Alliance University

SELF ASSESSMENT REPORT(TIER - I) FOR Electronics & Communication Engineering

Part A : Institutional Information

1 Name and Address of the Institution

Alliance University,
CHIKKAHAGADE CROSS,CHANDAPURA-ANEKAL MAIN ROAD BENGALURU ,KARNATAKA -562106,

2 Type of the Institution:

○ Deemed to be University	○ Autonomous
◉ University	○ Non-Autonomous (Affiliated)
○ Institute of National Importance	○ Any Other(Please Specify)

3 Year of establishment of the Institution:

2010

4 Ownership Status:

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

5 Name and Address of Affiliating University(if any)

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

Name of Institutions	Year of Establishment	Programs of Study	Location

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

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Electronics & Communication Engineering	UG	2012	2012	60	No	60	Applying first time	--	--		4
B.Tech in Aerospace Engineering	UG	2012	2012	60	No	60	Eligible but not applied	--	--	0	4
B.Tech in Civil Engineering	UG	2012	2012	60	No	60	Eligible but not applied	--	--	0	4
B.Tech in Electrical and Electronics Engineering	UG	2012	2012	60	No	60	Eligible but not applied	--	--	0	4
B.Tech in Information Technology	UG	2012	2012	60	No	60	Eligible but not applied	--	--	0	4
B.Tech in Mechanical Engineering	UG	2012	2012	60	No	60	Eligible but not applied	--	--	0	4
B.Tech in Computer Science	UG	2012	2012	540	No	540	Eligible but not applied	--	--	0	4
B.Tech CSE with Specialisation in Artificial Intellignece and Data Science	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Artificial Intellignece and Machine Learning	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Augmenteed Reality/ Virtual Reality	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Block Chain Technologies	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Cloud Computing	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Cyber Security	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Internet of Things	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
B.Tech CSE with Specialisation in Data Analytics	UG	2024	2024	60	No	60	Not eligible for accreditation	--	--	0	4
MBA	PG	2010	2010	600	No	600	Applying first time	--	--	0	2
MCA	PG	2024	2024	150	No	150	Not eligible for accreditation	--	--	0	2
BCA	UG	2024	2024	180	No	180	Not eligible for accreditation	--	--	0	3
BBA	UG	2010	2010	500	No	500	Not eligible for accreditation	--	--	No	3

8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Post Graduate	Management	Master of Business Administration
2	Under Graduate	Engineering & Technology	Electronics & Communication Engineering

Table No. A8.2

S No	Name of the Department	Name of the Program	Name of Allied Departments/Cluster	Name of Allied Program
No record exist(s)				

9 Total Number of Faculty Members in Various Departments:

ID	Deparment Name	Number of faculty members in the Department (UG and PG)											
		2024-25 (CAY)				2023-24 (CAYm1)				2022-23 (CAYm2)			
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members
1	Alliance School of Bussiness	24	23	47	94	23	16	27	66	19	9	25	53
2	Department of Electronics and Communication Engineering	7	2	4	13	6	3	4	13	5	3	2	10
3	Alliance School of Law	16	15	50	81	16	12	47	75	7	6	10	23
4	Alliance School of Liberal Arts	10	3	37	50	7	3	32	42	5	3	24	32
5	Department of Computer Science and Engineering	37	33	101	171	12	24	72	108	7	15	45	67
6	Department of Aerospace Engineering	1	2	6	9	1	2	6	9	1	1	1	3
7	Department of Civil Engineering	0	2	3	5	0	1	2	3	0	1	2	3
8	Department of Mechanical Engineering	1	2	6	9	1	2	6	9	1	1	1	3
9	Department of Electical and Electronics Engineering	1	2	6	9	1	2	6	9	1	1	1	3
10		0	0	0	0	0	0	0	0	0	0	0	0

10 Total Number of Engineering Students in Various Departments:

ID	Deparment Name	Number of students in the Department (UG and PG)		
		2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)
1	Department of Electronics and Communication Engineering	198	198	192
2	Department of Aerospace Engineering	169	120	123
3	Department of Civil Engineering	33	20	13
4	Department of Mechanical Engineering	58	39	21
5	Department of Electical and Electronics Engineering	78	56	22
6	Department of Computer Science and Engineering	3792	2640	1745
7		0	0	0

11 Vision of the Institution:

Alliance University's vision is to be a world-class University that nurtures talent and catalytically transforms the lives of millions through excellence in teaching, research, service and community development. To uphold a commitment to shaping lives through scholarly teaching and learning, and that which contributes to an equitable and holistic transformation of society at large.

12 Mission of the Institution:

- The mission of the University is to create and sustain a community of lifelong learners in an environment that emphasizes literacy, critical thinking, and humanistic and scientific inquiry.
- The University provides a dynamic, challenging and ethical environment for pursuing high quality teaching, research, learning and service across all areas of University, where students, faculty and other key constituents can interact, collaborate and partner with the global community for creation and dissemination of knowledge and transform lives of people through innovation and excellence in higher education.

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

Head of the Institution	
Name	Dr. B Priestly Shan
Designation	Vice-Chancellor
Mobile No.	8086304720
Email ID	vc@alliance.edu.in

NBA Coordinator, If Designated

Name	Dr. Athira B. Kaimal
Designation	Associate Director, IQAC-RAIS
Mobile No.	9740535694
Email ID	qa@alliance.edu.in

PART B: Criteria Summary

Critera 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	118.00
4	STUDENTS' PERFORMANCE	120	80.11
5	FACULTY INFORMATION	100	90.33
6	FACULTY CONTRIBUTIONS	120	100.00
7	FACILITIES AND TECHNICAL SUPPORT	100	100.00
8	CONTINUOUS IMPROVEMENT	80	80.00
9	STUDENT SUPPORT AND GOVERNANCE	120	110.00
	Total	**1000**	**918**

Part B : Criteria Summary

1 OUTCOME-BASED CURRICULUM (120)

Total Marks 120.00

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

Total Marks 35.00

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

Institute Marks : 5.00

Vision of the institute	Alliance University's vision is to be a world-class University that nurtures talent and catalytically transforms the lives of millions through excellence in teaching, research, service and community development. To uphold a commitment to shaping lives through scholarly teaching and learning, and that which contributes to an equitable and holistic transformation of society at large.
Mission of the institute	• The mission of the University is to create and sustain a community of lifelong learners in an environment that emphasizes literacy, critical thinking, and humanistic and scientific inquiry. • The University provides a dynamic, challenging and ethical environment for pursuing high quality teaching, research, learning and service across all areas of University, where students, faculty and other key constituents can interact, collaborate and partner with the global community for creation and dissemination of knowledge and transform lives of people through innovation and excellence in higher education.
Vision of the Department	To offer a cognizant platform for the Electronics and Communication Engineering learners that nurtures talent and transforms lives through scholarly education, innovation, and ethical research, contributing to sustainable technological advancement and holistic development of society.
Mission of the Department	**Mission No.** / **Mission Statements** M1 – Deliver excellence in teaching and learning with emphasis on critical thinking, innovation and Lifelong learning through social inquiry. M2 – Promoting interdisciplinary research, industry collaboration, and entrepreneurship to meet real-world challenges and contribute to economic and societal development as a responsible global citizen. M3 – Creating an inclusive, diverse, and dynamic learning environment that supports holistic student development and partnerships with academia, industry, and the global community.

1.1.2 State PEOs of the Program (5)

Institute Marks : 5.00

PEO No.	Program Educational Objectives Statements
PEO1	Graduates will apply core concepts of engineering to provide solutions for real-world challenges
PEO2	Graduates will exhibit techno-socio-managerial skills to work ethically and efficiently in multidisciplinary teams and diverse professional environments.
PEO3	Pursue lifelong learning through higher education, research, or professional development and contribute to societal growth through sustainable engineering practices.

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

Institute Marks : 10.00

The process of defining the **Vision, Mission, and Program Educational Objectives (PEOs)** of the department is systematic, participative, and aligned with the Universitys strategic direction. It ensures that the outcomes are relevant to all stakeholders and adhere to academic and quality standards. The following steps outline the process:

1.Formation of Internal Working Group

The **Department Quality Assurance Cell (DQAC)** initiates and coordinates the entire process. A core working group comprising faculty members, program coordinators, and senior professors is formed to lead the drafting exercise.

2.Faculty Brainstorming Session

A dedicated brainstorming session is conducted with faculty members to:

- Understand the strategic directions of the **University Vision and Mission**.
- Discuss the evolving needs of industry, academia, and society.
- Collect and integrate innovative and futuristic ideas from faculty.

3.Drafting the First Version

Based on faculty inputs and alignment with the **Universitys Vision and Mission**, the working group drafts the **first version** of the Department's:

- Vision Statement
- Mission Statement
- Program Educational Objectives (PEOs)

This version reflects the department's aspirations, academic focus areas, and long-term goals for graduates.

4.Stakeholder Feedback Collection

The draft is shared with a broad set of stakeholders including:

- Students
- Alumni
- Industry Experts
- Employers
- Academic Peers

Feedback is gathered through meetings, surveys, or structured formats. The **DQAC** ensures transparency and comprehensiveness in the feedback process.

5.Revision and Finalization

The working group revises the initial draft incorporating relevant suggestions and observations received from stakeholders. The updated draft is finalized with consensus among the faculty team and vetted by the **DQAC**.

6.Approval Process

- The revised draft is presented to the Department Board of Studies (BoS) for discussion and formal recommendation.
- Upon BoS approval, the final version is submitted to the Academic Council of the university for institutional-level endorsement and adoption.

7.Communication and Dissemination

Once approved, the Vision, Mission, and PEOs are:

- Displayed in the department premises and website
- Communicated to all students and faculty members
- Periodically reviewed for relevance and updated when necessary

From 2025 onward, the process for defining the Vision, Mission, and PEOs of each department has been renewed and streamlined as follows

1. Strategic Plan Coordination Committee (SPCC)

The Strategic Plan Coordination Committee (SPCC) plays an important role in defining and reviewing the departments Vision, Mission, and Program Educational Objectives (PEOs). It ensures alignment with the institutions goals and current educational and industry trends. In coordination with the Department Quality Assurance Cell (DQAC) and the Programme Assessment Committee (PAC), the SPCC collects feedback from stakeholders, and ensures they are relevant, measurable, and aligned with national standards. It also facilitates approval through the Board of Studies and Academic Council and

periodically reviews the Vision, Mission, and PEOs to keep them updated and effective.

2. Role of the Department Quality Assurance Cell (DQAC)

The Department Quality Assurance Cell (DQAC) plays a crucial role in facilitating the formulation and refinement of Vision, Mission, and PEOs. It ensures that the process is evidence-based, stakeholder-informed, and aligned with quality standards and accreditation requirements.

3. Stakeholder Feedback

DQAC and SPCC collect and analyze feedback from key stakeholders such as:

- Faculty
- Current students and alumni
- Employers and industry partners
- Parents and academic peers

Feedback is gathered via structured surveys, meetings, and workshops to reflect both internal perspectives and external expectations.

4. Drafting and Alignment

Using the insights from stakeholders, a draft of the department's **Vision**, **Mission**, and **PEOs** is prepared. This draft is:

- Aligned with the institutional Vision and Mission
- Mapped to Program Outcomes (POs) and Course Outcomes (COs)
- Benchmarked against national educational standards and global trends

5. Internal Review and Validation

The drafts are reviewed and validated by:

- Department Advisory Committee (DAC)
- Program Assessment Committee (PAC)
- DQAC, for consistency, relevance, and compliance with accreditation norms

6. Approval Process

The final version is submitted to the Board of Studies (BoS) and forwarded to the Academic Council for official approval.

7. Implementation and Communication

Upon approval, the Vision, Mission, and PEOs are:

- Disseminated through the department website and handbooks
- Displayed prominently within the department
- Communicated to all stakeholders including students and faculty

8. Periodic Review

The DQAC coordinates regular reviews (typically every five years) or earlier, based on curriculum changes, stakeholder feedback, or industry requirements, to ensure the continued relevance and effectiveness of Vision, Mission, and PEOs.

1.1.4 Dissemination of Vision, Mission and PEOs (5)

Institute Marks : 5.00

The **Vision, Mission, and Program Educational Objectives (PEOs)** are widely disseminated and effectively communicated to all stakeholders—both internal and external. The institution has established a **multi-pronged dissemination strategy** that leverages physical displays, digital platforms, academic documents, and stakeholder engagement processes to create widespread awareness and alignment with institutional goals.

1. Locations and Mediums of Dissemination

The Vision, Mission, and PEOs are prominently displayed across multiple locations and mediums, ensuring visibility and accessibility for all stakeholder groups.

Sl. No	Location	Vision	Mission	PEOs	Stakeholders Benefitted
1	HOD Room	✓	✓	✓	Students, Parents, External Resource Persons, Alumni, Faculty
2	On Campus Premise (Posters, Display Boards)	✓	✓	✓	Students, Parents, External Resource Persons, Alumni, Faculty
3	Department Laboratory	✓	✓	✓	Students, Faculty
4	Course Catalogues	✓	✓	✓	Students, Faculty, Alumni, Industry
5	Lab Manuals	✓	✓	✓	Students, Faculty
6	CDAP, and Course Files	✓	✓	✓	Students, Faculty
7	University Website	✓	✓	✓	All Stakeholders
8	Annual Reports	✓	✓		Leadership
9	University and Department Presentations	✓	✓	✓	All Stakeholders

2. Process of Dissemination and Awareness Creation

a) Internal Stakeholders

Internal stakeholders include **management, governing board members, faculty, support staff, and students**. The dissemination process for them involves:

- **Induction Programs:** Vision, Mission, and PEOs are introduced to students and faculty during orientation and induction sessions.
- **Faculty Development Programs (FDPs):** Sessions for faculty and staff emphasize aligning teaching-learning processes with institutional objectives.
- **Departmental Meetings:** Regular meetings of faculty and administrative staff include discussions on strategic alignment with Vision and Mission.
- **Physical Displays:** Posters and display boards in classrooms, laboratories, faculty cabins, and common areas ensure daily visibility.

b) External Stakeholders

External stakeholders include **employers, industry partners, alumni, accreditation bodies, and funding agencies**. Dissemination to them occurs through:

- **University Website:** Vision, Mission, and PEOs are prominently featured on the University and School websites, ensuring global accessibility.
- **Annual Alumni Meets and Industry Events:** Shared through presentations and discussions, reinforcing alignment with external expectations.
- **Publications:** Course catalogues, program brochures, and annual reports carry institutional objectives for broad distribution.
- **Corporate Mentorship Programs:** Mentors are made aware of institutional objectives to ensure mentoring aligns with desired graduate attributes.

3. Effective Implementation and Monitoring

To ensure effective implementation and awareness:

- Feedback mechanisms (from students, alumni, and industry partners) assess stakeholder awareness and understanding of Vision, Mission, and PEOs.
- Periodic reviews by the Internal Quality Assurance Cell (IQAC) ensure the dissemination strategy remains relevant and impactful.
- Stakeholder surveys and accreditation visits validate the visibility and alignment of these objectives across institutional activities.

4. Impact of Dissemination Strategy

This multi-layered approach ensures:

- Students and faculty internalize institutional values and align their academic and professional pursuits accordingly.
- Industry and alumni collaborations reflect shared understanding of educational objectives.
- Leadership and governance decisions remain firmly anchored to institutional Vision and Mission.

The department demonstrates a **systematic and comprehensive process for disseminating Vision, Mission, and PEOs** to its diverse stakeholder base. The combination of physical displays, digital platforms, academic documents, and stakeholder interactions ensures a **high level of awareness and alignment**, supporting the School's mission of delivering globally competitive and socially responsible management education.

1.1.5 Mapping of PEOs with Mission (10)

Institute Marks : 10.00

PEO Statements	M1	M2	M3
Graduates will apply core concepts of engineering to provide solutions for real-world challenges	3	3	1
Graduates will exhibit techno-socio-managerial skills to work ethically and efficiently in multidisciplinary teams and diverse professional environments.	1	3	3
Pursue lifelong learning through higher education, research, or professional development and contribute to societal growth through sustainable engineering practices.	3	2	3

Mission of the Department – PEOs Matrix with Justification

PEO Statements	M1: Deliver excellence in teaching and learning with emphasis on critical thinking, innovation and lifelong learning through social inquiry.	M2: Promote interdisciplinary research, industry collaboration, and entrepreneurship to meet real-world challenges and contribute to economic and societal development.	M3: Create an inclusive, diverse, and dynamic learning environment that supports holistic student development and partnerships with academia, industry, and the global community.
PEO 1: Graduates will apply core concepts of engineering to provide solutions for real-world challenges.	**3 – Strongly Addressed***Focuses on critical thinking and innovation which directly support engineering problem solving and applying core concepts effectively.*	**3 – Strongly Addressed***Encourages interdisciplinary research and industry collaboration to solve real-world challenges, directly enabling PEO1.*	**1 – Slightly Addressed***Provides a supportive learning environment which indirectly contributes to problem-solving by fostering student engagement and collaboration.*
PEO 2: Graduates will exhibit techno-socio-managerial skills to work ethically and efficiently in multidisciplinary teams and diverse environments.	**1 – Slightly Addressed***While M1 emphasizes individual excellence and innovation, it has a limited direct impact on team-based socio-managerial skills.*	**3 – Strongly Addressed***Directly promotes collaboration across disciplines and industries, developing teamwork, ethical practices, and socio-managerial competencies.*	**3 – Strongly Addressed***Creates an inclusive and dynamic environment that supports diversity, teamwork, and ethical behavior essential for multidisciplinary professional settings.*
PEO 3: Pursue lifelong learning through higher education, research, or professional development and contribute to societal growth through sustainable engineering practices.	**3 – Strongly Addressed***Encourages lifelong learning and critical thinking, equipping students for advanced studies and professional growth.*	**2 – Moderately Addressed***Supports research and professional development contributing to societal growth but with slightly lesser emphasis compared to M1 and M3.*	**3 – Strongly Addressed***Supports holistic student development, diversity, and global partnerships that inspire lifelong learning and sustainable societal contributions.*

1.2 Curriculum Structure and Features (30)

Total Marks 30.00

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

Institute Marks : 10.00

The curriculum development and review process are a structured and collaborative effort initiated by the Curriculum Development Centre (CDC) of the University, ensuring alignment with the Regulatory Bodies while also upholding the Vision and Mission of the University and the Department.

A well-structured curriculum development process ensures that the program remains dynamic, industry-relevant, academically sound, and aligned with Regulatory bodies, accreditation standards and institutional goals. The active involvement of internal and external stakeholders ensures transparency, inclusiveness, and continuous improvement in the academic offerings of the department.

1. Initiation by Curriculum Development Centre (CDC)

The process begins with the Curriculum Development Centre (CDC) formally initiating the curriculum review cycle. The CDC functions as the nodal body responsible for framing academic policies and ensuring the curriculum meets the requirements of regulatory bodies.

2. Collection of Stakeholder Feedback

Each academic department, upon initiation from the CDC, collects comprehensive feedback on the existing curriculum from all relevant stakeholders:

- Students (current and alumni)
- Faculty members
- Industry professionals
- Employers
- Academic experts

3. Framing of Curriculum Structure by CDC

Based on the consolidated stakeholder feedback, national benchmarks, and regulatory guidelines, the CDC proposes a broad curriculum framework. This includes guidelines on the structure of the program, credit distribution, and new focus areas such as interdisciplinary learning, skill development, and emerging technologies.

4. Department-level Curriculum Development

Departments use the CDC-framed structure as a base to:

- Identify and define the required courses and electives
- Map the courses to stakeholder feedback and industry trends
- Ensure Course Outcomes (COs) are appropriately defined and mapped to POs and WKs

The department faculty collaboratively revises or creates the syllabi. Multiple internal meetings are conducted within the department to discuss, refine, and finalize the first draft of the syllabus.

5. Review by Department Curriculum Review Committee (DCRC)

The first draft of the curriculum and syllabus is reviewed by the Department Curriculum Review Committee, which includes:

- Senior faculty members
- Industry experts
- Academic external members
- Alumni and employer representatives

This committee critically evaluates the relevance, depth, and alignment of the curriculum with academic and professional expectations and incorporates necessary changes.

6. Review by Curriculum Development Center (CDC)

After approval from the DCRC, the curriculum is submitted to the Curriculum Development Center (CDC) for a detailed review. The CDC ensures that the proposed curriculum:

- Aligns with university-wide academic policies and standards
- Complies with regulatory requirements from bodies such as AICTE, UGC, NEP2020, NAAC, NBA and ABET.
- Is mapped appropriately with the Vision and Mission of the University and the Department
- Addresses the Program Educational Objectives (PEOs) and Program Outcomes (POs) effectively

This review may result in additional refinements to strengthen curriculum quality and relevance.

7. Quality Assurance by IQAC

Throughout the process, the Internal Quality Assurance Cell (IQAC) oversees and verifies the quality and robustness of the curriculum development and review process. It ensures that the curriculum:

- Meets academic and industry standards
- Promotes outcome-based education
- Incorporates stakeholder expectations effectively

8. Presentation to Board of Studies (BoS)

The revised curriculum and syllabus are then presented to the Department's Board of Studies (BoS). The BoS comprises internal and external subject experts from both academia and industry who provide further suggestions, ensuring academic rigour and relevance. The BoS recommendations are considered for final refinements.

9. Presentation and Approval by Academic Council

Following the CDC's endorsement, the finalized curriculum is presented to the Academic Council of the university. The council, comprising senior academic administrators, external experts, and statutory officers, deliberates on the proposed revisions. Upon satisfaction with the curriculum's academic rigor, regulatory compliance, and strategic fit, the Academic Council grants final approval, authorizing the implementation of the revised curriculum in the forthcoming academic session.

1.2.2 Curriculum Structure (10)

Institute Marks : 10.00

Edit

ID	Course Code	Course Title	Classroom Instruction (CI) (in hours per semester)		Lab Instruction (LI) (in hours per semester)	Term Work (TW) and Self Learning (SL) (TW+ SL) (in hours per semester)	Total no. of Hours per semester	Total Credits (C)* (Total Hours/30)
			L	T	P	SL		
1	E1CSA220	Multivariable Calculus And Differential Equations	45	15	0	60	120	4.00
2	E1CSA202	Advising Seminar	0	15	0	15	30	1.00
3	E2MEA200	Engineering Graphics	15	0	30	15	60	2.00
4	Z5SCA200	Fundamental Physics	45	15	30	60	150	5.00
5	E1CSA102	Logic building using C	15	0	30	15	60	2.00
6	E2MEA201	Product Design and Realization	15	0	30	15	60	2.00
7	E1CSA101	Professional Skills	0	0	30	0	30	1.00
8	E1CSA211	Social Internship	0	15	0	45	60	2.00
9	E1CSA100	Soft Skills-I	15	0	0	15	30	1.00
10	E1CSA203	Universal Human Values and Professional Ethics	15	0	0	45	60	2.00
11	Z5SCA201	Applied Chemistry	45	15	30	60	150	5.00
12	E2ECA200	Basics of Electrical and Electronics Engineering	45	0	30	45	120	4.00
13	Z5SCA202	Biology	30	0	0	30	60	2.00
14	E1CSA210	Disaster Management	15	0	0	75	90	3.00
15	E1CSA221	Integral Calculus and Linear Algebra	45	15	0	60	120	4.00
16	E1CSA102	Linguistic Skills	15	0	0	15	30	1.00
17	E1CSA103	Logical Reasoning	15	0	0	15	30	1.00
18	E1CSA207	Problem Solving with C	15	0	30	15	60	2.00
19	Z5AMA200	Transform Calculus and Partial Differential Equations	45	0	0	45	90	3.00
20	E2ECA219	Digital Logic Design with VHDL	45	0	30	45	120	4.00
21	E2ECA218	Principles of Communications	30	0	30	30	90	3.00

22	E2ECA220	Data Communication and Networking	45	0	30	45	120	4.00
23	E2ECA204	Network Theory and Transmission lines	45	0	0	45	90	3.00
24	E1 CSA104	Analytical Skills	15	0	0	15	30	1.00
25	E1 CSA105	Verbal Ability-I	15	0	0	15	30	1.00
26	E2ECA300	Design Project-I	15	0	0	45	60	2.00
27	E1CSA106	Critical Thinking	15	0	0	15	30	1.00
28	E1CSA107	Logical Skills -II	15	0	0	15	30	1.00
29	E1CSA330	Probability Theory and Random Process	60	0	0	60	120	4.00
30	E2ECA202	Analog Electronic Circuits	45	0	30	45	120	4.00
31	E2ECA221	Introduction to Python Programming	30	0	30	30	90	3.00
32	E2ECA205	Signals and Systems	30	0	30	30	90	3.00
33	E1CSA517	Industrial Certification	0	0	0	30	30	1.00
34	E2ECA400	Design Project - II	15	0	0	45	60	2.00
35	E1CSA108	Soft Skills - II	15	0	0	15	30	1.00
36	E1CSA317	Leadership and Management Skills	30	0	0	30	60	2.00
37	E2ECA401	EM Theory and RF Antenna	45	0	30	45	120	4.00
38	E2ECA311	Microprocessor and Microcontroller	45	0	30	45	120	4.00
39	E2ECA303	Digital Signal Processing	30	0	30	30	90	3.00
40	E2ECA404	Internet of Things	45	0	30	45	120	4.00
41	E2ECA402	Modern Control Systems	45	0	0	45	90	3.00
42	E2ECA406	Microwave and Optical Transmission Systems	30	0	30	30	90	3.00
43	E1CSA214	Gender Studies	0	0	0	30	30	1.00
44	E2ECA415	Applied Linear Algebra for AI/ML	30	15	0	45	90	3.00
45	E1CSA318	Sustainable Development Goals	0	0	0	30	30	1.00
46	E2ECA514	Digital Image Processing	30	0	30	30	90	3.00

47	E2ECA501	Capstone Design - I	15	0	0	75	90	3.00
48	E2ECA503	Industry Internship Program	0	0	0	60	60	2.00
49	E1CSA405	Constitution of India	15	0	0	15	30	1.00
50	E2ECA504	Capstone Design-II	15	0	0	255	270	9.00
51	E1CSA505	Environmental Science	45	0	0	45	90	3.00
52	E2ECA224	Proteus-Based Sensor Applications	45	0	0	45	90	3.00
53	E2ECA316	Embedded System Design	45	0	0	45	90	3.00
54	E2ECA317	Embedded C	45	0	0	45	90	3.00
55	E2ECA420	Real Time Operating SystemsQ	45	0	0	45	90	3.00
56	E2ECA421	Robotics and Automation	45	0	0	45	90	3.00
57	E2ECA519	Embedded Hardware Security	45	0	0	45	90	3.00
58	E2ECA520	Intelligent Systems	45	0	0	45	90	3.00
59	E2ECA222	Advanced Digital Communications	45	0	0	45	90	3.00
60	E2ECA312	Wireless Sensor Network	45	0	0	45	90	3.00
61	E2ECA313	Applications of Machine Learning in Wireless Systems	45	0	0	45	90	3.00
62	E2ECA416	NEXT GENERATION WIRELESS COMMUNICATION	45	0	0	45	90	3.00
63	E2ECA417	Modern Wireless Communication	45	0	0	45	90	3.00
64	E2ECA515	Optical Wireless Communications for Beyond 5G Networks and IoT	45	0	0	45	90	3.00
65	E2ECA516	Autonomous Connected Vehicles	45	0	0	45	90	3.00
66	E2ECA223	CMOS VLSI Design	45	0	0	45	90	3.00
67	E2ECA314	HDL for Integrated Circuits	45	0	0	45	90	3.00
68	E2ECA315	SoC Verification and Testing	45	0	0	45	90	3.00
69	E2ECA418	Mixed Signal VLSI Design	45	0	0	45	90	3.00
70	E2ECA419	Semiconductor Device Modelling	45	0	0	45	90	3.00
71	E2ECA517	Optimization using AI-ML for VLSI CAD	45	0	0	45	90	3.00

72	E2ECA518	Semconductor Packaging and Manufacturing	45	0	0	45	90	3.00
73	E1AEE400	Consumer Electronics	45	0	0	45	90	3.00
74	E2ECA600	Automation in Daily lives	30	0	0	30	60	2.00
		Total	**2310**	**105**	**600**	**3045**	**6060**	**202.00**

1.2.3 Components of Curriculum (5)

Institute Marks : 5.00

Course Components	**Curriculum Content (% of total number of credits of the program)**	**Total number of contact hours**	**Total number of credits**
Basic Sciences	18.75	900.00	30.00
Basic Engineering	9.3	450.00	15.00
Humanities and Social Scie	6.25	300.00	10.00
Program Core	30	1440.00	48.00
Program Electives	13.13	630.00	21.00
Open Electives	3.14	150.00	5.00
Project(s)	10	480.00	16.00
Internships/Seminars	3.12	135.00	5.00
Any other (Please specify)	6.25	300.00	10.00
Total number of Credits			**160.00**

1.2.4 Strategies for Education Reforms (5)

Institute Marks : 5.00

1. Curriculum Development Centre

A dedicated **Curriculum Development centre** has been established to ensure dynamic and continuous curriculum enhancement in tune with national educational policies. The centre oversees curriculum design, review, and mapping of outcomes to industry and societal needs. It also facilitates training for faculty in innovative pedagogy and curriculum alignment with OBE and NEP 2020 guidelines.

2. Academic Bank of Credits (ABC)

The institution is implementing the **Academic Bank of Credits (ABC)** system to facilitate student mobility and flexibility. This digital credit repository allows students to accumulate, transfer, and redeem academic credits across various institutions and courses. It empowers students to pursue diverse learning pathways in line with their interests and career goals.

Table No.1.3.3.2: Sample Students ABC IDs

Registration Number	Name	ABC ID
2411021061332	VINOD KUMAR V	694579760745
2411021060433	SAMARTH SHETTY	428211042645
2411021060109	PONNAPATI MANEESH KUMAR REDDY	978949004361
2411021061018	SHASHANK S	220195585882
2411021060214	HARIPRASAD N	200044101465
2411021061132	KALASAMUDRAM GIRI SAI CHARAN	248561262780

3. MOOCs Integration

Massive Open Online Courses (**MOOCs**) have been incorporated into the curriculum to broaden learning opportunities. Through platforms like SWAYAM, NPTEL, and Coursera, students can pursue additional credits, deepen their domain knowledge, or explore interdisciplinary topics. MOOC integration supports self-paced, flexible, and globally benchmarked education.

4. Competency-Based Curriculum and Student-Centric Approach

The institution is actively adopting strategies in alignment with the NEP 2020 to foster educational reforms. The curriculum is being redesigned to focus on competency-based learning, emphasizing a student-centric approach. Courses across all semesters are being integrated with micro-projects and lab components to ensure the development of practical skills, supporting an outcome-based education framework.

5. Multidisciplinary and Interdisciplinary Learning

The institution is promoting a multidisciplinary and interdisciplinary learning model. This approach is designed to provide students with broader perspectives by integrating courses in areas such as Graphics, Product Development, Design Thinking, and Social Internships. These additions foster creativity, empathy, and sustainable innovation, which are essential for the modern workforce.

6. Real-World Application Through Competency-Based Frameworks

The new competency-based curriculum frameworks map learning outcomes directly to real-world applications. This includes introducing projects like "Solving for Bharat," which encourages students to tackle societal challenges and design viable product-based solutions. The integration of Design Projects I & II helps bridge the gap between theoretical knowledge and practical, impactful problem-solving.

7. Innovation and Entrepreneurial Thinking

The institution is dedicated to nurturing innovation and entrepreneurship among students. To this end, a Minor in Entrepreneurship has been introduce+d, offering students opportunities to engage in ideation, business planning, and startup development. This provides them with additional skills and exposure to entrepreneurial ventures, which are crucial in today’s dynamic economic environment.

8. Structured Activity Points System for Holistic Development

A unique Activity Points System has been introduced to promote holistic development in students. This system rewards students for their participation in co-curricular and extracurricular activities such as technical events, sports, cultural programs, community service, and leadership roles. A minimum of 50 activity points per semester is required, ensuring that students are engaged in non-academic pursuits that contribute to their overall development.

9. Alignment with National Development Goals

By incorporating initiatives such as "Solving for Bharat," the curriculum is aligned with national development goals. This strategy enables students to work on real-life societal problems and come up with innovative, sustainable solutions, thereby making education more relevant to the countrys needs.

10. Enhancing Education Quality and Student Experience

The integrated strategies outlined above are designed to enhance the overall quality and relevance of technical education, creating a more engaging and meaningful learning experience for students. These initiatives ensure that students are well-equipped with the skills and competencies necessary for success in both professional and entrepreneurial pursuits.

1.3 PO, PSO and their Mapping with Courses (20) Total Marks 20.00

1.3.1 POs and PSOs (5) :

PSO1	The learners should be able to understand the fundamentals electronics and analyze its multidisciplinary applications to benefit societal needs while upholding the harmony
PSO2	The learners should be able to able to design advanced communication systems and develop innovative IoT designs to drive the digital world.
PSO3	The learners should be able to able to develop core competency in the specialized areas like VLSI, Cyber Physical systems, Biomedical Instrumentation/Automation, AI/ML to meet the industry demands.

