrepreneurship, and careers in the field.

Strengths and Positive Practices

The AIML Department has strong industry-academia collaborations, active research projects, and a focus on employability.

The department promotes hands-on learning, internships, workshops, innovative learning, and professional development.

Areas for Improvement

Faculty Research Funding: Increase efforts to secure institutional seed funding for research and development of prototypes.

Conference and Professional Development Support: Establish a systematic mechanism for FDPs, and technical events.

Laboratory and ICT Resource Management: Strengthen annual verification and systematic maintenance of ICT infrastructure.

Student Clubs and Extension Activities: Increase and systematically document student and community outreach programs.

Industry Collaboration and MoU Activities: Ensure systematic documentation of MoUs arising from industry–academia collaborations.

Research and Project Documentation: Strengthen the systematic maintenance of research documents to ensure complete and readily verifiable audit trails.

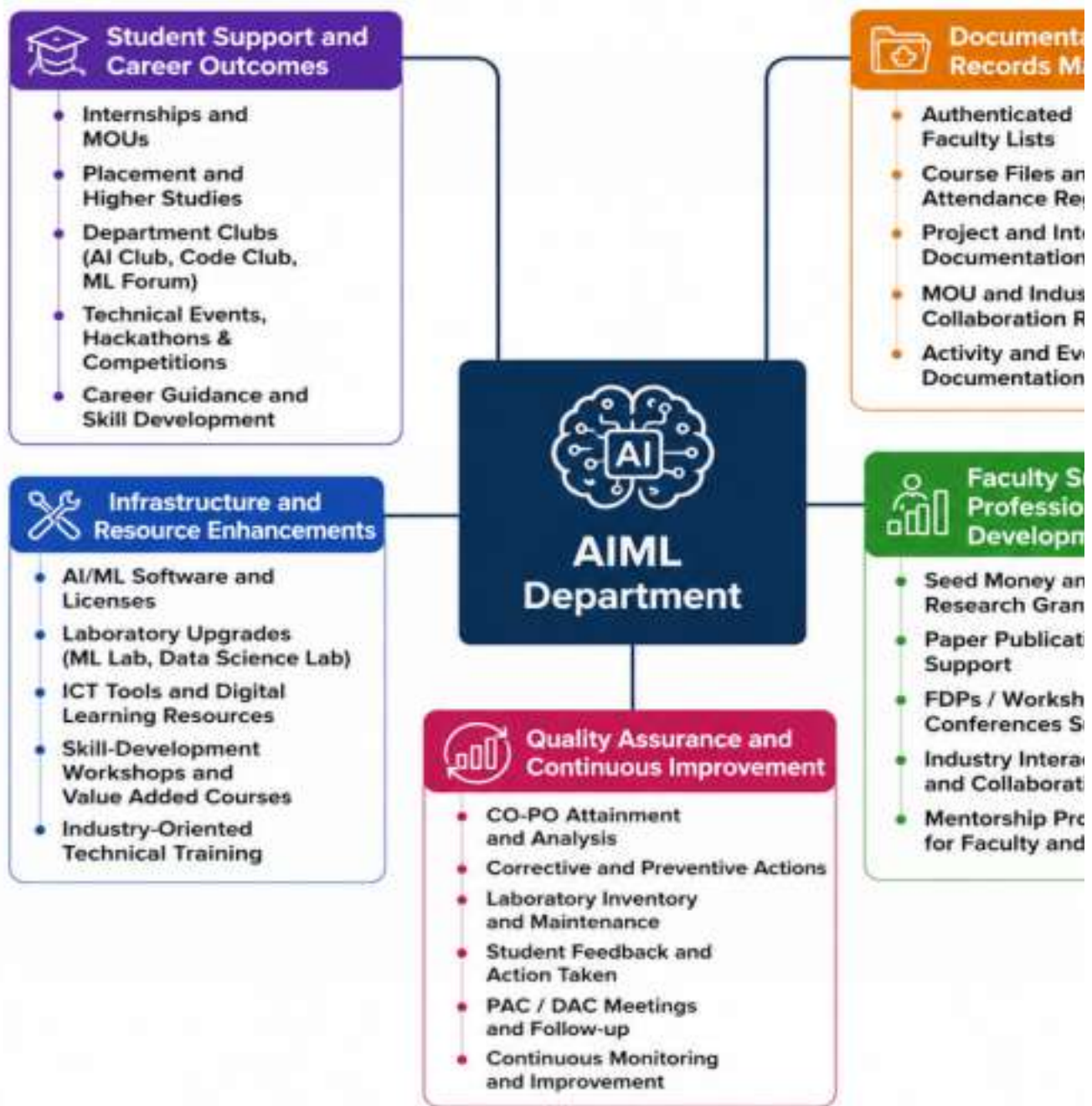
Continuous Improvement Documentation: Improve the documentation of PAC/DA implementation for continuous improvement.

Action Taken Based on the Academic & Administrative Audit for the AIML Department

Immediate Outcome: The AIML Department has strengthened industry collaboration: based on the audit recommendations.

The department has also improved systematic documentation of research, MoU and continuous improvement.

Figure 8.2.1: AI & ML Post Audit Action



1. Documentation and Records Management

- Authenticated Faculty and Student Lists:
 - Year-wise faculty list was published on the department website.
 - Consolidated student registration lists are circulated to all the Intern
- Course Files and Attendance Registers:
 - Standardized course files have been prepared for every subject, in
 - Attendance registers are updated daily, signed by faculty and HOD
- Projects:
 - All project and internship reports are being documented in the VTU

- Poster presentations and project exhibitions are being conducted to

2. Faculty Support and Professional Development

- Seed Money & Research Grants:
 - An institute-level seed-fund scheme was launched with faculty application
 - Guidance sessions on proposal writing and external-grant applications
- Paper publication Funding:
 - An incentive for publishing papers in peer-reviewed publications is
- **Mentorship**
 - A 1:20 Mentor–mentee ratio was maintained.

3. Quality Assurance & Continuous Improvement

- CO–PO Attainment Corrective Actions:
 - CIE data is analyzed after each CIE; remedial and tutorial sessions
 - CO-PO Corrective-action reports are reviewed by PAC and DAC at
- Laboratory Inventory & Maintenance:
 - Annual stock verification is performed

4. Infrastructure & Resource Enhancements

The AIML Department has enhanced its AI/ML software resources, and laboratory facilities.

The department also conducts industry-oriented technical workshops and skill-development practical skills and employability.

5. Student Support & Career Outcomes

- Internships & MOUs:
 - The AIML Department has established 8 industry MoUs supporting
 - assistance.
 - These collaborations provide students with hands-on industry
 - structured training and internship programs.

- Placement & Higher Studies:
 - Departmental placement records now include offer letters, compan
 - Career-guidance sessions and mock interviews are scheduled.
- Department Club “Fumes”:
 - Club activities—Technical talks are being conducted regularly with

Overall Statement: The department demonstrates active faculty development thro ML, cybersecurity, healthcare, agriculture, and sustainable computing.

8.3 Improvement in Faculty Qualification/Contribution (15)

Academic Performance
No. of faculty members with Ph.D. degree
No. of publications in peer reviewed journals
No. of publications in conferences

8.4 Improvement in Academic Performance (10)

Academic Performance
Academic Performance Index (API) of the First-Year Students in the Program (Ref
Academic Performance Index (API) of the Second-Year Students in the Program (F
Academic Performance Index (API) of the Third-Year Students in the Program (Ref

9 STUDENT SUPPORT AND GOVERNANCE (120)

9.1 First Year Student-Faculty Ratio (FYSFR) (5)

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	From Engineering Courses	Date of Receipt of Highest Degree
Mr. Prabharan	AVPPA8111R	M.Tech	Yes	02/08/2018
Mr.Sagar D C	GESPS8732D	M.Tech	Yes	09/01/2019
Mr.Vignesh M	ASMPV3183B	M.Tech	Yes	01/05/2019
Mr.Chandan B	AMNPB6940K	M.Tech	Yes	29/09/2019
Ms.Mahalakshi	CILPB4356D	M.E.	Yes	02/06/2020
Ms.Diana Jenn	FZQPD5486K	MCA	No	01/07/2020
Mr. Hayavadan	AHIPN6472E	MCA	No	02/07/2020
Mrs. Sravani K	CUQPK2892E	MCA	No	05/04/2020
Mr. Prem M	BBWPP3917K	M.E.	Yes	01/11/2020
Dr. K. Aravindh	ATVPA9841P	Ph.D	Yes	12/01/2021
Mr. Kamalakara	CQHPK6526N	M.Tech	Yes	18/08/2021
Mrs.Malarvizhi	BRHPM1358J	M.Tech	Yes	08/11/2021

Mr. Ashok Kum	CLCPA9347R	M.Tech	Yes	02/02/20
Mrs.Shalini G \	AVEPB9315J	M.Tech	Yes	20/08/20
Mrs. Kavya MF	BRHPK9584Q	M.Tech	Yes	09/01/20
Mr.Shivanand I	FZIPS8180K	M.E.	Yes	19/07/20
Mr.Laxman	BKJPK5747G	M.Tech	Yes	03/05/20
Dr. Gangadhar	AQAPR2592N	Ph.D	Yes	01/05/20
Mr. Shivalinga	ABPPL4150L	M.Tech	Yes	11/08/20
Pazhanivel Raj	DACPP7476J	M.E.	Yes	01/06/20
Siva A	GFIPS4184C	M.E.	Yes	01/06/20
Mr. Karthikeyar	AIMPR5272R	M.Tech	Yes	05/04/20
Mrs.Abhilasha	CDZPP3617C	M.Tech	Yes	02/01/20
Mr. AJAY M	APFPA0669D	M.Tech	Yes	03/08/20
Dr. Jobish Johr	ALRPJ3972G	Ph.D	No	15/07/20
Mr. G Harish	ALZPH0455J	M.Sc	No	15/04/20
Mr. Shashidhar	KRTPS8588D	M.Sc	No	12/07/20

Ms.Ashiwitha C	CYBPA4812M	M.Sc	No	11/04/20
Mr. Ramesha.S	BFMPR4194C	M.Sc	No	08/09/20
Mrs. Kavitha B	EKHPB3100B	M.Sc	No	15/04/20
Ms.Rathiraj T F	GLIPR6176P	M.Sc	No	16/03/20
Mr. Chandru.B.	BYOPC4854R	MA	No	03/08/20
Mr.Ravi Kumar	AQOPR0140E	MA	No	13/06/20
Mr. Murali Kum	AYFPG0435N	MA	No	11/08/20
Dr. HariPrasad	ADUPV2516R	M.SC. (Mathematics) and PhD	No	25/03/20
Dr.Lokanadam	DABPM6056G	Ph.D	No	15/03/20
Dr. Raveendra.	AKNPR1202L	Ph.D	No	27/02/20
Ms. Shilpa K	OYCPS5557L	M.Sc	No	03/05/20
Ms. Meghana I	DDAPM8387L	M.Sc	No	08/08/20
Mrs .Harshini C	ALAPH3679K	M.Tech	Yes	01/08/20
Ms. Bhavana M	GNLPB7747D	M.Sc	No	03/05/20
Mrs. Ramya H	CIIPR7350E	M.Sc	No	17/04/20

Ms. Shashikal	CVUPA7801E	M.Sc	No	07/04/20
Mrs. Vaishali R	BIDPB7083E	M.Sc	No	07/06/20
Mrs. Anupama	BOTPA7734R	MA	No	15/08/20
Dr. Savitha. B	DHQPS9813F	Ph.D	No	10/09/20
Dr. Anitha B.S	BAWPA9022R	Ph.D	No	19/03/20
Dr. V Sriram	CARPS3056H	Ph.D	No	15/12/20
Dr. Ramesh C	AIMPR8846H	Ph.D	Yes	28/07/20
Dr.Sudhakara./	CIOPS4562B	M.Sc. and Ph.D. (Chemistry)	No	13/02/20
Dr. Pruthviraj F	AKIPO3274F	M.Sc. and Ph.D. (Chemistry)	No	22/04/20
Dr. Krishna Kui	ASHPK0977B	Ph.D	No	14/06/20

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)
2023-24(CAYm2)	690	34
2024-25(CAYm1)	810	40
2025-26(CAY)	870	44

9.2 Mentoring system (5)

Institute

Marks :

5.00

Rajarajeswari College of Engineering follows a structured mentoring mechanism designed to ensure the **academic**, personal, and professional development of students. This system provides continuous guidance, counseling, and support throughout their engineering education.

Objectives of the Mentoring & Counseling Cell

- Provide personalized attention and guidance to students in academic, personal, and career-related matters.
- Monitor academic performance and attendance regularly to identify students who need additional support.
- Offer emotional and psychological guidance to help students manage stress, anxiety, and other personal issues.
- Encourage active participation in technical, co-curricular, and extracurricular activities for holistic development.