1.3.2 Mapping between the Courses and POs/PSOs (15) Institute Marks : 15.00

PO:

PO Number	List of Courses
PO1	E1CSA220, E2ECA202, E2ECA221 E2ECA205 E2ECA400 E1CSA317 E2ECA401 E2ECA311 E2ECA303 E2ECA404 E2ECA402 E2ECA406 E1CSA214 E2ECA415 E1CSA318 E2ECA514 E2MEA200 E1CSA102 E2MEA201 E1CSA101 Z5SCA201 E2ECA200 E1CSA210 E1CSA221 E1CSA102 E1CSA103 E1CSA207 E2ECA219 E2ECA218 E2ECA220 E2ECA204 E2ECA300 E1CSA330 E2ECA501 E2ECA503 E1CSA405 E1CSA505 E2ECA504 E2ECA224 E2ECA316 E2ECA317 E2ECA420 E2ECA421 E2ECA519 E2ECA520 E2ECA222 E2ECA312 E2ECA313 E2ECA416 E2ECA417 E2ECA515 E2ECA516 E2ECA223 E2ECA314 E2ECA315 E2ECA418 E2ECA419 E2ECA517 E2ECA518
PO2	E2ECA204, E2ECA300, E2ECA400, E2ECA401, E2ECA504, E2ECA420, E2ECA419, E2ECA313, E1CSA220, Z5SCA200, E1CSA220 E1CSA202, E2MEA200, Z5SCA200 E1CSA102, E2MEA201, E1CSA101 E1CSA211, E1CSA100, E1CSA203 Z5SCA201, E2ECA200, Z5SCA202 E1CSA210, E1CSA22, E1CSA102 E1CSA103, E1CSA207, Z5AMA200 E2ECA219, E2ECA218, E2ECA220 E2ECA204, E1CSA330, E2ECA202 E2ECA221, E2ECA205, E2ECA401 E2ECA31, E2ECA303, E2ECA404 E2ECA402, E2ECA406, E1CSA214 E2ECA415
PO3	E2MEA201, E2ECA219, E2ECA400, E2ECA503, E2ECA501, E2ECA504, E2ECA316, E2ECA420, E2ECA404, E2ECA205, E2ECA518, E2ECA401, E2ECA205, E2ECA303
PO4	E2ECA402, E2ECA415, E2ECA519, E2ECA417, E2ECA517, E2ECA317 E2ECA420, E2ECA421, E2ECA519 E2ECA520, E2ECA313, E2ECA416 E2ECA417, E2ECA515, E2ECA516, E2ECA223, E2ECA314, E2ECA315 E2ECA418, E2ECA419, E2ECA517 E2ECA518
PO5	E1CSA102, E1CSA207, E2ECA221, E1AEE400, E2ECA223, E2ECA518, E2ECA311, E2ECA514, E2ECA220
PO6	E1CSA211, E1CSA318, E1CSA405, E2ECA503, E1CSA405, E2ECA300, E2ECA400, E2ECA504, E2ECA420
PO7	E1CSA318, E1CSA505, E2ECA516
PO8	E1CSA203, E1CSA100, E1CSA102, E1CSA405, E2ECA300, E2ECA400, E2ECA504, E2ECA420
PO9	E1CSA317, E2ECA300, E2ECA400, E2ECA504, E2ECA420
PO10	E1CSA104, E1CSA105, E1CSA106, E1CSA107, E1CSA214
PO11	E2MEA201, E2ECA503, E1CSA317, E2ECA504, E2ECA501, E2ECA400, E2ECA300
PO12	E2ECA224, E2ECA316, E2ECA317 E2ECA420, E2ECA421, E2ECA519 E2ECA520 E2ECA222, E2ECA312 E2ECA313, E2ECA416, E2ECA417 E2ECA515, E2ECA516 E2ECA223 E2ECA314, E2ECA315, E2ECA418 E2ECA419, E2ECA517, E2ECA518, E1CSA405, E1CSA203, E1CSA211, E1CSA317, E1 CSA106

PSO:

PO Number	List of Courses
PSO1	E2ECA224, E2ECA311, E2ECA313, E2ECA316, E2ECA317, E2ECA404, E2ECA415, E2ECA420, E2ECA421, E2ECA517, E2ECA519, E2ECA520, E2ECA604
PSO2	E2ECA218, E2ECA220, E2ECA222, E2ECA312, E2ECA313, E2ECA415, E2ECA416, E2ECA417, E2ECA515, E2ECA516, E2ECA520, E2ECA604
PSO3	E2ECA223, E2ECA314, E2ECA315, E2ECA415, E2ECA418, E2ECA419, E2ECA517, E2ECA518

1.4 Course Outcomes and Course Articulation Matrix (30) Total Marks 30.00

1.4.1 Course Outcome (Semester Wise) (15)

Institute Marks : 15.00

No. of Core Courses : 6	**C2 :** 2	**C3 :** 2	**C4 :** 2

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

Course Code :	E2ECA219	Semester :	3

Course Outcome	Statements
E2ECA219.1	Apply the concept number system and minimization technique to obtain minimized Boolean form
E2ECA219.2	Analyze various combinational circuits, such as adders, subtractors, multiplexers, decoders, and encoders, using MSI and PLD design principles.
E2ECA219.3	Analyze sequential circuits including latches, flip-flops, shift registers, and counters with synchronous and asynchronous operations.
E2ECA219.4	Evaluate Mealy and Moore state machines for state reduction techniques to synthesize asynchronous sequential circuits.
E2ECA219.5	Evaluate Mealy and Moore state machines for state reduction techniques to synthesize asynchronous sequential circuits.

Course Code :	E2ECA202	Semester :	4

Course Outcome	Statements
E2ECA202.1	Apply the principle of amplifier and biasing design to create analog circuit solutions that meet specific technical specifications, with attention to stability.
E2ECA202.2	Analyze amplifiers with specific frequency response and stability requirements, with the principles of feedback, amplifier classes, and frequency analysis.
E2ECA202.3	Analyze the basic topology and variants of oscillators and current mirrors to optimize stability and performance in the presence of load variations and other external factors.
E2ECA202.4	Apply the principles of Op-Amps in signal processing applications to perform mathematical integration, differentiation functions and active filters.
E2ECA202.5	Evaluate various types of Analog-to-Digital Converters (ADCs), including single-slope, dual-slope, successive approximation, and flash ADCs, their performance in terms of resolution, speed, and accuracy.

Course Code :	E2ECA311	Semester :	5

Course Outcome	Statements
E2ECA311.1	Illustrate the architecture, modes of operation and addressing modes of microprocessors .
E2ECA311.2	Develop 8086 assembly language programs.
E2ECA311.3	Demonstrate interrupts, its handling and programming in 8086.
E2ECA311.4	Interface different peripherals and memory with microprocessors
E2ECA311.5	Outline features of microcontrollers and develop low level programs.

Course Code :	E2ECA404	Semester :	6

Course Outcome	Statements
E2ECA404.1	Explain the conceptual framework, architecture, applications, and security challenges of IoT systems.
E2ECA404.2	Analyze IoT connectivity, protocols, and cloud-based solutions for data management and computation.
E2ECA404.3	Develop IoT applications by programming embedded devices, integrating sensors, and addressing privacy and security challenges.

E2ECA404.4	Analyze wireless sensor network architectures, design principles, and optimization techniques for IoT integration.
E2ECA404.5	Evaluate communication protocols and routing techniques for energy-efficient and reliable WSN operation in IoT.

Course Code :	**E2ECA514**	**Semester :**	**7**

Course Outcome	**Statements**
E2ECA514.1	Analyze image sensing, acquisition, and the relationships between pixels in digital image processing.
E2ECA514.2	Evaluate image enhancement techniques using spatial and frequency domain filters for smoothing and sharpening.
E2ECA514.3	Apply color image processing methods, including color models, transformations, and segmentation for image enhancement.
E2ECA514.4	Develop segmentation techniques for detecting discontinuities and applying morphological watershed for image restoration.
E2ECA514.5	Design lossless and lossy image compression algorithms, including JPEG and JPEG 2000, for efficient data representation.

Course Code :	**E2ECA504**	**Semester :**	**8**

Course Outcome	**Statements**
E2ECA504.1	Define Problem statement by scope identification, literature review, requirement gathering from stakeholders, relevance for and benefits to the society
E2ECA504.2	Describe relationship between the components of the project
E2ECA504.3	Apply project management skills to effectively plan, execute, and monitor the project at every stage.
E2ECA504.4	Solve complex engineering problems by breaking them down into smaller, more manageable components.
E2ECA504.5	Customize the report to the intended audience, considering their level of technical expertise and providing explanations and contextual information.

1.4.2 Course Articulation Matrix (15) :

1 . course name : C2E2ECA219

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C2E2ECA219.	Apply the c	2	1	2	1	1	1	1	2	2	1	3
C2E2ECA219.	Analyze vai	2	2	2	2	1	1	1	2	2	1	3
C2E2ECA219.	Analyze se	2	2	2	2	1	2	1	2	2	1	3
C2E2ECA219.	Evaluate M	2	2	2	2	1	2	1	2	2	1	3
C2E2ECA219.	Evaluate M	2	2	2	2	1	2	1	2	2	1	3
Average		**2.00**	**1.80**	**2.00**	**1.80**	**1.00**	**1.60**	**1.00**	**2.00**	**2.00**	**1.00**	**3.00**

2 . course name : C2E2ECA202

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C2E2ECA202.	Apply the p	2	1	1	2	3	1	1	2	2	1	3
C2E2ECA202.	Analyze an	2	1	2	2	3	1	1	2	2	1	3
C2E2ECA202.	Analyze the	2	1	2	2	3	1	1	2	2	1	3
C2E2ECA202.	Apply the p	2	1	1	2	3	1	1	2	2	1	3
C2E2ECA202.	Evaluate va	2	1	2	2	3	1	1	2	2	1	3
Average		**2.00**	**1.00**	**1.60**	**2.00**	**3.00**	**1.00**	**1.00**	**2.00**	**2.00**	**1.00**	**3.00**

3 . course name : C3E2ECA311

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C3E2ECA311.	Illustrate th	3	3	3	3	2	2	1	1	1	2	2
C3E2ECA311.	Develop 80	3	3	3	3	2	2	1	1	1	2	2
C3E2ECA311.	Demonstrat	3	3	3	3	2	2	1	1	1	2	2
C3E2ECA311.	Interface di	3	3	3	3	2	2	1	1	1	2	2
C3E2ECA311.	Outline feat	3	3	3	3	2	2	1	1	1	2	2
Average		**3.00**	**3.00**	**3.00**	**3.00**	**2.00**	**2.00**	**1.00**	**1.00**	**1.00**	**2.00**	**2.00**

4 . course name : C3E2ECA404

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C3E2ECA404.	Explain the	3	2	2	2	3	1	1	2	1	1	1
C3E2ECA404.	Analyze IoT	3	2	2	2	3	1	1	2	1	1	1
C3E2ECA404.	Develop IoT	3	2	2	2	3	1	1	2	1	1	1

C3E2ECA404.	Analyze wir	3	2	2	2	3	1	1	2	1	1	1
C3E2ECA404.	Evaluate cc	3	2	2	2	3	1	1	2	1	1	1
Average		**3.00**	**2.00**	**2.00**	**2.00**	**3.00**	**1.00**	**1.00**	**2.00**	**1.00**	**1.00**	**1.00**

5 . course name : C4E2ECA514

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C4E2ECA514.	Analyze ima	3	3	3	2	2	1	1	2	2	1	1
C4E2ECA514.	Evaluate im	3	3	3	2	3	1	1	2	2	1	1
C4E2ECA514.	Apply color	3	3	3	2	2	1	1	2	2	1	1
C4E2ECA514.	Develop se	3	3	3	3	2	1	1	2	2	1	1
C4E2ECA514.	Design loss	3	3	3	2	2	1	1	2	2	1	1
Average		**3.00**	**3.00**	**3.00**	**2.20**	**2.20**	**1.00**	**1.00**	**2.00**	**2.00**	**1.00**	**1.00**

6 . course name : C4E2ECA504

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C4E2ECA504.	Define Prob	3	3	3	3	3	3	3	3	3	3	3
C4E2ECA504.	Describe re	3	3	3	3	3	3	3	3	3	3	3
C4E2ECA504.	Apply proje	3	3	3	3	3	3	3	3	3	3	3
C4E2ECA504.	Solve comp	3	3	3	3	3	3	3	3	3	3	3
C4E2ECA504.	Customize	3	3	3	3	3	3	3	3	3	3	3
Average		**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**

1 . Course Name : C2E2ECA219

Course	PSO1	PSO2	PSO3
C2E2ECA219.	1	2	2
C2E2ECA219.	2	3	3
C2E2ECA219.	2	2	3
C2E2ECA219.	2	2	3
C2E2ECA219.	2	2	3
Average	**1.80**	**2.20**	**2.80**

2 . Course Name : C2E2ECA202

Course	PSO1	PSO2	PSO3
C2E2ECA202.	3	3	2
C2E2ECA202.	3	3	2
C2E2ECA202.	3	3	2
C2E2ECA202.	3	3	2
C2E2ECA202.	3	3	2
Average	**3.00**	**3.00**	**2.00**

3 . Course Name : C3E2ECA311

Course	PSO1	PSO2	PSO3
C3E2ECA311.	2	2	2
C3E2ECA311.	2	2	2
C3E2ECA311.	2	2	2
C3E2ECA311.	2	2	2
C3E2ECA311.	2	2	2
Average	**2.00**	**2.00**	**2.00**

4 . Course Name : C3E2ECA404

Course	PSO1	PSO2	PSO3
C3E2ECA404.	1	3	2
C3E2ECA404.	1	3	2
C3E2ECA404.	1	3	2

C3E2ECA404.	1	3	2
C3E2ECA404.	1	3	2
Average	**1.00**	**3.00**	**2.00**

5 . Course Name : C4E2ECA514

Course	PSO1	PSO2	PSO3
C4E2ECA514.	1	3	2
C4E2ECA514.	1	3	2
C4E2ECA514.	1	3	2
C4E2ECA514.	1	3	2
C4E2ECA514.	1	3	2
Average	**1.00**	**3.00**	**2.00**

6 . Course Name : C4E2ECA504

Course	PSO1	PSO2	PSO3
C4E2ECA504.	3	3	3
C4E2ECA504.	3	3	3
C4E2ECA504.	3	3	3
C4E2ECA504.	3	3	3
C4E2ECA504.	3	3	3
Average	**3.00**	**3.00**	**3.00**

1.5 Program Articulation Matrix (5) Total Marks 5.00

Program Articulation Matrix

:

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
E1CSA220	3	3	3	3	3	PO6	PO7	PO8	PO9	PO10	3
E1CSA202	3	3	2	2	1	PO6	PO7	PO8	2	2	2
E2MEA200	3	3	3	2	PO5	PO6	PO7	PO8	PO9	PO10	3
Z5SCA200	3	3	3	3	3	PO6	PO7	1	1	1	3
E1CSA102	3	3	3	3	3	PO6	PO7	2	PO9	PO10	3
E2MEA201	3	3	3	3	3	PO6	PO7	2	PO9	PO10	3
E1CSA101	PO1	PO2	PO3	PO4	3	PO6	PO7	2	2	2	1
E1CSA211	PO1	PO2	PO3	PO4	PO5	3	3	3	3	2	PO11
E1CSA100	PO1	PO2	PO3	PO4	PO5	3	3	3	3	2	PO11
E1CSA203	PO1	PO2	PO3	PO4	PO5	3	3	3	3	2	1
Z5SCA201	3	3	3	3	3	PO6	PO7	1	1	1	3
E2ECA200	3	3	3	3	3	1	PO7	1	1	1	PO11
Z5SCA202	3	3	2	2	PO5	PO6	PO7	1	1	PO10	3
E1CSA210	3	3	3	3	3	3	3	3	PO9	PO10	2
E1CSA221	3	3	3	3	3	PO6	PO7	PO8	PO9	PO10	3
E1CSA102	PO1	PO2	PO3	PO4	PO5	1	2	2	3	PO10	2
E1CSA103	PO1	2	PO3	2	PO5	PO6	PO7	PO8	PO9	PO10	1
E1CSA207	3	3	3	3	3	PO6	PO7	3	3	PO10	3
Z5AMA200	3	3	3	3	3	PO6	PO7	PO8	PO9	PO10	3
E2ECA219	2	2	2	2	1	2	1	2	2	1	3
E2ECA218	3	3	3	3	3	2	1	1	1	PO10	1
E2ECA220	2	2	1	2	2	2	1	1	1	PO10	1
E2ECA204	3	3	3	3	3	1	1	1	1	1	1
E2ECA300	3	3	2	2	2	2	2	2	3	2	2
E1CSA330	3	3	3	3	3	1	1	1	1	1	1
E2ECA202	2	1	2	2	3	1	1	2	2	1	1
E2ECA221	3	3	3	3	3	1	1	1	1	1	1
E2ECA205	3	3	3	3	3	3	1	1	1	PO10	1
E2ECA400	3	3	3	3	1	1	1	1	3	1	1
E2ECA401	3	3	3	3	2	2	1	2	1	2	2
E2ECA311	3	3	3	3	2	2	1	PO8	1	2	2
E2ECA303	3	3	3	3	3	3	1	1	1	PO10	1

E2ECA404	3	2	2	2	3	1	1	2	1	1	1
E2ECA402	3	3	3	3	3	2	2	2	2	2	2
E2ECA406	3	3	3	3	2	1	1	1	1	1	3
E2ECA415	3	3	3	3	3	1	1	1	2	1	3
E2ECA514	3	3	3	2	2	1	1	2	2	1	1
E2ECA501	3	3	3	3	3	3	3	3	3	3	3
E2ECA503	3	3	3	3	3	3	2	3	2	2	2
E2ECA504	3	3	3	3	3	3	3	3	3	3	3
E2ECA224	3	3	3	3	2	2	2	2	1	1	1
E2ECA316	3	3	3	3	2	2	2	3	2	2	1
E2ECA317	3	3	2	2	2	1	2	1	2	2	2
E2ECA420	3	2	2	2	2	2	2	2	2	1	PO11
E2ECA421	3	3	3	3	3	2	2	2	2	1	2
E2ECA519	3	3	3	3	3	2	2	1	1	1	2
E2ECA520	3	3	3	3	3	2	2	2	2	1	2
E2ECA222	3	3	3	3	3	2	1	1	1	PO10	1
E2ECA312	3	3	3	2	3	3	1	1	1	PO10	2
E2ECA313	3	3	3	3	3	3	1	1	1	PO10	2
E2ECA416	3	3	3	3	3	3	1	1	1	PO10	3
E2ECA417	3	3	3	3	3	3	1	1	1	PO10	3
E2ECA515	3	3	3	3	3	3	1	2	2	PO10	3
E2ECA516	3	3	3	3	3	3	1	2	2	PO10	3
E2ECA223	3	2	1	3	3	1	2	1	1	1	1
E2ECA314	3	3	3	3	3	1	1	1	1	1	2
E2ECA315	3	3	3	3	3	1	1	2	2	2	2
E2ECA418	3	3	2	3	3	2	2	1	1	1	1
E2ECA419	3	3	2	3	3	2	2	2	2	1	1
E2ECA517	3	3	2	2	3	2	2	2	2	1	2
E2ECA518	2	2	2	3	2	1	1	1	1	1	1
E1AEE400	3	3	3	3	2	2	2	2	2	1	2
E2ECA600	3	3	3	3	3	3	2	2	2	PO10	3
E1CSA214	3	3	3	3	3	1	2	2	2	1	2
E1CSA106	3	2	3	2	2	1	1	2	2	1	1

E1CSA318	PO1	3	PO3	PO4	PO5	3	PO7	3	PO9	PO10	PO11
E1CSA405	PO1	3	PO3	2	PO5	PO6	2	3	PO9	PO10	PO11
E1CSA317	PO1	PO2	PO3	PO4	PO5	PO6	PO7	3	3	3	PO11
E1CSA505	3	PO2	3	PO4	PO5	3	PO7	PO8	PO9	PO10	PO11
5OT1809	PO1	PO2	PO3	1	1	2	2	3	3	1	3
5OT1808	PO1	1	PO3	1	PO5	1	PO7	2	2	3	PO11
E1CSA109	PO1	1	PO3	1	PO5	1	PO7	2	2	3	PO11
E1CSA108	1	PO2	1	PO4	1	PO6	2	2	3	PO10	2
E1CSA100	1	PO2	1	PO4	1	PO6	2	2	3	PO10	2
E1CSA105	PO1	PO2	PO3	1	1	2	2	3	3	1	3
E1CSA107	1	PO2	1	PO4	1	PO6	2	2	3	PO10	2
6OT1810	1	PO2	1	PO4	1	PO6	2	PO8	2	3	2
6OT1811	PO1	PO2	PO3	1	1	2	PO7	2	3	3	1
6OT1812	PO1	1	PO3	1	PO5	1	PO7	PO8	2	2	3

Course Code	**PSO1**	**PSO2**	**PSO3**
5OT1808	2	2	1
5OT1809	PSO1	1	PSO3
6OT1810	PSO1	PSO2	PSO3
6OT1811	PSO1	1	PSO3
6OT1812	2	2	1
E1AEE400	2	2	2
E1CSA100	1	PSO2	PSO3
E1CSA100	PSO1	PSO2	PSO3
E1CSA101	PSO1	PSO2	PSO3
E1CSA102	PSO1	PSO2	PSO3
E1CSA103	PSO1	PSO2	PSO3
E1CSA105	PSO1	1	PSO3
E1CSA106	3	2	PSO3
E1CSA107	PSO1	PSO2	1
E1CSA108	PSO1	PSO2	PSO3
E1CSA109	2	PSO2	PSO3
E1CSA202	PSO1	PSO2	PSO3

E1CSA203	PSO1	PSO2	PSO3
E1CSA207	3	3	3
E1CSA210	2	2	2
E1CSA211	PSO1	PSO2	PSO3
E1CSA214	PSO1	PSO2	PSO3
E1CSA220	2	2	2
E1CSA221	3	3	3
E1CSA317	PSO1	PSO2	PSO3
E1CSA318	PSO1	PSO2	PSO3
E1CSA330	2	3	2
E1CSA405	PSO1	PSO2	PSO3
E1CSA505	PSO1	PSO2	PSO3
E2ECA200	2	2	1
E2ECA202	3	3	2
E2ECA204	2	2	1
E2ECA205	PSO1	3	PSO3
E2ECA218	PSO1	3	PSO3
E2ECA219	2	3	3
E2ECA220	PSO1	3	PSO3
E2ECA221	2	2	1
E2ECA222	PSO1	3	PSO3
E2ECA223	PSO1	PSO2	3
E2ECA224	3	PSO2	1
E2ECA300	2	2	2
E2ECA303	PSO1	3	PSO3
E2ECA311	2	2	2
E2ECA312	PSO1	3	PSO3
E2ECA313	PSO1	3	PSO3
E2ECA314	PSO1	PSO2	3
E2ECA315	1	PSO2	3
E2ECA316	3	PSO2	PSO3
E2ECA317	3	2	3
E2ECA400	3	3	3

E2ECA401	PSO1	3	2
E2ECA402	3	3	2
E2ECA404	1	3	2
E2ECA406	3	3	3
E2ECA415	2	2	1
E2ECA416	PSO1	3	PSO3
E2ECA417	PSO1	3	PSO3
E2ECA418	PSO1	PSO2	3
E2ECA419	PSO1	PSO2	3
E2ECA420	3	PSO2	3
E2ECA421	3	PSO2	PSO3
E2ECA501	3	3	3
E2ECA503	3	3	3
E2ECA504	3	3	3
E2ECA514	1	3	2
E2ECA515	PSO1	3	PSO3
E2ECA516	2	3	PSO3
E2ECA517	1	PSO2	3
E2ECA518	PSO1	PSO2	3
E2ECA519	3	PSO2	2
E2ECA520	3	2	PSO3
E2ECA600	2	3	PSO3
E2MEA200	3	PSO2	PSO3
E2MEA201	PSO1	PSO2	PSO3
Z5AMA200	2	2	1
Z5SCA200	2	2	2
Z5SCA201	2	2	2
Z5SCA202	3	PSO2	2

2 OUTCOME-BASED TEACHING LEARNING (120)

Total Marks 120.00

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

Total Marks 20.00

Institute Marks : 20.00

Ensuring the quality of teaching and learning is a continuous process that involves structured planning, implementation, monitoring, and feedback. The department follows a multi-dimensional approach that incorporates academic planning, pedagogical practices, laboratory experiences, and student-centric learning initiatives.



Fig 2.1 Quality of Teaching & Learning

Fig 2.1 represents a holistic model of Quality Education, highlighting key interconnected components that contribute to an effective learning ecosystem. At the center lies "Quality Education," supported by elements such as a well-structured academic calendar, real-world case studies, collaborative learning methods, and the integration of ICT tools. It also emphasizes Bloom's taxonomy-based lesson planning, micro projects, industrial seminars, and a strong quality of laboratory experience. Further, it includes support for diverse learners, ensuring inclusivity. Together, these pillars create a comprehensive, learner-centric framework designed to promote meaningful and applicable education outcomes.

1.Adherence to Academic Calendar

- The Department of Electronics and Communication strictly follows the academic calendar to ensure smooth and planned academic activities. The academic calendar is prepared and published by office of Registrar before the start of each semester. It comprises the beginning and end of the semester timelines, Mid Semester Examinations (MSE) and Semester End Examinations (SEE) timelines, the teaching weeks,
- Following the academic calendar, Department of ECE prepare the course master, faculty allocation based on expertise of the faculty members. After allocation of the course the faculty members conduct the Course Coordination Committee meetings for all courses especially for the courses which is being offered in more than one classes. A course coordinator is assigned to ensure equitable delivery of the content across the classes. Based on the deliberation in CCC the detailed Course Delivery and Assessment Plan (CDAP), having the details of topic delivery, topic learning outcome, delivery methods, During Semester Assessment (DSA) components, and learning resources. The class timetables, and schedules for internal assessments based on the academic calendar used to prepare. This helps in systematic coverage of the syllabus and timely evaluation.
- To ensure proper implementation, regular checks and academic audits are conducted by the Deans. Additionally, the status of the syllabus coverage is collected twice during the semester from the faculty. Feedback is also gathered through class representative meetings to monitor teaching progress. Regular Class Committee meetings are also conducted during the semester which also collects the details of syllabus coverage and feedback on faculty to monitor teaching progress. These measures help ensure that the syllabus is completed on time and any gaps are addressed promptly

The institution follows Outcome-Based Education (OBE) to ensure that students achieve the desired learning outcomes and acquire the skills expected in the industry. Each subject has well-defined Course Outcomes (COs), which are mapped to broader Program Outcomes (POs), helping track and improve learning effectiveness.

To make the teaching-learning process more engaging and practical, the faculty uses a combination of traditional methods and modern teaching practices.

2.Instructional Methods and Pedagogical Initiatives

Key Teaching Techniques used:

a.Real-World Examples and Case Studies

- Faculty members explain concepts using real-life examples related to their courses.
- Case studies are discussed in class to help students to relate theory to the practice and improve their problem-solving skills.

b.Collaborative Learning Methods

- Group discussions for some courses are used to encourage the learners to share ideas and to promote peer learning.
- Seminars and presentations are used to improve the communication and leadership skills.
- Flipped classroom approach is utilized for some courses. It allows students to learn theory at home and discuss their queries during interactive classroom sessions.

c.Integration of ICT Tools

- Learning Management Systems (LMS) such as Blackboard is used to share learning materials, assignments, conduct online quizzes, and discussions.
- Faculty members encourage the learners to explore the MOOC platforms like Coursera, Springboard and NPTEL for advanced learning.

d.Bloom's Taxonomy-Based Course Delivery and Assessment Plan

- Faculty members design Course Delivery and Assessment Plan (CDAP) and design the question papers using Bloom's Taxonomy levels.
- This helps the students to raise their knowledge level beyond memorizing to understanding, applying, analyzing etc.

e.Micro Projects

- Students are assigned micro projects in many courses to incorporate their skills to solve small real-world problems in a focused approach.
- These microprojects are carried out by small groups usually 2 - 4 students.
- Usually, the topics are aligning with the industrial trends and societal needs.
- Students document the process, outcomes, and present their work for evaluation.
- This fosters independent thinking, creativity, teamwork, and innovation.

f.Industrial Seminars

As part of the institution's commitment to enhance practical and industry-relevant learning, industrial seminars are organized regularly under the teaching and learning framework. These seminars are conducted by experienced professionals from industry, either online or offline, and are aligned with specific subjects or current industry trends.These sessions are typically coordinated by the course faculty to ensure relevance and are scheduled during the semester as part of the instructional plan. Students get the opportunity to interact with professionals, ask questions, and gain clarity on practical applications of the topics covered in class.

The exposure helps students:

- Understand the practical relevance of theoretical concepts.
- Develop awareness of industry challenges and solutions.
- Motivate students and improve their career readiness through industrial networking.

Overall, industrial seminars act as an effective pedagogical tool to enrich classroom learning with professional insights and foster industry-academic interaction.

3.Quality of Laboratory Experience

To ensure effective practical learning, laboratory manuals are given to students in advance. These manuals clearly explain the objective, procedure, and expected outcomes of each experiment, helping students prepare before coming to the lab.

During lab Sessions:

- Students are encouraged to perform practical on their own or in small groups, which helps build confidence and teamwork.
- During their work, concerned faculty member clears their doubts.
- They are guided to record their observations properly and neatly.
- Students are also taught to analyze their results and compare them with the theory learned in class.
- To check their understanding, students are regularly assessed through viva voce (oral questions), lab record evaluations, and lab exam.
- These continuous assessments help to ensure that the students follow the procedures.
- This hands-on learning approach strengthens their practical knowledge and prepares them for real-world applications.

4.Support for Diverse Learners

The slow and advance learners are identified mainly through, Mid-Semester Examination Scores, Previous Semester GPA/Percentage and Mentor's Feedback (based on regular student interaction) the following are the remedial measures for the diverse learners.

Slow Learners:

- Conduction of remedial classes after the MSE,
- Personalized mentoring
- Giving extra learning material
- Suggesting e-content
- Conducting Quiz/Test for their practice of the examination
- From AY 2024-25, introduction of summer term to clear their backlogs, if any.

Advance Learners:

- Motivate the students to do the MOOCs.
- Encourage them to work with Centre of Excellence (CoE) of their choice
- Encourage participation in hackathons and technical Competitions.
- Present paper in International Conferences

5.Monitoring and Feedback Mechanism

- **Course Files** are maintained by faculty members and audited periodically to ensure content delivery quality.
- Generally, three Class Coordination Committee Meetings (CCCM) in a semester have been conducted. These meetings are conducted in the chairmanship of Senior Professor where all course handling faculty members, Class Representatives (CRs) and diverse section of the students participate as members. At this forum, students discuss the academic issues with the faculty members.
- **Student Feedback** is collected mid-semester and end-semester on teaching effectiveness and course delivery.
- Feedback is analyzed, and corrective actions are initiated.
- Faculty members are encouraged to attend FDPs and workshops to continuously upgrade their pedagogical skills.

2.2 Quality of Student Capstone Project (25) Total Marks 25.00

Institute Marks : 25.00

The institution implements a structured and rigorous framework to ensure the high quality of student capstone projects. The entire process—from project identification to final evaluation—is carefully designed in alignment with academic and professional standards. The guidelines ensure that projects contribute meaningfully to the attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs), while embedding considerations of sustainability, ethics, safety, cost, and societal relevance.

Project Implementation Process

The implementation of final year capstone projects in the Department of Electronics and Communication follows a systematic and quality-focused approach to ensure technical rigor, relevance, and academic integrity.

The process is outlined as follows:

- **Capstone Project Notification**

  The process begins with a formal notification and orientation to students regarding capstone project initiation, guidelines, and timelines. Students forms teams having 2-4 members based on their interest in specific domains such as Embedded Systems, IoT, Wireless Communication, and VLSI.

- **Zeroth Review – Initial Review and Feasibility Assessment by PAC**

  Student teams submit preliminary ideas which are reviewed by the Project Approval Committee (PAC) for feasibility, scope, and alignment with engineering goals. Based on the assessment, proposals are either approved or sent back for revision.

- **Supervisor Allocation**

  Upon approval of the PAC, students proposals and verification of the selected domains, a project supervisor will be assigned. A panel of 2-3 domain experts oversee the progress of the team.

- **First Review – Project Description and Literature Review**

  This stage evaluates the projects relevance, objectives, detailed description, literature survey, and initial methodology. Constructive feedback is given for improvement.

- **Second Review – Progress and Technical Implementation**

  The review focuses on mid-stage development progress, adherence to timelines, technical design, and any challenges encountered.

- **Third Review – Tool Usage and Prototype Setup**

  Teams demonstrate experimental setup or tool usage with working prototypes. Technical soundness and feasibility are analyzed for further enhancement.

- **Fourth Review – Final Internal Presentation and Validation**

  Students present their prototype, explain project management activities, and showcase results. Evaluation covers result verification and readiness for final presentation.

- **Fifth Review – Report Evaluation and Plagiarism Check**

  Project documentation is reviewed for technical accuracy, completeness, and plagiarism compliance.

- **Final Evaluation – SEE and Viva Voce**

  Students undergo a final Semester End Examination (SEE) comprising a presentation and viva voce before a panel. Grades are awarded based on cumulative performance. Students who do not meet expectations are allowed to reappear as per university policy.

  Figure 2.2 illustrates the *Capstone Project Implementation Flow*, outlining a structured four-phase process: Initiation, Proposal and Approval, Project Reviews, and Final Evaluation.

  The journey begins with project notification, orientation, team and domain selection. In the proposal phase, students submit an initial idea, which undergoes PAC feasibility review. Upon approval, supervisors and domain experts are assigned.

  The review phase includes five progressive reviews, each assessing key milestones from description to validation and final reporting. The process concludes with a Semester End Examination and Viva, where passing determines successful project completion or reappearance. This systematic flow ensures academic rigor and project quality.

  This structured process ensures that project execution is closely monitored, technically sound, and meets academic standards, while also contributing to the attainment of relevant Program Outcomes (POs) and Program Specific Outcomes (PSOs).

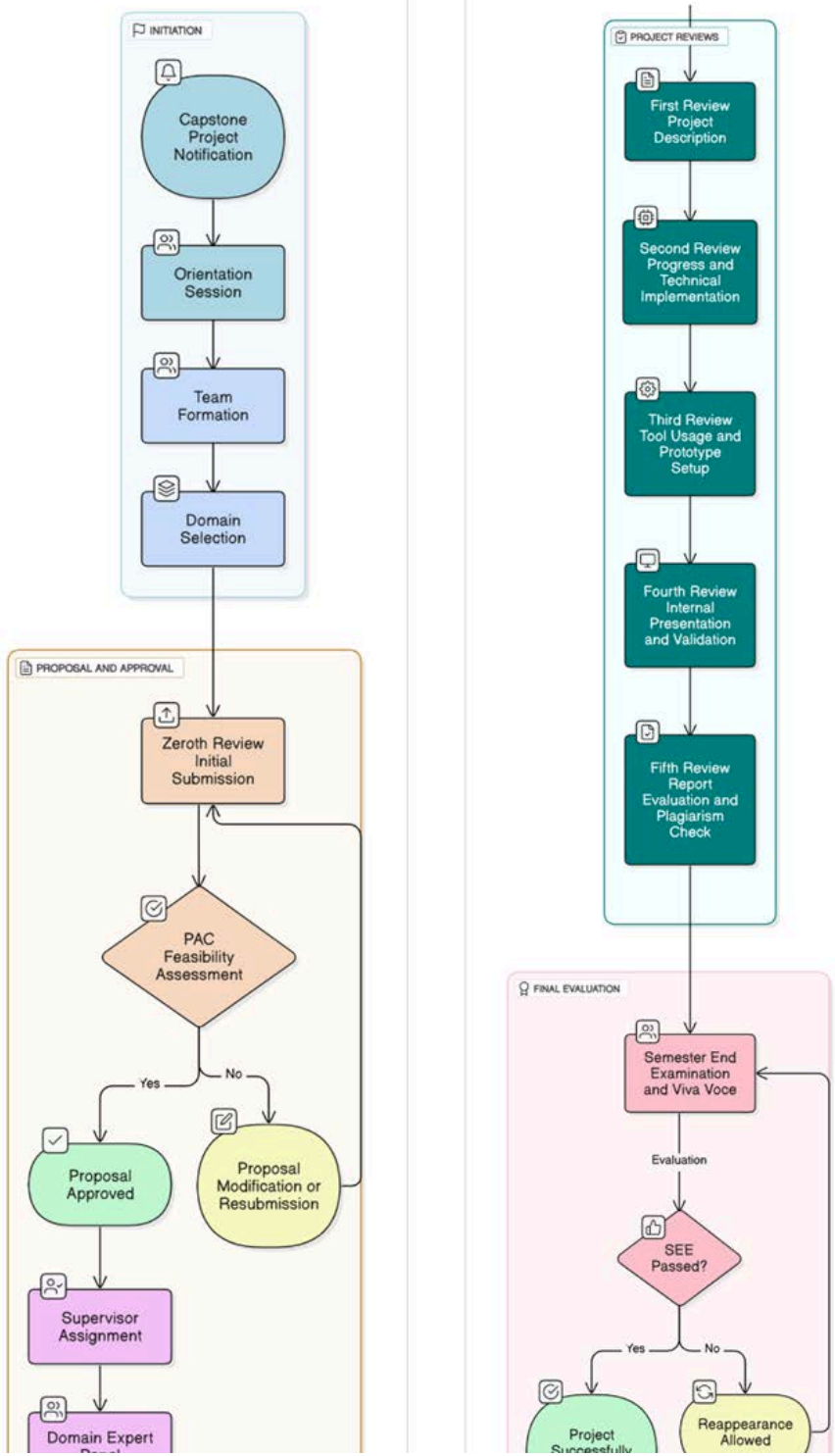

INITIATION
Capstone Project Notification
Orientation Session
Team Formation
Domain Selection
PROPOSAL AND APPROVAL
Zeroth Review Initial Submission
PAC Feasibility Assessment
Yes
No
Proposal Approved
Proposal Modification or Resubmission
Supervisor Assignment
Domain Expert
PROJECT REVIEWS
First Review Project Description
Second Review Progress and Technical Implementation
Third Review Tool Usage and Prototype Setup
Fourth Review Internal Presentation and Validation
Fifth Review Report Evaluation and Plagiarism Check
FINAL EVALUATION
Semester End Examination and Viva Voce
Evaluation
SEE Passed?
Yes
No
Project
Reappearance Allowed



Fig 2.2 Project Implementation Process

POs/PSOs Addressed through Capstone Project

The process enables the attainment of multiple POs and PSOs as follows:

POs addressed:

- **PO1:** Engineering knowledge – Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to solve complex engineering problems.
- **PO2:** Problem analysis – Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3:** Design/development of solutions – Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health, safety, cultural, societal, and environmental considerations.
- **PO4:** Conduct investigations of complex problems – Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5:** Modern tool usage – Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **PO6:** The engineer and society – Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **PO7:** Environment and sustainability – Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **PO8:** Ethics – Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO9:** Individual and team work – Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10:** Communication – Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO11:** Project management and finance – Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO12:** Life-long learning – Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSOs addressed:

- **PSO1**: Able to understand the fundamentals of electronics and analyze its applications as multidisciplinary team work to benefit societal needs maintaining the harmony.
- **PSO2**: Able to design advanced communication systems and develop innovative IoT designs to drive digital world.
- **PSO3**: Able to develop the competency in the specialized areas like VLSI, Cyber Physical systems, biomedical and automation to meet the industry demands.

Table 2.1 Sample Project allocation

Batch No.	Registration Number	Name of the Students	Title of the Project	Project Supervisor	Domain

G1	2021LECE07AED044	L SUPRIYA	Enhancing Healthcare Monitoring with Machine Learning-Integrated Wearable and Wireless Systems	Dr. Aby K Thomas	Embedded System and IOT
	2021LECE07AED041	A ANISHVAR			
	2021BECE07AED031	SAMRUDDI MAHESH KONERI			
	2021BECE07AED009	NILADRI ROY GOSWAMI			
G2	2021LECE07AED042	VISHAL DJ	Smart Sip for Kids	Dr. Harinath Aireddy	Embedded System
	2021LECE07AED038	HEMANTH S			
	2021BECE07AED020	KEERTHANA V			
	2021BECE07AED015	VARSHA A S			
G3	2021LECE07AED046	MADHUMALA SINGH	Smart Guard: The Intelligent Incident Monitoring and Response System	Dr. Amar Choudhary	Wireless Communication
	2021LECE07AED045	SAI SAMPATH K			
	2021LECE07AED043	SYED KHAJA MOHIDDIN			
	20030141ECE021	NIVEDITHA A			

G4	2021LECE07AED047	RAHUL KALAL	A vehicle Deployed IoT Based Diaster Detection and Response System	Dr. G Ramana Murthy	Embedded System and IOT
	2021LECE07AED048	VINODH R			
	2021BECE07AED004	SYED RIHAN AHAMED			
	20030141ECE029	SONY WADIKAR			

Table 2.2 Sample CO-PO Mapping of the Projects

Group. No		Program Outcome												Program Specific outcome		
		PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
G1	Enhancing Healthcare Monitoring with Machine Learning-Integrated Wearable and Wireless Systems	3	3	3	2	2	2	2			1	3	2	2	2	
G2	Smart Sip for Kids	3	3	3	3	2	2	2	2	2	3	3	2	3	2	2
G3	Smart Guard: The Intelligent Incident Monitoring and Response System	2	2	2	2		3	2	3		3	3	3	3	3	
G4	A vehicle Deployed IoT Based Disaster Detection and Response System	3	3	3	3	2	3	2		2	3	3	3	3	2	

Rubrics for Student Capstone Project

Table 2.3 Assessment Details of Capstone Project

Assessment	**Percentage**
Internal Evaluation	70
External Evaluation	30
Total	100

Rubrics for Internal Evaluation

Table 2.4 Review Assessment Details of Capstone Project

Sl. NO	Description	Assessment	Review Marks	Overall Weightage
Review - 1	Scope	Comprehensive Viva	15	15%
	Literature Survey			
	Problem Identification			
	Objectives			
	Planning and Task Definition			
	Teamwork			
Review - 2	Constraints Identification	Progress Review - Preliminary Design	10	10%
	Finalization of topic to constraints			
	Design selection			
Review - 3	Use of modern tools/experimental work in design and analysis	Progress Review - Detailed Design	5	5%
	Progress Analysis and results			
Review - 4	Discussion on results	Final Review - Detailed Design	10	10%
	Project management			
	Attainment of stated objectives			
	Use of Standards			
	Demonstration of the project			
Review - 5	Report evaluation	Report Evaluation	30	30%
	Plagiarism			
	Individual and team contribution			
	Outcome of the thesis			
Overall Internal Mark details			70	70%

Table 2.5 Rubrics for Review-1

Review - 1				
	Excellent (5)	**Good (4)**	**Average (3)**	**Poor (1)**
Scope	Detailed and extensive explanation of the purpose and need of the project	Good explanation of the purpose and need of the project	Average explanation of the purpose and need of the project	Minimal explanation of the purpose and need of the project
Literature survey	Detailed and extensive explanation of the specifications of the existing systems.	Collects a great deal of information and a good study of the existing systems.	A moderate study of the existing systems collects some basic information.	Minimal explanation of the specifications of the existing systems, incomplete information.
Identification of Problem	Defines the problem with an excellent degree of accuracy, clarity, and concision.	Defines the problem with a high degree of accuracy, clarity, and concision.	Defines and refines the problem with fair accuracy, clarity, and concision.	Insufficient clarity and concision in defining the problem.
Objectives	All objectives of the proposed work are well defined.	Good justification for the objectives.	Incomplete justification of the objectives proposed.	Objectives of the proposed work are either not identified or not well defined.
Planning and Task Definition	Different tasks are identified, and timelines are clearly defined	Different tasks are identified, and timelines are clearly defined	Different tasks are identified but timelines are not clear	Tasks are not differentiated; a timeline does not exist
Teamwork	All members actively participate in planning; clear task division; mutual respect and collaboration from the start.	Most members contribute to planning; roles assigned with minor overlaps or issues.	Uneven participation; vague roles and responsibilities; signs of miscommunication.	Little to no planning; poor collaboration; one or few members dominating or disengaged.

Table 2.6 Rubrics for Review-2

Review-2				
	Excellent (5)	**Good (4)**	**Average (3)**	**Poor (1)**
Constraints Identification	All the constraints applicable to the preview of the solution identified	Most of the constraints applicable to the preview of the solution identified	Few Constraints applicable to the domain identified	Constraints not identified

Analysis of features and finalization subject to constraints	Features analysed under the constraints. And Constraints catered to finalize the features.	Features analysed under the constraints. And Constraints catered to finalize the features.	Few Features analysed under the constraints. And Constraints not catered to finalize the features.	Features not analyzed under the constraints. And Constraints not catered to finalize the features.
Design selection/ Technical implementation/ Data collection/ Progress Analysis	Multiple approaches/ design solutions exist, and comparisons based on advantages and disadvantages are done to choose the best feasible approach	Multiple approaches/ design solutions exist, and advantages and disadvantages are defined to choose the best feasible approach	Multiple approaches/ design solutions exist, but the rationale for choosing the best is not defined	Design / Approach does not exist

Table 2.7 Rubrics for Review-3

Review -3				
	Excellent (5)	**Good (4)**	**Average (3)**	**Poor (1)**
Use of Modern tools/ Experimental work in design and analysis	students know how to apply appropriate steps independently to utilize the tool for the completion	Students identify technology resources to show steps in a sequence; demonstrate likenesses and differences; and record, recognize, record, and organize information related to assigned curricular topics.	The student knows how to recognize the tool as per the available resources. Shows beginners level skills in using the tools or experimental work.	Students didnt identify any common hardware components/software platforms/ tools/ experimental work.
Progress on Analysis and results	Strong progress on core analysis; meaningful results emerging with well-documented evidence	Moderate progress: results are starting to take shape; basic interpretations attempted.	Limited or partial analysis results; interpretations are weak or incomplete.	Very little progress; analysis unclear or unsupported by data.
Teamwork	Tasks equally distributed and completed as per schedule; team helps each other overcome issues.	Minor task imbalances: team works together to solve problems with occasional delays.	Work mostly done by a subset of team; some coordination issues or delays.	Lack of ownership; team members not contributing; evident dysfunction.

Table 2.8 Rubrics for Review-4

Review -4				
	Excellent (5)	**Good (4)**	**Average (3)**	**Poor (1)**
Discussion and results analysis	Exceptional analysis demonstrates an excellent grasp of logic, critical thinking, and engagement with sources.	A highly effective analysis demonstrating a strong grasp of logical, critical thinking, and engagement with sources.	The analysis demonstrated sound logic and some degree of critical thinking and engagement with sources.	Rudimentary analysis with some deficiencies of logic, no demonstration of critical thinking. engagement with sources missing.
Project management	The process followed in completing the project is well-defined.	Possess satisfactory knowledge of the project completion process.	The process followed in completing a project is known	The process followed in completing a project is not known
Attainment of stated objectives	Successfully executed from concept to completion, unique and original with some evidence from existing	Was successfully executed with a few unique aspects	The project was successfully executed with a derivative of existing solutions	The project is not initiated at all.
Use of Standards	This work is as per the guidelines set by the technical governing bodies.	The majority of guidelines set by the technical governing bodies are followed.	Several guidelines set by the technical governing bodies are followed.	No guidelines are followed.

Table 2.9 Rubrics for Review-5

Review -5				
	Excellent (5)	**Good (4)**	**Average (3)**	**Poor (1)**
Report Evaluation	Report is comprehensive, well-structured, professionally formatted, with in-depth content and proper citations.	Report is mostly complete and well-organized with minor issues in formatting or content depth.	Report has several structural issues, limited content clarity, or insufficient documentation.	Report is incomplete, poorly written, lacks structure and clarity.
Plagiarism	Original work with plagiarism ≤ 20%; all references are correctly cited.	Mostly original work; plagiarism between 21-23% with minor citation issues.	Significant portions copied; plagiarism between 24-26%; citation errors.	High plagiarism > 26%; most content copied with little or no citation.>30% plagiarism students are not permitted to submit the report .
Individual and Team Contribution	All members contributed equally and effectively; individual efforts clearly visible.	Most members contributed; individual contributions evident.	Some members carried the project while others contributed minimally.	Very few contributed; teamwork lacking; one or two did all the work.

Outcome of the Thesis	Objectives fully achieved; outcomes are impactful and demonstrate deep understanding and application.	Most objectives met; outcomes are useful and show good effort.	Partial achievement of objectives; outcomes are average.	Objectives not met; outcomes unclear or insignificant.
Self-Motivation and Determination	Proactively worked on the project with full ownership; overcame challenges independently.	Showed motivation; addressed challenges with some support.	Motivation inconsistent; required frequent intervention to stay on track.	Lacked initiative; needed constant pushing; gave up easily.
Technical Knowledge and Awareness of the Thesis	Demonstrates excellent understanding of technical concepts and can explain all parts confidently.	Good understanding; can explain key concepts with minor gaps.	Limited understanding; struggles to explain parts of the thesis.	Poor understanding; unable to explain even basic concepts of the project.
Regularity	Always punctual and regular in meetings, updates, and deadlines.	Mostly regular with rare delays in submission or communication.	Irregular attendance or delays in multiple stages of the project.	Highly irregular; missed reviews, deadlines, and rarely communicated.

Rubrics for External Evaluation

Table 2.10 Rubrics for Semester End Examination

SEMESTER END EXAMINATION					
	Excellent (5)	**Good (4)**	**Average (3)**	**Satisfactory (2)**	**Poor (1)**
Technical Competency	Effective use of technology with knowledge of alternate technologies and a strong grasp of logical, critical thinking, and engagement with resources.	Effective use of technology, strong grasp of logical, and critical thinking, and engagement with resources.	Passable demonstration of technical skills with some engagement with resources.	Technologies are known but with some deficiencies of logic, no demonstration of critical thinking, and engagement with resources missing.	The technologies used are not known.
Scope fulfilment	Scope fulfilled, solution working as per problem, solution accepted by user/ beneficiary and implemented.	Scope fulfilled, solution working as per problem, a solution not acceptable by user/beneficiary.	Scope fulfilled, performance of the solution needs improvement.	some scope fulfilled, performance of solution under question.	Scope of Project not fulfilled.
Originality of problem-solving	Demonstrates exceptional creativity and originality in problem-solving. The solution is innovative, non-trivial, and reflects independent thinking. Combines existing concepts in novel ways or proposes a new approach that significantly enhances the solution quality.	Shows a moderately original and well-thought-out approach. Uses known methods effectively but with some adaptation or enhancement. There is clear evidence of analytical thinking and some innovation.	Applies standard or conventional techniques with limited originality. The approach is functional but lacks uniqueness. Minimal exploration of alternative strategies or creative improvements.	Problem-solving is basic and lacks depth. Heavily relies on textbook or readily available solutions with minimal understanding or customization. Very little evidence of original thinking.	No originality or creativity demonstrated. Copied, superficial, or irrelevant solution to the problem. No attempt to explore or justify the approach. May reflect poor understanding of the problem itself

Analysis, results, and discussion	Results are analyzed through standard protocols, validated, and compared with an existing solution through benchmarking techniques.	Results are analysed through standard protocol but validation and comparison with existing solution is missing	Results are analyzed but the standard protocol is not followed, and validation is not done	The results are discussed but not analyzed.	Results are not stated.
Presentation content (delivery, clarity, supporting material quality)	Able to justify the need and scope of the project, build up a correlation of the results with the need and scope, able to project the impact of the solution.	Able to justify the need and scope of the project, and build a correlation of the results with the need and scope, but unable to project the impact of the solution.	Able to justify the need and scope of the project, but unable to build correlation of the results with the need and scope.	Able to communicate the need and objective, but unable to build a correlation of the project with the needs of the society.	Unable to communicate the scope and objective of the project but supporting material is provided.

2.3 Internship/Industrial Training (10) Total Marks 10.00

Institute Marks : 10.00

Internship and industrial training are integral components of the B. Tech program aimed at bridging the gap between academic learning and industry practices. The implementation process is methodically structured to ensure comprehensive exposure, skill enhancement, and alignment with program outcomes (POs) and program-specific outcomes (PSOs).

The steps involved are as follows:



Fig 2.3 Internship and industrial training Process

Figure 2.3 outlines the *Internship Implementation Flow*, detailing the sequential steps involved in organizing and completing a student internship.

The process begins with Faculty Guide Allocation followed by an Awareness Program on internships. Students then move on to Industry Identification and Approval, after which they receive a Permission Letter and initiate formal communication with the selected industry. The next phase involves Internship Execution and Monitoring, ensuring proper progress. Upon completion, students submit a Certificate and Final Report, concluding with a Viva Voce Evaluation to assess learning outcomes and practical exposure. This structured flow ensures academic alignment and industry relevance.

The process behind various steps are follows:

a. **Faculty Guide Allocation**:

At the beginning of the semester, each student is assigned a faculty guide who will mentor, monitor, and evaluate the student throughout the internship duration. This personalized mentorship fosters academic guidance and encourages professional development.

b. **Awareness Program on Internships**:

An internship orientation session is conducted by the department and CAN (Career Advancement and Networking) Cell to educate students on objectives, benefits, processes, timelines, and expectations. This session emphasizes the importance of industrial training in applying theoretical knowledge to practical scenarios.

c. **Industry Identification and Approval**:

Students are encouraged to identify industries of interest based on their specialization. The identified companies must be approved by the respective faculty guide or internship coordinator to ensure relevance to the curriculum and alignment with program learning objectives.

d. **Permission Letter & Formal Communication**:

Once the industry is approved, students apply for an official permission letter through the CAN Cell. This letter, along with the student's resume and statement of purpose, is submitted to the industry. Upon acceptance, the company issues an offer/acceptance letter, formalizing the internship.

e. **Internship Execution and Monitoring**:

During the internship, students are expected to work on real-time tasks and problems as assigned by the host organization. They are required to submit fortnightly progress reports to their faculty guide, detailing their activities, learning outcomes, and challenges faced. Simultaneously, regular feedback is gathered from the industry mentor to track student performance and involvement.

f. **Certificate and Final Report Submission**:

Upon successful completion, students receive a certificate from the host industry. They then submit a final internship report detailing the problem statement, objectives, methodology, outcomes, tools/technologies used, and reflections. This report is reviewed and signed by both the faculty guide and project coordinator.

g. **Viva Voce Evaluation**:

Students are evaluated through a viva voce conducted by an internal panel comprising the faculty guide and subject experts. The evaluation rubric includes parameters such as technical contribution, learning depth, innovation, documentation quality, and presentation skills.

Table 2.11 Sample Internship List

Registration Number	Student Name	Title	Industry
2021BECE07AED031	Samruddi Mahesh Koneri	Manage access and aggregation network	Sanvith communication pvt ltd

2021BECE07AED032	Bhogineni Venkata Sai Chaitanya	Introduction to Maritime Communication	Hindustan Shipyard Limited
2021BECE07AED036	Mylaru Himani	Studies on Resin Flow Front Monitoring using Distributed Fibre Optics Sensor	HAL Old Airport Rd, Kodihalli, Bengaluru, Karnataka 560017
2021LECE07AED041	A Anishvar	Human Face Tracking Robot	Robotics and Automation
2021LECE07AED042	Vishal D J	Managed access and aggregation network	Sanvith communication pvt ltd
2021LECE07AED043	Syed Khaja Mohiddin	Soldering and cable Assembly of PCB	Nielsan Technolink
2021LECE07AED044	L Supriya	Food Serving Robot	CoE, Robotics and Automation

Table 2.12 Sample Internship PO-PSO mapping

Title	Program Outcome												Program Specific outcome		
	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Manage access and aggregation network	3	3	3	2	3	2	2	2	3	2	3	3	3	3	3
Introduction to Maritime Communication	3	3	3	2	3	2	2	2	3	2	3	3	3	3	3
Studies on Resin Flow Front Monitoring using Distributed Fibre Optics Sensor	3	3	3	2	3	2	2	2	3	2	3	3	3	3	3
Human Face Tracking Robot	3	2	3	3	-	2	-	3	-	-	-	-	1	3	-
Managed access and aggregation network	2	2	3	2	-	2	-	2	-	-	-	-	3	3	-
Soldering and cable Assembly of PCB	3	3	3	2	-	3	-	3	-	-	-	-	3	3	-
Food Serving Robot	3	2	3	2	-	3	-	3	-	1	1	1	3	3	-

RUBRICS FOR INDUSTRY INTERNSHIP

ASSESSMENT DETAILS

Table 2.13 Assessment Rubrics for Industry Internship

Assessment	Marks
Internal Evaluation	70
External Evaluation	30
Total	100

Rubrics for Internal Evaluation

Table 2.14 Assessment Rubrics for Internal Evaluation of Industry Internship

Assessment Component	Description	Assessment	Review Marks
Fortnightly Report -1	Adherence to Time	Report	10
	Understanding		
	Documentation		
Fortnightly Report -2	Adherence to Time	Report	10
	Understanding		
	Documentation		
Industry Supervisor Evaluation	Adherence to Time	Marks/Comment Provided by the external supervisor	10
	Understanding		
	Documentation		
Final Report	Discussion on results		40
	Project management		
	Attainment of stated objectives		
	Use of Standards		
	Demonstration of the project		
Overall Internal Mark details			70

Rubrics For Fortnightly Reports and Industry Supervisor Evaluation

Table 2.15 Assessment Rubrics for Fortnightly Reports and Industry Supervisor Evaluation

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Adherence to Timelines	3	All deadlines met or completed early; proactive work plan.	Minor delays but overall on schedule.	Delayed with acceptable justifications.	Frequently late or no adherence to timelines.	= (Rating ÷ 4) × 3
Understanding	3	Clear, in-depth grasp of topic, objectives, and context.	Good understanding with few inaccuracies.	Basic understanding; lacks depth.	Misunderstanding or superficial.	= (Rating ÷ 4) × 3
Documentation	4	Well-structured, detailed, and free from errors.	Mostly well-documented; minor issues.	Acceptable; several errors or unclear.	Poorly documented; major issues.	= (Rating ÷ 4) × 4
Total	**10**					= **Sum of above scores**

Rubrics For Final Report

Table 2.16 Assessment Rubrics for Final Report

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Introduction	10	Clear background, well-defined objectives, and strong justification for the project.	Objectives are clear; background is present but lacks depth.	Basic introduction; objectives are vague or partially defined.	Poor or unclear background; objectives missing or ambiguous.	= (Rating ÷ 4) ×10
Methodology and Process	10	Robust and appropriate methods; each step clearly described and logically justified.	Methods are mostly appropriate; some minor gaps in clarity or logic.	Basic methods described; some flaws or lack of clarity.	Methodology is unclear, poorly designed, or missing steps.	= (Rating ÷ 4) × 10
Findings and Discussions	10	Insightful findings; logical interpretation with depth and critical analysis.	Findings well-presented; interpretation has some depth.	Findings presented, but discussion lacks depth or clarity.	Findings are incomplete or poorly discussed.	= (Rating ÷ 4) × 10
Conclusions & Recommendations	10	Strong, logical conclusions; practical and well-connected recommendations.	Clear conclusions; recommendations are present but basic.	General summary; recommendations are weak or vague.	Lacks clear conclusions or actionable recommendations.	= (Rating ÷ 4) × 10
Total Marks	**40**					**= Sum of all scores**

Semester End Examination

Table 2.17 Assessment Rubrics for Semester End Examination

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Viva-Voce	10	Confident, precise, and well-articulated answers; deep understanding of subject matter.	Mostly correct responses; minor hesitations; good grasp of subject.	Basic answers: lacks clarity or depth.	Incomplete or incorrect responses; unable to explain concepts.	= (Rating ÷ 4) × 10
Presentation Skills	10	Excellent eye contact, clarity in speech, appropriate pace and body language.	Generally clear and engaging; minor issues with delivery.	Moderate confidence; noticeable issues in clarity or delivery.	Nervous, unclear, or monotonous presentation.	= (Rating ÷ 4) × 10
PowerPoint Presentation Quality	10	Visually appealing; well-structured; relevant content; no errors.	Good layout and content; minor errors or inconsistencies.	Acceptable design; lacks polish or consistency.	Cluttered slides; poor formatting; excessive or irrelevant content.	= (Rating ÷ 4) × 10
Total Marks	**30**					= Sum of all scores

2.4 Seminar and Mini/Micro Projects (10) Total Marks 10.00

Institute Marks : 10.00

The institution systematically integrates seminars and mini/micro projects as part of the curriculum delivery to enhance student engagement, technical communication, research skills, and practical application of knowledge. These components are embedded within regular coursework across all semesters, ensuring alignment with outcome-based education and progressive attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs).

1. **Process of Implementation of Seminar**

- **Allocation:** Seminars are assigned in selected theory and elective courses across the semesters.
- **Topic Selection:** Students select topics relevant to the course, preferably linked to emerging technologies, current industry trends, or research directions.
- **Presentation:** Students prepare and deliver PowerPoint presentations before a panel of faculty members and peers.
- **Evaluation:** Assessment is based on clarity, technical content, communication skills, use of references, and ability to respond to queries.

Table 2.18 Sample Seminar list

Academic Year	Sem	Course Code & Title	Seminar Topic	Team Size
2024-2025	3	3EC10139-Embedded System Design	Autonomous Putrescene and edible Degradation Analyser	4
			Military based Radar System	4
			Sustainable Disposal and Utilisation of Ash from Coal-Burning thermal power plants	4
			Soil Nutrient Using Soil NPK Sensor	4
2024-2025	6	6EC1013-Embedded System Design	IOT-INTEGRATED AR FARMING SYSTEM	4
			IoT based Smart ECG Monitoring System	4
			SOLDIER HEALTH AND GPS TRACKING System	4
			Smart Dermatology: AI & IoT-Based Skin Disease Analysis	4
			RAIN PROTECTION SYSTEM	4

Table 2.19 Sample Seminar CO-PO Mapping

Course Code and Course Title	Seminar Topic Title	Program Outcome	Program Specific Outcome

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
3EC10139-Embedded System Design	Autonomous Putrescene and edible Degradation Analyser	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	Military based Radar System	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	Sustainable Disposal and Utilisation of Ash from Coal-Burning thermal power plants	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	Soil Nutrient Using Soil NPK Sensor	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
6EC1013-Embedded System Design	IOT-INTEGRATED AR FARMING SYSTEM	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	IoT based Smart ECG Monitoring System	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	SOLDIER HEALTH AND GPS TRACKING system	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	Smart Dermatology: AI & IoT-Based Skin Disease Analysis	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
	RAIN PROTECTION SYSTEM FOR															

2. **Mini/Micro Projects:**

The Figure 2.4 illustrates the structured implementation process of micro projects within a course.



Fig 2.4 Micro Project Implementation process

The course handling faculty initiates the process by identifying relevant micro projects aligned with course outcomes. Students are then grouped and assigned specific projects, with the faculty providing continuous guidance throughout the execution phase. Regular reviews are conducted to track progress, and final deliverables include a project report and demonstration. Evaluation is carried out using well-defined rubrics developed by the faculty, and the marks obtained are integrated into the courses Continuous Assessment component.

Micro Project Implementation Steps

- **Identification of Micro Projects by the course handling faculty:** The course faculty identifies suitable micro projects aligned with course outcomes and real-world applications. This microproject remain as a part of the During Semester Assessment (DSA).
- **Formation of Student Groups:** Students are divided into small collaborative groups for effective teamwork and peer learning.
- **Assignment of Micro Projects to Groups:** Each group is assigned a specific micro project based on student interests, skill levels, and relevance to the curriculum.
- **Orientation and Guidelines:** Faculty provides clear guidelines, scope, expected deliverables, and timelines for the assigned micro projects.
- **Project Execution under Faculty Guidance:** Students work on the project under the mentoring by the course faculty, with regular evaluation and support.
- **Submission of Project Report:** Students submit a concise report and demonstrate the outcomes or solution prototype (if any) developed as part of the micro project.
- **Assessment Using Defined Rubrics:** The course faculty evaluates each groups work based on predefined rubrics considering innovation, teamwork, implementation, report quality, and presentation.
- **Awarding of Marks Under DSA:** Marks for the micro project are incorporated into the DSA component of the course.

Table 2.20 Sample of Micro Projects by Course

Academic Year	Semester	Course Code & Title	Seminar Topic	Team Size
2024-2025	3	3EC10139-Embedded System Design	Autonomous Putrescene and edible Degradation Analyser	4
			Military based Radar System	4
			Sustainable Disposal and Utilisation of Ash from Coal-Burning thermal power plants	4
			Soil Nutrient Using Soil NPK Sensor	4

Table 2.21 Sample CO-PO mapping of Micro Project

Academic Year	Semester	Code and Course Title	Title of the Mini/Micro Project	Program Outcome												Program Specific outcome		
				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2024-2025	3	3EC1019-Embedded System Design	Autonomous Putrescene and edible Degradation Analyser	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
			Military based Radar System	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
			Sustainable Disposal and Utilisation of Ash from Coal-Burning thermal power plants	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0
			Soil Nutrient Using Soil NPK Sensor	2	2	1	1	1	2	2	0	3	3	1	1	3	0	0

Mapping of POs and PSOs

Table 2.22 POs and PSOs Mapping of Micro Project

PO/PSO	Justification
PO1 – Engineering knowledge	Application of fundamental concepts in mini projects.
PO2 – Problem analysis	Identifying and analyzing problems during project execution.
PO3 – Design/development	Designing basic systems or modules within scope constraints.
PO4 – Investigation	Exploring and implementing new tools or methods.
PO9 – Individual and teamwork	Team-based mini projects enhance collaboration skills.
PO10 – Communication	Seminar presentations improve oral and written communication.
PSO1 – Discipline-specific skills	Projects related to core technical subjects reinforce domain expertise.
PSO2 – Practical implementation	Real-world application of concepts improves readiness for internships and jobs.

2.5 Case Studies and Real-Life Examples (10)

Total Marks 10.00

Institute Marks : 10.00

To bridge the gap between theoretical knowledge and practical application, the institution extensively integrates **case studies and real-life examples** across various courses. These case studies span a wide range of complexities—from basic conceptual applications to complex, open-ended industrial scenarios. They are tailored to align with the course outcomes and are sourced from real-world engineering problems, industry whitepapers, research publications, and societal challenges.

Table 2.23 Sample Case studies of a course

Academic Year	**Semester**	**Course Code & Title**	**No Case Studies-Topics given**
2024-25	VI	6EC1244 Robotics & Automation	1.Toyota - Production System.
			2. Caterpillar Inc.- Automation in Mining Equipment
			3. Ford Motor Company - Advanced Robotics in Vehicle Assembly
			4. Siemens - Smart Factory with IoT and AI
			5. Amazon - Robotics in Warehouse
			6. Bosch - Digital Manufacturing and Industry 4.0

Table 2.24 Sample PO-PSO Mapping for Case studies

Academic Year	Sem	Course Title	Case Study Titles	Program Outcome												Program Specific outcome		
				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2024-25	VI	6EC1244, Roboitcs & Automation	1.Toyota Production System	3	3	3	-	-	-	-	-	3	3	2	2	2		
			2. Caterpillar Inc. - Mining Equipment	3	3	3	-	-	-	-	-	3	3	2	2	2		
			3. Ford Motor Company	3	3	3	-	-	-	-	-	3	3	2	2	2		
			4. Siemens - Smart Factory with IoT	3	3	3	-	-	-	-	-	3	3	2	2	2		
			5. Amazon - Robotics in Warehouse.	3	3	3	-	-	-	-	-	3	3	2	2	2		
			6. Bosch - Digital Manufacturing	3	3	3	-	-	-	-	-	3	3	2	2	2		

These activities address several Program Outcomes (POs) and Program Specific Outcomes (PSOs). Case studies enhance students' abilities in problem analysis (PO2) and designing solutions considering real-world constraints (PO3, PO6) such as cost, safety, ethics, environment, and sustainability. They also improve investigative and critical thinking skills (PO4) by requiring literature review, data interpretation, and comparative analysis. Group discussions around case studies promote teamwork (PO9) and effective communication (PO10), while ethical dilemmas embedded in certain cases foster professional and ethical responsibility (PO8).

From a program-specific perspective, the application of core domain knowledge to real-life challenges aligns with PSO1, while solution-oriented thinking using technology or design frameworks supports PSO2. By analyzing real-life case contexts, students not only enhance their technical proficiency but also develop decision-making and socio-economic awareness skills essential for employability and entrepreneurship. This practice is now a pedagogical norm and is further reinforced by project-based learning and internships.