Process Followed in Mentoring System:

- Each faculty member is assigned 20 students as mentees.
 - Students are mapped to their respective faculty mentors through the Contineo platform.
- Mentors have access to each student's personal and academic details on the E365 platform.
- Mentors conduct regular one-on-one meetings (at least once a month) to discuss academic progress, career goals, and personal challenges.
- Each mentor maintains a comprehensive record of their mentees, including attendance, academic results, achievements, and any specific concerns. Updates on

attendance and academic performance are shared regularly with parents.

·Critical cases identified during mentoring sessions are referred to a professional counselor for appropriate psychological support.

Collaboration with RRMCH

Recognizing the importance of mental health and emotional well-being, RRCE has partnered with RRMCH, a professional counselor dedicated to supporting students' mental health. Through this collaboration, professional counselors and psychologists for confidential guidance, available both online and offline.

Offline counseling sessions are conducted, a trained counselor, who visits the campus twice a month between 12:30 p.m. and 3:30 p.m. from the RRMCH. These sessions are held anonymously, ensuring privacy and comfort for every student.

Additionally, periodic workshops and webinars are organized on topics such as stress management, time management, and emotional resilience. This collaboration enhances the mentoring system by providing expert psychological assistance whenever needed.

Monitoring and Outcomes:

The Mentoring & Counseling Cell, comprising representatives from each department under the chairmanship of the Principal, regularly monitors the effectiveness of the system. The structured mentoring and counseling framework have significantly contributed to improvements in student performance, attendance, and reduction of academic stress.

9.3 Feedback Analysis (10)

Institute
Marks :
10.00

9.3.1 Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (10)

9.3 Feedback Analysis (10)

9.3.1 Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (5)

1. Introduction

Rajarajeswari College of Engineering places strong emphasis on delivering quality education through a systematic and data-driven Teaching–Learning Process (TLP). The institute has established a comprehensive review mechanism to evaluate the effectiveness of TLP on a yearly basis, ensuring that academic delivery aligns with institutional vision, program outcomes (POs), and stakeholder expectations.

2. Objectives of the TLP Review Process

The primary objectives of the TLP review process are to:

- Ensure effective delivery of curriculum as prescribed by the affiliating university.
- Evaluate the academic performance of students and teaching effectiveness of faculty.
- Identify areas of improvement in pedagogy, assessment, and learning engagement.
- Foster continuous improvement through feedback-based corrective and preventive actions.
- Integrate modern teaching methodologies, ICT tools, and experiential learning practices.

3. Yearly Review Process

a) Academic Planning (Pre-Semester Phase)

- Before the commencement of each academic year, departments prepare a Departmental Academic Calendar aligned with the Institute Calendar.

- Course allocation, lesson plans, and assessment strategies are finalized through Department Academic Council (DAC) meetings.
- Course Files are prepared by faculty members including syllabus coverage plans, CO–PO mapping, teaching methodologies, and evaluation strategies. Faculty undergo orientation programs on Outcome-Based Education (OBE) and innovative pedagogies to enhance instructional quality.

b) Continuous Monitoring (During Semester)

- The Head of Department (HoD) and Academic Coordinator monitor the progress of syllabus coverage through TLP reports.
- Class Committee Meetings (CCMs) are held twice a semester involving faculty and student representatives to review teaching quality, course delivery, and assessment practices.
- Internal tests, assignments, and lab evaluations are conducted as per the academic plan.
- Student attendance, performance, and participation are tracked digitally through ERP or Learning Management Systems (LMS).

c) Academic Audit and Review (End of Semester)

- At the end of each semester, Academic Audit Committees (comprising senior faculty and external experts) conduct a comprehensive review of TLP implementation.
- Course files, teaching methodologies, CO–PO attainment records, and feedback summaries are evaluated.
- Feedback from students, alumni, and employers is analyzed to assess curriculum relevance.

- Audit findings are documented, and action plans are drawn up for improvement in the subsequent semester.

d) Institutional Review (Annual)

- The Institutional Quality Assurance Cell (IQAC) consolidates all departmental academic audit reports, student performance data, and feedback outcomes to prepare an Annual Academic Performance Report.
- This report is presented to the Principal and Academic Council for review and approval.
- Recommendations from IQAC are implemented through faculty development programs, curriculum enrichment initiatives, and resource enhancement.

4. Data Collection and Analysis

- Data for the TLP review process is collected through multiple sources:
- Faculty Data: Course files, attendance records, result analysis, and feedback reports.
- Student Data: Internal assessment marks, end-semester results, attendance, mentoring records, and feedback forms.
- Feedback Data: Structured feedback from students and faculty.
- CO–PO Attainment Data: Quantitative analysis of course outcomes, program outcomes, and program-specific outcomes.
- All data is consolidated using departmental and institutional databases managed by IQAC. Statistical tools and performance indicators (average GPA, result percentage, feedback scores) are used to identify trends and areas for improvement.

5. Impact and Continuous Improvement

- The systematic review of TLP at RRCE has led to measurable improvements:
- Pedagogical Enhancements: Adoption of ICT-enabled teaching tools (Google Classroom, Moodle, etc.), and project-based learning.
- Outcome-Based Improvements: Regular attainment analysis has improved alignment of COs and POs, leading to better academic results.
- Faculty Development: Identified gaps are addressed through FDPs, workshops, and peer-learning sessions.
- Student Support: Enhanced mentoring, remedial classes, and career guidance programs for academically weak students.
- Quality Culture: The annual TLP review has cultivated a culture of accountability, transparency, and academic excellence across departments.

6. Conclusion

The Teaching–Learning Process Review System at RRCE ensures that academic delivery remains dynamic, evidence-based, and outcome-oriented. The structured annual review mechanism, supported by data analysis and stakeholder feedback, serves as a continuous improvement loop—enhancing the overall quality of education and student learning experiences

9.3.2 Feedback on Academic Facilities (10)

Institute
Marks :
10.00

9.3.2 Feedback on Academic Facilities (5)

1. Introduction

Rajarajeswari College of Engineering believes that academic facilities play a crucial role in ensuring effective teaching–learning outcomes and holistic student development. To maintain and enhance the quality of infrastructure and learning resources, the institute has established a systematic Annual Academic Facilities Feedback Mechanism.

This process is conducted once every academic year to collect structured feedback from key stakeholders — students, faculty, alumni, and staff — on the adequacy, accessibility, and quality of academic facilities.

2. Objectives

The primary objectives of the Academic Facilities Feedback System are to:

- Evaluate the adequacy and effectiveness of existing academic infrastructure.
- Identify areas of improvement in classrooms, laboratories, library, ICT resources, and other learning environments.
- Ensure that facilities remain student-centric, technologically updated, and aligned with evolving academic needs.
- Involve stakeholders in the continuous improvement of campus facilities and resources.
- Support the institute's vision of providing a conducive, inclusive, and technology-driven

academic environment.

3. Feedback Collection Process

The feedback process is systematic, confidential, and evidence-based, and involves the following steps:

a. Planning and Scheduling

- IQAC, in coordination with the Departmental Coordinators, schedules the feedback collection once every academic year.
- The process is announced through ERP notifications to ensure wide participation.

b. Feedback Instrument Design

- A standardized feedback form is designed and periodically updated by IQAC.
- The form includes parameters such as:
 - Classroom and laboratory infrastructure
 - Library resources and accessibility
 - ICT-enabled teaching facilities
 - Internet and Wi-Fi availability
 - Cleanliness, maintenance, and safety
 - Availability of learning materials and departmental resources
 - Support facilities (seminar halls, project labs, workshops, etc.)

c. Data Collection

- Feedback is collected through online mode.

- Responses are collected anonymously to encourage honest and unbiased opinions.

d. Data Compilation and Analysis

- Collected data is compiled and consolidated by the IQAC using statistical tools (mean rating, trend analysis, and percentage satisfaction).
- Qualitative feedback and open-ended comments are also analyzed to capture specific suggestions or concerns.

4. Review and Action Process

a. Departmental Review

- Each department reviews its facility feedback in the Department Advisory Board (DAB) meeting.
- Key findings and improvement requirements (e.g., lab upgrades, equipment repairs, or library resource gaps) are documented and submitted to the Management through Principal.

b. Institutional Review

- The consolidated institutional report is presented to the Principal, Academic Council, and Management Committee for deliberation.
- Based on the feedback, action plans are formulated for infrastructure enhancement, resource procurement, and facility maintenance.
- Budget allocations and timelines for implementation are defined through the financial committee.

c. Implementation and Monitoring

- Approved improvement actions are implemented by the Administrative Office, Maintenance Cell, and respective departments.
- IQAC and the Facilities Committee periodically monitor the progress and effectiveness of implemented changes.
- The impact of these improvements is reviewed in the following year's feedback cycle to ensure a continuous improvement loop.

5. Impact and Continuous Improvement

The Annual Academic Facilities Feedback process at RRCE has led to tangible outcomes such as:

- Regular up gradation of laboratory equipment and ICT tools.
- Improved classroom infrastructure with smart boards and ergonomic furniture.
- Expansion of library resources, including e-journals and online databases.
- Enhanced Wi-Fi connectivity and digital learning platforms.
- Improved cleanliness and maintenance standards across campus.
- Stronger stakeholder involvement in the decision-making process.
- The iterative review and action mechanism ensure that the institute remains responsive to changing academic needs and technological advancements.

6. Documentation and Evidence

- Feedback forms, analysis reports, and improvement plans are systematically documented by IQAC.
- Reports are stored digitally for transparency, audit, and future reference.
- Summary findings are presented in IQAC meetings and incorporated in the Annual Quality Assurance Report (AQAR).

7. Conclusion

Through its structured Annual Academic Facilities Feedback and Review System, RRCE ensures that academic infrastructure continuously evolves to meet the expectations of students and faculty. The process fosters a culture of quality, accountability, and participative governance, directly contributing to the enhancement of the overall learning environment.

In addition to above, at the institute level, a Student Council is constituted, comprising elected and nominated student representatives from various programs. The council focuses on different aspects of academic and non-academic life, including classrooms, laboratories, library, hostel facilities, sports, digital infrastructure, and campus amenities. Regular meetings of the council are convened with the management and senior administrators to gather observations, inputs, and concerns related to facilities.

9.4 Training and Placement Support (10)

Institute

Marks :

10.00

9.4 Training and Placement Support (10)

The Training and Placement Department conducts every year meticulously designed, phase wise training road map to equip students with the necessary skills for academic excellence and stellar career. The goal is to transform students into industry-ready professionals by the time students enter their final year.

This program is structured to build students competencies progressively, ensuring a strong foundation, specialized skill development, and final stage career preparation.

Phased Student Training Roadmap (2nd Year to 4th Year)

Phase 1: Foundation & Awareness (2nd Year — Semesters 3 & 4)

- **Core Skill Strengthening:** Intensive workshops covering fundamental concepts in Mathematics, core branch subjects, and basic programming logic.
- **Communication Skills (Level 1):** Foundational English language training focusing on vocabulary, basic grammar rules, and introductory public speaking to build student confidence.
- **Career Aptitude & Awareness:** Interactive guidance sessions explaining varied engineering career paths, general industry expectations, and timeline planning.
- **Introduction to Soft Skills:** Basic foundational modules covering team collaboration, time optimization, and professional corporate etiquette.
- **Primary Objective:** Build a robust, fundamental understanding of core concepts and establish initial professional direction.

Phase 2: Skill Enhancement & Specialization (3rd Year — Semesters 5 & 6)

This phase marks significant shift towards specialization and advanced skill acquisition, aligning students profile with industry demands.

1. Technical Skill Development:

- **Programming Languages:** Advanced coding cohorts in Java, Python, or C++.
- **Domain-Specific Training:** Specialized engineering tool modules mapped by branch (e.g., VLSI for ECE, MATLAB for EEE)

2. Communication Skills (Level 2): Advanced oral and interactive communication modules focusing on Group Discussions (GD), formal Presentation Skills.

3. Aptitude & Logical Reasoning: Comprehensive, recurring training sequences covering Quantitative Aptitude, Logical Reasoning, and Verbal Ability, coupled with periodic time-trial mock tests.

4. Resume Building Workshop: Practical guidance sessions on crafting an effective, single-page professional resume highlighting completed technical projects.

Primary Objective: Form an advanced, technically sound profile that aligns with modern engineering recruiter demands.

Phase 3: Career Readiness & Placement Drive (4th Year — Semesters 7 & 8)

1. Mock Placement Practices:

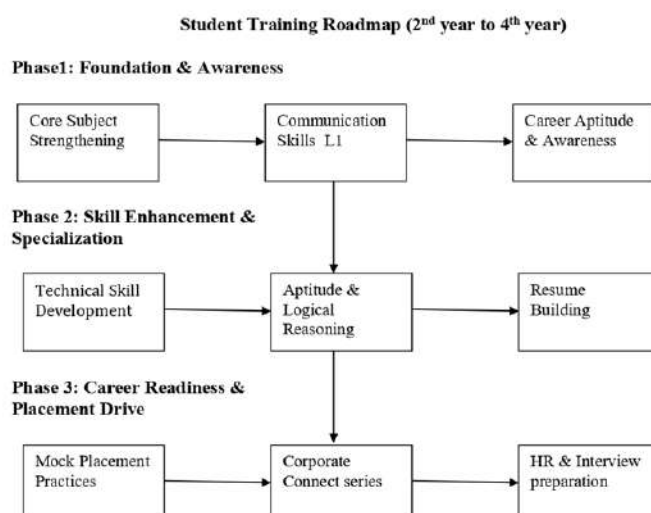
- *Aptitude Tests:* Simulated online mock examinations mimicking exact core recruiter patterns.
- *Group Discussion (GD) Practice:* Mock GD sessions are given where final-year students

practice group discussions on current technical and corporate topics to improve their communication, body language, and team dynamics before actual recruitment drives.

- **Mock Interviews (MI):** Multi-tiered interview simulations (Technical and HR) evaluated by industry experts and internal senior faculty.
2. **Corporate Connect Series:** Invited expert lectures from corporate tech leaders, structured alumni networking roundtables, and hackathons focusing on late-stage tech stacks.
 3. **Advanced HR & Interview Preparation:** Training on handling tricky HR conversational scenarios, developing an impactful professional narrative, and aligning with corporate cultures.
 4. **Resume Polishing & Profiles:** Individual, one-on-one portfolio review sessions to fine-tune active project scopes and optimize professional LinkedIn networks (<https://www.rrce.org/placement-activities/>).
 5. **Primary Objective:** Achieve absolute workforce readiness to guarantee high-performance outcomes during active recruitment drives.

Flowchart: Student Training Roadmap (2nd year to 4th year)

This flowchart visually represents the phased approach of the training conducted:



Key outcomes at each stage:

- End of Phase 1: A confident student with strong fundamentals and clear career goals.
- End of Phase 2: A specialized candidate with a strong resume, ready for internships and interview.
- End of Phase 3: An industry ready professional who successfully secures a job offer.

Upskilling of Students – Empowering Future-Ready Engineers

An initiative to enhance the skills and career readiness of students. The up skilling caters to all engineering disciplines and operates through structured programs conducted from 3rd to 6th semesters, ensuring a progressive learning curve. The initiatives include technical skill development, aptitude enhancement, and professional readiness sessions. This includes:

- Bridge academic learning with current and emerging industry demands.
- structured, hands-on technical training through Value Added Programs (VAPs) and workshops.
- Foster innovation, collaboration, and employability through domain-specific and interdisciplinary learning.
- Develop students' communication, analytical, and leadership skills essential for professional success.
- Organizing Value Added Programs (VAPs) in cutting-edge domains such as AI/ML, Full Stack Development, VLSI, and Embedded Systems.
- Motivating students to complete skill-based certifications with measurable learning outcomes.

Expected Outcomes:

- Enhanced employability and placement readiness.
- Improved alignment between curriculum and industry practices.
- Increased participation in internships, innovation projects, and entrepreneurship initiatives.
- Greater confidence and communication proficiency among students.

9.5 Start-up and Entrepreneurship Activities (5)

Institute

Marks :

5.00

9.5 Start-up and Entrepreneurship Activities(5)

Rajarajeswari College of Engineering has set up following facilities and councils with the vision to educate, mentor and provide enterprising resources to budding entrepreneurs to build an exhaustive resource pool to aid potential student entrepreneurs at RRCE. The IIE Cell provides necessary support to its budding entrepreneurs among students, alumni, faculty members and external clients with diverse industrial mentorships, co-working spaces, research and lab experiments, fund raising etc. during ideation, pre-incubation, prototype development, startup incorporation and acceleration stages.

- a. Institution Innovation Council (IIC) approved by MoE's Innovation Cell (MIC), Ministry of Education, Govt. of INDIA, New Delhi
- b. MSME Business Incubator recognized as Host Institute by Ministry of MSME, Govt. of INDIA, New Delhi
- c. AICTE IDEA Lab facilities funded by AICTE, Ministry of Education, Govt. of INDIA, New Delhi

The Institution Innovation Council(RR-IIC) is established as a unique initiative of the 'Ministry of Education's Innovation Cell(MIC), Government of India in collaboration with the 'All India Council for Technical Education (AICTE), New Delhi'. Its primary goal is to systematically foster a culture of innovation and entrepreneurship within the Institution. The IIC aims to encourage students and faculty to engage in various innovation and startup-related activities, ultimately contributing to the development of a vibrant innovation eco system in the institution. The focus is also on entrepreneurship

Promotion and social entrepreneurship. In-line with the IIC initiative, the IICell conducts various activities for the college students and faculty members, creating and promoting entrepreneurship awareness at the campus. Regular evaluation of startup ideas is done by a dedicated team of Innovation Ambassadors who are the faculty members of various academic departments and certified by MIC and AICTE. It is one of the unique initiatives through which an array of activities is conducted to raise the spirit of innovation and creativity which are considered as sparkplugs of entrepreneurship.

Innovation and Entrepreneurship activities such as awareness session, invited lectures, Entrepreneurial Workshops and motivational talks on “ Innovation and Entrepreneurship as Career Opportunity, Challenges based by young entrepreneurs and start up founders, Role of MSME Business Incubators, Raising Funds from Accelerators, Angel Investors, Entrepreneurship Boot camps & Innovation and Design Thinking Boot camps for the aspiring entrepreneurs and start up founders.

The RajaRajeswari Business Incubator is registered as a not-for-profit licensed company under Section 8(1) of the Companies Act 2013. It aims to focus and foster a vibrant eco system for the innovation and provide a unique platform for the students, Alumni, and faculties of RRCE to fulfil their dream of becoming an Entrepreneur and Start up founder and develop independent thinking to achieve goals of life.

We welcome the innovative ideas of startup aspirants, to nurture them and provide a positive direction to these ideas, handhold the mentee students to transform them into real innovators leading to the successful entrepreneurs.

Vision of RRBI

To create world class self-sustaining business incubation facility and innovation eco system.

Mission of RRBI

To be committed towards nurturing innovation and entrepreneurship development by mentoring and providing financial, technical, non-technical and networking support to groom start-ups to mature and become unicorns.

Objectives :

The main objective of RRBI is to train and motivate the students to become Job Creators rather than Job Seekers. It aims to:

- Inculcate the entrepreneurial culture into the mind of students.
- Conduct Entrepreneurship Awareness Boot Camps (EABC); Entrepreneurship Development Programs(EDPs); Faculty Development programs (FDPs) and Skill development programs (SDPs).
- Assist students, entrepreneurs, including Institutes' faculty, with pre-venture, startup or existing business with financial management, marketing, technology and product to development and commercialization issues.

- Liaison with various external funding agencies and leading financial institutions and banks.
- **Consultancy and research :**

The IIC has its dedicated policy for all the stakeholders of RRCE and has been implemented considering the framework of AICTE's National Innovation and Startup Policy(NISP). Various credit and non-credit courses in research, innovation, intellectual property and entrepreneurship are offered by RRCE at UG, PG and Ph.D levels which aims to create an enabling eco system for Entrepreneurship Development through entrepreneurship education. It helps the students in effective decision making towards their career progression.

The IIC has extended its collaboration with various leading startup enablers of high repute that includes Confederation of Industry Institution(CII), Young Indians, The Indus Entrepreneurs(TiE), Association of Women Entrepreneurs of Karnataka(AWAKE), Confederation of Women Entrepreneurs(COWE), ICT Academy and many more.

Their resourcefulness helps and support the budding entrepreneurs of RRCE to make their startup efforts in the right direction and they excel well in their journey of entrepreneurship.

State-of-the-art MSME Incubation Infrastructure :

- Incubation Space of 6000 sq.ft.built-up area

- 30 workstations
- Discussion Rooms
- Video Conferencing and Training Room Facilities
- Communication Facilities such as High Band Wired and WI-FI Internet Connectivity
- Photocopier and Scanner
- Dine-In Facilities
- Power Backup 24×7 Supported with 500KVA Generator & UPS.
- AICTE Funded IDEA Innovation Lab of 5000 sq. ft. with facilities like CNC Router Machine, PCB Milling Machine, 3D Printer worth of 60 Lakhs
- Research and Intellectual Property Rights(IPR) and Technology Transfer(TT) Cell – 500 sq.ft.
- Entrepreneurship Development Cell–750sq.ft.

Major Achievements of IIC and IDEA Lab & MSME Incubator :

- Received the Fund of Rs 30 Lakhs from AICTE to set up an AICTE IDEA Lab
- Awarded Top 10 Winner recognition at National Level, 1st in Karnataka and 2nd in South India in the Futurepreneurs'
- Top 10 winner teams qualified for State Hub round at SAPHackfest 2025, where the grand finale will be held in August 2025. Highest no of teams registered in the MSME IDEA Hackathon 6.0.
- 1,500+ students and 80+ faculty members have participated in the 36 Innovation and Entrepreneurship and start up related activities conducted by the RRIIC Innovation Council
- More than 200 engineering students identified by MSME Incubator & AICTE IDEA Lab of RRCE having startup ideas are registered as MSME Members.

- 18 Faculty Members and 07 students of RRCE IIC Team have been secured Innovation Ambassador certification from the Ministry of Education's Innovation Cell (MIC) and AICTE, New Delhi.

MSME approved Incubation Cell at RRCE :

The institution has established the RRCE MSME Business Incubator, supported by the Ministry of Micro, Small and Medium Enterprises (MSME), Government of India, to transform innovative ideas into commercially viable products and technology-based startups. The incubator provides mentoring, technical guidance, business development support, intellectual property facilitation, prototype development assistance, and access to funding opportunities for aspiring entrepreneurs.

To strengthen the innovation culture, RRCE regularly organizes:

Innovation and Entrepreneurship Awareness Programmes

MSME Idea Hackathons

Ideathons and Project Competitions

Startup Awareness Workshops

Design Thinking and Innovation Boot Camps

Intellectual Property Rights (IPR) and Patent Filing Workshops

Entrepreneurship Development Programmes (EDPs)

Industry Interaction Sessions and Expert Talks

Product Development and Prototype Demonstrations

Funding Awareness Programmes on MSME, AICTE, DST, and Startup India schemes

Students are encouraged to convert academic projects into innovative products and startup ventures. Faculty members actively mentor student teams in identifying real-world engineering challenges and developing sustainable technology solutions.

The institution also promotes innovation through:

AICTE Idea Lab facilities

Research and Development Centre

Centre of Excellence laboratories

Industry-sponsored laboratories

Interdisciplinary project-based learning

Consultancy and collaborative research activities

Technology-enabled incubation support

Patent filing and technology transfer initiatives.

AICTE IDEA Lab:

AICTE IDEA (Idea Development, Evaluation and Application Laboratory) in its approved institutions for encouraging students for application of **Science, Technology, Engineering and Mathematics (STEM)** fundamentals towards enhanced hands-on experience and enable joy-filled learning by doing. AICTE is sanctioning the fund for establishing a common facility in the approved institution, IDEA lab facilitates the students to “**engage, explore, experience, express and excel**” as desired by the Honourable Prime Minister of INDIA, in align with **National Education Policy (NEP 2020)**.

Objectives :

To provide laboratory facilities under one roof to the students and faculty members to “**engage, explore, experience, express and excel**” and get practical exposure and apply the technical knowledge and skills to develop a product useful to the society especially for the needy and underprivileged people.

Vision

To create an Innovation, Incubation and Entrepreneurship Eco System for the students and faculty members to convert their Innovative Ideas into useful products for the betterment of people and society.

Mission

1. To provide the state-of-the-art infrastructure facilities in the IDEA Lab maker space for developing technological solutions to societal and industrial problems.
2. To create an awareness on Innovation and Design Thinking, Problem solving, Idea generation and Prototype Development among the students and faculty members.
3. To provide Incubation facility and mentoring support to the aspiring student Innovators and faculty innovators to create matured start up ventures inside the campus.
4. To promote sustainable innovation and development of solutions for real world problems in the industry and society.

Facilities at RRCE AICTE IDEA Lab

RRCE AICTE IDEA Lab has a build up space of 6000 square feet with makerspace with basic equipments like CNC milling machine, CNC Drilling Machine, Robots in the robotics lab and electronics & IoT components, sensors in the IoT Lab and Centre of Excellence labs, discussion rooms, seminar halls with LCD Projector & Training rooms and computer systems with high speed Internet connections

Procurement of Major Equipments :

The following major equipments are available in the RRCE AICTE IDEA lab to provide up skill training to the students and faculty members.

1. CNC Router Machine
2. PCB Milling Machine
3. 3 D Printer
4. CO2 LASER Cutting Machine
5. Vinyl Cutter and Printer Machine
6. DSO
7. MSO
8. Smart Board

More than 50 Skill Training sessions were conducted to the more than 800 students and 75 faculty members and 50 non-teaching staff members of the college.