2.6 SWAYAM/NPTEL/MOOC/Self Learning (10) Total Marks 10.00

Institute Marks : 10.00

The institution actively encourages self-paced learning through SWAYAM, NPTEL, and other recognized MOOC platforms as part of its commitment to Outcome-Based Education (OBE) and the NEP 2020 framework. These initiatives aim to enhance students domain knowledge, interdisciplinary exposure, and lifelong learning abilities. During the assessment period, more than 70% of eligible students enrolled in at least one MOOC course every semester, with an average certification completion rate of over 85%. Courses are selected from reputed sources such as NPTEL, Coursera, edX, and SWAYAM, covering a wide range of topics including core technical subjects, emerging technologies, and soft skills.

These self-learning activities directly contribute to the attainment of several Program Outcomes (POs) and Program Specific Outcomes (PSOs). For instance, the ability to acquire and apply modern engineering knowledge (PO1, PO2) is strengthened through exposure to industry-aligned content. Courses involving investigative abilities (PO4). Furthermore, the flexibility and independence required for self-learning enhance lifelong learning capabilities (PO12). In cases where students take up domain-relevant or interdisciplinary courses, PSO1 (application of domain knowledge) and PSO2 (practical implementation or model development) are also addressed

Table 2.25 Sample of SWAYAM/NPTEL/MOOC/Self Learning

Academic Year	Semester	Course Code/Title	Certification SWAYAM/ NPTEL/ Coursera	Name of the Course	No of Students
2024-25	5	5EC 1222-Intoduction to MEMS	NPTEL	Fabrication Techniques for MEMS- based sensors: clinical Perspective	18
2024-25	3	3EC1004-Communication Networks	Coursera	The Bits and Bytes of Computer Networking	69
2023-24	3	3EC1004-Communication Networks	Coursera	The Bits and Bytes of Computer Networking	54
2023-24	6	EC603-Data Communication and Networking	Coursera	TCP/IP and Advanced Topics	39

Table 2.26 Sample CO-PO mapping of SWAYAM/NPTEL/MOOC/Self Learning

Code and Course Title	Program Outcome												Program Specific outcome		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
5EC 1222-Intoduction to MEMS	2	3	3	2	-	-	-	1	-	-	-	3	-	-	3
3EC1004-Communication Networks	3	2	-	1	-	-	-	-	-	-	-	3	1	1	-
3EC1004-Communication Networks	3	2	-	1	-	-	-	-	-	-	-	3	1	1	-
EC603-Data Communication and Networking	3	2	-	1	-	-	-	-	-	-	-	3	1	1	-

2.7 Solving Complex Engineering Problems Incorporating Sustainability Goals (20) Total Marks 20.00

Institute Marks : 20.00

Our institution ensures that students are actively involved in solving complex engineering problems that align with sustainability and the United Nations Sustainable Development Goals (SDGs) through structured academic and co-curricular frameworks.

The following key initiatives and learning activities are embedded within the curriculum to promote sustainability-driven engineering education:

1. **Social Internship Program**

- Each student undertakes a 2–4 week social internship in collaboration with NGOs, local government bodies, schools, or community organizations. The focus areas ranged from education and health to environmental sustainability and digital literacy. Internships were carefully selected to align with specific UN SDGs, ensuring relevance and impact.
- Exposing students to real-life societal challenges in rural or underdeveloped areas.
- Promoting empathy, ethical responsibility, and community engagement, which are crucial for socially responsible engineering. Students document their findings and propose innovative interventions.
- Over 64 students from ECE, successfully completed the social internship in 2024.
- Students worked across 9 different SDGs (SDG 2,3,4,5,6,8,9,11,15) reflecting a diverse range of social concerns.

Table 2.27 Mapping of Social Internship and SDGs

Title of the Social Internship	SDG
Agricultural Products and marketing	SDG 2: Zero Hunger
Organic farming	SDG 2: Zero Hunger
Health care awareness programs	SDG 3: Good Health and Well-being
Stress levels and coping mechanisms	SDG 3: Good Health and Well-being
Education for unprivileged in rural areas	SDG 4: Quality Education
Empowering education through community empowerment	SDG 4: Quality Education
Women Empowerment	SDG 5: Gender Equality
Social Internship on Sanitation, Infrastructure and Youth Development	SDG 6, SDG 9, SDG 11
Softening of Hard water using Aloe-vera (Natural Process)	SDG 6: Clean Water and Sanitation
child labour	SDG 8: Decent Work and Economic Growth
Commercial Crops in Singasandra Village	SDG 8: Decent Work and Economic Growth
Migration for Employment	SDG 8: Decent Work and Economic Growth
Private Transport	SDG 11: Sustainable Cities and Communities
Helping the improvement of village	SDG 11: Sustainable Cities and Communities
Village development plans	SDG 11: Sustainable Cities and Communities
Botanical survey	SDG 15: Life on Land

- **Project-Based Learning (PBL) in Core Courses**

  Our core engineering courses are embedded with Project-Based Learning (PBL) approaches to encourage students to tackle real-world and interdisciplinary problems.

  Key elements include:

  - **Micro Projects**: These are short-term, focused assignments typically done in groups, where students solve course-related problems by designing small-scale prototypes, simulations, or analytical models. For example, in a Renewable Energy course, students might design a solar-powered water purifier for rural use. As part of the institution's focus on innovation-driven, socially responsible engineering education, students have undertaken micro projects that align with the United Nations Sustainable Development Goals (SDGs). These projects demonstrate a deep understanding of how technology can address pressing global and local challenges across various domains. Below is a synthesis of selected student projects mapped to their relevant SDGs.

Table 2.28 Mapping of Micro Project and SDGs

SDG	Title of the Micro Project
SDG 2: Zero Hunger	1. Smart Irrigation System
	2. Automatic Crop Protection System Against Excess Rainwater
SDG 3: Good Health and Well-being	1. Smart Patient Monitoring System
	2. Automated Accident Alert System
SDG 4: Quality Education	1. Fingerprint Based Exam Hall Authentication System
SDG 6: Clean Water and Sanitation	1. Atmospheric Aquifier
SDG 7: Affordable and Clean Energy	1. Sustainable Future with EV
	2. Automatic Wireless Electric Vehicle Charging System
SDG 8: Decent Work and Economic Growth	1. Development of an Integrated Safety Monitoring System for Coal Miners Using Smart Helmets
SDG 9: Industry, Innovation and Infrastructure	1. Smart Logistics System
	2. IoT Based Smart Home Using AR
SDG 10: Reduced Inequalities	1. Ultrasonic Glasses for Blind
	2. Sign Language to Speech Conversion
SDG 11: Sustainable Cities and Communities	1. Smart Zebra Crossing
	2. Intelligent Alcohol Detection System in a Car
SDG 13: Climate Action	1. IoT-Based Air Monitoring System: Breathe Easier, Live Healthier
	2. Converting Air Pollutants to Ink
SDG 16: Peace, Justice and Strong Institutions	1. Smart Camera for Thief Tracking
	2. Artificial Intelligence-Based Smart Surveillance System Using ESP32 and ESP32-CAM

- **Case Studies**: In alignment with the United Nations Sustainable Development Goals (SDGs), the case studies integrated into the curriculum across various engineering courses aim to provide students with a practical understanding of how technological innovation supports sustainable development. These case studies span across domains such as robotics, automation, communication networks, and data communication, and demonstrate how real-world applications of engineering principles can contribute to global sustainability efforts.

Table 2.29 Mapping of Case Studies and SDGs

Course Code & Course Name	Case Study Topics	SDG
6EC1244 Robotics and Automation	1. Toyota – Production System	9: Industry, Innovation and Infrastructure
		12: Responsible Consumption and Production
	2. Caterpillar Inc. – Automation in Mining Equipment	9: Industry, Innovation and Infrastructure
		8: Decent Work and Economic Growth
		12: Responsible Consumption and Production
	3. Ford Motor Company – Advanced Robotics in Vehicle Assembly	8: Decent Work and Economic Growth
		9: Industry, Innovation and Infrastructure
	4. Siemens – Smart Factory with IoT and AI	9: Industry, Innovation and Infrastructure
		12: Responsible Consumption and Production
		13: Climate Action
	5. Amazon – Robotics in Warehouse	8: Decent Work and Economic Growth
		9: Industry, Innovation and Infrastructure
	6. Bosch – Digital Manufacturing and Industry 4.0	9: Industry, Innovation and Infrastructure
		12: Responsible Consumption and Production
3EC1004 Communication Network	1. Product Study – Router, Switch	4: Quality Education
		9: Industry, Innovation and Infrastructure
	2. Network Performance Analysis at University Campus	4: Quality Education
		9: Industry, Innovation and Infrastructure
	3. IoT-enabled Smart Home System	9: Industry, Innovation and Infrastructure
		11: Sustainable Cities and Communities
	4. Smart Campus Network Implementation	4: Quality Education
		9: Industry, Innovation and Infrastructure
		11: Sustainable Cities and Communities
	5. Virtual LAN (VLAN) Configuration and Optimization	4: Quality Education
		9: Industry, Innovation and Infrastructure

EC603 Data Communication and Networking	1. Smart TV Internet Connection	9: Industry, Innovation and Infrastructure
		4: Quality Education
	2. Bluetooth File Transfer Between Phones	9: Industry, Innovation and Infrastructure
	3. Printing Wirelessly from a Laptop	9: Industry, Innovation and Infrastructure
	4. Network Congestion and Troubleshooting	4: Quality Education
		9: Industry, Innovation and Infrastructure
	5. Exploring the World of Routers	9: Industry, Innovation and Infrastructure
	6. Secure Public Wi-Fi	9: Industry, Innovation and Infrastructure
		16: Peace, Justice and Strong Institutions

- **Design Projects:**

The Design Project is a compulsory, credit-based course undertaken by undergraduate students in their fourth and fifth semester, aimed at fostering innovation, critical thinking, and real-world problem-solving skills. These projects follow a structured engineering design process, guiding students through the stages of problem identification, need analysis, ideation, system design, simulation, prototyping, testing, and validation.

Students are encouraged to tackle complex, open-ended problems, often requiring multidisciplinary approaches that integrate elements such as embedded systems, software engineering, material selection, and process optimization. Beyond the technical focus, students are also trained to incorporate sustainability principles, including lifecycle cost analysis, eco-friendly material selection, and energy-efficient design strategies.

Table 2.30 Mapping of Design Projects and SDGs

Domain	Project Title	SDG(s)
Smart Vehicles	Smart Helmet system	SDG 3: Good Health and Well-being,
		SDG 11: Sustainable Cities and Communities
Disaster Management	Cloud burst Prediction System	SDG 11: Sustainable Cities and Communities,
		SDG 13: Climate Action
MedTech / BioTech / HealthTech	AI integrated Smart yoga mat	SDG 3: Good Health and Well-being
Robotics and Drones	Research and develop a design on “Smart Glass Cleaning Robot”, which can climb, clean, and carry liquid cleaners.	SDG 8: Decent Work and Economic Growth, SDG 9: Industry, Innovation and Infrastructure
Agriculture, Food Tech & Rural Development	Solar- powered smart irrigation system with real-time water analytics	SDG 2: Zero Hunger,
		SDG 12: Responsible Consumption and Production,
		SDG 13: Climate Action
Renewable / Sustainable Energy	Innovative and efficient ideas to manage and generate renewable/sustainable sources	SDG 7: Affordable and Clean Energy,
		SDG 13: Climate Action
Travel & Tourism	A solution/idea to boost the current situation of the tourism industries	SDG 8: Decent Work and Economic Growth, SDG 11: Sustainable Cities and Communities

- **Capstone Project**

In the final year, students undertake a Capstone Project, which is a comprehensive, team-based, semester-long assignment.

The capstone projects are assessed rigorously through multiple stages including feasibility study, progress reviews, and viva voce, with emphasis on sustainability and societal impact.

The capstone projects undertaken by students reflect a strong commitment to solving real-world challenges while aligning with the United Nations Sustainable Development Goals (SDGs). These projects not only foster innovation and critical thinking but also demonstrate the potential of engineering and technology in advancing sustainable development. Below is a brief overview of how these projects contribute to specific SDGs:

Table 2.31 Mapping of Capstone Projects and SDGs

SDG	Title of the Micro Project

SDG 3: Good Health and Well-being	1. Enhancing Healthcare Monitoring with Machine Learning-Integrated Wearable and Wireless Systems.
	2. Smart Sip for Kids
	3. Automated Diagnosis of Dry Eye Disease using Image-based Fern Pattern Analysis
	4. Real Time Biometric Robotic Hand Replication Using Sensor Embedded Gloves
SDG 9: Industry, Innovation and Infrastructure	1. Smart Leaf Disease Detection Using Image Analysis and AI Technique
	2. Anomaly Detection in Industrial Air Conditioners in Hangers with Aircraft Spare Parts 3. Development of an FPGA Based Hardware Security Module using Physical Unclonable Function (PUF)
	4. Design and Implementation of a RISC-V Processor for Energy Optimization using FPGA and IoT
	5. Real Time Biometric Robotic Hand Replication Using Sensor Embedded Gloves
SDG 11: Sustainable Cities and Communities	1. A Vehicle Deployed IoT Based Disaster Detection and Response System

- **Solving for Bharat: A Flagship Course**

  Solving for Bharat" is an innovative, multidisciplinary course offered by the Alliance School of Business (ASOB) that empowers students to tackle complex socio-economic and environmental challenges faced by India's rural and semi-urban communities. The course is aligned with the NBA Graduate Attributes by developing students' abilities to analyze, design, and deliver sustainable solutions to real-world problems.

  This course embodies the principles of sustainability—addressing economic viability, environmental stewardship, and social equity—through experiential and collaborative learning.

  Objective

  The course aims to:

  - Equip students with the ability to deconstruct complex, unstructured problems and identify interlinked challenges in the Indian context.
  - Foster design thinking, systems thinking, and multidisciplinary approaches to create **sustainable and scalable solutions**.
  - Instill an understanding of global and local sustainability goals, including alignment with **UN Sustainable Development Goals (SDGs)**.

  Course Design

  The course is structured to move from problem identification to solution design and pilot implementation.

Phase	Details
Problem Scoping	Students identify critical challenges in sectors such as agriculture, energy, education, health, and livelihoods.
Systems Thinking Approach	Analysis of interconnected social, environmental, and economic factors impacting problem domains.
Sustainable Solution Design	Application of design thinking and frugal innovation principles to develop eco-friendly, inclusive solutions.
Field Immersion and Validation	Students work with local communities, NGOs, and industry mentors to test and refine their solutions.
Capstone Project	Teams present sustainable business models or interventions to an expert panel for scalability.

  Sustainability Integration

  - The course places a strong emphasis on sustainability in the following ways:
    Environmental – Solutions focus on renewable energy, waste reduction, water conservation, and climate resilience.
  - **Social** – Projects target gender equity, education access, health outcomes, and community empowerment.
  - **Economic** – Models are designed to be financially viable and promote entrepreneurship in rural ecosystems.

  Outcomes

  Students completing "Solving for Bharat" will be able to:

  - Analyze and synthesize complex socio-environmental problems.
  - Design solutions that incorporate sustainability principles and address stakeholder needs.
  - Apply project management and financial planning to ensure long-term viability of interventions.
  - Demonstrate innovation and leadership in driving change.

  Highlights of Impact

  - Student teams have designed prototypes for **low-cost solar dryers** for farmers, **water purification units** for villages, and **digital literacy platforms for rural women**.
  - Several projects have been piloted with NGOs and government bodies, demonstrating tangible societal impact.
  - The course encourages alignment with **SDGs such as Clean Water and Sanitation (SDG 6), Affordable and Clean Energy (SDG 7), and Sustainable Cities and Communities (SDG 11)**.

Through this multi-layered and well-integrated approach combining social immersion, course-based project learning, design thinking, and real-world challenges the institution empowers students to become engineers of change, capable of addressing complex engineering problems with a strong focus on sustainability, societal relevance, and global impact.

2.8 Steps Taken for Enhancing Industry Institute Partnerships (15) Total Marks 15.00

Institute Marks : 15.00

Our institution has taken several strategic initiatives to strengthen Industry-Institute partnerships, fostering a culture of practical, industry-relevant education, skill development, and collaborative innovation. These partnerships serve to bridge the gap between academic learning and industry expectations.

The key steps taken include:

1. **Invited talks by Industry Experts**

   - Industry experts conduct Invited talks, workshops, hands-on sessions, and real-world case study discussions aligned with the course outcomes.
   - This exposure helps students understand the application of theoretical concepts in the real world and enhances their employability.

Table 2.32 Sample Guest Lecture

Academic Year	Semester	Course Code & Title	Date	Seminar Topic	Speaker Name & Details
2023-24	IV & VI	3EC1004 Communication Network	11.03.2024	Softwarization Of Computer Network	Mr. Santhanakrishnan J Dy General Manager-Enterprise Business(Rtd). BSNL ,Chennai
2023-24	IV & VI	EC603DCN/ECE513 Wireless Sensor Networks	19.04.2024	Intelligence wireless sensor networks and its challenges for TELCOS	Mr. S. Balaji, Dy. General Manager, BSNL, Chickmagalur, Karnataka,
2023-2024	IV , VI & VIII	EC 601 Wireless and Mobile Communication,4EC 1006Communication	18.04.2024	Cellular V2X(C-V2X) Communication Technology	Mr.Sunil Gowda, Senior Software Engineer,Aptiv, Karkow,

2. **Internship Opportunities and Industry Projects**

   - Through structured programs such as social internships, technical internships, and capstone projects, students engage with industry to solve real-time problems.
   - Faculty mentors and industry guides co-supervise the projects to ensure relevance and quality.

Table 2.33 Sample Industry Internship

Batch No.	Registration Number	Name of the Students	Title of the Project	Project Supervisor	Company Details
G3	2021LECE07AED041	A Anishvar	Human Face Tracking Robot	Dr. Amar Choudhary	Robotics and Automation
	2021LECE07AED042	Vishal Dj	Managed access and aggregation network		Sanvith communication pvt ltd
	2021LECE07AED043	Syed Khaja Mohiddin	Soldering and cable Assembly of PCB		Nielsan Technolink
	2021LECE07AED044	L Supriya	Food Serving Robot		CoE, Robotics and Automation

3. **Industrial Visits and Expert Interactions**

   - Regular industrial visits to Industries, R&D centers, and utility plants are organized to provide contextual learning.
   - Students interact with industry professionals and learn about workplace processes, safety norms, quality standards, and emerging technologies.

Table 2.34 Sample Industrial Visit

Academic Year	Semester	Course Code/Title	Place of Visit & Date	No of Students	Impact Analysis
2022-23	VI	EC-603 Data Communication and Networking	BSNL-RTTC MYSORE /20-5-2023	28	To Familiarize with various types of networks and its application

4. **Industrial Certification**

These certifications, often offered by leading global and national companies, provide students with hands-on training, industry-recognized credentials, and exposure to the latest advancements in their field.

At Alliance University, industrial certifications are integrated into the learning ecosystem through collaborations with technology leaders. These certifications not only complement the academic curriculum but also bridge the skill gap between what is taught in classrooms and what is expected by employers.

Table 2.35 Sample Industrial Certification

Industry Certification	Industry	No of Students Certified
VLSI Design and Verification	Tessolve Semiconductors	33

5. **Corporate Mentorship**

Corporate mentorship is a key pillar of effective industry-institute interaction, offering students invaluable exposure to real-world practices, evolving technologies, and professional mindsets. Through structured mentorship programs, industry professionals serve as guides, advisors, and role models to students, nurturing them beyond textbooks and classrooms.

At Alliance University, corporate mentorship initiatives are designed to create continuous engagement between students and industry leaders from top organizations and startups. These mentors help students understand current industry expectations, emerging trends, and the practical applications of their academic knowledge. They also assist in skill development, project ideation, portfolio building, and career planning.

By integrating corporate mentorship into academic programs, institutions not only enrich student learning but also forge strong, sustainable relationships with the corporate world, ensuring a talent pipeline that meets the evolving demands of industry.

Table 2.36 Sample Corporate Mentorship Details

Name	Designation	Industry	No of students benefited	Outcome
Mr. Chella Pandian Pitchai	Global Head – Diversity, Equity and Inclusion	Biocon Biologics	5	ECE Girl students participated in a mentorship program under Biocon, engaging in discussions on the evolving role of women in technology and other domains. They explored strategies for corporate success and took part in group discussions and informal talks to enhance their professional communication skills.

Name	Designation	Industry	No of students benefited	Outcome
Mr. Chockalingam Muthiah	SoC Design Verification (Emulation) Engineer	Intel Corporation	5	Discussion on Technical Topics. Provided Mentorship on how to be better ready for the corporate world

6. **HR Conclave**

The HR Conclave is a dynamic platform that brings together Human Resource leaders, talent strategists, academicians, and policy makers to deliberate on emerging workforce trends, evolving skill requirements, and innovative talent acquisition practices. It serves as a strategic interface between academia and industry, aimed at aligning educational outcomes with industry expectations.

At Alliance University, the HR Conclave has been envisioned as a space for thought leadership, collaborative learning, and networking. Through keynote sessions and panel discussions, HR professionals from different industries shares valuable insights on different areas.



Fig: 2.5: HR Conclave

The HR Conclave contributes to curriculum refinement, enhanced employability, and strategic partnerships. It provides faculty with a deeper understanding of current industry needs and empowers students to better prepare for placement, internships, and career growth.

By connecting the academic world with HR leaders and decision-makers, the HR Conclave plays a pivotal role in shaping a future-ready workforce, creating a win-win scenario for students, educational institutions, and industries alike.

Table 2.37 Details of Industry participation in HR Conclave

Name	Designation	Industry / Organization
Mr Anish Philip	Chief People Officer	Movate Technologies

Name	Designation	Industry / Organization
Mr Amit Sachdev	Chief People Officer	Tata iQ
Mr Amit Sharma	Group CHRO	Gokaldas Exports
Mr Baskar Varadhan	CHRO	Natural Remedies
Mr Varun Vijayakumar	Senior Director	Media.net
Mr Navin Patel	Global TA Head	Affine Analytics
Ms Urmimala Sarkar	Director	NTT DATA Services
Ms Karthika Nair	Associate Director	KPMG
Mr Tanmay Parikh	Vice President	Dairy Day
Mr Chella Pandian Pitchai	Global Head of Diversity, Equity, and Inclusion	Biocon Biologics
Mr Sumit Premi	Director of Talent Acquisition	Flipkart
Mr Amit Bansal	Global HR Director	Schneider Electric
Ms Harsha Vatnani	Director of HR	LSG Sky Chefs
Ms Hema Byrappa	Director of HR	GE Appliances
Mr Praveen Kumar Voona	Regional Senior HRBP - Digital	Airbus India

7. **Tech Conclave**

The Tech Conclave serves as a dynamic platform that fosters meaningful interaction between academia and the industry. By bringing together renowned professionals, innovators, and thought leaders from global corporations, startups, and policy-making bodies, the conclave bridges the gap between theoretical knowledge and practical implementation.



Fig: 2.6 Tech Conclave

The Alliance Tech Conclave 2024, for instance, focused on the evolving semiconductor landscape in the Indian context, highlighting the importance of advanced chip manufacturing, sustainable practices, and design innovation. The event featured panel discussions on themes such as “Inventing Our Semiconductor Future Together” and “Sustainability and ESG in Semiconductor Ecosystems.” It brought together professionals from Siemens EDA, Capgemini, Ansys, Alpha Semiconductors, Continental, IESA, Delta Electronics, and others, enabling students and faculty to engage directly with pioneers in the field.

Such conclaves enhance industry-institute partnerships by:

- Providing exposure to cutting-edge technologies and industry demands.
- Promoting internships, live projects, and mentorship opportunities for students.
- Helping academic institutions align their curriculum and research priorities with industry needs.
- Facilitating the establishment of industry-supported labs and innovation hubs on campus.
- Encouraging joint ventures for product development and problem-solving.

Name	Designation	Industry/Organization
Mr. Ruchir Dixit	Vice President & Country Manager	Siemens EDA
Mr. Praveen Acharya	VP & Global Delivery Head for Semicon Engineering	Capgemini Technology Services India Limited
Mr. Arun Shankar	Head of Innovation	Continental Autonomous Mobility (India) Pvt. Ltd.
Mr. Vinayakam Subramanian	Director - Application Engineering	Ansys Software Private Limited
Mr. Aleem Rehaman	Co-Founder and Chief Technical Officer	Alpha Semiconductors
Dr. Rakhi Nangia	Dy Director, IESA – Semiconductor Fab Policy Advisory	India Electronics & Semiconductor Association (IESA)
Mr. Ram Kerur	CEO	SunLux Technovations Private Limited
Mr. MS Taha	Head of Department R&D	Delta Electronics
Dr. Niladri Choudhuri	CEO	Xellentro Consulting Services LLP
Mr. Nihar Shetty	Vice President – Head VLSI	LanceSoft, Inc

8. **Involvement of Industry Experts in Academic Committees**

To ensure the academic ecosystem remains responsive to dynamic industry needs and emerging technological trends, our institution ensures the **active involvement of industry professionals** in various academic and curriculum-related committees.

This collaboration plays a crucial role in making the curriculum industry-aligned, skill-focused, and application driven.

This is done through various committees: -

- **Board of Studies (BoS)**

  Electronics and communication Engineering department’s BoS includes industry experts with relevant domain knowledge to:

  - Recommend and approve curriculum and syllabi for undergraduate and postgraduate programs.
  - Suggest emerging topics and industry-focused electives based on market demands.
  - Review course outcomes (COs) and program outcomes (POs) to ensure employability and real-world applicability.
  - Facilitate internship and project collaboration opportunities for students.

Table 2.39 Details of Industry participation in BoS

Name	Details
Dr Anjana Prabhakar	Lead Research Engineer, Siemens Technology and Services Pvt. Ltd, Bangalore
Dr. A.V.G. Subramanyam	Head of the Antenna and Passive Systems Division, Communication Systems Group, U.R. Rao Satellite Centre, ISRO, Bangalore.
K Vasudeva Reddy	Member of Technical Staff at Global Foundaries, Bengaluru
Mr. Suman M	Senior Engineer, Intel Corp. Bengaluru
Mr. Dhananjay Thiwari	Associate Product Manager, Spookfish Innovations pvt. Ltd., 8th Block, Jaya Nagar Bengaluru

- **Curriculum Review Committee**

  Industry persons in the Curriculum Review Committee are instrumental in:

  - Conducting skill gap analysis and identifying upskilling opportunities for students.
  - Recommending the integration of industry certifications into academic modules.
  - Advocating for project-based learning, live industry problems, and use of industrial tools in labs and courses.
  - Helping incorporates interdisciplinary and flexible learning pathways through electives and micro-credentials.

Table 2.40 Details of Industry participation in BoS

Name	Details
Dr. Vishnu Vardhan Gudla	5G Physical Layer Expert, L & T Technology Services, Bengaluru
Dr. A.V.G. Subramanyam	Head of the Antenna and Passive Systems Division, Communication Systems Group, U.R. Rao Satellite Centre, ISRO, Bangalore.
K Vasudeva Reddy	Member of Technical Staff at Global Foundaries, Bengaluru

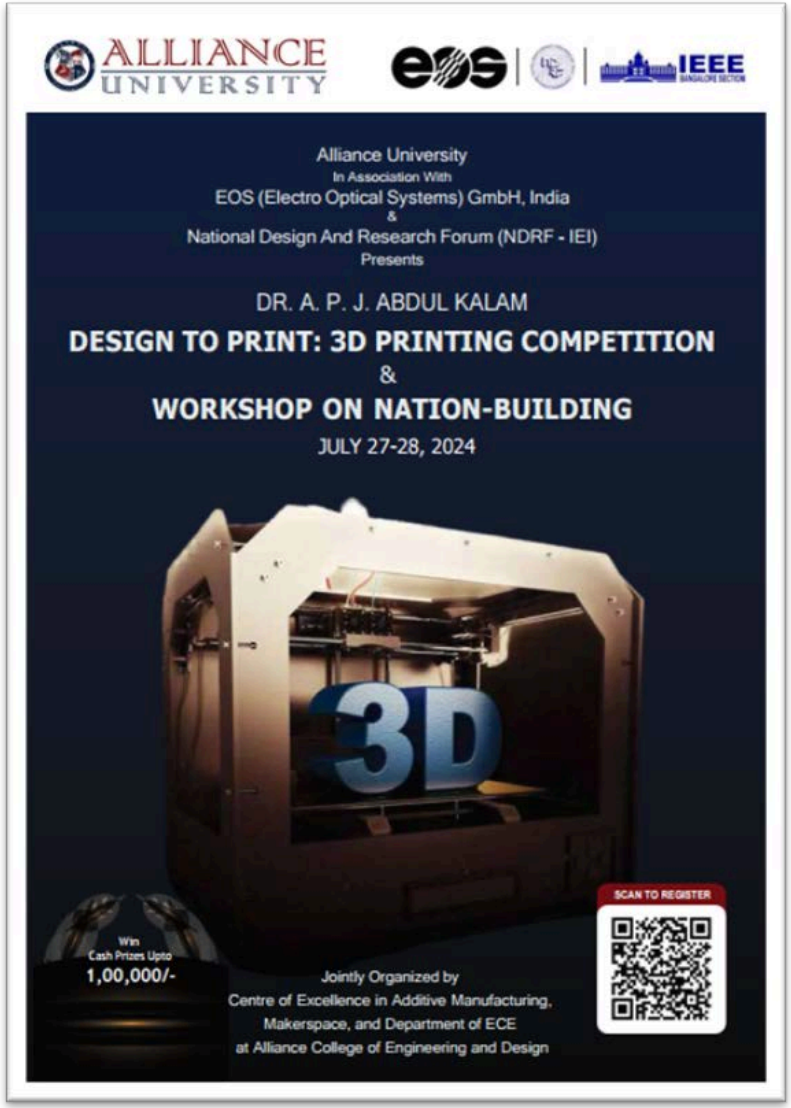
The inclusion of industry professionals in the Academic Council, Board of Studies, and Curriculum Review Committees serves as a cornerstone for academic excellence. Their expertise ensures that academic programs are not only theoretically strong but also practically relevant equipping students with the competencies needed to thrive in an evolving industrial landscape.

9. **Industry Sponsored Labs**

- **Centre of Excellence in Makerspace/Additive Manufacturing**

  Centre of Excellence (CoE) – Makerspace / Additive Manufacturing is a vibrant, collaborative, and community-driven Centre of Excellence that promotes innovation, hands-on learning, and interdisciplinary collaboration. The CoE serves as a dedicated workspace for students, faculty, and startups to engage in prototyping, product development, and experimentation in the areas of Additive Manufacturing, IoT, and Industry 4.0 technologies.

  Some high-end machines and tools have been generously donated by the Electro Optical Society of India (EOS) as part of their effort to promote innovation and skill development in emerging technologies. One such program has been conducted in association with EoS GmbH India. The Figure 2.7(a) and (b) illustrate the brochure and the expert panellists.



2.7 (a) National level Competition Organized with the support of EoS GmbH, India



2.7 (b) National level Competition Organized with the support of EoS GmbH, India

Key Initiatives and Collaborations:

- MoU with Alliance University & EOS: A formal Memorandum of Understanding was signed with Alliance University and EOS to offer specialized training programs in Industry 4.0 and 3D Printing technologies. Under this initiative, a credit-based course was introduced to train students in the practical aspects of additive manufacturing.
- Student Training: In 2024, from the ECE department 60 students have successfully completed the credited training course focused on 3D Printing and Industry 4.0. In addition the centre is providing 6-week internship, working on real-world design-to-print projects and applications.
- The CoE successfully organized the Dr. A. P. J. Abdul Kalam “Design to Print: 3D Printing Competition & Workshop on Nation-Building” in collaboration with EOS. The competition attracted wide participation and featured ₹1 lakh in prize money, encouraging innovation aligned with national development themes.
- National and International Achievements: Students trained at the CoE have actively participated in multiple national and international design and prototyping competitions,winning awards and accolades, thereby showcasing the effectiveness of the training and the quality of innovation fostered by the Makerspace.

10. **Industry Driven Labs**
    a. **CoE - Robotics & Automation**

The Centre of Excellence (CoE) in Robotics & Automation is a multidisciplinary hub that fosters research, innovation, and hands-on learning in the fields of robotics and automation. It aims to empower students and faculty with cutting-edge tools and technologies through strategic collaborations with global industry leaders such as Wefaa Robotics (Singapore), ABB Robotics, and e-Yantra IIT Bombay. The CoE supports advanced project development, skill-based training, and internships, providing students with real-time exposure to industrial robotics, intelligent systems, and automation solutions. A 6-week internship program in Embedded Systems is also offered under this CoE, allowing students to gain practical experience in microcontroller programming and sensor integration. By integrating mechanical systems, electronics, AI, and control engineering, the centre nurtures future-ready engineers equipped to tackle complex automation challenges.

Through its strong industry-institute partnerships, the CoE bridges the gap between academic learning and industrial requirements. Students have successfully completed domain-specific internships, hands-on training on collaborative robots, and national-level competitions like the "Space-Themed Robotics Challenge" conducted on National Space Day – 2024. The centre promotes innovation, entrepreneurship, and ethical design while fostering societal awareness about robotics. By aligning its activities with industry trends and future technologies, the CoE plays a pivotal role in creating a skilled, research-oriented, and industry-ready talent pool.

b. **CoE - Indigenous Processor Development**

The Centre of Excellence (CoE) in Indigenous Processor Development is strategically positioned to become a national hub for advanced VLSI design and semiconductor research. To further enhance its impact and align with industry standards, the CoE actively seeks industry-institute partnerships that facilitate collaborative innovation, real-world exposure, and skill enhancement. By forging alliances with prominent industry players such as Cadence Design Systems, Synopsys, and government bodies like C-DAC, the CoE can bridge the gap between academic research and industry needs.