9.6 Governance and Transparency (25)

9.6.1 Governing Body, Administrative Setup, Functions of Various Bodies, Ser

9.6.1 Availability of the Institutional Strategic Plan and its Effective Impleme

Rajarajeswari College of Engineering – Institute Strategic Plan (2024-2029)

The Rajarajeswari College of Engineering (RRCE) envisions itself as a globally recc future-ready professionals who actively contribute to the achievement of the United (NEP) 2020.

Institutional Vision

To become a premier institution imparting quality education in engineering and man

Institutional Mission

To deliver excellence in education through innovative teaching, impactful research, i responsibility.

To foster a transformative learning environment that integrates technology, research

To cultivate a culture of lifelong learning and professional excellence by encouraging

To provide a holistic educational experience that combines advanced technology, ha contribute positively to society

The Institutional Strategic Plan (ISP 2024–29) has been carefully formulated in align structured five-year roadmap for transformation, growth, and global recognition. It is

1. Academic Transformation & Student Empowerment – Curriculum modernizat
2. Research, Innovation, and National Impact – Establishment of Centres of Exc
3. Employability & Future of Work – Launch of student councils, career readines
4. Global & Community Engagement – National and international partnerships, g
5. Governance, Monitoring & Accountability – Transparent monitoring through d

Strategic Path for Growth (2024–29)

i. Academic Excellence and Multidisciplinary

RRCE is committed to developing a future-ready curriculum fully aligned with NEP 2020 and the Bank of Credits (ABC) model, ensuring maximum flexibility for learners. Over 20 international Faculty members will undergo continuous professional development (CPD), with a grant established to advance blended learning and adaptive pedagogy.

Targets by 2029:

- 50% of students graduate with interdisciplinary minors.
- Institution ranked among the top-10 in Karnataka for academic quality.

ii. Research, Innovation, and National Impact

RRCE aims to build a research-intensive and innovation-driven ecosystem. Three Core Pillars: Research, Sustainability, and Smart Infrastructure. The institution targets incubation of 50+ startups by 2029.

Targets by 2029:

- Recognition as a National Innovation Hub.
- 25+ industry-sponsored projects annually.

iii. Student Empowerment and Employability

Student empowerment is central to the ISP. In 2024–25, RRCE launched three structural initiatives: the Student Empowerment Council (peer-led training in AI, data science, soft skills, and core engineering). A Career Acceleration Program (AI, data science, and core engineering). A Capstone Project (AI, data science, and core engineering). Every student will undertake industry internships and SDG-linked capstone projects.

Targets by 2029:

100% placement/higher education rate within six months of graduation. Recognition as a top-tier institution. Students securing global internships across 10+ countries.

VI. Global and Community Engagement

Internationalization and social responsibility form the backbone of RRCE's outreach 2029. Dual-degree and twinning programs will commence by 2028, with significant literacy in villages to sustainable water management.

Targets by 2029:

- 25% increase in the international diversity index (faculty and students).
- Recognition for SDG-led campus initiatives such as green energy and net-zero

v. Infrastructure, Governance, and Sustainability

The campus transformation plan includes green infrastructure, digital governance, and administrative processes. A 360° faculty performance evaluation system will be implemented by 2027, 100% water recycling by 2028, and Net-Zero Campus status by 2029.

Targets by 2029:

- Attain NAAC A++ Grade and NBA accreditation for all eligible programs.
- Secure ranking within the top-50 private institutions in India.

vi. Implementation and Monitoring

A Chief of Strategy and Systems will head the Institutional Monitoring Team, ensuring rates, patents, collaborations, faculty development, renewable energy adoption, and

The Continuous Quality Improvement (CQI) cycle is embedded into the ISP wi

- CO-PO-PSO attainment analysis across all programs (NBA criteria).
- Annual Internal Academic Audit conducted by IQAC.
- Biennial benchmarking of curriculum against IITs/NITs.
- Annual Stakeholder Conclave for participatory review.
- ERP-enabled Digital Dashboard for real-time monitoring.

To ensure the effective realization of the five-year Institutional Strategic Plan, each & The programs will adopt a structured approach to contribute towards the achievement of SDG expectations.

Focus Area	Objectives
Vision, Mission & Governance	Align Vision & Mission w NEP 2020, UN SDGs, an NBA graduate attributes

Academic Transformation & OBE	Implement holistic, multidisciplinary, and flexible education
Teaching- Learning & Pedagogy	Strengthen learner- cent technology-enabled pedagogy
Research, Innovation & Entrepreneurship	Enhance applied research innovation, and entrepreneurship ecosystem

Student Empowerment & Employability	Ensure career readiness, leadership, and holistic development
RRCE & Community Engagement	Build international link and strengthen community responsibility
Faculty Empowerment & Development	Promote lifelong learning performance accountability
Sustainability & Green Campus	Achieve Net-Zero and environmentally sustainable campus

Continuous Quality Improvement (CQI)	Embed a culture of evidence-based continuous improvement
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Conclusion

The Institutional Strategic Plan (2024–29) of the Rajarajeswari College of Engineering with the United Nations Sustainable Development Goals, and structured in accordance with engineering and management education.

Over the next five years, RRCE commits itself to a journey of academic renewal, research, edge technology integration, and learner-centric pedagogy, the institution envisions the establishment of Centres of Excellence, incubation of startups, expansion of national contributions resonate well beyond the campus walls.

A strong emphasis on student empowerment and employability through structured curriculum, technical knowledge but also with resilience, creativity, and ethical values demanded by the industry guarantee accountability, quality, and continuous improvement at every level of function, sustainability and social responsibility.

Our dream is that by 2029, the Rajarajeswari College of Engineering will be recognized as:

- A centre of excellence in technology education, comparable with the best in the world.
- A National Innovation Hub with global linkages, where ideas are nurtured and transformed into products and services.
- A student-first institution, achieving near-complete employability and shaping the future of sustainability and social equity.
- An academically and morally vibrant community, producing graduates who are leaders in their fields.

This dream is both ambitious and attainable. With the collective will of its students, a five-year journey is not merely about rankings, accreditations, or recognitions, but a

Thus, the ISP (2024–29) is not just a plan on paper; it is a living commitment — a call for an institution can align national aspirations, global challenges, and institutional strategies.

9.6.2 Governing Body, Administrative Setup, Functions of Various Bodies, S

RRCE Administrative Setup:

The Institute was started in 2006, and it offers ten Undergraduate Programs and three Postgraduate Programs, all of which are overseen by the Board of Governors (BoG). In accordance with the guidelines of statutory Bodies to oversee activities, assess requirements, and make informed decisions. The Institute has a wide range of courses and a large student population.

Governing Bodies: The various Statutory/Non-Statutory Governing Bodies:

- i. Board of Governors (BoG)
- ii. Academic Council (AC)
- iii. Internal Quality Assurance Cell (IQAC)
- iv. Finance Committee (FC)
- v. Board of Studies (BoS)
- vi. Board of Examiners (BoE)
- vii. Board of Appointments (BoA)
- viii. College Internal Complaints Committee (CICC)
- ix. Women Empowerment Cell (WEC)
- x. POSH Cell
- xi. SC/ST Cell
- xii. Research Development Cell
- xiii. Anti-Ragging Committee
- xiv. Grievance Redressal Cell
- xv. Committee for AICTE Activity Points Program
- xvi. Unnat Bharath Abhiyan
- xvii. IP Cell
- xviii. Upskilling Cell

Statutory/Non-Statutory Governing Boc

1. Board of Governors (BoG): The Board of Governors of the Institute is the supreme administrative direction for implementation and overall monitoring of all activities. It supports the Head of the

Table 9.6.1 The constitution of the Board of Governors is as outlined .

Sl. No	Category	Name
1	Members of the Management	Sri. A .C. Shanmugam, Chairman Founder chairman& Managing Trustee RajaRajeswari Group of Institutions
		Sri. A.C.S. Arun Kumar President RajaRajeswari Group of Institutions
		Dr. S. Vijayanand Executive Director RajaRajeswari Group of Institutions
2	Management Representative	Dr. Karisiddappa, Former Vice-Chancellor (VTU) #187, HC Extension, Near Siddeshwara Gowrikoppal Road, Vidyanagar, Hassan 573202
		Sri C N Seetharam, Former Secretary to Govt. Revenue Department Gov. of Karnataka, Bengaluru.

3	Teachers at the College	Dr. S Jeyabalan, Professor, Dept. o RajaRajeswari College of Engineer Bengaluru
		Dr. A K Mariappan, Professor, Dept RajaRajeswari College of Engineer Bengaluru
		Mrs. Savitha S, Registrar, RajaRajeswari College of Engineer Bengaluru
4	Educationist or Industrialist	Dr. Kalyanam Kannan Former Vice-President Sonata Soft
5	University Grants Commission (UGC) Nominee	Awaiting for the nominee
6	AICTE Nominee	Awaiting for the nominee
7	State Government Nominee	Dr. Madhu
8	Visvesvaraya Technological University (VTU) Nominee	Sri Sunny Raj S/o Subod Kumar Gupta VTU Executive Council Member #1621, 2 nd Floor, 20 C Cross, 11 th Main B Block, Sahakara Nagar Bengaluru North-560092
9	Principal of the College – (Ex-officio Member Secretary)	Dr. R Balakrishna

Apart from the Members of the BoG, RRCE invites Trust Officials as invitees to tl

Table 9.6.2 Meeting Year Meeting No./Date

Meeting Year	Meeting No.	Meeting Date 1	Meeting Date 2
2020	2	21-02-2020	13-11-2020
2021	2	10-06-2021	09-12-2021
2022	2	14-05-2022	15-12-2022
2023	2	28-02-2023	04-09-2023
2024	2	04-05-2024	01-11-2024
2025	2	03-04-2025	15-11-2025

2.Academic Council (AC): The Academic Council takes the responsibility of the Chairman of the Board of Studies of various departments to maintain high academic calendar of events, the curriculum designed and developed by the departments and deliberates any other relevant matters. The council general institute.

The composition of the Academic Council is as shown in Table 9.3:

Table 9.6.3: Academic Council Academic Year 2025-26

SN	Name of the Expert	Designation	
11	Dr. R Balakrishna	Principal, RRCE	
2	Dr. M Basavaraj	VTU Academic Senate Member & Professor Principal, Croog Institute of Technology	V
3	Dr. Vijaya Prakash A M	VTU Academic Senate Member & Professor, Dept. of ECE, BIT, Bangalore	V

4	Dr. S V Gorbali	Principal, Jain College of Engineering and Research, Belagavi	V
5	Dr. Ashok Rao	Former Professor of IISc. Bangalore	Ac
6	Dr. Swamy D R	Executive Director, K S Group of Institutions	Ac
7	Mr. Umesh S Hasan	Group Head Talent Transformation, Wipro Technologies Ltd, Bangalore	In
8	Mr. Sreenivasa Ramanujam K	Delivery Partner, TCS Bengaluru	In
9	Dr. G Sadashivappa	Controller of Examination	
10	Dr. L Rangaiah	Dean-Academics	
11	Dr. D Kirubha	HoD, Dept. of CSE	
12	Dr. Selvi M	HoD, Dept. of CSD	
13	Dr. Shashidhar V	HoD, Dept. of CSE(IC)	
14	Dr. Mamatha Bangi	HoD, Dept. of AI&ML	
15	Dr. Sunitha R	HoD, Dept. of ECE	
16	Dr. Arul Jose	HoD, Dept. of EEE	
17	Dr. Sreenivasa Murthy V	HoD, Dept. of ISE	
18	Dr. Satheesha V	HoD, Dept. of R&A	
19	Prof. Kamalakara G K	Asst. Professor, Dept. of Civil Engg.	
20	Dr. K S Krishna Kumar	HoD, Dept. of Physics	

21	Dr. Hariprasad A S	HoD, Dept. of Mathematics	
22	Dr. Pruthviraj R D	HoD, Dept. of Chemistry	
23	Dr. Lakshmi B L	HoD, Dept. of MBA	
24	Dr. Subburaj T	HoD, Dept. of MCA	
25	Dr. Bheemeshwara Reddy V	Dean-Training & Placement	
26	Dr. Kamalraj T	Professor Dept. of CSE	
27	Dr. Ramesh C	HoD, Dept. of ME	
28	Dr. Karthikeyan M	Deputy Controller of Examination	
29	Dr. Deepika J	Member Secretary	

3. Internal Quality Assurance Cell (IQAC): Rajarajeswari College of Engineering focuses on continuous improvement, promoting a culture of quality, and ensuring attainment of standards by guiding quality-related programs, with procedural steps such as developing an AQAR. By following National Assessment & Accreditation Council (NAAC) standards, the cell is placed below:

Table 9.6.4 IQAC

S. No.	Name	Designation	Status in IQAC
1	Dr. R Balakrishna,	Principal	IQAC Chair
2	Dr. C N Seetharaman,	IAS (Rtd), RRG	Management Representative
3	Dr. Radhakrishna R K,	Associate Professor, Dept. of R&A	Dean IQAC

4	Dr. N Sreenivasalu Reddy	Associate Professor, Dept. of R&A	Member
5	Dr. Selvi M	HoD, Dept. of CSD	Member
6	Dr. Vishwanath K C	Professor, Dept. of R&A	Member
7	Dr. Shivalingaiah K L	Assistant Professor, Dept. of EEE	Member
8	Mr. Lokesha K	Assistant Professor, Dept. of ECE	Member
9	Dr. Satheesha V	Associate Professor, Dept. of ECE	Member
10	Dr. Sowmya G	Associate Professor, Dept. of MBA	Member
11	Dr. Savitha B	Associate Professor, Dept. of Mathematics	Member
12	Mrs. Savitha S	Registrar	Member
13	Mrs. Sincy Elezebeth Kuruvilla	Assistant Professor, Dept. of EEE	Member
14	Dr. Thanujkumar M	Associate Professor, Dept. of R&A	Member

15	Dr. Kalyanam Kannan	Industrialist	Member
16	Mr. M T Krishnamurthy	Parent Representative	Member
17	Kavya	Student Representative	Member
18	Thanmay	Student Representative	Member
19	Chetan	Alumni	Member
20	Suhas Vasishta	Alumni	Member

4. Finance Committee (FC): The Board of Governors has constituted the following:

1. Budget estimates/status, etc.
2. Monitoring and Guiding Financial Actions
3. Status of Statutory Payments
4. Financial Audit and Reporting
5. Any other finance-related aspects

5. Board of Studies (BoS):

The Board of Studies is constituted for each department separately. The Board of Studies is responsible for monitoring the development of the curriculum to keep it in tune with the external world and the development/revision of the curriculum to keep it up to date with changes to the curricular content, delivery, assessment, and evaluation system.

Composition of Boards of Studies at va

(As per UGC Guidelines for Autonomous College)

Table 9.6.5 Composition of Boards of Studies at various Departments

Sl. No.	Name	Designation
1.	Head of the Department concerned.	Chairman
2.	Faculty of each specialization.	Members
3.	One subject experts from outside the Parent University to be nominated by the Academic Council	Members
4.	VTU Nominee, (One Expert to be nominated by the Vice-Chancellor, VTU, from a panel of six recommended by the College Principal).	Member
5.	Industry – Placement (One Industry/Corporate Sector/Allied area relating to Placements)	Member
6.	Alumni – Senior Person (Meritorious alumnus to be nominated by the Principal)	Member
7.	Other Members (The Chairman of BoS may, with the approval of the Principal, Co-opt: Experts from outside the college. Other members of the same faculty).	Invitees/Members

Board of Examiners (BoE): Assessment and evaluation are a assessment and evaluation of students' learning outcomes also ne

The examination section is appropriately structured to carry out conducting and overseeing both Continuous Internal Evaluation (examination-related documents, and submitting periodic reports to every department for the smooth conduct of its activities. The Bo once in a semester before the commencement of the examination suggests any improvements if needed.

The BoE is responsible for assessing and evaluating the method: expected of the course.

Table 9.6.6 Composition of Boards of Examiners at various Departments

Sl. No.	Person	Designation
1.	Head of the Department	Chairman
2.	Faculty – Specialization 1	Member
3.	Faculty – Specialization 2	Member
4.	Faculty – Specialization n	Member
5.	External Expert 1	Member

A few of the Statutory Committee details are listed below:

I. Anti-Ragging Committee

a) Frequency of Meeting: Twice per year or Any incidents reported / noticed will be

Functions of Anti-ragging Committee:

This Committee is headed by the Head of the Institution, and consists of representatives of faculty members, representatives of parents, representati

Table 9.6.7 Anti-Ragging Committee formation-reg. Academic Year 202

Sl. No	Name	Department	Role
1	Dr. R Balakrishna	Principal, RRCE	Chairman
2	Dr. Amutharaj J	Prof. & Dean-Administration	Member
3	Dr. L Rangaiah	Prof.& Dean-Academics	Member
4	Dr. D Kirubha	HoD, Dept. of CSE	Member
5	Dr. Shashidhar V	HoD, Dept. of CSE(IC)	Member
6	Dr. Dr. Aravinthan	Professor, Dept. of Civil Engineering	Member
7	Dr. Sunitha R	HoD, Dept. of ECE	Member
8	Dr. P Ebby Darney	Dean-Students Affairs	Member
9	Dr. Satheesha V	HoD, Dept. of R&A	Member
10	Dr. Ramesh C	Dean-Infrastructure	Member

11	Dr. A Sudhakara	HoD, Dept. of Chemistry	Member
12	Dr. K S Krishnakumar	HoD, Dept. of Physics	College Coordinator
13	Dr. A S Hariprasad	HoD, Dept. of Mathematics	Member
14	Mr. Chethan Kumar	Warden (Boys Hostel)	Member
15	Mrs. Shyamala	Warden (Girls Hostel)	Member
16	Mr. Lokesh	Parent	Parent Representative
17	Ms. Prathiksha M	Student Representative	Student Representative
18	Mr. Mr. Likith B P	Student Representative	Student Representative
19	Mr. Krishnamurthy	Instructor, Dept. of RA	Member
20	Mrs. Thripurambha M P	Instructor, Dept. of CSE	Member
21	Sub Inspector, Kumbalgodu,	Kumbalgodu, Police Station	Member

b) Responsibilities:

- i. To monitor the activities of the anti-ragging squads and regarding the incident
- ii. To conduct an enquiry into any incidents of ragging referred to it by the Head recommendations to the Anti-Ragging Committee for action.
- iii. The Anti-Ragging Squad shall conduct such enquiry observing a fair and tran before it the facts, documents and views concerning the incidents of ragging,
- iv. The Monitoring Committee shall also review the efforts made by institutions to

C) Anti-Ragging Squad:

This Committee is nominated by the Head of the Institution, represent
Dean of Student Welfare will serve as the primary coordinator.

Responsibilities:

- To maintain vigil, oversight and patrolling functions and remain mobile, alert and
- To make surprise visits to the hostels, and other places vulnerable to incident

II College Internal Complaints Committee (CICC):

Table 9.6.8 CICC members Academic Year 2025-26

1. The following is the constitution of CICC at RRCE:

S. No	Name	Designation/ Department	Role in Committee	Contact Information
1	Dr. Haritha K S	Associate Professor, Dept. of CSD	Chairperson	9113011127
2	Dr. Savitha B	Associate Professor, Dept. of Mathematics	Member	9742009245
3	Dr. Sunitha R	Associate Professor, Dept. of ECE	Member	9986209654
4	Mrs. Sincy Elezebeth Kuruvilla	Assistant Professor, Dept. of EEE	Member	9886246348
5	Mr. Chaithra C M	Instructor, Dept. of ECE	Member	7760080337
6	Dr. Deepika J	Associate Professor, Dept. of ECE	Member	9008600677

7	Ms. Dhanvika K (student representative)	1RR24AI017, Dept. of AI&ML	Member	9986668099
8	Ms. Punyashree C (student representative)	1RR24CS151,	Member	701927213
9	Ms. Kruthi L (student representative)	1RR24IS023	Member	7676770865
10	Mrs. Savitha R	Registrar, RRCE	Member	9945081173
11	Rajani Thivari	Member (NGO)	Member	9986013797s

1. As per **VTU Circular Ref. no. VTU/BGM/WC/ICC/2021-22/6370/1 Dated:17-** Internal Complaint Committee (CICC) has been formed in RRCE to prevent s harassment.

Roles and Responsibilities:

- i. To promote awareness about sexual harassment through educational initiatives
- ii. To provide a neutral, confidential, and supportive environment for the campus
- iii. To ensure fair and timely resolution of complaints about sexual harassment.
- iv. To provide information regarding counselling and support services on the campus
- v. To ensure that students, faculty and staff are provided with current and complete

Similarly, other Statutory/Non-Statutory Committees are formed as per UGC/A

Service rules, Policies and Procedures; Year of Publications to be listed

1. **Appointment:** Board of Appointments (BOA), headed by the Principal, Dean minimum twice in a year prior to the new academic session.

Main responsibility of the BOA is to identify the right candidates for various teacher ratio and cadre ratio are maintained as per AICTE / VTU regulations.

2. Promotions:

Direct Promotion (against Vacancy in the Cadre): All vacant positions are filled through competition, both faculty members from the institute and external candidates can be shortlisted based only on eligibility. All shortlisted candidates would be

3. **Service Rules at RRCE:** The Service Rules and Code of Conduct for teachers

9.6.2 Transparency (5)

INFORMATION ON POLICIES, RULES AND PROCESSES:

For a healthy institutional ecosystem, transparency at all levels nurtures trust and Parents community feel protected when they trust institutions leadership and the stakeholder's opinion and feedback that are being heard and valued. We, at Rajara policies, rules and processes to all its stakeholders, the entire mandates are upload

DISSEMINATING INSTITUTION'S STRATEGIC STATEMENTS

The strategic statements such as Vision and Mission statements are the guides are to propel the growth trajectory and achieve the measurable yardsticks. 1

Vision Statement:

Become a premier Institution imparting quality education in Engineering and Manag

Mission Statements:

These strategic statements are publicly available through the following so

Mission:

To deliver excellence in education through innovative teaching, impactful research responsibility.

To foster a transformative learning environment that integrates technology, research

To cultivate a culture of lifelong learning and professional excellence by encouraging

To provide a holistic educational experience that combines advanced technology contribute positively to society

Institution's website (www.rrce.org) Office of the Head of the Institution

Office of the Heads of various Undergraduate and Postgraduate Programs

Classrooms

Laboratories

Seminar Halls

Conference Halls

Boardrooms

Prominent places at the Institution premises

DISSEMINATING DEPARTMENT'S STRATEGIC STATEMENTS

The specific program's strategic statements viz. a) Vision statement of the and Program Specific Outcomes (PSOs) are accessible through the following

- Institution's Department specific webpage/s
- Display Boards at the Office of the Head of the Department
- Display Boards in the Classrooms
- Department's Notice Boards
- Official email communication as an appendix after signature
- Lab Manuals / Lab Records
- Internal Assessment Test Booklets

DISSEMINATING INSTITUTION'S MANDATORY DISCLOSURES

In order to ensure transparency in divulging all the mandatory disclosures and from various Apex bodies such as Karnataka State Directorate of Technical Education, National Assessment and Accreditation Council, National Board of Accreditation and

- University Grants Commission (UGC): Autonomous Approval
- University Grants Commission (UGC): 12B Applied
- University Grants Commission (UGC): 2F Status
- All India Council of Technical Education (AICTE)
- Visvesvaraya Technological University (VTU)
- National Assessment and Accreditation Council (NAAC)
- National Board of Accreditation (NBA)

DISSEMINATING INSTITUTION'S ADMISSION AND TEACHING-LEARNING PROCESSES

In order to facilitate the end-to-end admission and Teaching-Learning processes the

- Admission notification
- Eligibility criteria for admission to Undergraduate and Postgraduate programs
- Fee structure
- List of Programs offered by the Institution
- Autonomous Academic Regulations and Parent University's Academic Regulations
- Download Admission Application forms
- Calendar of Events
- Scheme of Teaching and Evaluation
- Credits rationalization
- Autonomous Examination Regulation
- Value-added/Augmented Certificate Programs

DISSEMINATING INSTITUTION'S AUDITED FINANCIAL STATEMENTS

Assessing the financial performance of a higher education institution is a complex task. The institution's financial statements, including Assets, Non-current Liabilities, Current Liabilities, Revenues from various sources, and Expenses, can be accessed in the institute website.

DISSEMINATION OF STUDENTS PERFORMANCE

For facilitating the entire cycle of Teaching – Learning and Evaluation process, the Student of Rajarajeswari College of Engineering can be seamlessly access the following link and a screenshot of the login window is also appended below.

Though not exhaustive, following are key benefits of using the Learning Management System

- 24/7 online access

- Access to Calendar of Events
- Access to Class timetable
- Access to Lesson Plans
- Access to Overall attendance and shortage of attendance
- Performance tracker in Continuous Internal Examinations (Performance in In Project, Simulative exercises, Online certifications, Complex Engineering Pro
- Semester-End Examination results
- Daily attendance notifications to Parents

PROCEEDINGS OF THE INSTITUTIONAL AND ACADEMIC GOVERNANCE

- In order to exercise academic integrity in
- Academic Planning
- Teaching-Learning and Evaluation
- Autonomous Examination
- Facilities and Administration
- Managing Intellectual Resources
- Accreditation and Ranking

We, at Rajarajeswari College of Engineering constituted multiple layers of Lead various Leadership Councils.