These partnerships enable a two-way exchange: while industry brings in domain expertise, tool access, and real-world problem statements, the CoE contributes with a pool of trained students, academic insights, and prototype solutions. Through joint certification programs, guest lectures by industry experts, live projects, and sponsored internships, students gain hands-on exposure to processor design flows, RTL verification, ASIC synthesis, and layout implementation. Collaborative research projects under such partnerships can address sector-specific needs in defence, healthcare, agriculture, and smart electronics, positioning the CoE as a key contributor to the India Semiconductor Mission. By creating a vibrant ecosystem of academia and industry, the CoE can drive indigenous innovation and build a future-ready semiconductor workforce.

CoE conducts regular workshops and training program for the students.



Fig. 2.8: Hand-on workshop using Cadence Software organized by CoE-IPD

3 OUTCOME-BASED ASSESSMENT (120)

Total Marks 118.00

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

Total Marks 10.00

Institute Marks : 10.00

Table 3.1. Assessment methods for Theory/Integrated Courses/Lab Courses

	Assessment Type	**Description**	**Weightage in marks**	**Course Outcomes To be Assessed**					**Duration/ Timeline**
CO1	CO2	CO3	CO4	CO5					
During semester evaluation	MSE	Mid Semester Exam	10	✓	✓	✓			90 min
	AS	Assignment							Discretion
	MSE Lab	LAB Component	15	✓	✓	✓	✓		Discretion
	PT	Presentation							Discretion
	BL	Blended Learning							Discretion
	CS	Case Study							Discretion
	MP	Mini Project							Discretion
	CT	Class Test							Discretion
	ST	Quiz							Discretion
	AT	Attendance	5	✓	✓	✓	✓	✓	Semester
End semester evaluation	SEE	End Sem Exam	50	✓	✓	✓	✓	✓	2 hours

NOTE: CO's assessed through each assessment type, other than mentioned above, may be upto faculty discretion. Total During Semester Assessment (DSA) should not exceed 50 marks.

Table 3.1 describes the different assessment methods employed for evaluation.

RUBRICS for evaluation (Examples):

Table 3.2. Rubrics for Presentation as an evaluation method.

Skills	Excellent	Very Good	Good	Average	Below Average	Marks Scored
Marks	5	4	3	2	1	
Understanding of Concepts	Demonstrates an exceptional understanding of applied EM Theory in Antennas	Shows a strong understanding of applied EMTheory in Antennas and applies them effectively to address problems.	Displays a solid understanding of applied EM Theory in Antennas but may haveminor inaccuracies or gaps in application.	Demonstrates some understanding of applied EM Theory in Antennas but lacks clarity or consistency in application.	Lacks understanding of applied EM Theory in Antennas and fails to apply them correctly.	
Problem Analysis	Breaks down complex concepts into simpler parts, identifies relationships and patterns, draws inferences.	Recognizes components of a concept, identifies some relationship s, makes basic inferences.	Identifies some components but struggles to relate them, inferences are limited or inaccurate.	Offers a limited analysis of the problem, missing several key aspects and relevant factors.	Fails to break down concepts, does not recognize relationships, cannot make inferences.	

Evaluation	Critically assesses information, makes well- supported judgments based on criteria, considers multiple perspectives.	Evaluates information with some support, judgments are somewhat based on criteria, considers a limited number of perspectives	Attempts to evaluate but lacks clear criteria, judgments are moderately supported, perspective is limited or biased.	Attempts to evaluate but lacks clear criteria, judgments are weakly supported, perspective is limited or biased	Unable to evaluate information, does not make judgments, does not consider perspectives.	
Solutions	Offers comprehensive, creative, and well-justified solutions	Presents appropriate and well-supported solutions and recommend ations that address the problem adequately.	Offers viable solutions and recommendat ions, though some aspects may lack thorough justification.	Provides limited solutions and recommendat ions with insufficient justification or support.	Provides limited solutions and recommendatio ns with insufficient justification or support.	
					Marks Scored	
					Total Marks (15)	

Table 3.2 describes the assessment rubrics for presentation as an evaluation method

Table 3.3. Assessment rubrics for Mini Project component

Mini-Project (Marks 10)					
Problem Solving	Actively participation in literature survey systematically to identify the problem basics	Actively participation in literature survey conditionally to identify the problem basics	Actively participation in survey participation insurvey conditionally to without detailing fundamentals	Try with the help of others to solve problems.	Unable to evaluate information,does not make judgments, does not consider perspectives.

Mini-Project (Marks 10)					
Teamwork	All team members contributed equally to the finished project.	Assisted group/partner in the finished project.	Finished individual task but did not assist group/partner during the project	Contributed little to the group effort during the project.	Provides limited solutions and recommendations with insufficient justification or support.
Problem Analysis	Breaks down complex concepts into simpler parts, identifies relationships and patterns, draws inferences.	Recognizes components of a concept, identifies some relationships, makes basic inferences.	Identifies some components but struggles to relate them, inferences are limited or inaccurate.	Offers a limited analysis of the problem, missing several key aspects and relevant factors.	Fails to break down concepts, does not recognize relationships, cannot make inferences.
Evaluation	Critically assesses information, makes well- supported judgments based on criteria, considers multiple perspectives.	Evaluates information with some support, judgments are somewhat based on criteria, considers a limited number of perspectives.	Attempts to evaluate but lack clear criteria, judgments are moderately supported, perspective is limited or biased.	Attempts to evaluate but lack clear criteria, judgments are weakly supported, perspective is limited or biased	Unable to evaluate information, does not make judgments, does not consider perspectives.
Solutions	Offers comprehensive, creative, and well-justified solutions	Presents appropriate and well-supported solutions	Offers viable solutions	Provides limited solutions	Provides limited solutions
					Marks Scored
					Total Marks 10

Table 3.3 describes the assessment rubrics for mini project as an evaluation method.

Table 3.4. Rubrics for Assignment as an evaluation method

						Marks Scored
Skills	Excellent	Very Good	Good	Average	Below Average	
Marks	5	4	3	2	1	
Understanding of Concepts	Demonstrates an exceptional understanding of applied EM Theory in Antennas.	Shows a strong understanding of applied EM Theory in Antennas effectively in assignments.	Displays a solid understanding of applied EM Theory in Antennas but may have minor inaccuracies or gaps in application	Demonstrates some understanding of applied EM Theory in Antennas but lacks clarity or consistency in application.	Lacks understandi ng of applied EM Theory in Antennas and fails to apply them correctly.	
Problem Analysis	Breaks down complex concepts into simpler parts, identifies relationships and patterns, draws inferences.	Recognizes components of a concept, identifies some relationships, makes basic inferences.	Identifies some components but struggles to relate them, inferences are limited or inaccurate.	Offers a limited analysis of the problem, missing several key aspects and relevant factors.	Fails to break down concepts, does not recognize relationship s, cannot make inferences.	

Evaluation	Critically assesses information, makes well- supported judgments based on criteria, considers multiple perspectives.	Evaluates information with some support, judgments are somewhat based on criteria, considers a limited number of perspectives.	Attempts to evaluate but lacks clear criteria, judgments are moderately supported, perspective is limited or biased.	Attempts to evaluate but lacks clear criteria, judgments are weakly supported, perspective is limited or biased	Unable to evaluate information, does not make judgments, does not consider perspectives	
Solutions	Offers comprehensive, creative, and well-justified solutions	Presents appropriate and well- supported solutions	Offers viable solutions	Provides limited solutions	Provides limited solutions	
					Marks Scored	
					Total Marks (15)	

Table 3.4 describes the assessment rubrics for assignment as an evaluation method.

Table 3.5. Rubrics for lab experiment evaluation

Lab Experiment Evaluation Rubrics (30 Marks)						
Category	Excellent	Very Good	Good	Average	Below Average	Marks Scored
Marks	5	4	3	2	1	
Understand ing of IoT Concepts	Demonstrates an exceptional understanding of IoT concepts,including detailed explanations and accurate application of principles.	Shows a good understanding of IoT concepts with correct application in most cases.	Displays a basic understandin g of IoT concepts but may have some gaps in knowledge or application.	Shows limited understanding of IoT concepts with significant gaps in knowledge and application.	Fails to demonstrate understanding of IoT concepts.	
Experiment Execution	Executes experiments flawlessly, follows procedures accurately,and achieves expected results.	Conducts experiments correctly with minor errors,generally achieving expected results.	Executes experiments with some errors or misunderstandings, resulting in partial or inconsistent results.	Shows significant errors or misunderstandings in experiment execution, leading to incorrect or incomplete results.	Fails to execute experiments correctly.	
Problem-Solving and Troubleshooting	Demonstrates excellent problem-solving skills,quickly identifies issues, and effectively resolves them	Shows good problem- solving abilities, identifies nmost issues, and resolves them with minimal assistance.	Displays basic problem-solving skills, needs some assistance to identify and resolve issues.	Struggles with problem- solving and troubleshooting, requires significant assistance.	Fails to demonstrate problem-solving and troubleshootingskills.	
Documentation and Reporting	Provides thorough and well organized documentation, including clear descriptions data, and analysis.	Produces good documentation with clear descriptions and analysis but may have minor organizational issues.	Provides basic documentation with some gaps in descriptions,data,or analysis.	Shows incomplete or poorly organized documentation, lacking clarity and necessary details.	Fails to provide adequate documentation.	
Collaboration and Communication	Works exceptionally well with peers, communicates effectively, and contributes significantly to group efforts.	Collaborates well with peers, communicates adequately, and contributes to group efforts.	Displays basic collaboration and communication skills,with some contribution to group efforts.	Struggles to collaborate and communicate with peers,contributing minimally to group efforts.	Fails to collaborate and communicate effectively with peers.	
					Marks Scored	
					Total Marks (30)	

Table 3.5 describes the assessment rubrics for lab experiment as an evaluation method.

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

Total Marks 10.00

Institute Marks : 10.00

Template for Semester End Examination is as follows:

Guidelines to faculty for preparation of QP:

Check whether the Question Paper is set according to the syllabus.

- SEE examination is conducted for 100% of the syllabus i.e. all 5 units.
  - Part A- 1 question should be taken from each CO i.e. CO1 to CO5 should be covered.
  - Part B- 2 questions should cover CO3, 1 question CO4 and 1 question CO5.
  - Part C- 1 question (Eg. 10 (a) and 10 (b) both parts from CO4 and 1 question (Eg. 11 (a) and 11 (b) both parts from CO5.

Each question to be considered for the units according to the COs mapping.

PART A (Very Short Descriptive Questions – upto 50 words)- 5qns x 2marks each=10 marks

1. (CO1, BTL-2)
2. (CO2, BTL-1)
3. (CO3, BTL-2)
4. (CO4, BTL-2)
5. (CO5, BTL-1)

PART B (Short Descriptive Questions – upto 150 words)- 4qns x 5 marks each=20 marks

6. (CO3, BTL-3)
7. (CO3, BTL -3)
8. (CO4, BTL -4)
9. (CO5, BTL -4)

PART C (Long Descriptive Questions)- 2qns x 10 marks each=20 marks

10. (a) (CO4, BTL -4)

OR

10. (b) (CO4, BTL -5)

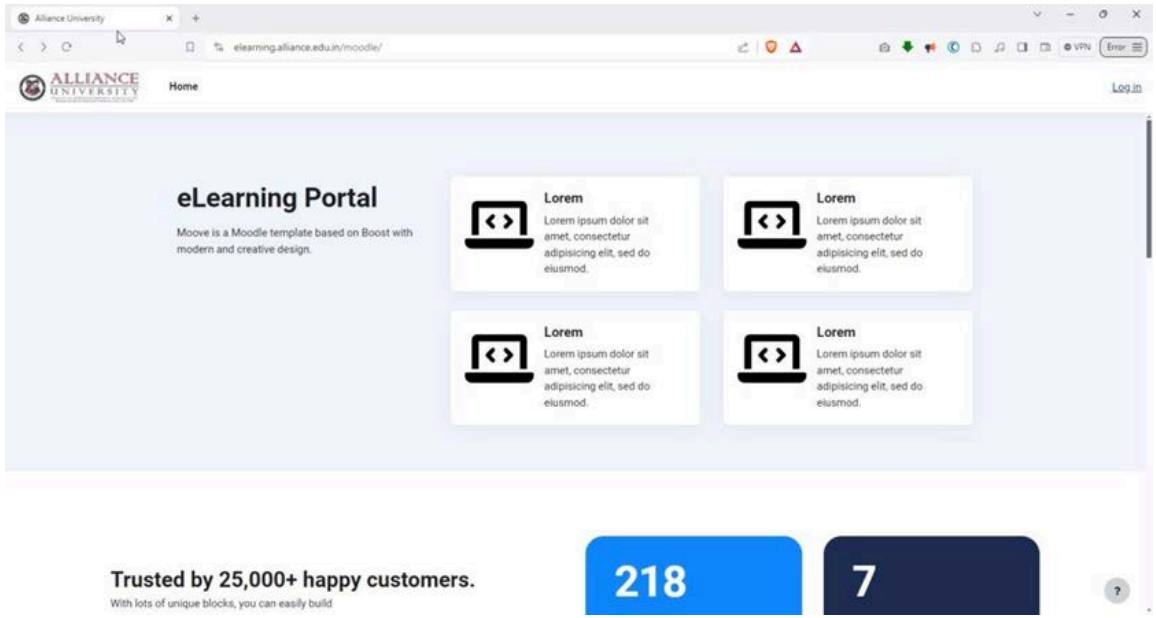
11. (a) (CO5, BTL -4)

OR

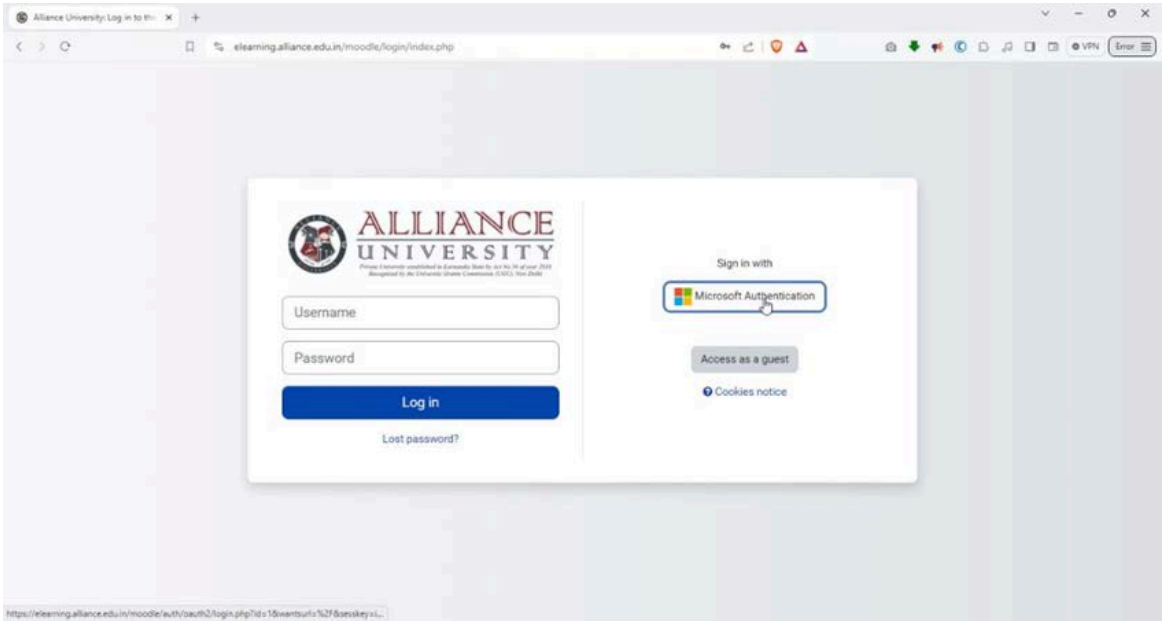
11. (b) (CO5, BTL -6)

Standard Operating Procedure for Question paper upload

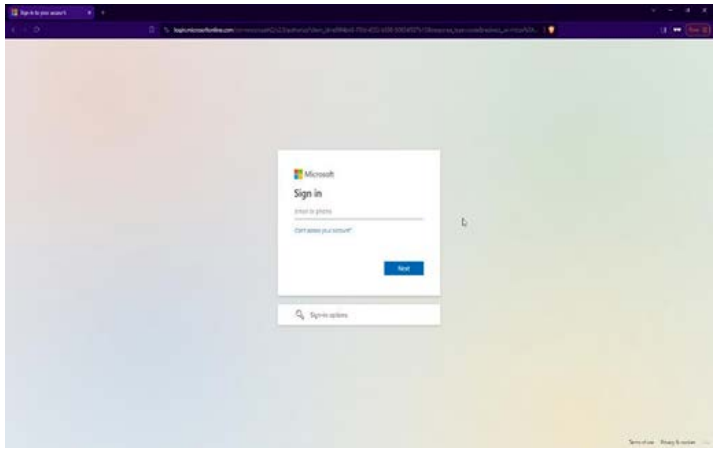
Visit https://elearning.alliance.edu.in/moodle (https://elearning.alliance.edu.in/moodle)



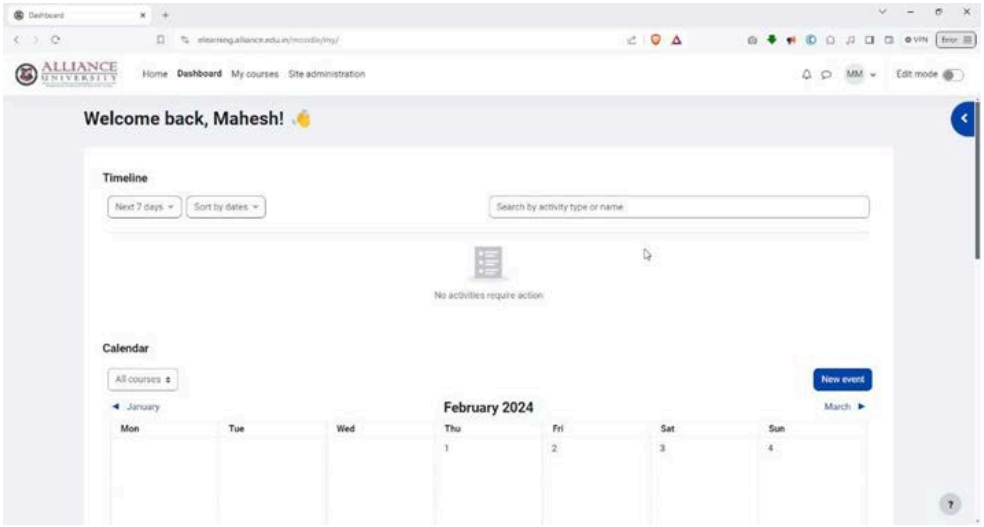
Click on **Microsoft Authentication**



Login with Alliance Email ID and password

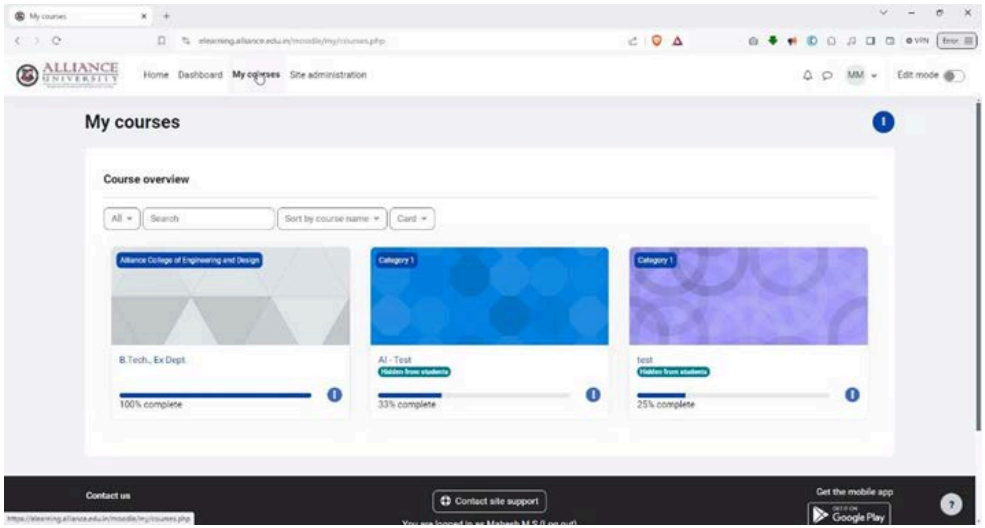


You will be redirected to Dashboard.

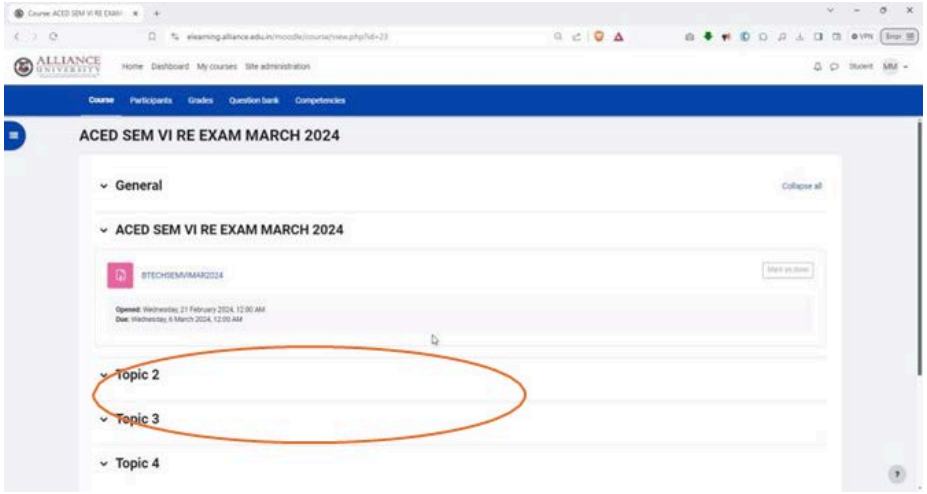


Click on My Courses and

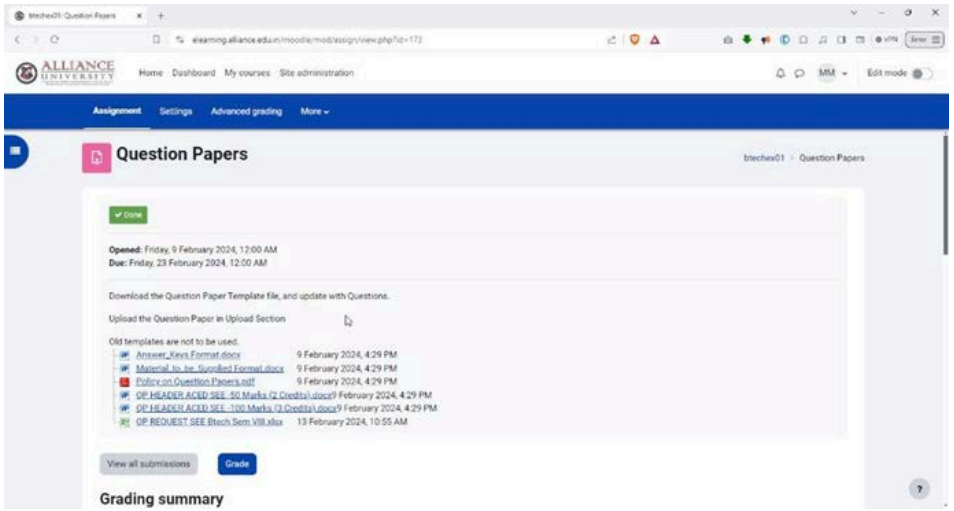
Click on Appropriate Course for Upload Question Paper (Example: B.Tech, Ex Dept)



Click the link

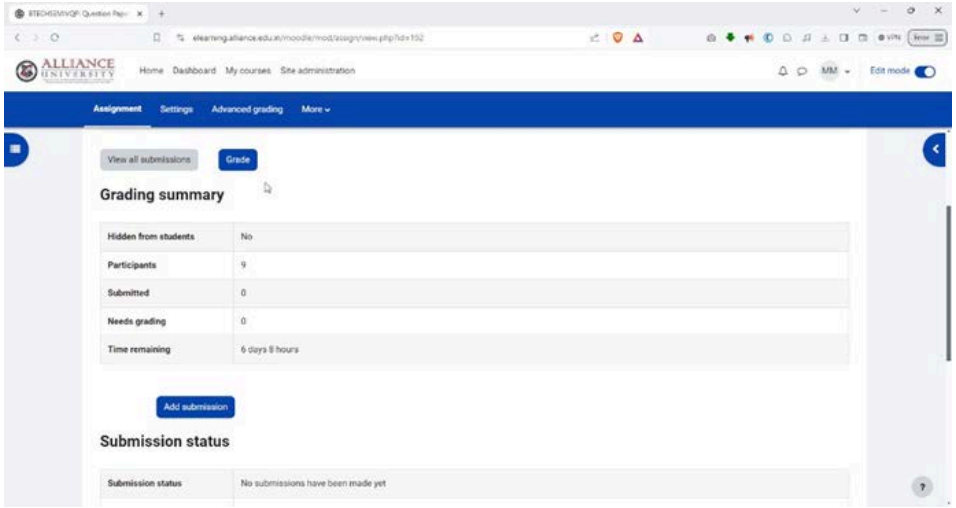


- Download the template files and update the questions and Answer keys in respective files
- Rename the file with appropriate name



On scrolling down the page, you will see the Add Submission Button.

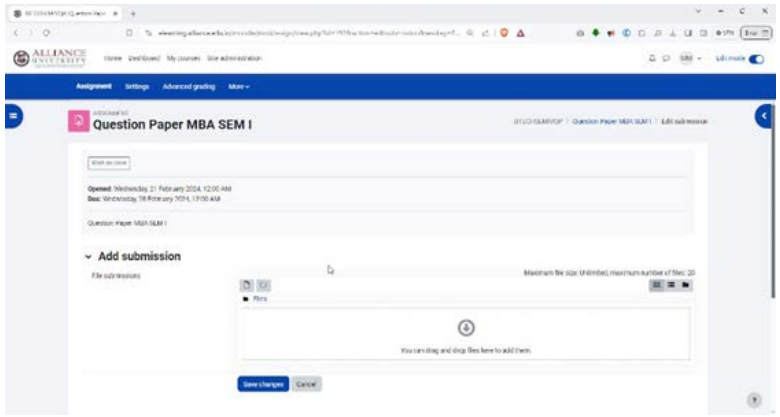
Click on Add Submission Button



Click on file icon to upload files.

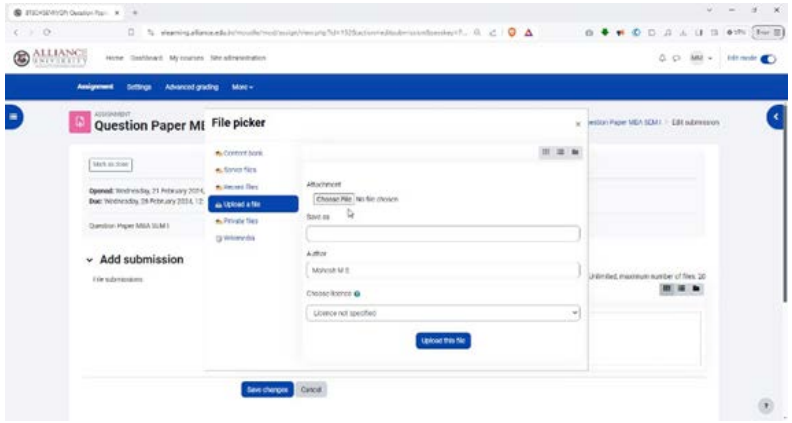
Select all files one by one or drag all files on selected area .

Click on Save Changes

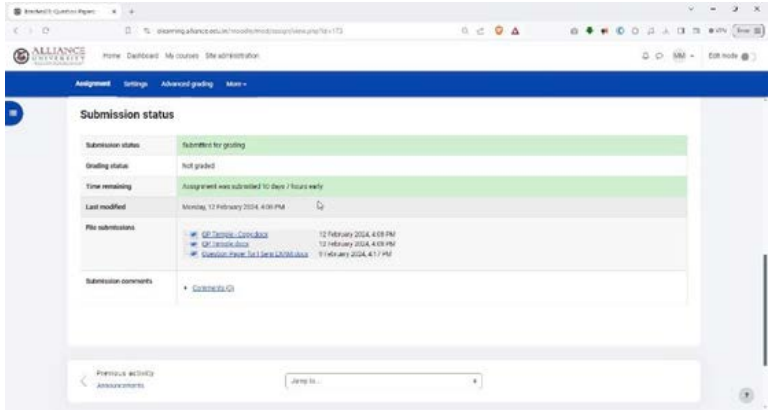


Using choose file option, file can be selected to upload. Once file is chosen, click on “Upload this file”

Click on “Save Changes” to submit the file.



Verify the submitted file, in “Submission Status”.



Template for Undertaking for SEE Question Paper is as follows:

I _____(Name of QP setter 1),

_____(Designation), Emp. code _____, along with the QP co-paper setter(s)hereby declare that I/ we have read, understood and followed the instructions given in the QP request email.

I/we further declare as under:

1. I/We was/were allocated two sets of QP for the following Course(s) along with its respective answer key/Scheme of Evaluation:

Course Code	Course Name	Program, Branch & Semester	School
		B. Tech. SEM Branch:	ACED
Answer key submitted		Yes/ No	

2. I (QP setter 1) have uploaded the two sets of QP with all allied documents.
3. I (QP setter 1) have verified the QP and its respective answer key/ Scheme of Evaluationfor their completion in all respects.
4. I/ We have maintained full confidentiality of the questions/ question paper and will maintain in future. I/we have not shared them with anyone by any means/ media except consulting with co-paper setters (if any) and will not share in future also.
5. The questions in the given sets are not given to anyone partially/fully as assignment/ Homework etc. and will not be given in future also.
6. I/ We certify that the two question papers are complete with respect to syllabus coverage, skew free, follow the pattern/ structure (if any), CO-PO-BTL level mapping etc., besides general guidelines for preparing QPs.
7. The QPs submitted are error free (with respect to School, Program, Semester, Branch(es), Course Code and Title, Month, Year, Content, Language, Grammar, and punctuation etc) and I shall be responsible for occurrence of issues therein (if any).
8. I(QP setter number 1) have named the QP files correctly as per the guidelines shared by Office of the Registrar (Examination and Evaluation).
9. I/ we shall delete the QPs and their respective answer keys/ scheme of evaluation from all devices and destroy the hard copies (if any) after successful submission.
10. I certify that:
    a. The contents of the Header are correct.
    b. The answer keys are provided with the question papers.
    c. The contents of the QPs and Answer keys are correct.

Date: _____ Signature _____

Name _____ Mobile No.: _____

Co-Paper Setters (Name, and Employee Code):

1. _____
2. _____
3. _____
4. _____

ALLIANCE UNIVERSITY

Private University established in Karnataka State by Act No.34 of year 2010
Recognized by the University Grants Commission (UGC), New Delhi

OFFICE OF REGISTRAR (EXAMINATION & EVALUATION)

Title of the Policy	:	Question Paper Setters and Moderators for Semester End Examinations
Policy No.	:	AU/E&E/Policy/7
Version	:	1.0
Date of Approval	:	April 20, 2022

Objective:

To follow a process while procuring question papers for Semester End Examinations.

Brief description of the Policy:

1. The question paper setter(s) shall be the faculty members who are teaching the subject.
2. Registrar (Examination & Evaluation) shall request for two sets of question paper along with the answer keys as follows:
   (i) If there are multiple faculty members teaching a certain subject, then those faculty members should sit together and provide two sets of common question papers with answer keys.
   (ii) If there is only one faculty teaching the subject, two sets of question paper with answer keys shall be set jointly by the concerned faculty teaching the subject and another senior faculty / subject expert from the same area *(Senior faculty / subject expert shall be provided by the Area Chair / Dean).*
3. Registrar (Examination & Evaluation) shall request the concerned Dean / Area Chairs to provide name(s) of Moderator for each subject *(Moderator shall be a subject expert, other than the question paper setters).*
4. The moderator shall ensure that every aspect of the syllabus is covered in the question paper.
5. Question paper shall be reviewed and approved by the moderator before being administered in the examination.

Prepared by:	Verified by:	Approved by:
V. Ravi Kiran	Samir Ranjan 20/4/22	29-4-22
Mr. V. Ravi Kiran Deputy Registrar (E&E)	Dr. Samir Ranjan Associate Pro Vice-Chancellor (Academics & Research)	Prof. (Dr.) Anubha Singh Vice-Chancellor

Figure 3.1. Notification of the policy for question paper setters and moderators.

3.3 Evaluation of Laboratory Work and Workshop (Continuous and SEE) (10) Total Marks 10.00

Institute Marks : 10.00

Table 3.6. Types of laboratories in the department of Electronics and Communication Engineering.

Lab Type	**Assessment Criteria**
Hardware-Focused Lab	1. Circuit design and implementation accuracy.
	2. Instrument handling and safety compliance.
	3. Real-time troubleshooting.
	4. Viva – conceptual clarity.
Software-Focused Lab	1. Code correctness and logic.
	2. Algorithm efficiency and documentation.
	3. Output interpretation and analysis.
	4. Individual/Group presentations.
Hardware/Software-Integrated Lab	1. System-level design and integration
	2. Functionality of prototype/project
	3. Innovation and problem-solving
	4. Team coordination and project management

Table 3.6 describes the typical assessment criteria for different types of laboratories under the department of Electronics and Communication Engineering.

Table 3.7. Sample rubrics for software focused-integrated course

Lab Experiment Evaluation Rubrics (15 Marks)						
Criterion	Excellent (5)	Good (4)	Satisfactory (3)	Needs Improvement (2)	Poor (1)	Marks Scored
Viva-voce	Demonstrates a thorough understanding of the experiments concepts and objectives.	Shows a good understanding of the experiments concepts and objectives.	Demonstrates a basic understanding of the experiments concepts and objectives.	Shows limited understanding of the experiments concepts and objectives.	Demonstrates little to no understanding of the experiments concepts and objectives.	
Writeup	Carries out the experiment flawlessly, following all procedures accurately.	Executes the experiment well with minor deviations from procedures.	Executes the experiment with some errors or deviations from procedures.	Has difficulty executing the experiment; several errors or deviations from procedures.	Fails to execute the experiment correctly; numerous errors or deviations from procedures.	
Observation	All data collected is accurate and precise, with no errors.	Most data collected is accurate with minor errors.	Data collected is somewhat accurate but contains several errors.	Data collected is inaccurate; multiple errors present.	Data collected is mostly inaccurate; numerous errors present.	