- Governing Council / Board of Trustees
- Academic Council
- Board of Studies pertains to respective Programs
- Board of Examination pertains to respective Programs
- Council of Heads of various Undergraduate and Postgraduate Departments
- Office of the Internal Quality Assurance Cell
- Board of Appointment

To maintain utmost transparency in all the deliberations, all the proceedings & dossiers deem relevant to Leadership Councils are constantly uploaded in the Ir

Institution's website is periodically updated to reflect the abreast information.

9.7 Budget Allocation, Utilization, and Public Accounting at Institute Level (12)

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 2025-26

Total Income 379959790				Actual ex
Fee	Govt.	Grants	Other sources(specify)	
370123272	0	0	9836518	3441723

Table 2 - CFYm1 2024-25

Total Income 353871051				Actual ex
Fee	Govt.	Grants	Other sources(specify)	
351195670	0	0	2675381	3732109

Table 3 - CFYm2 2023-24

Total Income 264139301				Actual ex
Fee	Govt.	Grants	Other sources(specify)	
263050532	0	0	1088769	2829515

Table 4 - CFYm3 2022-23

Total Income 197425402				Actual ex
Fee	Govt.	Grants	Other sources(specify)	
195679402	0	0	1746000	1958356

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expense in 2024-2 till
Infrastructure Built-Up	3200000	3124926	2000000	6919225
Library	2700000	1658641	2600000	417425
Laboratory equipment	3220000	2680423	2680423	3326897
Teaching and non-teaching staff	1450000	1546377	1450000	1301652
Outreach Programs	1000000	1569113	1000000	1670481
R&D	3200000	1410808	3000000	3769145
Training, Placement and Indust	2100000	1660717	2500000	824050
SDGs	1000000	1246330	1000000	680618
Entrepreneurship	1000000	3430057	1000000	2285585
Others, specify	9010000	1205054	9225000	1309371
Total	310300000	344172349	295154235	37321093

9.8 Program Specific Budget Allocation, Utilization (8)

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 2025-26

Total Budget 300000		Actual expenditure (till...): 743979	
Demanded	Actual Allocated	Actual Expenditure	% Spent
1700000	300000	743979	73.25

Table 2 :: CFYm1 2024-25

Total Budget 4000000		Actual expenditure (till...): 2954584	
Demanded	Actual Allocated	Actual Expenditure	% Spent
4500000	4000000	2954584	89.69

Table 3 :: CFYm2 2023-24

Total Budget 300000		Actual expenditure (till...): 2175305	
Demanded	Actual Allocated	Actual Expenditure	% Spent
3000000	300000	2175305	71.83

Table 4 :: CFYm3 2022-23

Total Budget 3000000		Actual expenditure (till...): 2667111	
Demanded	Actual Allocated	Actual Expenditure	% Spent
4000000	3000000	2667111	60.36

Items	Budgeted in 2025- 26	Actual Expenses in 2025- 26 till	Budgeted in 2024- 25	Actual Expenses in 2024- 25 till
Laboratory equipment	1200000	369490	2500000	1995000
Software	200000	169686	200000	187620
SDGs	10000	5500	10000	4800
Support for faculty developmen	10000	2185	15000	7500
R & D	30000	10000	500000	450000
Industrial Training, Industry exp	50000	32390	85000	82116
Miscellaneous Expenses*	500000	374489	500000	227548
Total	2000000	963740	3810000	2954584

9.9 Quality of Learning Resources (Hard/Soft) (5)

9.9 Quality of Learning Resources (Hard/Soft) (5)

Carpet Area of library	1628 sq.mt
Number of seats (Reading space)	300
Library Timings (Circulation) Monday-Saturday	10.30 am to 4.00 pm
Library Timings: (Reading Hall) Monday-Saturday	8.30am to 6.00 pm
Computerization for search, Indexing and issue/Return Records	Yes New Gen lib Automation Software Version –NGL Cc Helium
Bar-coding Used	Yes RFID-HF System
Library service on Internet/Intranet	Internet
Consortium Membership	Yes Members of VTU Consorti
Total No. Titles	7179
Total No. of Volumes	37921

Digital library

- 23 Computers configured with **8 GB RAM**, Windows-10, and 1 TB Hard Disk.
- Systems are equipped with **2 GBPS** (Leased-Line Internet connectivity).

E-Resources Details Subscribed through VTU Consortium for the year 2025-26

Sl. No.	Publishers	
E-Journals & E-Conference Proceedings:		
1	Elsevier Science Direct	https://www.sciencedirect.com/ (https://www.sciencedirect.com/)
2	Springer Nature	https://link.springer.com/
3	IEEE e-Journals	https://ieeexplore.ieee.org/ (https://ieeexplore.ieee.org/)
4	Emerald publishing	https://www.emerald.com/ (https://www.emerald.com/)
5	ICE (Institute of Civil Engineers)	https://www.emerald.com/ice/ (https://www.emerald.com/ice/)
6	EBSCO Engineering Suite	https://search.ebscohost.com/ (https://search.ebscohost.com/)
7	Taylor & Francis	https://www.tandfonline.com/ (https://www.tandfonline.com/)
8	Magzter Journals	https://library.magzter.com/ (https://library.magzter.com/)
TOTAL		

E-Book	
EBSCO Engineering Suite	https://search.ebscohost.com/ (https://search.ebscohost.com/)
Edsol Informatics	https://ebooks.edsolinformatics.com/ (https://ebooks.edsolinformatics.com/)
PACKT	https://learning.packt.com (https://learning.packt.com)
New Age International	https://digital.elib4u.com/ (https://digital.elib4u.com/)

Quiklrn	https://quiklrn.com/app.php (https://quiklrn.com/ap
TOTAL	

Technology Platforms:		
1.	Map Systems	https://access.vtu (https://access.vtu
2.	Quiklrn Language Communication Lab	https://home.quik (https://home.quik
3.	IEEE Blended e-Learning Platform	https://blendedlea (https://blendedle
4.	EBSCO – AMA Micro courses	https://search.ebs (https://search.eb
5.	PAT Technology	https://vtu.edutair
6.	Drillbit	https://www.drillbi (https://www.drillb
7.	Magzter Databse	https://library.mag

E-RESOURCES LICENSE COPY (2025-2026)

Usage statistics are as given below:

The following tables indicate the use of various E-Resource packages that were suk
(1-1-2025 to 31-7-2026)

Number of downloads: Elsevier Science Direct

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
2025	153	133	109`	36	0	12	1	0	0	120
2026	179	217	245	199	159	170				
Total										

Number of downloads: IEEE

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
2025	457	1642	1711	1867	550	532	284	1494	831	317
2026	290	1806	2455	669	359					
Total										

Number of downloads: Springer Nature

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
2025	3427	1142	1442	0	1	571	572	0	573	571
2026			-	-	-	-	-			
Total										

Number of downloads: EBSCO

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
2025	5	2439	1198	3	0	0	0	0	0	4
2026	19	09	14	09	39	21	-			
Total										

Taylor & Francis

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
2025	28	15	26	1	0	0	0	0	0	36
2026	105	80	94	123	98	112				
Total										

Emerald (Management)

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
2025	4	4	24	4	4	0	0	0	0	7
2026	18	22	20	14	18					
Total										

OPAC Login

Date	Classes with Most submission
1-8-2025 to 31-7-2026	2565

Plagiarism Check Software Drill Bit (Similarity check tool)

Date	Classes with Most submission
1-8-2025 to 31-7-2026	3377

Drill Bit Plagiarism Check tool

Sl. No.	
1.	A
2.	S
3.	C
4.	N
5.	C
6.	J
7.	F
8.	N

9.	A
10.	N
11.	J
12.	J

Library Usage statistics For the Academic Year 2025-26

Number of users accessing Library:

(01-08-202	
Sl. No.	Particulars

1	Students Entry Register
2	Staff Entry Register
3	Digital Library Entry Register
4	Reference Section Entry Register
5	Circulation Statistics Report
6.	E-Access
Total Number of Users	

Total No. of Working Days = 158

Average usage per day = Total Number of users

Total Number of Working Days =

Average usage per day = 321.42

LIBRARY PRINT BOOKS COLLECTIONS DE

Total No. of Titles: **7179**

Total No. of Volumes: **37921**

No. of Titles and Volumes (Print Books) added for th

Year	
2025-26	
2024-25	
2023-24	
2022-23	

E-ResourcesDetailsSubscribedthroughVTUConsortiumfortheyear2024-2025

Sl.No.	Publishers	Link
E-Journals&E-ConferenceProceedings:		
1	Elsevier	https://www.sciencedirect.com/ (https://www.sciencedirect.com/) (https://www.sciencedirect.com/) (https://www.sciencedirect.com/)
2	SpringerNature	https://link.springer.com/ (https://link.springer.com/) (https://link.springer.com/) (https://link.springer.com/)
3.	IEEE ASPPandPOPALL	https://ieeexplore.ieee.org (https://ieeexplore.ieee.org/) (https://ieeexplore.ieee.org/) (https://ieeexplore.ieee.org/)
4.	Emerald	https://www.emerald.com/insight/ (https://www.emerald.com/insight/) (https://www.emerald.com/insight/) (https://www.emerald.com/insight/)
5	EBSCOEngineeringSuite	https://search.ebscohost.com/ (https://search.ebscohost.com/) (https://search.ebscohost.com/) (https://search.ebscohost.com/)
Total		

E-Book		
1	EBSCO Engineering Suite	https://search.ebscohost.com/ (https://search.ebscohost.com/) (https://search.ebscohost.com/) (https://search.ebscohost.com/)

2	Eduport RRCE-CBS	https://eduport-RRCE.com/ (https://eduport-global.com/)(https://eduport-global.com/)RRCE.com/)(https://eduport-global.com/)
3	BSPE-Books	https://ebookstore.bspublications.net/library (https://ebookstore.bspublications.net/library) (https://ebookstore.bspublications.net/library) (https://ebookstore.bspublications.net/library)) (https://ebookstore.bspublications.net/library)
4	Cengage Learning	https://cengageindiaelibrary.ipublishcentral.net/explore (https://cengageindiaelibrary.ipublishcentral.net/explore) (https://cengageindiaelibrary.ipublishcentral.net/explore) (https://cengageindiaelibrary.ipublishcentral.net/explore) (https://cengageindiaelibrary.ipublishcentral.net/explore) (https://cengageindiaelibrary.ipublishcentral.net/explore) (https://cengageindiaelibrary.ipublishcentral.net/explore)
5	Cambridge University Press	https://www.cambridge.org/core (https://www.cambridge.org/core) (https://www.cambridge.org/core) (https://www.cambridge.org/core)
6	MintBooks	https://kssem.mintbook.in/ (https://kssem.mintbook.in/) (https://kssem.mintbook.in/) (https://kssem.mintbook.in/)
7	Quiklrn	https://quiklrn.com/app.php (https://quiklrn.com/app.php) (https://quiklrn.com/app.php) (https://quiklrn.com/app.php)

Technology Platforms:		
1.	Knimbus (Cloud Server along with Universal Federation Search Services, Remote Access Solution, mLibrary Mobile App)	https://www.knimbus.cc https://www.knimbus.c https://www.knimbus.c https://www.knimbus.c
2.	IEEE Blendede-Learning Platform	https://blendedlearning https://blendedlearning https://blendedlearning https://blendedlearning
3.	EBSCO-AMA Microcourses	https://search.ebscohost.com/ https://search.ebscohost.com/ https://search.ebscohost.com/ (file:///C:/Users/DUCOM/Downloads/(h cohost.com/))
4.	Drillbit	https://www.drillbitplagiarism.com/ https://www.drillbitplagiarism.com/ https://www.drillbitplagiarism.com/ https://www.drillbitplagiarism.com/

Enrichment

A wide range of e-Resources is available to enhance the academic experier curriculum, offering valuable support for both teaching and learning. Provide content, fostering a more effective and enriched educational environment fo

Access and Availability of e-Resources:

Most of the e-Resources are available through IP-based subscriptions. This In addition to these, RRCE also provides access to the Knimbus Platform, w resources.

The Knimbus platform supports off-campus access and offers a mobile library (mLit e-Resources anytime, anywhere.

Access Link: <https://kssemb.knimbus.com/> (https://kssemb.knimbus.com/?utm_source=

WEBOPAC – Library Automation and Resource Access

The library is fully automated using Lib soft Software, Web Version 10.0, wh users to search the library resources online and facilitates the reservation of

Additionally, previous years' SEE question papers are securely stored on the

VTU Consortium Membership and Access

RRCE is a proud member of the VTU Consortium. All e-resources are IP-en

Support provided to students for self-learning activities

The library offers access to a wide range of hybrid resources to support its s updated in alignment with the revised syllabus. As a member of the VTU Co

Through the consortium, users have access to a variety of prestigious e-jou Nature, Emerald, and the EBSCO Engineering Suite. Additionally, it has acc Science Direct, Taylor and Francis, New Age International, Packt, Springer, Quiklrn, and Mint.

Along with the above, library has provided access to the following:

- **IEEE Blended E-Learning Platform:** It combines latest E-Learning techniques to become future ready. It has 70 latest technology e-learning courses. It can be accessed at <https://search.ebscohost.com/> (<https://search.ebscohost.com/>)
- **EBSCO-AMA (American Management Association) Courses:** Industry-aligned courses accessed at <https://search.ebscohost.com/> (<https://search.ebscohost.com/>)
- **NDLI (National Digital Library of India):** It is a virtual repository of learning materials. National Mission on Education through Information and Communication Technology notes, question papers, simulation, presentation etc. on all subjects. It can be accessed at <https://nadi.nedl.in/>
- **DELNET (Developing Library Network):** RRCE is a member of DELNET. It provides document delivery services to its member libraries.
- **DRILLBIT:** It is cloud-based plagiarism detection software. It is designed to identify plagiarism in writing. It is also designed to detect text generated using AI tools. It scans against academic publishers, journals, websites, repository of theses and dissertations.
- **Turnitin:** The platform compares submitted work against a vast database of student papers, to generate a "Similarity Report". Detects text generated using AI tools.

9.10 E-Governance (5)

Institute

Marks :

5.00

9.10 E-Governance (5)

Rajarajeswari College of Engineering (RRCE) has adopted comprehensive E-Governance practices to strengthen transparency, efficiency, and accountability in academic, administrative, and examination-related functions. The institution integrates multiple digital platforms — such as Contineo ERP the Digital Valuation System — to manage operations across human resources, academics, finance, and student life-cycle management. These systems collectively support data-driven decision-making, enhance service delivery, and ensure smooth coordination among stakeholders.

i. Academic and Learning Management System

Overview of Contineo ERP Platform

RRCE is equipped with the Contineo ERP software, a comprehensive web-based enterprise resource planning solution specifically designed for higher educational institutions. It automates and streamlines major academic and administrative processes, including admissions, student information management, timetable scheduling, attendance, internal assessments, examinations, fee collection, and communication with parents.

Key Modules and Features of Contineo ERP

1. Student Admission & Fee Management

- Category-wise classification and admission data capture
- Compliance with university and accreditation requirements
- Student document repository and digital approval workflows

- Admission confirmation letters and automated notifications
- Rule-based fee structure and online payment integration

2. Academic Management

- Academic calendar of events (semester and branch-wise)
- Dynamic timetable scheduling and course registration
- Faculty profile management and subject allocation
- Attendance tracking with workflow-based modification approvals

3. Feedback & Course Management

- Structured student feedback on faculty and course delivery
- Repository for course materials, lesson plans, and shared resources

4. Student 360° View & Counselling

- Comprehensive student profile including academics, fees, and counselling records
- Digital counselling notes with parent portal integration

5. Communication & Committees

- Automated communication via email, Notifications, and letters for attendance, IA marks, and fees

6. Examination Management System

- Attendance finalization and internal assessment approvals
- Eligible student list generation and performance upload

7. Reports Generation & Analytics

- Course and program-level attainment reports

- Direct, indirect, and consolidated attainment analysis

8. OBE

Impact

- Reduced paperwork and manual data entry.
- Timely payroll processing and improved accuracy.
- Transparent leave and attendance management.
- Enhanced employee satisfaction through digital accessibility.

iii.E-Governance in Examination System – Digital Valuation

Overview

- RRCE has implemented 50% Digital Valuation System (DVS) in its Examination Section to ensure secure, efficient, and transparent evaluation of answer scripts (Manually).
- This system involves scanning and digitizing each B From , anonymizing (decoding) it, and enabling faculty to enter the marks online within designated valuation rooms under controlled supervision.

Process Flow

- Scanning and Decoding: All answer scripts are scanned and decoded to remove student identity, ensuring anonymity.
- Uploading and Secure Access: Scanned scripts are uploaded to the secured digital valuation platform accessible only to authorized faculty.
- Online Evaluation: Faculty members evaluate scripts digitally using annotation and scoring tools from designated valuation rooms.

- **Monitoring:** The process is closely monitored by the Controller of Examinations (CoE) for quality and integrity.
- **Automated Result Compilation:** Marks awarded are directly captured and compiled digitally, minimizing human error.

Advantages

- Enhanced confidentiality and transparency through anonymization.
- Faster result processing and reduced manual workload.
- Error-free evaluation with automated totaling and data verification.
- Secure data storage and easy retrieval for audits and revaluation.
- Environmentally sustainable by minimizing paper handling.

Outcome

The digital valuation system has made the examination process robust, transparent, and efficient, improving both evaluation accuracy and result turnaround time.

vi. Campus-Wide Computing Resources

RRCE's digital governance ecosystem is supported by a strong ICT infrastructure spread over 8 acres with a built-up area of 44,200 sq. meters.

Facilities include smart classrooms, computer laboratories, incubation centers, auditoriums, and dedicated spaces for examination, placement, and research.

The IT Service Cell manages campus-wide networking with 2 Gbps Internet bandwidth and a 100 Mbps backup link. The library, covering 755 sq. meters, provides

access to _____ volumes, _____ titles, and _____ e-journals through the VTU Consortium. ICT facilities such as smart boards, video conferencing, and digital classrooms enhance teaching and learning effectiveness.

Sl. No	Computation / IT Facilities	Quantity
1	Centralized Servers	01
2	Computers	1425
3	Laptops	9
4	Projectors	59
5	Interactive Display Panels	11
6	CCTV Cameras	187
7	Wi-Fi Access Points	79
8	Printers / Scanners	48
9	Xerox Machines	04

V. Professional Activities for Students and Faculty

Overview

At Rajarajeswari College of Engineering (RRCE), professional activities are an integral part of the institution's academic ecosystem. These activities aim to enhance the technical, professional, and leadership skills of both students and faculty beyond the regular curriculum.

Through active engagement with recognized professional societies and student chapters, the institution fosters a culture of innovation, research, industry interaction, and lifelong learning.

Professional bodies such as IEEE, IET, IETE, CSI, ISTE, SIH, MSME and BIS provide platforms for students and faculty to participate in technical events, workshops, paper presentations, hackathons, and conferences, thereby bridging the gap between academic knowledge and industrial practices.

Objectives

- The primary objectives of professional activities at RRCE are to:
- Promote interaction between students, faculty, and industry experts.
- Encourage technical competence, innovation, and research-oriented learning.
- Enhance communication, teamwork, and leadership skills.
- Create opportunities for interdisciplinary collaboration and global exposure.
- Support students and faculty in staying abreast of emerging technologies and industry trends.

Institutional Support

- RRCE encourages each department to affiliate with at least one national or international professional society relevant to its discipline.
- The institution provides financial, infrastructural, and academic support to conduct seminars, webinars, competitions, and training programs under these professional bodies.
- Faculty members are encouraged to take up membership, mentorship, and leadership roles within these societies to guide students in their professional growth.

Activities Conducted

- The professional societies organize a wide range of academic and co-curricular events throughout the

year, such as:

- Technical Workshops and Hands-on Training Sessions on emerging technologies (AI, IoT, Data Science, Renewable Energy, etc.).
- Guest Lectures and Expert Talks by industry professionals and researchers.
- Paper Presentation and Poster Competitions to encourage research and innovation.
- National and International Conferences, promoting knowledge exchange.
- Technical Fests, Coding Marathons, and Hackthon fostering creativity and teamwork.
- Community Development and Outreach Activities, aligning with institutional social responsibility.

Outcomes and Impact

- Enhanced student participation in national and international events.
- Increased number of research papers, patents, and innovative projects.
- Strengthened collaboration between academia and industry.
- Improved employability skills and professional networking opportunities.
- Encouragement for faculty to engage in continuous professional development.

Conclusion

The Professional Activities for Students and Faculty at RRCE serve as vital platforms for nurturing innovation, technical excellence, and leadership. By actively engaging with professional societies, the institution empowers students and faculty to develop into competent professionals, ethical leaders, and lifelong learners, contributing meaningfully to technological and societal advancement.

VI. Integration of E-Governance and ICT Facilities for Sustainable Academic and Learning Practices

At Rajarajeswari College of Engineering (RRCE), the adoption of e-governance systems such as Contineo ERP and a robust Digital Valuation System represents a commitment not only to efficiency and transparency but also to sustainable institutional practices.

These systems minimize paper consumption, reduce redundancy, optimize resource usage, and ensure continuous improvement through data-driven decision-making — aligning with the principles of sustainable development in higher education.

1. Sustainable Academic Management through Contineo ERP

The Contineo ERP Platform facilitates complete digitalization of academic processes — from admissions to examinations — ensuring minimal paper dependency and process transparency.

Key sustainability impacts include:

- **Paperless Administration:**

Digital records of admissions, fee receipts, attendance, internal assessments, and academic reports reduce paper usage drastically. The ERP-generated online attendance and IA mark approvals eliminate the need for printed registers and mark sheets.

- **Energy-efficient Operations:**

Centralized ERP servers hosted in a controlled environment reduce the need for multiple decentralized computing setups across departments, conserving power.

- **Real-time Data Access:**

Faculty, students, and administrators access academic and administrative data remotely, minimizing unnecessary printing and commuting for document

verification.

- **Automated Communication:**

Notifications, circulars, and updates are communicated via ERP-integrated SMS and email services, reducing reliance on physical notices and paperwork.

- **Outcome-based Academic Monitoring:**

The data analytics and attainment tracking modules enable precise evaluation of academic outcomes, facilitating corrective actions without repetitive data collection.

2. Sustainable Examination Practices through Digital Valuation System

The 50% Digital Valuation System (DVS) implemented at RRCE ensures transparency, accuracy, and eco-efficiency in the evaluation process.

- **Energy and Space Conservation:**

Centralized digital storage reduces physical record rooms, printing, and manual archiving.

- **Enhanced Transparency and Accuracy:**

Automated evaluator logs and digital audit trails ensure fairness and accountability in assessment while reducing administrative workload.

3. Sustainable ICT and Campus-Wide Computing Practices

The institution's campus-wide computing infrastructure has been optimized for both academic productivity and environmental sustainability.

- **Virtual Learning and Smart Classrooms:**

Interactive display panels, smart boards, and e-learning platforms reduce the need for physical materials, supporting green teaching methodologies.

- **Efficient Resource Utilization:**

The IT Service Cell maintains all systems under a centralized maintenance schedule to prolong device lifespans, minimize electronic waste, and ensure responsible recycling.

- **Digital Library and E-Resources:**

Membership with the VTU Consortium promotes e-learning through e-books and journals, significantly reducing the need for printed academic materials.

4. Institutional Sustainability through Data-Driven Decision Making

All e-governance tools at RRCE are designed to generate data insights for informed decision-making. This leads to sustainable outcomes across the institutional ecosystem:

- Improved operational efficiency and academic planning.
- Reduced duplication of data entry and manual errors.
- Time and cost savings in administrative processes.
- Enhanced institutional readiness for audits and accreditations through automated documentation.
- Strengthened stakeholder communication via digital transparency.

5. Long-term Impact

The integration of E-Governance, HR Digitalization, and ICT Infrastructure at RRCE has led to:

- A 75–80% reduction in paper usage across departments.

- Streamlined data management promoting long-term sustainability.
- Improved academic monitoring and reduced resource wastage.
- Eco-conscious digital transformation aligned with SDG Goals 4 (Quality Education), 9 (Industry, Innovation, and Infrastructure), and 12 (Responsible Consumption and Production).

Conclusion

Through its digital initiatives under E-Governance, RRCE has established a sustainable ecosystem that supports transparent, efficient, and environmentally responsible academic administration.

These systems ensure that the institution's growth aligns with both academic excellence and sustainable development, making RRCE a model for modern, eco-conscious governance in higher education.

9.11 Initiatives and Implementation of Sustainable Development Goals (SDGs) (10)

Institute

Marks :

10.00

9.11 Initiatives and Implementation of Sustainable Development Goals (SDGs) (10)

Rajarajeswari College of Engineering(**RRCE**) is deeply committed to promoting sustainability and social responsibility through its academic, research, entrepreneurial, and outreach activities. In alignment with the **United Nations Sustainable Development Goals (SDGs)**, the institution strives to integrate sustainability principles into every facet of its functioning — from classroom learning to innovation, incubation, and community engagement.

Institutional Objective

The key objective of RRCE's SDG initiatives is to create an ecosystem where students and faculty contribute actively to sustainable development through research, innovation, and community participation. The focus is on developing socially conscious engineers and entrepreneurs capable of designing sustainable solutions for real-world challenges.

Integration of SDGs Across Institutional Activities

1. Academic Projects

Each academic year, student projects at both the undergraduate and postgraduate levels are mapped to one or more SDG themes. Faculty mentors guide students to identify local and global problems—such as clean energy, waste management, water conservation, and sustainable infrastructure—and develop engineering solutions.