Lab Experiment Evaluation Rubrics (15 Marks)						
Record	Thoroughly documents all procedures, observations, and results in detail.	Adequately documents procedures, observations, and results with minor omissions.	Documents procedures, observations, and results but lacks detail.	Provides limited documentation of procedures, observations, and results.	Provides very little to no documentation of procedures, observations, and results.	
					Marks Scored	
					Total Marks (15)	

Table 3.7 describes the rubrics for software focused-integrated course

Table 3.8. Sample rubrics for hardware focused-integrated course

Lab Experiment Evaluation Rubrics (15 Marks)						
Criterion	Excellent (5)	Good (4)	Satisfactory (3)	Needs Improvement (2)	Poor (1)	Marks Scored
Viva-voce	Shows Confidence with answers & all questions answering with clear understanding and reasoning.	Shows a good understanding of the experiments concepts and objectives but minor errors.	Demonstrates a basic understanding of the experiments concepts and objectives.	Shows basic aspects but lacks depth of the concept,clarity, or detail.	Demonstrates incomplete understanding of the experiments concepts and objectives.	
Writeup	Execution of the experiments flawlessly,following all procedures accurately.	Executes the experiment well with minor deviations from procedures.	Executes the experiment basic aspects but lacks depth,clarity, ordetail.	Incomplete,existence of errors or deviations from procedures.	poor understanding, unable to execute the experiment correctly;	
Observation	Executes experiment independently with precision;follows all steps correctly.	Most of data collected is accurate with minor errors.	Data collected is somewhat accurate but contains several errors.	Data collected is inaccurate;multiple errors present.	Unable to conduct experiment without major help or repeated errors.	
Record	Well- structured, clear,complete,and up to date;includes Circuitdiagrams,data, and Waveform observations accurately.	Adequately documents procedures, observations, results & plotting waveforms with minor omissions.	Complete document with minor errors or missing details in the observed waveforms	Poorly maintained the documentor incomplete;	Provides very little to no documentation of procedures, observations, and Waveforms	
					Marks Scored	
					Total Marks (10)	

Table 3.8 describes the rubrics for hardware focused-integrated course.

Table 3.9. Sample rubrics for hardware/software co-design focused-integrated course

Lab Experiment Evaluation Rubrics (30 Marks)						
Category	Excellent	Very Good	Good	Average	Below Average	Marks Scored
Marks	5	4	3	2	1	

Lab Experiment Evaluation Rubrics (30 Marks)						
Understanding of IoT Concepts	Demonstrates an exceptional understanding of IoTconcepts,including detailed explanations and accurate application of principles.	Shows a good understanding of IoTconcepts with correct application in most cases.	Displays a basic understanding of IoT concepts but may have some gaps in knowledge or application.	Shows limited understanding of IoTconcepts with significant gaps in knowledge and application.	Fails to demonstrate understanding of IoTconcepts.	
Experiment Execution	Executes experiments flawlessly,follows procedures accurately, and achieves expected results.	Conducts experiments correctlywith minor errors, generally achieving expected results.	Executes experiments with some errors ormisunderstan dings, resulting in partial or inconsistent results.	Shows significant errors or misunderstandings in experiment execution, leading to incorrect or incomplete results.	Fails to execute experiments correctly	
Problem-Solving andT roubleshooting	Demonstrates excellent problem-solvingskills, quickly identifies issues, and ffectively resolves them	Shows a good problem solving-abilities,identifies most issues,and resolves them with minimal assistance.	Displays a basic problem-solving skills,needs some assistance to identify and resolve issues.	Struggles with problem-solving and troubleshooting, requires significant assistance.	Fails to demonstrate problem-solving and troubleshooting skills.	
Documentation and Reporting	Provides thorough and well-organized documentation, including clear descriptions, data, and analysis.	Produces good documentation with clear descriptions and analysis but may have minor organizational issues.	Provides basic documentation with some gaps in descriptions, data, or analysis.	Shows incomplete or poorly organized documentation, lacking clarity and necessary details.	Fails to provide adequate documentation.	
Collaboration and Communication	Works exceptionally well with peers,communicates effectively , and contributes significantly to group efforts.	Collaborates well with peers,communicates adequately, and contributes to group efforts.	Displays basic collaboration and communication skills,with some contribution to group efforts.	Struggles to collaborate and communicate with peers,contributing minimally to group efforts.	Fails to collaborate and communicate effectively with peers.	
					Marks Scored	
					Total Marks (30)	

Table 3.9 describes the rubrics for hardware/software co-design focused-integrated course

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

Total Marks 10.00

Institute Marks : 10.00

Assessment details for Industry Internship Program are as follows:

Internal Evaluation	70
External Evaluation	30
Total	100

Table 3.10. Rubrics for Internal Evaluation (IIP)

Assessment Component	Description	Assessment	Review Marks
Fortnightly Report - 1	**Adherence to Time**	Report	10
	Understanding		
	Documentation		
Fortnightly Report - 2	**Adherence to Time**	Report	10
	Understanding		
	Documentation		
Industry Supervisor Evaluation	**Adherence to Time**	Marks/Comment Provided by the external supervisor	10
	Understanding		
	Documentation		
Final Report	**Discussion on results**		40
	Project management		
	Attainment of stated objectives		
	Use of Standards		
	Demonstration of the Project		
Overall Internal Marks			70

Table 3.11. RUBRICS FOR FORTNIGHTLY REPORT 1, 2 AND INDUSTRY SUPERVISOR EVALUATON

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Adherence to Timelines	3	All deadlines met orcompleted early; proactive work plan.	Minor delays but overall on schedule.	Delayed with acceptable justifications.	Frequently late or no adherence to timelines.	(Rating÷ 4) × 3
Understanding	3	Clear, in- depth grasp of topic, objectives, and context.	Good understanding with few inaccuracies.	Basic understanding; lacks depth.	Misunderstanding or superficial.	(Rating÷ 4) × 3
Documentation	4	Well- structured, detailed, and free from errors.	Mostly well-documented; minor issues.	Acceptable; several errors or unclear.	Poorly documented; major issues.	(Rating÷ 4) × 4
Total	10					= Sum of above scores

Table 3.11 describes the rubrics for fortnightly reports and industry supervisor evaluation of IIP.

Table 3.12. Rubrics for final report

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Introduction	10	Clear background,well-defined objectives, and strong justification for the project.	Objectives are clear; background is present but lacks depth.	Basic introduction; objectives are vague or partially defined vague or partially defined.	Poor or unclear background; objectives missing or ambiguous	=(Rating ÷4)× 10
Methodology and Process	10	Robust and appropriate methods; each step clearly described and logically justified.	Methods are mostly appropriate; some minor gaps in clarity or logic.	Basic methods described; some flaws or lack of clarity.	Methodology is unclear, poorly designed, or missing steps.	=(Rating ÷4)× 10
Findings and Discussions	10	Insightful findings; logical interpretation with depth and critical analysis.	Findings well-presented; interpretation has some depth.	Findings presented, but discussion lacks depth or clarity.	Findings are incomplete or poorly discussed.	=(Rating ÷4)× 10
Conclusions & Recommendati ons	10	Strong, logical conclusions; practical and well-connected recommendations.	Clear conclusions; recommendations are present but basic.	General summary; recommendations are weak or vague.	Lacks clear conclusions or actionable recommendatio ns.	=(Rating ÷4)× 10

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Total Marks	40					=Sum of all scores

Table 3.12 describes the rubrics for final report evaluation of IIP.

Table 3.13. SEMESTER END EXAMINATION evaluation

Criteria	Max Marks	Excellent (4)	Good (3)	Average (2)	Poor (1)	Scoring Formula
Viva-Voce	10	Confident, precise, and well- articulated answers; deep understanding of subject matter.	Mostly correct responses; minor hesitations; good grasp of subject.	Basic answers: lacks clarity or depth.	Incomplete or incorrect responses; unable to explain concepts.	= (Rating ÷ 4) × 10
Presentation Skills	10	Excellent eye contact, clarity in speech, appropriate pace and body language.	Generally clear and engaging; minor issues with delivery.	Moderate confidence; noticeable issues in clarity or delivery	Nervous, unclear, or monotonous presentation.	= (Rating ÷ 4) × 10
PowerPoint Presentation Quality	10	Visually appealing; well- structured; relevant content; no errors.	Good layout and content; minor errors or inconsistencies.	Acceptable design; lacks polish or consistency.	Cluttered slides; poor formatting; excessive or irrelevant content.	= (Rating ÷ 4) × 10
Total Marks	30					= Sum of all scores

Table 3.13 describes the evaluation rubrics for the semester end examination

3.5 Evaluation of Projects (20) Total Marks 20.00

Institute Marks : 20.00

Project Work Rubrics are as follows:

Internal Evaluation	**70**
External Evaluation	**30**
Total	**100**

Table 3.16. Rubrics for Internal Evaluation of final year project work.

Sl. NO	Description	Assessment	Review Marks	Overall Weightage
Review - 1	Scope	Comprehensive Viva	15	15%
	Literature Survey			
	Problem Identification			
	Objectives			
	Planning and Task Definition			
	Teamwork			
Review - 2	Constraints Identification	Progress Review - Preliminary Design	10	10%
	Finalization of topic to constraints			
	Design selection			
Review - 3	Use of modern tools/experimental work in design and analysis	Progress Review - Detailed Design	5	5%
	Progress Analysis			
	and results			
Review - 4	Discussion on results	Final Review - Detailed Design	10	10%
	Project management			
	Attainment of stated objectives			
	Use of Standards			
	Demonstration of the project			
Review - 5	Report evaluation	Report Evaluation	30	30%
	Plagiarism			
	Individual and team contribution			
	Outcome of the thesis			

Sl. NO	Description	Assessment	Review Marks	Overall Weightage
Overall Internal Mark details			70	70%

Table 3.16 describes the rubrics for Internal Evaluation of final year project work.

Table 3.17. Rubrics for Review-I

Review - 1				
	Excellent (5)	Good (4)	Average (3)	Poor (1)
Scope	Detailed and extensive explanation of the purpose and need of the project	Good explanation of the purpose and need of the project	Average explanation of the purpose and need of the project	Minimal explanation of the purpose and need of the project
Literature survey	Detailed and extensive explanation of the specifications of the existing systems.	Collects a great deal of information and a good study of the existing systems.	A moderate study of the existing systems collects some basic information.	Minimal explanation of the specifications of the existing systems, incomplete information.
Identification of Problem	Defines the problem with an excellent degree of accuracy, clarity, and concision.	Defines the problem with a high degree of accuracy, clarity, and concision.	Defines and refines the problem with fair accuracy, clarity, and concision.	Insufficient clarity and concision in defining the problem.
Objectives	All objectives of the proposed work are well defined.	Good justification for the objectives.	Incomplete justification of the objectives proposed.	Objectives of the proposed work are either not identified or not well defined.
Planning and Task Definition	Different tasks are identified, and timelines are clearly defined	Different tasks are identified, and timelinesare clearly defined	Different tasks are identified but timelines are not clear	Tasks are not differentiated; a timeline does not exist
Planning and Task Definition	Different tasks are identified, and timelines are clearly defined	Different tasks are identified, and timelines are clearly defined	Different tasks are identified but timelines are not clear	Tasks are not differentiated; a timeline does not exist

Review - 1				
Teamwork	All members actively participate in planning; clear task division; mutual respect and collaboration from the start.	Most members contribute to planning; roles assigned with minor overlaps or issues.	Uneven participation; vague roles and responsibilities; signs of miscommunication.	Little to no planning; poor collaboration; one or few members dominating or disengaged.
Total Marks				15

Table 3.17 describes the rubrics for Review-I.

Table 3.18. Rubrics for Review-II

Review-2				
	Excellent (5)	Good (4)	Average (3)	Poor (1)
Constraints Identification	All the constraints applicable to the preview of the solution identified	Most of the constraints applicable to the preview of the solution identified	Few Constraints applicable to the domain identified	Constraints not identified
Analysis of features and finalization subject to constraints	Features analysed under the constraints. And Constraints catered to finalize the features.	Features analysed under the constraints.And Constraints catered tofinalize the features.	Few Features analysed under the constraints.And Constraints not catered to finalize the features..	Features not analyzed under the constraints. And Constraints not catered to finalize the features.
Design selection/ Technical implementation/ Data collection/ Progress Analysis	Multiple approaches/ design solutions exist, and comparisons based on advantages and disadvantages are done to choose the best feasible approach	Multiple approaches/ design solutions exist, and advantages and disadvantages are defined to choose the best feasible approach	Multiple approaches/ design solutions exist, but the rationale for choosing the best is not defined	Design /Approach doesnot exist
Total Marks				10

Table 3.18 describes the rubrics for Review-II.

Table 3.19. Rubrics for Review-III

Table 3.19. Rubrics for Review-III				
Review-3				
	Excellent (5)	Good (4)	Average (3)	Poor (1)
Use of Modern tools/ Experimental work in design and analysis	students know how to apply appropriate steps independently to utilize the tool for the completion	Students identify technology resources to show steps in a sequence; demonstrate likenesses and differences; and record, recognize, record, and organize information related to assigned curricular topics.	The student knows how to recognize the tool as per the available resources.Shows beginners level skills in using the tools or experimental work.	Students didnt identify any common hardware components/software platforms/ tools/ experimental work.
Progress on Analysis and results	Strong progresson core analysis; meaningful results emerging with well-documented evidence	Moderate progress; results are starting to take shape; basic interpretations attempted.	Limited or partial analysis results; interpretations are weak or incomplete.	Very little progress; analysis unclear or unsupported by data.
Teamwork	Tasks equally distributedand completed as perschedule; team helps each other overcome issues.	Minor task imbalances; team works together to solve problems with occasional delays	Work mostly done by a subset of team; some coordination issues or delays.	Lack of ownership; team members not contributing; evident dysfunction.
Total Marks				5

Table 3.19 describes the rubrics for Review-III.

Table 3.20. Rubrics for Review-IV

Review-4				
	Excellent (5)	Good (4)	Average (3)	Poor (1)
Discussion and results analysis	Exceptional analysis demonstrates an excellent grasp of logic, critical thinking, and engagement with sources.	A highly effective analysis demonstrating a strong grasp of logical, critical thinking, and engagement with sources.	The analysis demonstrated sound logic and some degree of critical thinking and engagement with sources.	Rudimentary analysis with some deficiencies of logic, no demonstration of critical thinking. engagement with sources missing.

Review-4				
Project management	The process followed in completing the project is well- defined.	Possess satisfactory knowledge of the project completion process.	The process followed in completing a project is known	The process followed in completing a project is not known
Attainment of stated objectives	Successfully executed from concept to completion, unique and original with some evidence from existing	Was successfully executed with a few unique aspects	The project was successfully executed with a derivative of existing solutions	The project is not initiated at all.
Use of Standards	This work is as per theguidelines set by the technical governing bodies.	The majority of guidelines set by the technical governing bodies are followed.	Several guidelines set by the technical governing bodies are followed.	No guidelines are followed.
Total Marks				10

Table 3.20 describes the rubrics for Review-IV.

Table 3.21. Rubrics for Review-V

Review-5				
	Excellent (5)	**Good (4)**	**Average (3)**	**Poor (1)**
Report Evaluation	Report is comprehensive, well-structured, professionally formatted, with in-depth content and proper citations.	Report is mostly complete and well-organized with minor issues informatting or content depth.	Report has several structural issues, limited content clarity, or insufficient documentation.	Report is incomplete, poorly written, lacks structure and clarity.
Plagiarism	Original work with plagiarism≤ 20%; all references are correctly cited.	Mostly original work; plagiarism between 21-23% with minor citation issues.	Significant portions copied; plagiarism between 24-26%; citation errors.	High plagiarism > 26%; most content copied with little or no citation. >30% plagiarism students are not permitted to submit the report.
Individual and Team Contribution	All members contributed equally and effectively; individual efforts clearly visible.	Most members contributed; individual contributions evident.	Some members carried the project while others contributed minimally.	Very few contributed; teamwork lacking; one or two did all the work.
Outcome of the Thesis	Objectives fully achieved; outcomes are impactful and demonstrate deep understanding and application.	Most objectives met; outcomes are useful and show good effort.	Partial achievement of objectives; outcomes are average.	Objectives not met; outcomes unclear or insignificant.
Self-Motivationand Determination	Proactively worked on the project with full ownership; overcame challenges independently.	Showed motivation;addressed challenges with some support	Motivation inconsistent;required frequent intervention to stay on track.	Lacked initiative;needed constant pushing; gave up easily.

Review-5				
Technical Knowledge and Awareness of the Thesis	Demonstrates excellent understanding of technical concepts and can explain all parts confidently.	Good understanding; can explain key concepts with minor gaps.	Limited understanding; struggles to explain parts of the thesis.	Poor understanding; unable to explain even basic concepts of the project.
Regularity	Always punctual and regular in meetings, updates, and deadlines.	Mostly regular with rare delays in submission or communication.	Irregular attendance or delays in multiple stages of the project.	Highly irregular; missed reviews, deadlines, and rarely communicated.

Table 3.21 describes the rubrics for Review-V.

Table 3.22. Rubrics for External Evaluation of final year project.

SEMESTER END EXAMINATION					
	Excellent (5)	**Good (4)**	**Average (3)**	**Satisfactory(2)**	**Poor (1)**
Technical Competency	Effective use of technology with knowledge of alternate technologies and a strong grasp of logical, critical thinking, and engagement with resources.	Effective use of technology, strong grasp of logical, and critical thinking, and engagement with resources.	Passable demonstration of technical skills with some engagement with resources.	Technologies are known but with some deficiencies of logic, no demonstration of critical thinking, and engagement with resources missing.	The technologies used are not known.
Scope fulfilment	Scope fulfilled, solution working as per problem, solution accepted by user/beneficiary and implemented.	Scope fulfilled, solution working as per problem, a solution notacceptable by user/beneficiary.	Scope fulfilled, performance of the solution needs improvement.	some scope fulfilled, performance of solution under question.	Scope of Project not fulfilled.
Originality of problem- solving	Demonstrates exceptional creativity and originality in problem- solving. The solution is innovative, non-trivial, and reflects independent thinking.Combines existing concepts in novel ways or proposes a new approach that significantly enhances the solution quality.	Shows a moderately original and well-thought-out approach. Uses known methods effectively but with some adaptation or enhancement.There is clear evidence of analytical thinking and some innovation.	Applies standard or conventional techniques with limited originality. The approach is functional but lacks uniqueness.Minimal exploration of alternative strategies or creative improvements.	Problem- solving is basic and lacks depth. Heavily relies ontextbook or readily available solutions with minimal understanding or customization. Very little evidence of original thinking.	No originality or creativity demonstrated. Copied, superficial, or irrelevant solution to the problem. No attempt toexplore or justify the approach.May reflect poor understanding of the problem itself

SEMESTER END EXAMINATION					
Analysis, results, and discussion	Results are analyzed through standard protocols, validated, and compared with an existing solution through benchmarking techniques.	Results are analysed through standard protocol but validation and comparison with existing solution is missing	Results are analyzed but the standard protocol is not followed, and validation is not done	The results are discussed but not analyzed.	Results are not stated.
Presentation content (delivery, clarity, supporting material quality)	Able to justify the need and scope of the project, build up a correlation of the results with the need and scope, able to project the impact of the solution.	Able to justify the need and scope of the project, and build a correlation of the results with the need and scope, but unable to project the impact of the solution.	Able to justify the need and scope of the project, but unable to build correlation of the results withthe need and scope.	Able to communicate the need and objective, but unable to build a correlation of the projectwith the needs of the society.	Unable to communicate the scope and objective of the project but supportingmaterial is provided.
Total Marks					30

Table 3.22 describes the rubrics for External Evaluation of final year project

3.6 Evidence of Addressing Sustainable Development Goals (SDG) (10) Total Marks 10.00

Institute Marks : 10.00

Table 3.23. Courses aligned to SDGs with learning outcomes.

Course Name	SDG Alignment	Key Topics/Engagements	Pedagogy/Methodology	Learning Outcomes
Gender Studies	SDG 5 – Gender Equality SDG 10 – Reduced Inequalities	Gender roles, equity in STEM, intersectionality, workplace inclusivity	Case studies (women in STEM), intersectional analysis, policy reviews	Analyze social constructs, apply inclusive design, support equity in professional practice
Social Internship	SDG 1 – No Poverty SDG 11 – Sustainable Cities and Communities SDG 17 – Partnerships for the Goals	NGO work, local governance, rural development	Field immersion,participatory learning, mentorship from social sector professionals	Sensitization to social issues, real-world exposure,collaborative. problem-solving
Universal Human Values (UHV)	SDG 4 – Quality Education SDG 16 – Peace, Justice and Strong Institutions	Ethics, empathy, harmony with nature, value-based living	Reflective discussions, storytelling, group activities	Develop ethical outlook, empathy, and holistic value
Indian Knowledge System (IKS)	SDG 4 – Quality Education SDG 12 – Responsible Consumption and Production	Ancient sciences, Ayurveda, Vedic math, traditional architecture, metallurgy	Guest lectures,field visits,project-based modules	Appreciate indigenous knowledge and its sustainability relevance
Disaster Management	SDG 13 – Climate Action SDG 11 – Sustainable Cities and Communities	Risk assessment,resilience, mitigation strategies,emergency response	Simulations, GIS , tools, workshops, case studies	Gain disaster preparedness mitigation, and recovery planning skills
Corporate Mentorship	Youth Employment SDG 9 (9.5) – Innovation Capacity SDG 17 – Partnerships	Mentorships,masterclasses,capstone projects,industry challenges	Industry-led mentoring, feedback loops,project reviews,innovation coaching	Enhance technical and professional skills, gain market relevance, foster innovation and employability

Table 3.23 describes the courses aligned to SDGs in the curriculum with learning outcomes.

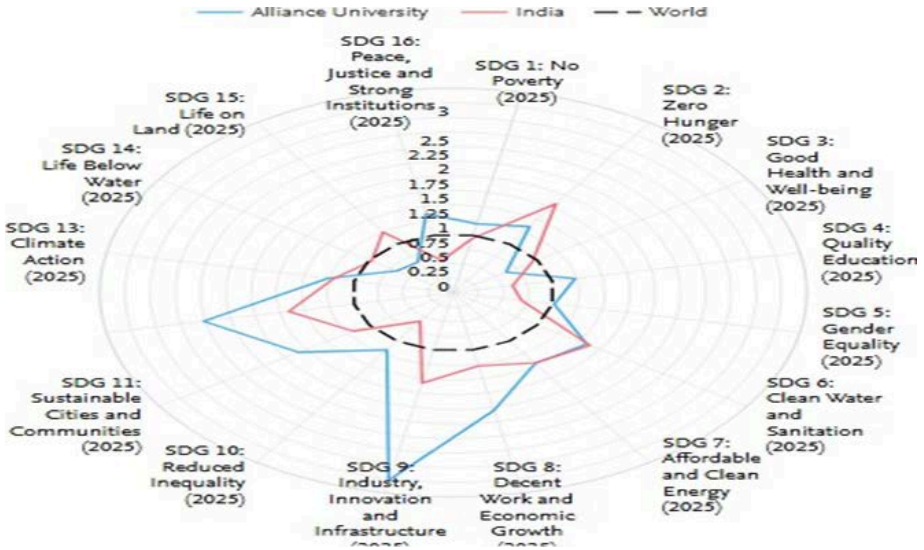


Figure 3.2. SDG mapping of research outcomes at Alliance University in comparison to the India and worldwide.

Table 3.24. Evidence of student projects aligning with courses and relevant SDGs

Student Name	Title of the Social Internship	SDG Category	Upload the PPT and Final Report Soft copy (Rename these files with your registration number)
Vedika Paresh Chand	Women Empowerment	SDG 5: Gender Equality	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED025%20REPORT_anonymous.pdf; https://alliancebschool-my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B6466C08B- 0FD8-4BCF-8CC3-F2D91EFD47E5%7D&file=2023BECE07AED025%20PPT_anonymous.pptx&action=edit&mobileredirect=true
Hujefa	Education for unprivileged in rural areas	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/Social%20Internship%20HUJEFA_anonymous.pdf
DHARSHAN GOWDA M	School education for underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/DHARSHAN%20GOW DA%20M%202023BECE07AED041_anonymous.pdf
Lahari Y	Women Empowerment	SDG 5: Gender Equality	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BA5610FB7- C32A-4465-8806-5F4764362EFD%7D&file=2411021060534%20(%20Group%202%20)_anonymous.docx&action=default&mobileredirect=true
Karanam Eswar Naidu	Agricultural Products and marketing	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_edu_ in/_layouts/15/Doc.aspx?sourcedoc=%7BCA0DCA89- 8D5A-4430-BF3C-0799852C3E7D%7D&file=2411021060158-ppt_anonymous.pptx&action=edit&mobileredirect=true
Gadhamsetty venkata rohith	Organic farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/Organic_Farming%5B1%5D_anonymous.pdf
Undavelli Sree Harshith Ram	Softening of Hard water using Aloe- vera (Natural Process)	SDG 6: Clean Water and Sanitation	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED013_anonymous.pdf

Student Name	Title of the Social Internship	SDG Category	Upload the PPT and Final Report Soft copy (Rename these files with your registration number)
Eshwar Chandra Prasad R	Private Transport	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/Social_Internship_20 23BECE07AED049_PPT_anonymous.pdf
Ponnapati Maneesh kumar Reddy	Poultry farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2411021060109_ano nymous.pdf
Arvind Suthar	Empowering education through community empowerment	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BD5C4A45F- C486-478F-8D82-450B9E06A38E%7D&file=2023BECE07AED047_anonymous.pptx&action=edit&mobileredirect=true
Darshan A P	Private Transport	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED051_PPT_anonymous.pdf
Varshini M	School education for underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B25B1F17F- FDFB-471E-B61C-DAB7F4BA3367%7D&file=2411021060674_anonymous.p ptx&action=edit&mobileredirect=true
Jayaraj M	Empowering Education through community engagement	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED045_anonymous.pdf
Keerthana R	School education for under privileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B8E1E8192- 631B-4F8D-A820-00694456BC8E%7D&file=2023BECE07AED035_anonymous.pptx&action=edit&mobileredirect=true
HARSHAN J. POOJITH K, JAYESH K and HARI PRASAD	Helping the improvement of village	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2411021060156%20,%202411021060067,%202411021060886_anonymous.pdf
POOJA R	Health care and awareness	SDG 3: Good Health and Well-being	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B0D8F59CD- DCF9-49A2-811C-19A88F9270B8%7D&file=2411021060672_anonymous.p ptx&action=edit&mobileredirect=true
Sneha.S	Organic Farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/DOC-20250513-WA0001._anonymous.pdf
B. Manideep Reddy	Health care awareness programs and their programs	SDG 3: Good Health and Well-being	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B4B6F6968- E112-4863-895F-601E90495D9B%7D&file=2411021060598_anonymous.p ptx&action=edit&mobileredirect=true
Saniya Ilma	Construction Of A Furniture Manufacturing Unit	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2411021061375%20 si.%20ppt_anonymous.pdf
Sharvari Shirpurkar, Kavya C Hiremath, Babita Mandal, Nimrah N	Women Empowerment	SDG 5: Gender Equality	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BB3F418D5- 9735-4646-BEE9-8526D5E8C913%7D&file=2411021060844,2411021060430,2411021060440,241_anonymous.pptx&action=edit&m obileredirect=true

Student Name	Title of the Social Internship	SDG Category	Upload the PPT and Final Report Soft copy (Rename these files with your registration number)
Raja Sai Siddharda	child labour	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BBE8286C6- CCEF-4C5A-A531-14AB2B64F478%7D&file=2023LECE07AED058_anonymou s.pptx&action=edit&mobileredirect=true
Basana Gouda,Tarun Aditya B,Ashok P,Prajwal Reddy	Botanical survey	SDG 15: Life on Land	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2411021061281,2411021061654,2411021061364_anonymous.pdf
Shivani	Private Transport	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/%5B2023BECE07AED 048%5D_anonymous.pdf
LAHARI Y , PRAKRUTHI G B , MANIKANTA , KATHIR C , AYUSH RAJ , DEEPIKA DAS	Women Empowerment	SDG 5: Gender Equality	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2411021060534-%20lahari%20y%202411021060699-%20prakru_anonymous.pdf
ROHITH S, ADHISHANKAR G, TEJASKUMAR V, EROTHU ABHISHEK, ARYAN DAS GUPTA, BATCHU NAGAKOUSHIL	Village development plans	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2411021060347_ano nymous.pdf
Meru Chaithanya G S, Manjunatha S, G Deepak, Deepak M, Dande Venkata Madhu Sudhan	Social Internship on Sanitation, Infrastructure and Youth Development	SDG 6, SDG 9, SDG 11	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B996B4613- 3124-482C-9F85-0094B904C02D%7D&file=0800,%200816,%200856,%200508,%200524_anonymous.pptx&action=edit&mobileredi rect=true
GAGAN U, RAHUAL S, SAMARTH SHETTY, MADHUJID G, PRADEEPRAM R	Quality of elementary education and accessibility	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/SOCIAL%20INTERNS HIP%20PPT_anonymous.pdf
BADRI KRISHNA, VIKAS REDDY	Natural Water Softening Using Aloe Vera	SDG 6: Clean Water and Sanitation	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED016_anonymous.pdf
Ujwal Y R	Stress levels and coping mechanisms	SDG 3: Good Health and Well-being	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BD43B5C3E- 4A97-4256-A07F-A25CB3A4A286%7D&file=2023BECE07AED039ppt_anonymous.pptx&action=edit&mobileredirect=true
M Ajith Reddy, Sunil Mathew	Stress levels and coping mechanism	SDG 3: Good Health and Well-being	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B5FA37287- 28A3-4D2B-BDCB-711985B32E54%7D&file=2411021061459,%20%202411021061581_anonymous.pptx&action=edit&mobileredirect=true

Student Name	Title of the Social Internship	SDG Category	Upload the PPT and Final Report Soft copy (Rename these files with your registration number)
Tejashree L	Poultry Business	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B206549A7- FDC2-47EA-9030-1F6073C76B82%7D&file=2023BECE07AED019_social%20internship_anonymous.pptx&action=edit&mobileredirect=true
ROHAN	Empowering Education Through Community Engagement	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B2454FD21- E2BA-4F58-B5E8-AA0A3D2BC90C%7D&file=social%20internship%20ppt_a nonymous.pptx&action=edit&mobileredirect=true
DEEPIKA Y	Organic forming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B7A3814FD- 2124-4697-A2A1-24670594B887%7D&file=2411021061633_anonymous.p ptx&action=edit&mobileredirect=true
Pruthviraj S	School Education for Underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/Social%20Internship%20report%20PRUTHVIRAJ%20S%20Y%20%20%20%201_anonymous.pdf
Shaik Mahammad Arhan	Poultry business	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B9104A2E2- 38A4-423D-83A5-D7C94A8E610F%7D&file=2023BECE07AED018(ppt)_anonymous.pptx&action=edit&mobileredirect=true
Sanskriti Srivastava	The Impact of Cooking on nutrient component: comparative analysis	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B9C235431- D740-4CEF-A23A-A21DF38B0DE5%7D&file=2023BECE07AED011_anonymous.pptx&action=edit&mobileredirect=true
Harshitha BL	School education for underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BB7EB2099- 0504-4D75-B483-B05272E22183%7D&file=2023BECE07AED034_anonymous.pptx&action=edit&mobileredirect=true
Km Varsha Mandal	Women empowerment	SDG 5: Gender Equality	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED027- PPT_anonymous.pdf
Vinod kumar v	Education and engagement skill and unprivileged student	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B270AFD64- 38FC-4ED6-A46B-21CC4A152E15%7D&file=Social%20internship%20ppt_anonymous%201.pptx&action=edit&mobileredirect=true
HARSHITHA BASAVARAJ SIDDASAMUDRA	Stress levels and coping mechanism	SDG 3: Good Health and Well-being	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/social%20internship_anonymous.pdf
Adi Girish	The impact of cooking on nutrition content	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B6A68990C- 4FDF-43D7-AAE4-DB8FD8253046%7D&file=Social_Internship_Ppt[1]_anon ymous.pptx&action=edit&mobileredirect=true
Yashawini M S	School Education for Underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BE51B2AB8- A769-4E06-84EB-C1F70C89D5DA%7D&file=Yashawini%20M%20S- 2023BECE07AED05_anonymous.pptx&action=edit&mobil eredirect=true
G.Sumanth babu	Nutritional Retention in vegetables	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/socialinternshipfinal%20%20(1)_anonymous.pdf

Student Name	Title of the Social Internship	SDG Category	Upload the PPT and Final Report Soft copy (Rename these files with your registration number)
Teju S.H.	School Education for Underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/Social%20Internship%20report%20final%20122_anonymous.pdf
KUSHAL HY, MONAJ KUMAR PS, SRINIVAS, VISHAL G, VENU MADHAV KASHYAP, B SRUJAN KUMAR REDDY	WATER POLLUTION	SDG 6: Clean Water and Sanitation	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B4A74AFE0- B167-427A-96ED-98CADB8A49D5%7D&file=SRUJAN%20AND%20TEAM%20SI[1]_anonymous.docx&action=default&mobileredirect=t rue
PROV/BTECH/7/24/1165, PROV/BTECH/7/24/0013, PROV/BTECH/7/24/0589, PROV/BTECH/7/24/0572, PROV/BTECH/7/24/1124	Commercial Crops in Singasandra Village	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B19592A0D- 6DB4-476D-88DF-70A975DE0729%7D&file=social%20internship_anonymous.pptx&action=edit&mobileredirect=true
CHITRA CHARAN TEJA	Organic Farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B9882EF2C- 7F42-4846-8A90-76E933C15DD8%7D&file=sip%20ppt_anonymous.pptx&action=edit&mobileredirect=true
Praveen kumar B	Organic farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B6ECD7D5D- 241B-4FB4-BE4F-440E62AD1B5D%7D&file=2023BECE07AED031%20ppt_anonymous.pptx&action=edit&mobileredirect=true
Hemanth R	School education for underprivileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/Social%20Internship%20report%20final%20(2023LECE07AED_anonymous.pdf
SUDEEP, KUSHAL K GOWDA, SHRENIK, PREETAM	VILLAGE DEVELOPMENT PLANS	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B9A5CC1E5- 6DA2-4021-A2E1-D939929185DE%7D&file=village%20development- 1_anonymous.pptx&action=edit&mobileredirect=true
Kiran R U	Child labour	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B2FC10348- 3E6C-4790-B384-B356A30DD2D3%7D&file=2023LECE07AED056%20child%20labour%20ppt_anonymous.pptx&action=edit&mobiler edirect=true
Shafee Manikbhai, Sujay M C, Yeswanth K, Rakesh	Organic Farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B1488BDDE- 9849-47B2-9F99-893323960C2B%7D&file=Introduction- to-Organic- Farming_anonymous.pptx&action=edit&mobileredirect=true
Yeshwanth.M	Child Labour	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B5371CBD7- 5411-445F-A4EA-0334DD3D0CA9%7D&file=2023LECE07AED067%20child%20labour_anonymous.pptx&action=edit&mobileredirect=true
CHINNAKOTLA THARUN KUMAR	PRIVATE TRANSPORT	SDG 11: Sustainable Cities and Communities	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7BB3BA1244- A689-48CB-8726-B4A4A6193063%7D&file=JCBs%20and%20Their%20Role%20in%20Social%20Development%203%20s_anonymous.pptx&action=edit&mobileredirect=true

Student Name	Title of the Social Internship	SDG Category	Upload the PPT and Final Report Soft copy (Rename these files with your registration number)
Subramani R	Dairy Business	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B9004D1BF- 112E-44D3-B47B-C17F51A02FA0%7D&file=2023BECE07AED052(ppt)_anonymous.pptx&action=edit&mobileredirect=true
NUKALA DINAKAR SANDEEP GUPTHA	Natural Water Softening Using Aloe Vera	SDG 6: Clean Water and Sanitation	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/2023BECE07AED015_anonymous.pdf
Swastik Bharatesh Lagamannavar	School Education for Under Privileged	SDG 4: Quality Education	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B23F53DC6- 625D-417B-8229-42C4E6CCD91C%7D&file=School%20Education%20for%2 0Under%20Privileged_anonymous.pptx&action=edit&mobileredirect=true
Meghana ps	Organic farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/SOCIAL%20INTERSHIP%20final_anonymous.pdf
Koushik B K, Preetham Shetty, Prajwal A H, Havyas K K	Migration for Employment	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/_layouts/15/Doc.aspx?sourcedoc=%7B3B00EDE5- F00C-4BED-949F-96A7E04B135C%7D&file=2411021061344%20ppt_anonymous.pptx&action=edit&mobileredirect=true
ABHILASH S	Organic farming	SDG 2: Zero Hunger	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/socialintership3%20(3)_anonymous.pdf
VEDHASHREE M Karamudi , Hemashree BM, Srushti R Muddenur, Saniya ilma	Construction of a Furniture Manufacturing Unit	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/ppt_anonymous.pdf
S Mohith Royal, S A Manobala, Akil S, Beeraling	Entrepreneurship of Small Shops	SDG 8: Decent Work and Economic Growth	https://alliancebschool- my.sharepoint.com/personal/gaurav_kumar_alliance_ed u_in/Documents/5.%20Apps/Microsoft%20Forms/Social%20Internship%20Details/Question/the%20finallllll_anonymous.pdf

Table 3.24 provides the evidence of student projects aligning with courses and relevant SDGs.