- More than **100 student projects annually** are aligned with SDG objectives.
- A significant number of projects address **SDG 7 (Affordable and Clean Energy)**, **SDG 9 (Industry,**

Innovation, and Infrastructure), and SDG 11 (Sustainable Cities and Communities).

- Annual exhibitions and project reviews emphasize sustainability impact and innovation.

2. Entrepreneurial and Innovation Activities

- The **Innovation, Incubation, and Entrepreneurship Cell (IIEC)** promotes start-up ideas and prototypes that address environmental, economic, and social sustainability challenges.
- Student start-ups are encouraged to design technologies for **waste-to-energy conversion, renewable power generation, water purification, green construction materials, and digital inclusion.**
- Many incubated ventures track quantifiable sustainability outcomes such as **carbon reduction, water saved, and jobs created.**
- Workshops and mentorship programs help students translate SDG-linked innovations into viable business models.

3. Research and Development (R&D) Initiatives

Faculty and student research at RRCE is increasingly oriented toward sustainability-driven innovation.

- Interdisciplinary R&D teams are formed to address challenges in **clean energy, climate resilience, sustainable agriculture, water management, and smart mobility.**
- Publications, patents, and funded projects are regularly reviewed to identify contributions toward the **UN SDG framework.**
- Collaborative projects with government agencies, NGOs, and industries strengthen RRCE's role as a center for applied sustainability research.

4. Outreach and Community Engagement

Sustainability is deeply embedded in RRCE's outreach culture. Through NSS, NCC, and departmental clubs, students conduct awareness and action programs in surrounding communities.

- Activities include cleanliness drives, waste segregation campaigns, rainwater harvesting, health and hygiene awareness, rural digital literacy, and energy conservation programs.
- Villages adopted under the Unnat Bharat Abhiyan (UBA) initiative have benefited from improved sanitation awareness and sustainable practices. Each activity records measurable outcomes such as the number of beneficiaries, resources conserved, and awareness generated.

5. Impact and Outcomes

RRCE's commitment to the Sustainable Development Goals has led to consistent growth in student and community participation across academic years. The outcomes clearly reflect a culture of sustainability integrated into the institution's academic and social fabric.

Academic Year	No. of Student Projects Aligned with SDGs	No. of Activities Aligned with SDGs	No. of Outreach Programs Aligned with SDGs
CAY	175	18	10
CAYm1	163	16	15
CAYm2	148	23	12

This upward trajectory highlights the growing awareness and engagement of students and faculty in sustainability initiatives. The integration of SDGs has resulted in

enhanced project relevance, interdisciplinary collaboration, and stronger community partnerships.

6. Continuous Institutional Commitment

RRCE continues to build upon its SDG-focused initiatives through:

- Periodic **curriculum and project mapping** exercises for SDG relevance.
- **Recognition and awards** for impactful student projects and start-ups contributing to sustainability.
- **Collaborations** with industries and organizations for SDG-linked research and social innovation.
- Encouraging **faculty mentoring and interdisciplinary teamwork** for long-term sustainable impact.

Through these sustained efforts, Rajarajeswari College of Engineering is nurturing a generation of responsible engineers and innovators who contribute not only to the nation's technological advancement but also to the **global mission of achieving sustainable development by 2030.**

9.12 Innovative Educational Initiatives and Implementation (5)

Institute

Marks :

5.00

9.12 Innovative Educational Initiatives and Implementation (5)

The institution has adopted several innovative educational practices aimed at enhancing student learning, fostering creativity, and preparing graduates to meet global standards of engineering education. These initiatives emphasize employability, entrepreneurship, and technical skill development, while also nurturing leadership, teamwork, and problem-solving capabilities.

1. Upskill Cell and Skill Labs

The institution has established an **Upskill Cell** to provide students with opportunities to acquire and apply cutting-edge technological skills in collaboration with the Institution's Innovation Council (IIC). The Skill Labs serve as platforms where students translate theoretical concepts into practice, develop technical proficiency, and foster creativity. These initiatives are structured to strengthen employability, promote entrepreneurship, and impart industry-relevant competencies, ensuring that students are well-prepared for successful professional careers.

2. Academic Exchange and Experiential Learning

The institution actively promotes academic exchange and experiential learning opportunities through internships, collaborative projects, exchange programs, and participation in national and international hackathons and academic initiatives. These initiatives integrate hands-on training, industry exposure, and project-based learning, thereby strengthening technical proficiency and problem-solving skills. Such programs also create

pathways for higher studies, cross-university recognition, and access to advanced learning opportunities worldwide.

3. Field and Industrial Visits

Regular industrial and field visits are organized to help students connect classroom learning with real-world applications. These visits provide exposure to industry practices, operational systems, and emerging technologies, thereby bridging the gap between theory and practice.

4. Project-Based Learning

- **Capstone Projects:** In their final year, students undertake comprehensive projects that showcase their cumulative learning. These projects emphasize critical thinking, decision-making, teamwork, and often aim to address societal or community issues.
- **Mini-Projects:** Students in the second and third years are encouraged to execute mini-projects as part of alternate assessment in select courses. Multi-disciplinary projects are promoted across departments, fostering collaboration and creativity at an early stage.

5. Student Engagement Activities

- **Student Club Activities:** Technical clubs at the institute provide students with platforms to develop event management, teamwork, and leadership skills, alongside technical competencies.

- **Lectures and Lab Sessions:** Student engagement is enhanced through interactive practices such as group discussions, quizzes (classroom/online), case studies, role play, simulations, and virtual labs.
- **Expert Talks/Guest Lectures:** Industry experts and subject matter specialists are regularly invited to share practical insights, offer networking opportunities, and enhance the relevance of academic learning.
- **Skill-Building Workshops and Value-Added Courses:** Programs beyond the prescribed curriculum are conducted to provide students with additional, practice-oriented skills relevant to their specific engineering disciplines.
- **Peer Learning:** Collaborative peer-to-peer learning practices are encouraged to promote mutual knowledge sharing and create a positive learning environment both inside and outside classrooms.
- **Student Seminars:** Students actively participate in seminars, presenting technical papers and projects, which enrich their communication skills, technical depth, and research orientation.

9.13 Faculty Performance Appraisal and Development System (FPADS) (10)

Institute

Marks :

10.00

FACULTY PERFORMANCE APPRAISAL PROCESS

Rajarajeswari College of Engineering is committed to fostering a culture of performance excellence among its staff. The Academic Staff Performance Evaluation Process (ASPEP) is annually administered and designed to evaluate performance of Academic Faculty during their Annual performance period (November to October of the year) and to encourage academicians to take ownership of their professional development, meritoriously recognize their role based achievements and align their contributions to achieve institutional goals.

The ASPEP ensures a comprehensive assessment of each Academicians performance and identifies areas for growth and development, with adequate focus on key deliverables:

Teaching & Learning Process effectiveness:

Includes evaluation of Course Feedback, Results and implementation of Innovative Teaching practices

Research & Development and Consultancy:

Includes evaluation of Presentations, Publications, Research Projects and Research guidance as well as Industry collaborated Consulting Projects, Patents and membership to Research Groups

Administrative responsibilities:

Includes contribution to Departmental Activities, Contributions to Administrative tasks of NBA, NAAC, NIRF and autonomous activities

Institutional Development:

Evaluation of impact of Contributions towards strengthening the Institution's values & brand building

Professional Self Development:

Includes Certifications, acquiring higher qualifications, Enhancement of Personal Competencies relevant to the role.

Community Development:

Evaluation of impact of contribution to immediate communities & society





1.SA: Self-Assessment: The Appraiser reflects on own performance, identify areas of strength and improvement, and set goals for professional development with data points that reason with the assertions and attributes the Self Rating.

2.RAA: Reporting Authority Assessment: Reporting Authority of the Appraiser (Head of Department and the Principal) will provide feedback on appraiser's performance and attribute the Reporting Authority Rating

3.HRA: HR Assessment:

The HR Department provides necessary inputs that relate to Behavioural Competencies & Core Value traits that impact the role.

4.MA: Management Assessment: The Management of the Institution reviews the Assessment summaries and approves Rating and recommends actions in alignment with Institutional Goals.

5.Rating Normalization: This involves the deliberations of members of the Appraisal Review Committee (ARC) at the Institutional Level for Normalization of Ratings across Departments & Roles and approved for release to appraisees.

6.Feedback and Documentation: This step involves discussion between the Appraisee and the Reporting Authority to deliberate on the Feedback received from the Appraisers and Set Operational and Aspirational goals for the subsequent Academic tenure.

9.14 Outreach Activities (5)

Institute

Marks :

5.00

9.14

Rajarajeswari College of Engineering actively engages in a wide range of outreach and community service initiatives that foster social responsibility among students and contribute to national development goals. These initiatives align with the institution's vision to produce socially conscious engineers and technologists who can contribute meaningfully to the community.

The outreach activities are carried out under the guidance of Unnat Bharat Abhiyan (UBA), National Service Scheme (NSS), and departmental social responsibility groups. The focus is on village development, environmental sustainability, digital literacy, and community welfare in alignment with national priorities such as Swachh Bharat Abhiyan, Digital India, and Skill India.

Summary of Outreach and Community Service Activities

Sl. No	Outreach Activity Type	Description / Process	Outcome / Impact
1	Community Service	• Identification of community needs (health, hygiene, literacy, digital awareness). • Mobilization of student/faculty volunteers. • Execution through awareness drives, health camps, and digital literacy programs.	• Enhanced community participation. • Improved student sense of empathy and civic responsibility.

2	Unnat Bharat Abhiyan (UBA)	•Village surveys and needs assessment in adopted villages. •Planning and execution of interventions in coordination with Gram Panchayats. •Involvement of student– faculty teams for implementation.	•Improved sanitation and hygiene awareness. •Enhanced digital literacy in rural households. •Strengthened ties between institution and rural community.
3	Social Connect and Responsibility	•Awareness programs on hygiene, digital use, and environmental conservation. •Student sensitization through NSS/NCC activities. •Reflection and feedback sessions post-activity.	•Heightened student awareness on social issues. •Enhanced institutional visibility and goodwill.

4	Promotion of Appropriate Technologies	•Identification of rural problems requiring technical solutions. •Design and development of low-cost, sustainable prototypes (e.g., water filters, solar lamps, agri-tools). •Pilot implementation and user feedback.	•Adoption of low-cost technologies by rural users. •Strengthened student innovation and practical learning.
5	Contribution to Government of India Initiatives	•Student and faculty participation in national missions (Digital India, Swachh Bharat, Skill India). •Conduct of awareness and training sessions in villages.	•Increased community participation in national development. •Improved digital and vocational skill levels among rural youth.
6	Efficient Garbage Disposal System	•Awareness on waste segregation at source. •Demonstration of composting and recycling techniques. •Collaboration with local municipal bodies.	•Segregated waste collection at campus and community level. •Organic compost reused for campus gardening.

7	Swachh Bharat Activities	•Regular cleanliness drives in campus, villages, and public spaces. •Awareness through posters, rallies, and pledge events.	•Cleaner and greener surroundings. •Reduction in plastic usage and better waste handling.
8	Helping Local Schools	•Collaboration with local government and private schools. •Student-led remedial teaching and mentorship programs. •Career guidance sessions and exposure visits to higher education institutions.	•Improved academic results in partner schools. •Increased student interest in higher education.
9	Assisting in Marketing of Rural Produce	•Training for farmers and self-help groups (SHGs) in branding, packaging, and digital marketing. •Support in connecting to markets through fairs and online platforms.	•Better price realization for rural produce. •Empowered local entrepreneurs and SHGs.

		•Student internships with	•Students gain
		NGOs, local government	ground-level
		bodies, and social	exposure to social
10	Social Internship	enterprises. •Defined social tasks and	issues. •Improved empathy,
		reporting mechanisms.	leadership, and
		•Reflection sessions post	problem-solving
		internship.	skills.

Key Achievements

- Adoption of five villages under Unnat Bharat Abhiyan for sustainable rural development.
- Conducted over 20+ community outreach programs annually, impacting more than 1,000 beneficiaries. Student-developed sustainable technology prototypes implemented in villages.
- Recognized contributions to Swachh Bharat, Digital India, and Skill India initiatives. Improved local school performance and enhanced enrolment in higher education

Conclusion

The outreach programs at RRCE exemplify the institution's commitment to holistic education and societal welfare. Through structured initiatives like Unnat Bharat Abhiyan, NSS, and social internships, students not only apply their technical skills to real-world

challenges but also evolve into responsible, empathetic citizens who contribute actively to sustainable national growth.

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	Design and develop AI & ML Solution, through modern engineering tools and Programming Language, Technical skills in presenting modern insights.
PSO2	Ability to adapt continues changing AI & ML domain for innovative challenges.

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 in force as on date and the institution shall 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 Institution will be 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

Name : Dr.R.Balakrishna

Designation : Principal

Signature :



Seal of The Institution :



Place : Bengaluru

Date : 05-09-2026 16:23:30