3.7 Attainment of Course Outcomes (25)

Total Marks 25.00

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

Institute Marks : 5.00

Attainment of Course Outcomes (COs):

Course Outcomes (COs) are defined for each course, with action verbs aligned to the

appropriate cognitive levels of Bloom's Taxonomy clearly identified.

Direct Assessment:

The mid-semester assessment (MSE) mainly covers CO1 and CO2 each question is mapped to either one of these COs. The CO attainment percentage is calculated as the ratio of the marks obtained by students to the total marks allocated for that CO. All COs are systematically covered through various components of the during-semester assessments (DSA), including assignments, quizzes, and class assessments. For each of these components, CO percentage scores are similarly computed based on prior MSE question paper analysis and mapping.

CO percentage scores for internal assessments are calculated by averaging the scores from mid- term exams, assignments, quizzes, class assessments, and other relevant components mapped to each course. Similarly, CO scores for the Semester End Examination (SEE) are determined based on the university question paper analysis and the COs addressed. The overall CO attainment is then computed as a weighted average, with 50% weightage assigned to During- Semester Assessments (DSA) and 50% to SEE. Of this overall attainment, 80% is considered for direct assessment.

Indirect Assessment:

At the end of the semester, student feedback is collected to evaluate the relevance and effectiveness of each Course Outcome (CO) in achieving the intended Bloom's Taxonomy levels. This feedback contributes 20% to the overall CO attainment for each course.

Overall CO Attainment:

The overall COs attainment for a specific course is calculated as a sum of direct assessment and indirect assessment. Figure 3.3 enunciates the entire flowchart of assessment methods and its correlation towards CO-PO-PSO attainment and continuous improvement.

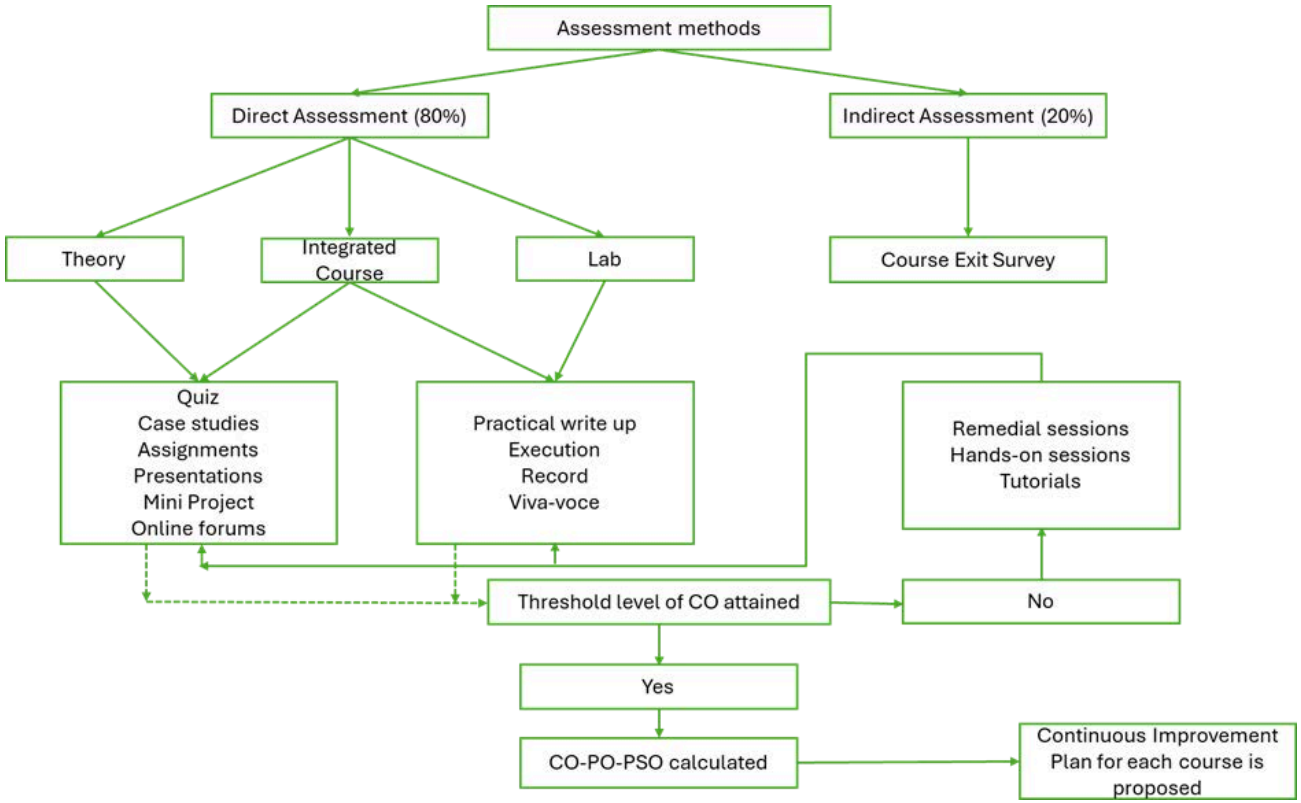


Figure 3.3. Flowchart of the assessment methods and its correlation towards CO-PO-PSO attainment and continuous improvement.

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

Institute Marks : 20.00

Table. 3.25. Faculty wise course direct CO attainment and corresponding action taken for the last 3 semesters

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
2024-2025 (ODD SEMESTER)							
Dr. G. Ramana Murthy	5EC1232 - TVLSI	88.52	88.28	86.09	88.07	92.01	The direct assessment of all Course Outcomes (COs) is satisfactory. For this semester, the target achievement levels for CO3, CO4, and CO5 were set at 50%, in contrast to CO1 and CO2, which were set at 75%. As part of the continuous improvement strategy, the targets for CO3, CO4, and CO5 will be aligned with CO1 and CO2 at 75% in the upcomingsemesters.
	EC701 - Internet of Things	87.68	79.44	85.72	85.1	86.61	The direct assessment results for CO1, CO2, CO3, CO4, and CO5 have met the required attainment threshold. However, CO2 exhibits a relatively lower percentage compared to the other course outcomes. To improve CO2 performance in future semesters, group presentations will be considered to reinforce students understanding of key topics such as internet connectivity, IP addressing, and cloud- based data collection, storage, and computing. Overall, all course outcomes have successfully achieved the 75% attainment target.
	ECL707 - IoTLaboratory	88.21	88.21	88.21	88.21	88.21	The direct assessment of all Course Outcomes (COs) has been found satisfactory. As part of the continuous improvement process, the experiments related to CO3, CO4, and CO5 will be enhanced. Additional experiments focusing on communication protocols such as MQTT, HTTP, and CoAP will be incorporated inthe upcoming semesters.
Dr. Harinath Aireddy	3EC1002Network Theory and Transmission Lines	55.42	57.26	69.95	74.74	78.08	The CO attainment targets set for all five COs have been met and surpassed, indicating effective delivery and student comprehension. Continued efforts will be made to maintain this trend by refining instructional methods and increasing practice on graphical methods (CO4 & CO5).Additional emphasis will be placed on mini- projects and Smith chart applications to reinforce practical learning. Faculty will explore including real-world transmission line case studies to further improve PO and PSO linkages.
Dr. Sridhar T	5EC1011 -Modern Control Systems	74.58	75.94	62.74	84.47	56.89	CO1 TO CO5 the set target was 75% .The hands-on sessions and tutorial classes will be introduced to enhance students practical skills through varied problem-solving and case studies for CO3 and CO5

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Sandeep Dhariwal	CMOS VLSIDesign (5EC1008)	76.35	69.34	76.54	84.29	79.69	Self -Motivation for students to practice in HDL coding and Verification using open source tools to practice anywhere.
	Low Power VLSI Design (ECE 717)	81.5	81.5	78.88	81.01	80.84	Refering the latest research papers to update for newer techniques to lower the power dissipation and applying the same in undertaking desings with EDA tools.
Dr. Gaurav Kumar	MATLABProgramming (3OE1701)						a. MATLAB Programming (3OE1701)The attainment of CO1 and CO2 has been observed less as compared with the target level. In the subsequent offering, the following steps will be taken to improve the attainments.In 2025-26 offering, self-paced learning materials from the MATLAB Academy will be prescribed for better understanding of the average learners.Additional learning materials like e-books, small programming problems related to CO-1 and CO-2 shall be provided to the students.Hands-on sessions will be provided during the course.The advance leaners will be given some review paper to implement using the MATLAB to improve their understanding of the course.
Dr. Srikanth Itapu	Spintronics (ECE 714)	91.66	94.39	59.54	91.21	85.74	SEE Direct Assessment of CO 3 need to be reviewed. Inclusion of more technical papers in the domain would augment better student learning experience.
Dr. Anil Kumar Neelapala	Embedded Machine Vision (EC716)	81.53	83.41	75.99	82.95	93.47	Identify a specific real-world problem that can be solved or significantly improved using embedded machine vision, and ensure it inherently spans multiple disciplines.
	Embedded System Design (3EC1019)	61.68	62.11	62.25	48.47	62.16	Encompassed understanding the 8051s architecture, its port configurations for interfacing, and peripheral interactions through coding exercises and hobby projects.
	Embedded Sensor Technology (5EC1224)	76.89	73.44	68.92	80.68	88.9	Introduce circuit simulation software (e.g., LTSpice, Proteus, Multisim, Tinkercad Circuits) for simulating basic sensor interfaces and signal conditioning circuits.
Dr Aby K Thomas	3EC1004Communication Network	64.41884058	44.34710145	58.11062802	79.04878261	74.27857971	CO1 Target successfully met -Include real-world examples to further reinforce conceptsCO2 Gaps in MAC protocol understanding-Conduct additional simulation-based labsCO3 Difficulties in subnetting and IPv4 - Schedule remedial class on IP addressingCO4 Low performance in transport layer topics- Add quiz and revision modules on TCP/UDP CO5 Strong lab-based learning observed - Continue using protocol configuration demos
Dr. Amar Choudhary	Introduction to 5G and Beyond (5EC1233) - PP - 3.00	78.76294737	69.11547368	77.12112281	74.73789474	75.00084211	Encouraged use of Coursera courses on 5G, AI in telecom, and network security. Implemented student-driven research presentations and paper reviews.
	Autonomous Connected Vehicles (ECO796) - PP -3.00	80.99722222	85.90555556	91.29444444	73.92222222	96.38888889	Conducted guest lectures by industry professionals and organized webinars focusing on project management and innovation in the automotive telecom sector.
2023-2024 (EVEN SEMESTER)							

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Ramana Murthy G	4EC1007 -Digital Design with VHDL	80.27	84.76	71.74	69.05	70.05	The direct assessment results for CO1 and CO2 are satisfactory. This semester, the target achievement levels for CO3, CO4, and CO5 were set at 50%, in contrast to the 75% target set for CO1 and CO2. As part of the continuous improvement strategy, the targets for CO3, CO4, and CO5 will be increased to 75% in upcoming semesters to align with CO1 and CO2. To enhance the performance of CO3, CO4, and CO5, additional instructional materials will be introduced, including case studies on sequential logic circuit design, hands-on exercises involving digital IC design based on specific problem statements, and expanded coding examples in VHDL.
	ECE612 -Advanced VLSI	81.26	81.97	77.08	77.17	76.66	The direct assessment outcomes for CO1 and CO2 are satisfactory. In this semester, the target achievement levels for CO3, CO4, and CO5 were set at 50%, compared to the 75% target for CO1 and CO2. As part of the continuous improvement strategy, the targets for CO3, CO4, and CO5 will be raised to 75% in future semesters to ensure consistency across all course outcomes. To support this enhancement, the upcoming semesters will include additional instructional resources such as case studies on sequential logic circuits using CMOS technology, hands-on exercises focused on dynamic logic design to optimize power and delay performance, and expanded HDL coding examples targeting FPGA implementation.
Dr. Harinath Aireddy	CDP-699-Career Development Program	74.18	69.69	78.77	76.78	81.1	All Course Outcomes (COs) surpassed the set attainment targets, indicating effective course delivery. To further enhance student learning, additional structured peer-review sessions and mock interviews will be introduced under CO4. For CO2, industry case studies and planning tools will be integrated to improve project planning skills. Continued emphasis on professional report writing and presentation (CO3) will be supported through workshops and feedback sessions. The CO-PO mapping and assessment strategies remain appropriate and will be sustained for future offerings.
Dr. Sridhar T	ECE616-Advanced Embedded Systems	52.13	87.09	83.76	89.46	89.22	CO1 to CO5 the set target was 70% .Tutorial classes and practical assignments will be introduced to enhance students performance for CO1.
Dr. Chitra Kiran N	EC 601-Wireless and Mobile Communication	91.22	99.41	94.02	99.4	99.69	CO attainment is satifactory ,now industry experts session will be scheduled for improving and maintaining the assesment.
Dr. Sandeep Dhariwal	ECE812-Digital VLSI Design	74.27	78.07	72.41	75.23	75.5	The direct assessment outcomes for CO2 , CO4 and CO5 are satisfactory. In this semester, the target achievement levels for CO1 and CO3 are comparatively less and needs to be enhanced in the upcoming semesters. It will include additional instructional resources on sequential logic circuits using CMOS technology, hands-on exercises focused on dynamic logic and delay performance, and expanded HDL coding examples and their implementations.
Dr. Srikanth Itapu	Introduction to MEMS (ECE 614)	89.29	90.35	85.06	84.1	83.83	Direct Attainment of all COs (> 80% attainment) was achieved. More hands-on sessions on modelling of MEMS-based sensors using COMSOL Multiphysics tool would greatly benefit the student understanding at micron-scale.
	Semiconductor Packaging and Manufacturing (ECE 814)	70.18	81.54	82.95	84.32	87.11	Direct Attainment of CO 1 (70.18% attainment) needs review. More case studies on circular economy with semiconductor waste and review of scope 1 and scope 2 emissions with additional review articles will be provided in the next offering.
Dr. Anil Kumar Neelapala	Embedded Architectures (ECE615)	57.22352941	57.22352941	57.6	76.8	86.4	Working on projects that simulate real-world challenges provides context and motivates deeper engagement, while collaborating with peers fosters diverse perspectives, shared problem-solving, and mutual learning.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Amar Choudhary	Next Generation Wireless Communications - (ece613) (pp - 3.00)	87.68888889	86.5037037	86.8	89.46666667	87.76296296	Organized guest lectures by industry experts from telecom companies focusing on 5G deployments, standardization efforts, and future 6G roadmaps.
	Introduction To 5g And Beyond - (ece811) (pp - 3.00)	93.30285714	93.90428571	90.688	92.06152381	90.91066667	Scheduled webinars with 5G industry professionals to expose students to real-world challenges.
	Vehicular Communication s And Networks - (eco697) (pp -3.00)	86.13333333	87.30666667	85.04488889	85.17911111	83.84177778	Introduced a dedicated session on ethical, legal, and societal impacts of vehicular communications.
Dr Aby K Thomas	EC603 Data Communication and Networking	70.41666667	71	72.56609687	72.81609687	74.06111111	CO1 Target met successfully -Sustain current strategy with short recapsCO2 Random access protocols not well grasped -Supplement with Packet Tracer simulations CO3 Confusion in subnetting and routing types - Deliver dedicated IP lab sessions and routing visualsCO4 Low performance in transport layer concepts- Introduce quizzes and extra examples on TCP/UDP CO5 Excellent attainment - Continue using real-world protocol scenarios
	ECL606 Data Communication and Networking Lab	60.10555556	60.68888889	60.18888889			CO1 Target met - Continue existing pedagogy and maintain assessment standards.CO2 Target met - Continue existing pedagogy and maintain assessment standards.CO3 Target met - Continue existing pedagogy and maintain assessment standards.
	ECE616-Wireless Adhoc Networks	68.47619048	68.47619048	73.13333333	72.06666667	76.90238095	CO1 No major gaps – strong conceptual clarity - Reinforce with case studies and application demos CO2 Difficulty with MAC protocol types - Conduct animated simulation tutorialsCO3 Misconceptions in routing classifications - Hands-on classification activities and flowcharts CO4 Low performance in transport & TCP adaptation-Introduce extra tutorial + practice questionsCO5 Target met successfully - Maintain currentteaching strategy
Dr. Gaurav Kumar	4EC1005 Signals and Systems	68.75	68.9	75.8	68.47	78.07	The traget attainment for all COs have been achived. to improve further, the following actions will be takena. one extra hours beyond the alocated class roomcontact hours will be scheduled for inclusion of MATLAB bases simulations and microprojects
	EC602 Digital Signal Processing	75.73	75.57	79.43	80.71	78.58	The traget attainment for all COs have been achived. to improve further, the following actions will be takenone extra hours beyond the alocated class room contact hours will be scheduled for inclusion ofMATLAB bases simulations and microprojects
	ECL607 Digital Signal Processing Lab	81.73	81.88	81.02	81.45	82.3	a. The traget attainment for all COs have been achived. to improve further, the following actions will be takenThe procurement of campus wide licence will be recomeded to the HoDQuick review of the MATLAB software will be provided to the students in the beginning of the sem.
2023-2024 (ODD SEMESTER)							

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Ramana Murthy G	ECE511 - Testing of VLSI Circuits	74.24	77.79	75.24	75.07	74.73	The attainment level for all the COs is kept at a threshold value of 75%. The direct assessment for CO2, CO3 and CO4 are in satisfactory category. However, CO1 and CO5 attainment falls below marginally. To enhance the performance of CO1 and CO5, additional instructional materials will be introduced, including presentation topics on design for testability-SCOAP measures for combinational circuits, levels of abstraction in testing and verification, hands-on exercises involving Verilog-based modeling levels and experimental work on FPGA boards.
	ECE712 - RTOS	84.67	84.5	75.65	76.65	79.88	The attainment threshold for all Course Outcomes (COs) is set at 75%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold. However, the attainment levels for CO3, CO4, and CO5 are only marginally above the minimum target, highlighting areas for potential improvement. To strengthen student performance in these outcomes, additional instructional interventions will be implemented. These include presentation assignments on scheduling algorithms and multithreading models (such as thread prioritization and mutex mechanisms), hands-on exercises focusing on process stack management, runtime buffer sizing, swapping, and overlays, as well as experimental labs involving Linux POSIX systems, RTLinux/RTAI, and Windows-based platforms.
	EC701 - Internet of Things	78.07	84.47	75.82	75.91	76.43	The attainment threshold for all Course Outcomes (COs) has been set at 75%, serving as the benchmark for evaluating student performance. The direct assessment results indicate that each CO has achieved this target, placing them within the satisfactory range. This suggests that students are meeting the expected learning objectives across all defined outcomes, demonstrating a solid grasp of the course content.
	ECL707 - IoTLaboratory	86.65	86.4	86.57	86.48	86.57	The attainment threshold for all Course Outcomes (COs) is set at 75%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold.
Dr Aby K Thomas	ECE515 Wireless Sensor Networks	66.60904762	69.66819048	64.1952381	58.15952381	58.49285714	CO1 None – Target fully achieved - Continue practical examples and IoT-based demos CO2 Confusion in contention-based MAC protocols - Include animations or simulations in lecturesCO3 Difficulty in classifying routing protocols - Organize interactive routing protocol classification SeminarCO4 QoS and reliable transfer concepts were not clear Conduct focused tutorial on QoS and rate control with examplesCO5 Good performance – no major gapMaintain use of visual aids and IEEE standards references
Dr. Sridhar T	EC302 - ANALOG ELECTRONIC CIRCUITS	80.44	81.66	80.99	85.51	82.13	The attainment threshold for all Course Outcomes (COs) is set at 80%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold.
	EC501 -Control Systems	75.43	75.66	75.54	76.48	72.42	The attainment threshold for all Course Outcomes (COs) is set at 75%, serving as the standard benchmark for student performance. The direct assessment results indicate that CO1 TO CO4 fall within the satisfactory category, having met this threshold. CO5 willbe taken care by giving Case Stuides.
	ECO798 -Optical Fiber Communicatio ns	91.98	91.69	84.3	82.02	81.44	The attainment threshold for all Course Outcomes (COs) is set at 80%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Sandeep Dhariwal	EC502-CMOSVLSI Design	63.66	63.66	47.09	47.09	47.09	The Course Outcomes are not as per expectations and needs a rigorous review to enhance the performance in each of the course outcomes. For this, in each of the course outcomes, there will be a class discussion and participation after ending of each of the modules and personal attention during the designing portions during the direct teachinghours.
	ECL507-VLSIDesign Lab	65.64	65.72	65.9	65.81	NA	There are four COs as per CDAP and all the outcomes are observed in the average categories. There is a strong requirment of practice for the students to work on designing and coding for combinational as well as sequential designs along with Vivado implementations in the Lab Hours.Individula students need to be observed with daily practical outcomes during the Lab Hours.
	EC711-Analog VLSI Design	77.74	77.74	70.33	70.33	70.33	The direct assessment outcomes for CO1 and CO2 are good . The direct assessment outcomes for CO3 , CO4 and CO5 are satisfactory but needs more improvment in the upcoming semesters. It will include additional instructional resources on Analog and mixed circuits using hands-on exercises on EDA tools.
Dr. Gaurav Kumar	3OE1701 MATLABProgramming	76.41	76.55	76.09	76.12	77.77	a. The target attainments for COs have been achived. In the subsequent offering, the following steps will be taken to improve the attainments.Additional learning materials like e-books, small programming problems related to CO-1 and CO-2 shall be provided to the students.Hands-on sessions on CO5 will be provided during the course.The advance leaners will be given some review paper to implement using the MATLAB to improve their understanding of the course
	EC714 Software Defined Radio	85.61	85.92	82.87	86.22	83.76	The target outcomes have been attained. The MATLAB simulations will be integarted in the course.
Dr. Harinath Aireddy	3EC1002Network Theory and Transmission Lines	66.73	66.36	64.11	64.11	64.11	All CO attainment targets (CO1–CO5) were achieved with performance exceeding the set benchmarks. However, marginal differences between target and attained values for CO3–CO5 suggest scope for deeper conceptual understanding in Transmission Lines and Two-PortNetworks.
	ECE-505 - RFand Microwave Engineering	80.13	79.1	73.33	73.33	73.33	The attainment for all COs in the course exceeded the target thresholds, indicating overall effective delivery. However, to further improve CO2–CO5 performance, practical exposure through simulation-based design of antennas and active circuits will be enhanced. Additional assignments using tools like CST will be introduced. Case studies and technical papers on recent advancements in microwave systems will be incorporated to deepen conceptual understanding and align with evolving industry trends.
Dr. Srikanth Itapu	ECL 709Microwave, Antenna and OFC Lab	90.08	91.5	90.46	89.07		All the COs are highly attained. This laboratory only course will be integrated into a hybrid course (both theory and lab components included) in the next offering.
Dr. Anil Kumar Neelapala	EST(ECE-514)	65.27777778	59.33333333	69.83333333	51	64.5	Initiated a robust phase of cross-functional analysis to thoroughly define the problem space from multiple disciplinary perspectives.
	AIML(ECO598)	83.49206349	80.69841048	82.37037037	77.58730159	77.14285714	A structured presentation of advanced algorithms where theoretical concepts are immediately followed by practical implementation and demonstrations on relevant real-world datasets.allowing students to visualize code execution with virtual hardware.
Dr.Chitra Kiran.N	EC 504Communication Systems	68.61	70.73	73.18	98.93	88.31	The direct assessment outcomes are met . For continous improvement CO1 will be improved giving casestudies, problem solving experiments.
	EC 504Communication System LAB	91.38	91.91	91.47	91.91	92.18	The direct assessment outcomes are met . For continous improvement case studies , paper writing, webinars are introduced.
	ECE 713Introduction to MIMO Systems	76.35	78.46	76.35	78.99	79.68	CO Attaimnment is satisfactory, and further improvent for the extended target will be achieved by Case studies and writing papers

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

Total Marks 23.00

Institute Marks : 23.00

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MA101	1.56	1.04	1.04	1.01	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
PH104	1.47	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
CH113	1.74	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
TE115	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
CS103	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
ME102	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
CE105	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
CE106	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
PHL108	1.89	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
MEL109	2.28	2.28	2.28	0.76	0.76	0.76	0.76	PO8	0.76	0.76	0.76	0.76
MA201	1.53	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
PH204	1.47	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
CDP299	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
CS203	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
EE112	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
ME111	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
EC114	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
CHL116	1.89	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
EEL117	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
EXC130	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
EC301	1.55	1.49	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
EC302	1.93	1.85	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
EC303	1.64	1.64	1.47	1.58	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
EC304	1.77	1.77	1.65	1.65	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
EC305	1.195	1.82	1.69	1.95	1.95	1.95	1.30	1.30	1.30	1.30	1.30	1.30
EC311	2.16	2.16	2.16	2.16	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
ECO398	1.02	1.02	1.02	1.53	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
ECL307	2.13	2.04	1.87	0.85	0.85	1.70	0.85	0.85	1.70	1.70	1.70	0.85
ECL308	2.52	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68
CDP399	1.40	2.10	2.10	0.70	0.70	0.70	0.70	0.70	1.40	1.75	0.70	1.75
EC401	2.46	2.30	1.64	2.46	1.64	1.64	1.64	1.64	1.64	1.64	1.64	2.46

EC402	1.77	1.65	1.18	1.65	0.59	0.59	0.59	0.59	1.18	0.59	0.59	1.18
EC403	1.86	1.86	1.24	1.24	1.86	1.24	1.24	1.24	1.86	1.55	1.24	1.24
ECO498	2.25	1.50	1.50	2.25	1.80	1.05	1.05	1.05	1.05	1.05	1.05	1.50
ECO496	2.13	2.13	1.42	2.13	2.13	1.42	1.42	1.42	1.42	1.42	1.42	1.42
EC405	1.92	1.28	1.28	1.28	1.92	1.28	1.28	1.28	1.28	1.28	1.28	1.28
EC406	1.95	1.73	1.63	1.95	1.79	1.63	1.63	1.63	1.63	1.63	1.63	1.95
ECL407	2.40	2.40	0.80	0.80	1.60	0.80	0.80	0.80	1.60	0.80	0.80	1.60
ECL498	2.37	2.37	2.11	1.58	1.58	1.58	1.58	2.37	2.11	1.58	1.58	2.37
CDP499	1.52	2.28	2.28	0.76	0.76	0.76	0.76	0.76	1.52	1.90	0.76	1.90
DTM001	2.49	2.49	2.49	2.49	1.83	2.49	1.66	2.49	2.49	2.16	1.16	1.66
ECO598	1.45	1.29	2.41	0.66	1.43	0.66	0.66	0.66	0.66	0.66	0.66	0.66
ECO596	1.81	1.81	1.81	1.21	1.57	1.21	0.98	0.98	0.98	0.98	1.57	1.21
EC502	1.61	1.36	1.26	1.26	1.36	1.26	1.26	1.26	1.26	1.26	1.26	1.26
EC501	2.27	2.24	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
EC504	2.06	1.41	1.46	1.98	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37
EC505	1.96	1.96	1.50	0.30	1.37	0.30	0.30	0.30	0.30	0.30	0.30	0.30
ECE513	1.86	1.52	1.06	0.59	1.16	0.59	0.59	0.59	0.74	0.59	1.78	0.59
ECE511	1.90	1.90	1.90	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
ECE512	2.26	1.96	1.81	1.81	1.96	1.81	1.81	1.81	1.81	1.81	1.81	1.81
ECL507	1.97	1.64	1.48	1.48	1.64	1.48	1.48	1.48	1.48	1.48	1.48	1.48
ECL508	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73
CDP599	1.60	1.60	2.39	1.60	2.40	1.58	0.79	0.79	2.42	2.41	2.13	1.58
DTM002	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02
ECO698	1.45	1.29	2.41	0.66	1.43	0.66	0.66	0.66	0.66	0.66	0.66	0.66
ECO697	2.57	2.22	2.23	2.39	2.23	0.34	0.34	0.34	2.22	0.34	0.34	0.34
ECE616	1.89	1.96	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
ECE615	2.28	2.28	2.10	2.10	2.10	1.75	1.75	1.75	2.10	1.75	1.75	1.75
ECE614	2.60	2.60	2.60	2.60	1.73	1.73	1.73	1.73	1.73	1.73	2.60	2.60
EC602	2.34	2.34	1.56	1.87	2.34	1.56	1.56	1.56	1.56	1.56	1.56	1.56
EC603	2.17	2.17	1.44	0.72	2.17	0.72	0.72	0.72	0.72	1.44	0.72	1.44
ECL607	1.91	1.91	1.91	1.91	1.91	1.27	1.27	1.91	1.91	1.27	1.27	1.27
ECL608	1.64	1.64	1.10	0.55	1.64	0.55	0.55	0.55	0.55	0.55	0.55	0.55
HS610	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02

CDP699	1.60	1.60	2.39	1.60	2.40	1.58	0.79	0.79	2.42	2.41	2.13	1.58
DTM003	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02
ECE613	2.01	1.72	1.19	0.65	1.30	0.65	0.65	0.65	1.04	0.65	1.95	0.65
ECE611	2.15	2.15	2.15	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
ECE612	2.36	2.04	1.88	1.88	2.04	1.88	1.88	1.88	1.88	1.88	1.88	1.88
EC601	2.90	2.12	2.50	2.13	2.52	1.93	0.80	0.80	1.93	1.93	0.80	1.93
EC701	2.52	1.70	1.70	1.72	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
ECE716	2.50	2.18	1.51	0.83	1.67	0.83	0.83	0.83	1.22	0.83	2.50	0.83
ECE711	2.44	2.08	2.08	1.92	2.09	1.77	0.96	1.13	2.10	1.47	0.96	2.28
ECE717	2.26	1.94	1.94	2.10	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78
ECE719	2.30	2.30	2.30	1.53	2.02	1.53	1.28	1.28	1.28	1.28	2.04	1.53
ECE715	2.28	1.52	1.97	1.82	1.52	1.97	0.76	0.76	1.83	0.76	0.76	1.52
ECE718	2.54	2.54	2.54	2.54	1.69	1.69	1.69	1.69	1.69	1.69	1.69	2.54
ECL707	2.12	2.12	2.65	2.47	2.65	1.23	1.41	1.23	2.65	0.88	0.88	0.88
ECL709	2.12	2.12	2.65	2.47	2.65	1.23	1.41	1.23	2.65	0.88	0.88	0.88
ECI700	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
ECE813	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
ECE811	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73
ECE812	2.79	2.79	2.79	2.79	2.7	2.79	2.79	2.79	2.79	2.79	2.79	2.79
ML002	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
ECO796	2.57	2.21	2.20	2.40	2.57	1.62	1.62	1.62	2.24	1.71	1.62	2.03
MB002	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02

PO Attainment Indirect

Course	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
The sequenci	3	3	3	3	2	2	2	2	2	2	2	3
The distributi	3	3	3	3	2	2	2	2	2	2	2	3
The curriculu	2	2	2	2	2	1	2	1	2	1	1	1
The curriculu	3	3	3	3	3	3	3	3	3	3	3	3
Course outco	3	3	3	3	2	2	2	2	3	2	3	3
Value-added	1	1	1	1	1	1	1	1	1	1	1	1
I had flexibilit	2	2	2	2	2	2	2	1	1	2	2	2
The balance	2	2	2	2	2	2	2	1	1	1	1	2
The design o	2	2	2	2	2	2	2	2	2	2	2	2

PO Attainment Level

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

Define the Weightage for Indirect Attainment: 20.00

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Direct Attainment	2.00	1.89	1.85	1.66	1.92	1.53	1.51	1.61	1.80	1.69	1.91	1.85
InDirect Attainment	2.33	2.33	2.33	2.33	2	1.89	2	1.67	1.89	1.78	1.89	2.22
Overall Attainment	2.07	1.98	1.95	1.79	1.94	1.60	1.61	1.62	1.82	1.71	1.91	1.92

PSO Attainment

Course	PSO1	PSO2	PSO3
CH113	1.16	1.16	1.74
TE115	1.8	1.8	1.8
CS103	1.14	1.14	1.14
ME102	1.04	1.04	1.04
CE105	1.04	1.04	1.04
CE106	1.14	1.14	1.14
PHL108	1.26	1.26	1.26
MEL109	0.76	0.76	0.76
MA201	1.02	1.53	1.02
PH104	0.98	0.98	1.47
MA101	1.04	1.56	1.04
PH204	0.98	0.98	1.47
CH213	1.16	1.16	1.74
CDP299	1.89	1.89	1.89
CS203	1.14	1.14	1.14
EE112	1.04	1.04	1.04
ME111	1.04	1.04	1.04
EC114	2.7	2.7	2.7
CHL116	1.26	1.26	1.26
EEL117	2.7	2.7	2.7
EXC130	1.89	1.89	1.89
EC301	1.12	1.12	1.12
EC302	1.39	1.39	1.39

EC303	1.26	1.26	1.26
EC304	1.77	1.18	1.53
EC305	1.17	1.17	1.17
EC311	1.44	1.44	1.44
ECO398	1.02	1.02	1.02
ECL307	1.87	0.85	0.85
ECL308	2.52	1.68	1.68
CDP399	0.70	0.70	2.10
EC401	1.64	2.05	1.64
EC402	1.77	1.18	0.59
EC403	1.24	1.86	1.24
ECO498	1.05	1.05	1.80
ECO496	1.42	1.42	2.13
EC405	1.28	1.92	1.92
EC406	1.14	1.14	1.95
ECL407	2.40	2.40	2.40
ECL498	2.11	1.58	1.58
CDP499	0.76	0.76	2.28
DTM001	1.66	2.49	1.66
ECO598	2.41	1.61	1.61
ECO596	0.85	0.97	0.97
EC502	1.26	1.26	1.61
EC501	2.25	1.20	1.20
EC504	1.37	1.37	1.37
EC505	2.12	1.68	0.30
ECE513	0.59	1.07	1.66
ECE511	1.27	1.27	1.27
ECE512	1.51	1.51	2.26
ECL507	1.48	1.48	1.97
ECL508	1.82	2.73	1.82
CDP599	2.40	1.60	1.99
DTM002	2.41	1.61	1.61
ECO697	0.34	2.577	0.34
ECE616	2.41	1.61	1.61
ECE615	1.75	1.75	2.63

ECE614	1.73	1.73	2.60
EC602	1.56	2.34	1.56
EC603	2.17	1.44	0.72
ECL607	1.91	1.91	1.91
ECL608	1.64	1.10	0.55
HS610	2.02	2.02	2.02
CDP699	2.40	1.60	1.99
DTM003	2.02	2.02	2.02
ECE613	1.65	0.65	0.80
ECE611	1.44	1.44	1.44
ECE612	1.58	1.58	2.36
EC601	0.80	2.90	0.80
EC701	2.55	1.93	1.70
ECE716	1.02	1.50	2.34
ECE711	2.44	2.44	1.63
ECE717	1.78	1.78	2.42
ECE719	1.14	1.24	1.14
ECE715	0.76	2.12	0.76
ECE718	1.69	2.54	1.69
ECL709	2.65	1.76	0.88
ECL707	2.65	1.76	0.88
ECI700	2.84	2.84	2.84
ECE813	2.63	2.63	2.63
ECE811	2.73	2.73	2.73
ECE812	2.79	2.79	2.79
ML002	2.10	2.10	2.10
ECO796	1.62	2.57	1.62
MB002	2.02	2.02	2.02

PSO Attainment Indirect

Survey	**PSO1**	**PSO2**	**PSO3**
The sequencing of cou	2	2	2
The distribution of cred	2	2	2
The curriculum encoura	2	2	2
The curriculum support	2	2	2

Course outcomes were	2	2	2
Value-added courses o	2	2	2
I had flexibility in choos	2	2	2
The balance betweenth	2	2	2
The design of the cours	2	2	2

PSO Attainment Level

Course	PSO1	PSO2	PSO3
Direct Attainment	1.62	1.62	1.58
InDirect Attainment	2	2	2
Overall Attainment	1.70	1.70	1.66

4 STUDENTS' PERFORMANCE (120) Total Marks 80.11

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	60	60	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	60	58	42	35	37	22	18
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	19	16	7	5	2	5
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0

Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	60	77	58	42	42	24	23

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

	Item (No. of students admitted/exited through multiple entry and exit points) in the respective batch	**2024-25 (CAY)**	**2023-24 (CAYm1)**	**2022-23 (CAYm2)**	**2021-22 (CAYm3)**	**2020-21 (LYG)**	**2019-20 (LYGm1)**	**2018-19 (LYGm2)**
N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	0	11	0	0	0	1	0
N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	0	5	0	0	0	0	0
N5=N52+N53+N54	N5=N52+N53+N54	0	16	0	0	0	1	0
N61=No. of students exits after 1st year via multiple entry and exit points in same batch	N61=No. of students exits after 1st year via multiple entry and exit points in same batch	1	1	8	6	2	3	1
N62=No. of students exit after 2nd year via multiple entry and exit points	N62=No. of students exit after 2nd year via multiple entry and exit points	0	0	12	1	1	0	2
N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	0	0	9	0	1	2	2
N6=N61+N62+N63	N6=N61+N62+N63	1	1	29	7	4	5	5

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

Year of entry	Total no. of students (N1 + N2 + N3+ N4 + N5 - N6 as defined above)	Number of students who have successfully graduated in stipulated period of study) [Total of with Backlog + without Backlog]			
		I year	II year	III year	IV year
2024-25 (CAY)	59				
2023-24 (CAYm1)	92	58			
2022-23 (CAYm2)	29	42	60		
2021-22 (CAYm3)	35	35	43	43	
2020-21 (LYG)	38	37	38	26	26
2019-20 (LYGm1)	20	22	25	24	15
2018-19 (LYGm2)	18	18	17	16	16

4.1 Enrolment Ratio (20)

Total Marks 17.00

Institute Marks : 17.00

Get Details from Table 4.1

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

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2024-25 (CAY)	60	0	0	100.00
2023-24 (CAYm1)	60	0	0	96.67
2022-23 (CAYm2)	60	0	0	70.00

Average [(ER1 + ER2 + ER3) / 3] = 88.89 ≡ 17.00

Assessment : 17.00

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

Total Marks 4.44

Institute Marks : 4.44

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

Item	(2020-21) LYG	(2019-20) LYGm1	(2018-19) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	65.00	62.00	65.00
B=No. of students who graduated from the program in the stipulated course duration	26.00	15.00	16.00
Success Rate (SR)= (B/A) * 100	40.00	24.19	24.62

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 29.60

SR Points : 4.44

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

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

Total Marks 5.59

Institute Marks : 5.59

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

Academic Performance	CAYm1(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	6.40	5.95	5.01
Y=Total no. of successful students	54.00	42.00	34.00
Z=Total no. of students appeared in the examination	58.00	42.00	35.00
API [X*(Y/Z)]	5.96	5.95	4.87

Average API[(AP1+AP2+AP3)/3] : 5.59

Assessment = Average API : 5.59

4.4 Academic Performance of the Second Year Students of the Program (10) Total Marks 6.19

Institute Marks : 6.19

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	6.68	6.35	5.71
Y=Total no. of successful students	60.00	43.00	38.00
Z=Total no. of students appeared in the examination	58.00	42.00	42.00
API [X * (Y/Z)]	6.91	6.50	5.17

Average API [(AP1 + AP2 + AP3)/3] : 6.19

Assessment [AverageAPI] : 6.19

4.5 Academic Performance of the Third Year Students of the Program (10) Total Marks 5.30

Institute Marks : 5.30

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	5.44	6.96	5.95
Y=Total no. of successful students	43.00	26.00	24.00
Z=Total no. of students appeared in the examination	43.00	38.00	25.00
API [X*(Y/Z)]:	5.44	4.76	5.71

Average API [(AP1 + AP2 + AP3)/3] : 5.30

Assessment [1.5 * AverageAPI] : 5.30

4.6 Placement, Higher Studies and Entrepreneurship (30) Total Marks 17.59

Institute Marks : 17.59

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

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	65.00	62.00	65.00
X=No. of students placed	19.00	23.00	51.00
Y=No. of students admitted to higher studies	5.00	5.00	10.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	36.92	45.16	93.85

Average Placement Index = (P_1 + P_2 + P_3)/3: 58.64

Placement Index Points: 17.59

4.7 Professional Activities (25)

Total Marks 24.00

4.7.1 Professional Societies/ Bodies, Chapters, Clubs, and Professional Engineering Events Organized (5)

Institute Marks : 5.00

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

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs
1	IEEE Communication Society (ComSoc)

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

(CAYm1) 2023-24

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1	IEEE	Technofair-2K23 (Autumn Meeting & Exhibit on Advances in Science and Engineering	National	30/08/2023
2	IEEE	Teckthon-2023	National	22/09/2023
3	IEEE	Proglint's Computer Vision-2K23 National Hackathon	National	03/10/2023
4	IEEE	Nationwide Roadshow on Digital India RISC-V Vega Processor	National	17/11/2023
5	IEEE	U R Rao Satellite Centre (URSC) Bengaluru.	National	29/08/2024
6	IEEE	National Space Day	National	31/08/2024
7	IEEE	Dr APJ Abdul Kalam Design to print:3D Printing Competition	National	27/07/2024
8	IEEE	LiDAR data Visualisation and understanding for Autonomous connected Vehicle	National	31/08/2024
9	IEEE	Intelligence wireless Sensor Networks and its challenges to TELCOS	National	19/04/2024
10	IEEE	Application Development	National	05/04/2024
11	IEEE	Physical Layer Technologies for Beyond 5G and 6G wireless Network	National	16/02/2024
12	IEEE	Unveiling the TransformativePotential of 5G technology	National	18/03/2024
13	IEEE	Computing Trends and Supercomputers	National	22/03/2024
14	IEEE	Exploring next generation Wireless Communication using MATLAB and other tools	National	29/04/2024
15	IEEE	Hardware security in VLSI Design	National	30/11/2023
16	IEEE	Developments in VLSI Design	National	24/04/2024
17	IEEE	Harnessing FPGA magic from concept to implementation	National	30/03/2024
18	IEEE	Zonal Telecom Training Center,Mysore	National	20/05/2023
19	IEEE	Navigating Technical frontiers TinkerCAD,CISCO Packet Tracer and LTSPICE in focus	National	28/06/2023
20	IEEE	Development of Battery Management System Algorithm for Electric Vehicles	National	10/06/2023
21	IEEE	Visit to Entuple Technologies Pvt Ltd	National	07/06/2023

(CAYm2) 2022-23

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1	IEEE	A journey from a student to a coporate leader	National	01/03/2023

(CAYm3) 2021-22

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1	IEEE	VINYAS,Mysuru(Vinyas Innovative Technology Private Ltd)	National	13/04/2022
2	IEEE	All India Radio Super Transmitter ,Bengaluru	National	27/07/2019
3	IEEE	ISRO centre ,Hasan	National	01/04/2019
4	IEEE	5G & Beyond Wireless Networks Overview and Oppurtunities	National	12/11/2022

4.7.2 Student's Participations in Professional Events (10)

Institute Marks : 10.00

Table No. 4.7.2.1: List of students participated in professional events.
(CAYm1) 2023-24

S.No	Name of the Student	Name of the Event	State /State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	KADIRIMANGALAM NEERAJ REDDY	IMTEX Show- 2024 (International Machine Tool and Manufacturing Technology)	International	22/01/2024	NA
2	RAHUL P KALAL	IMTEX Show- 2024 (International Machine Tool and Manufacturing Technology)	International	22/01/2024	NA
3	RAJESH S	IMTEX Show- 2024 (International Machine Tool and Manufacturing Technology)	International	22/01/2024	NA
4	IYLI CHIRANJEEVI	IMTEX Show- 2024 (International Machine Tool and Manufacturing Technology)	International	22/01/2024	NA
5	MUDDUSETTI AVINASH	IMTEX Show- 2024 (International Machine Tool and Manufacturing Technology)	International	22/01/2024	NA
6	Varsha.A.S	IOT- Show -2024	International	02/02/2024	NA
7	Cheemikala pavan	IOT- Show -2024	International	02/02/2024	NA
8	Rahul k	IOT- Show -2024	International	02/02/2024	NA
9	M GAGAN	IOT- Show -2024	International	02/02/2024	NA
10	M SAI NARAYAN	IEEE Young Professionals Student Industry Connect 2023	National	23/09/2023	NA
11	Pratham Bansal	IEEE Young Professionals Student Industry Connect 2023	National	23/09/2023	NA
12	Sanjana Dixith	IEEE Young Professionals Student Industry Connect 2023	National	23/09/2023	NA
13	Sheshadri K	RoboroarZ	International	13/07/2024	second place in the Smorphi Imaginary category and fourth place in the Smorphi Robotics category
14	Sudhir Ramanjaneyulu	RoboroarZ	International	13/07/2024	second place in the Smorphi Imaginary category and fourth place in the Smorphi Robotics category
15	Edward Raj Dhanasekar	RoboroarZ	International	13/07/2024	second place in the Smorphi Imaginary category and fourth place in the Smorphi Robotics category
16	Nanditha D N	RoboroarZ	International	13/07/2024	second place in the Smorphi Imaginary category and fourth place in the Smorphi Robotics category
17	Teja Sreya Adinarayana	RoboroarZ	International	13/07/2024	second place in the Smorphi Imaginary category and fourth place in the Smorphi Robotics category
18	Rashi G Suvarna	SATWA 2025	National	23/02/2025	NA
19	D M Surya	SATWA 2025	National	23/02/2025	NA
20	Harshit S	SATWA 2025	National	23/02/2025	NA
21	Vinay	SATWA 2025	National	23/02/2025	NA

(CAYm2) 2022-23

S.No	Name of the Student	Name of the Event	State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	Sheshadri K	IEEE Tech-Avishkar Hackathon	National	21/12/2022	2nd place in Hardware project demonstration
2	Mandeep M	IEEE Tech-Avishkar Hackathon	National	21/12/2022	2nd place in Hardware project demonstration
3	Shankar J	IEEE Tech-Avishkar Hackathon	National	21/12/2022	2nd place in Hardware project demonstration
4	G. Narayana Swamy	IEEE Tech-Avishkar Hackathon	National	21/12/2022	2nd place in Hardware project demonstration
5	Basavaraj	IEEE Tech-Avishkar Hackathon	National	21/12/2022	2nd place in Hardware project demonstration
6	Namitha Papishetty	TechnoXian World Robotics Championship	International	25/07/2023	NA
7	Suraksha V C	TechnoXian World Robotics Championship	International	25/07/2023	NA
8	Sudhir Ramu	TechnoXian World Robotics Championship	International	25/07/2023	NA
9	Vishakha Roy	TechnoXian World Robotics Championship	International	25/07/2023	NA
10	Edward Raj D	TechnoXian World Robotics Championship	International	25/07/2023	NA
11	D M Surya	TechnoXian World Robotics Championship	International	25/07/2023	NA
12	ABHIRATH S PADMAN	IOT Show -2022	National	21/11/2022	NA
13	AMULYA M	IOT Show -2022	National	21/11/2022	NA
14	ANKITA V PATIL	IOT Show -2022	National	21/11/2022	NA
15	BABU S	IOT Show -2022	National	21/11/2022	NA
16	BHARATH R	IOT Show -2022	National	21/11/2022	NA
17	HARSHA VARDHAN REDDY	IOT Show -2022	National	21/11/2022	NA
18	CHEMIKALA PRAVEEN KUMAR	IOT Show -2022	National	21/11/2022	NA
19	D VISHNU VARDHAN REDDY	IOT Show -2022	National	21/11/2022	NA
20	DUNGAVATH VENKATESH NAIK	IOT Show -2022	National	21/11/2022	NA
21	GAGAN M	IOT Show -2022	National	21/11/2022	NA

(CAYm3) 2021-22

S.No	Name of the Student	Name of the Event	State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	Namitha P	National Science Day 2K22	National	27/02/2022	Secured 1st place in Poster Presentation
2	Shiva Hemanth	National Science Day 2K22	National	27/02/2022	Secured 1st place in Poster Presentation
3	Apurva Shekar	National Science Day 2K22	National	27/02/2022	Secured 2nd place in Poster Presentation
4	Shiva Kiran	National Science Day 2K22	National	27/02/2022	Secured 2nd place in Poster Presentation
5	M. AMULYA	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
6	A. NIVEDITHA	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
7	G. SOMESH KUMAR	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
8	C.V.S. SIVA REDDY	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
9	M. MANDEEP	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
10	D. VENKATESH NAYAK	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
11	S. BABU	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
12	T. SRINADH	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
13	D. VINEETHA	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA
14	V. NISANTH	Vinyas Innovative Technology Pvt. Ltd, Mysuru	National	13/04/2022	NA

4.7.3 Publication of Journals, Magazines, Newsletters, etc. in the Department (5)

Institute Marks : 5.00

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

(CAYm1) 2023-24

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1	Aarvyaana	Varsha Mandal	Sudhir R	4	1	Hard Copy
2	Aarvyaana	Varsha Mandal	Varsha A S	6	1	Hard Copy
3	Aarvyaana	Ujwal Y R	Gunduboyina Raja Yadav	8	2	Hard Copy
4	Aarvyaana	Ujwal Y R	Rakkasi Bharath Kumar	6	2	Hard Copy

(CAYm2) 2022-23

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1	Aarvyaana	Amulya M	Sheshadri K	5	1	Hard Copy
2	Aarvyaana	Amulya M	Annanya C S	3	1	Hard Copy
3	Aarvyaana	A Anishvar	Tellatakula Kusuma	8	2	Hard Copy
4	Aarvyaana	A Anishvar	Dhanunjay Thiwari M N	8	2	Hard Copy

(CAYm3) 2021-22

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1	Aarvyaana	Namitha Papishetty	Akarsh Kiran Reddy S	5	1	Hard Copy
2	Aarvyaana	Namitha Papishetty	Anubhav Anand	7	1	Hard Copy
3	Aarvyaana	Varsha A S	Vakkalagadda Desik Naidu	4	2	Hard Copy
4	Aarvyaana	Varsha A S	Apurva Shekar	6	2	Hard Copy

4.7.4 Student Publications (5)

Institute Marks : 4.00

Table No. 4.7.4.1: List of student publications.
(CAYm1) 2023-24

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1	Manasi S	8	Nova Science Publications	International Journal of Energy, Environment and Economics	31	2	https://www.scopus.com/record/display.uri?eid=2-s2.0-85201530075&origin=recordpage
2	Anubhav Anand	8	RAMS Totem Publications	International Journal of Performability Engineering	19	3	NA
3	Sheshadri K	8	IEEE Xplore	2024 3rd International Conference for Advancement in Technology (ICONAT)	3	1	10.1109/ICONAT61936.2024.10775010
4	Gurram Narayana Swamy	8	IEEE Xplore	2024 3rd International Conference for Advancement in Technology (ICONAT)	3	1	10.1109/ICONAT61936.2024.10775010
5	Namitha Papishetty	8	IEEE Xplore	2024 3rd International Conference for Advancement in Technology (ICONAT)	3	1	10.1109/ICONAT61936.2024.10775010
6	Desik Naidu V	8	IEEE Xplore	2024 1st International Conference on Advances in Computing, Communication and Networking (ICAC2N)	1	1	10.1109/ICAC2N63387.2024.10895479
7	Bhavek Chouhan	8	IEEE Xplore	2024 1st International Conference on Advances in Computing, Communication and Networking (ICAC2N)	1	1	10.1109/ICAC2N63387.2024.10895479
8	Raja Yadav G -	8	IEEE Xplore	2024 1st International Conference on Advances in Computing, Communication and Networking (ICAC2N)	1	1	10.1109/ICAC2N63387.2024.10895479
9	Chennakeshava Reddy G	8	IEEE Xplore	2024 1st International Conference on Advances in Computing, Communication and Networking (ICAC2N)	1	1	10.1109/ICAC2N63387.2024.10895479
10	Sheshadri K	8	IEEE Xplore	2024 1st International Conference on Advances in Computing, Communication and Networking (ICAC2N)	1	1	10.1109/ICAC2N63387.2024.10895479
11	C Venkata Samba Siva Reddy	8	IEEE Xplore	2024 Second International Conference Computational and Characterization Techniques in Engineering & Sciences (IC3TES)	2	1	10.1109/IC3TES62412.2024.10877561
12	Gurram Leela Shankar	8	IEEE Xplore	2024 Second International Conference Computational and Characterization Techniques in Engineering & Sciences (IC3TES)	2	1	10.1109/IC3TES62412.2024.10877561
13	Gurram Yaswanth	8	IEEE Xplore	2024 Second International Conference Computational and Characterization Techniques in Engineering & Sciences (IC3TES)	2	1	10.1109/IC3TES62412.2024.10877561
14	Mandeep M	8	IEEE Xplore	2024 IEEE North Karnataka Subsection Flagship International Conference (NKCon)	1	1	10.1109/NKCon62728.2024.10774898
15	B Harshavardhan Reddy	8	IEEE Xplore	2024 IEEE North Karnataka Subsection Flagship International Conference (NKCon)	1	1	10.1109/NKCon62728.2024.10774898
16	M Gagan	8	IEEE Xplore	2024 IEEE North Karnataka Subsection Flagship International Conference (NKCon)	1	1	10.1109/NKCon62728.2024.10774898
17	Anubhav Anand	8	IEEE Xplore	2023 International Conference on Artificial Intelligence and Applications (ICAIA) Alliance Technology Conference (ATCON-1)	1	1	10.1109/ICAIA57370.2023.10169461
18	Doddamreddy Vishnu Vardhan	8	IEEE Xplore	2024 International Conference on Signal Processing and Advance Research in Computing (SPARC)	1	1	10.1109/SPARC61891.2024.10829241
19	Madhu Sudhan B	8	IEEE Xplore	2024 International Conference on Signal Processing and Advance Research in Computing (SPARC)	1	1	10.1109/SPARC61891.2024.10829241

20	Vineetha Devireddy	8	IEEE Xplore	2024 International Conference on Signal Processing and Advance Research in Computing (SPARC)	1	1	10.1109/SPARC61891.2024.10829241

(CAYm2) 2022-23

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1							

(CAYm3) 2021-22

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1							

5 FACULTY INFORMATION (100) Total Marks 90.33

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Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Dr. Reeba Korah	AEHPR8674L	NA	ME/M. Tech and PhD	Anna University, Chennai,TN	VLSI	23/06/2014	10.9	Professor	Professor	23/06/2014	Regular	Yes		No
2	Dr. Chitra Kiran.N	ASSPK5606N	NA	ME/M. Tech and PhD	UVCE, Bangalore University, KA	Wireless Communication	10/07/2018	6.8	Professor	Professor	10/07/2018	Regular	Yes		No
3	Dr. T Sridhar	ACGPT4701K	NA	ME/M. Tech and PhD	VTU, Belagavi,KA	VLSI	03/08/2015	9.8	Professor	Professor	03/08/2015	Regular	Yes		No
4	Dr. G Ramana Murthy	DDPPG1076K	NA	ME/M. Tech and PhD	Multimedia University Malaysia	VLSI	16/08/2021	3.7	Professor	Professor	16/08/2021	Regular	Yes		No
5	Dr. Aby K Thomas	ACDPT3322P	NA	ME/M. Tech and PhD	Satyabhama University, TN	Wireless Sensor Network	16/08/2021	3.7	Professor	Professor	16/08/2021	Regular	Yes		No
6	Dr. Sandeep Dhariwal	ARBPD5781H	NA	ME/M. Tech and PhD	Banasthali University,RJ	VLSI	02/07/2018	6.8	Associate Professor	Professor	29/01/2024	Regular	Yes		No
7	Dr. Gaurav Kumar	ATYPK1078M	NA	ME/M. Tech and PhD	IIT Roorkee	Seismic Signal Processing	15/07/2021	3.8	Associate Professor	Associate Professor	15/07/2021	Regular	Yes		Yes
8	Dr. Neelapala Anil Kumar	BCAPK4151R	NA	ME/M. Tech and PhD	VTU, Belagavi, KA	Biomedical image Processing	23/06/2014	10.9	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Dr. Itapu Srikanth	ABKPI6255J	NA	ME/M. Tech and PhD	University of Toledo, USA	Nano electronics	01/09/2021	3.6	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Dr. Inbarasan Muniraj	ACJPI4717R	NA	ME/M. Tech and PhD	University College Dublin, Ireland (UCD)	Optical Devices	06/10/2022	2.1	Assistant Professor	Assistant Professor		Regular	No	03/12/2024	No

11	Dr. Amar Choudhary	AKNPC6677Q	NA	ME/M. Tech and PhD	Amity University, Noida, UP	5G Communication	01/08/2023	1.7	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Dr. Shashank Awasthi	CGCPA7318B	NA	ME/M. Tech and PhD	NIT,Arunachal pradesh	Optoelectronics	10/06/2024	0.9	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Dr. Harinath Aireddy	BSNPA9942B	NA	ME/M. Tech and PhD	IIT Kharagpur	Spintronics	05/03/2018	7	Assistant Professor	Associate Professor	11/10/2021	Regular	Yes		No
14	Dr. B. Priestly Shan	AQMPP6272H	NA	ME/M. Tech and PhD	Anna University	Information and Communication Engineering	18/05/2023	1.10	Professor	Professor	18/05/2023	Regular	Yes		No

5.1 Student-Faculty Ratio (SFR) (30) Total Marks 22.00

Institute Marks : 22

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):
UG1=1st UG program
UGn=nth UG program
B= No. of Students in UG 2nd year (ST)
C= No. of Students in UG 3rd year (ST)
D= No. of Students in UG 4th year (ST)
No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):
PG1=1st PG program.
PGm=mth PG program
A= No. of Students in PG 1st year
B= No. of Students in PG 2nd year
Student Faculty Ratio **(SFR)** = S/F
S= No. of students of all programs in the Department including all students of allied departments/clusters.
No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)
Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.
F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

UG

No. of UG(Engineering) programs in Department including allied departments/clusters(UGn): 1

Electronics & Communication Engineering						
Year of Study	**CAY**		**CAYm1**		**CAYm2**	
	(2024-25)		**(2023-24)**		**(2022-23)**	
	Sanction Intake	**Actual admitted through lateral entry students**	**Sanction Intake**	**Actual admitted through lateral entry students**	**Sanction Intake**	**Actual admitted through lateral entry students**
2nd Year	60	6	60	6	60	6
3rd Year	60	6	60	6	60	6
4th Year	60	6	60	6	60	0
Sub-Total	**180**	**18**	**180**	**18**	**180**	**12**
Total	**198**		**198**		**192**	

Grand Total	198	198	192

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

Electronics & Communication Engineering

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	66	66	66
UG1.C	66	66	66
UG1.D	66	66	60
UG1: Electronics & Communication Engineering	**198**	**198**	**192**
DS=Total no. of students in all UG and PG programs in the Department	198	198	192
AS=Total no. of students of all UG and PG programs in allied departments	0	0	0
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 198	**S2=** 198	**S3=** 192
DF=Total no. of faculty members in the Department	13	13	10
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 13	**F2=** 13	**F3=** 10
FF=The faculty members in F who have a 100% teaching load in the first-year courses	1	1	0
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 16.50**	**SFR2= 16.50**	**SFR3= 19.20**
Average SFR for 3 years	**SFR= 17.40**		

Average SFR for three assessment years : 17.40

Assessment SFR : 22

5.2 Faculty Qualification (25)

Total Marks 25.00

Institute Marks : 25.00

Year	X	Y	RF	FQ = 2.5 x [(10X + 4Y) / RF)]
2024-25(CAY)	13	0	9.00	36.11
2023-24(CAYm1)	12	1	9.00	34.44
2022-23(CAYm2)	9	1	9.00	26.11

Average Assessment : 32.22

5.3 Faculty Cadre Proportion (25)

Total Marks 25.00

Institute Marks : 25.00

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2024-25)	1.00	7.00	2.00	2.00	6.00	4.00
CAYm1(2023-24)	1.00	6.00	2.00	3.00	6.00	4.00
CAYm2(2022-23)	1.00	5.00	2.00	3.00	6.00	2.00
Average Numbers	1.00	6.00	2.00	2.67	6.00	3.33

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5 : 25.00

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

Total Marks 10.00

Institute Marks : 10.00

Table No. 5.4.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

(CAYm1) 2023-24

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Prachi Joshi	Visiting Faculty	NA	German	60.00
2	Prof. Suja Augustine	Visiting Faculty	New Baldwin International College Bangalore New Baldwin International College Bangalore	Biology	60.00
3	Mr. Himanshu Garg	Visiting Faculty	Schneider Electric	Corporate Mentorship	60.00

(CAYm2) 2022-23

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Prof. Anik Nandi	Visiting Faculty	Woxsen University	Spanish	60.00
2	Prof. Sowmya Singh	Visiting Faculty	NA	German	60.00

(CAYm3) 2021-22

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Sreejith Krishnan	Visiting Faculty	Sony Indian Software Centre	Corporate Mentorship	60.00
2	Ranjit TP	Visiting Faculty	Volvo Group	Corporate Mentorship	60.00

5.5 Faculty Retention (10)

Total Marks 8.33

Description	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section 5.1 of SAR; (RF=S/20).	9	9	10
AF=The no. of available faculty members in the Department including allied Departments	13	10	10
A= The no. of faculty members at the current institute with less than 1 year of experience (A in AF)	0	0	1
B= The no. of faculty members at the current institute with more than 1 year and less than 2 years of experience (B in AF)	2	0	3
C= The no. of faculty members at the current institute with more than 2 years and less than 3 years of experience (C in AF)	1	0	0
D= The no. of faculty members at the current institute with more than 3 years and less than 4 years of experience (D in AF)	4	4	0
E= The no. of faculty members at the current institute with more than 4 years of experience (E in AF)	6	6	4
FR=(((A*0) +(B*1)+(C*2)+(D*3)+(E*4))/RF) *2.50 (points limited to 10)	10	10	5

Average : 8.33

Assessment Marks : 8.33

6 FACULTY CONTRIBUTIONS (120)

Total Marks 100.00

6.1 Professional Development Activities (60)

Total Marks 60.00

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

Institute Marks : 5.00

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

S.No	Name of the Faculty	Name of the Professional Society /Body at National and International Level	Name of the Grade/ Level/Position
1	Dr. Priestly Shan	IEEE	Senior Member IEEE
2	Dr. Reeba Koarh	IEEE,ISTE	Member IEEE, MISTE
3	Dr. Gaurav Kumar	IEEE, IET	Senior Member IEEE, Member IET
4	Dr. G. Ramana Murthy	IEEE, MIET, IAENG, MBEM	Senior Member IEEE, Member Board of Engineers Mala
5	Dr. Sridhar. T	IEEE , MISTE	Senior Member IEEE, Member ISTE
6	Dr. Aby K Thomas	IEEE , FIETE	Member IEEE, Fellow IETE
7	Dr. Chitra Kiran. N	IEEE , MISTE, MIE	Member IEEE, Life Member ISTE, Life Member IE
8	Dr. Sandeep Dhariwal	IEEE	Senior Member IEEE; Member IET
9	Dr. Neelapala Anil kumar	CSI, MISTE,IAENG,LEGI	Member
10	Dr. Srikanth Itapu	IEEE, IET	Senior Member IEEE; Member IET
11	Dr. Neelapala Anil kumar	CSI,MISTE,IAENG,LEGI	Member
12	Dr. Amar Choudhary	IEEE	Senior Member IEEE
13	Dr.Shashank Awasthi	IEEE	Member

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

Institute Marks : 5.00

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

Table No. 6.1.2.1: List of faculty members as resource person in STTP/FDP events.

(CAYm1) 2023-24

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr Aby K Thomas	NAAC Assessor	19/02/2024	Maharashtra	NAAC
2	Dr. Harinath Aireddy	Wefaa Robotics self-reconfigurable robots (Smorphi and Smorphi2)	16/02/2024	Bangalore	Alliance University
3	Dr. Harinath Aireddy	DLP and FDM printers	04/06/2024	Bangalore	Alliance University
4	Dr.Chitra Kiran.N	Session Speaker on Nanotechnology	27/12/2024	Bangkok,Thailand	Institute for Educational Research and Publication

(CAYm2) 2022-23

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr.Sridhar.T	Personality development and Interpersonal skills	16/03/2023	Bangalore	Alliance University
2	Dr.Neelapala Anil Kumar	Design Thinking and Entrepreneurship	19/06/2023	Bangalore	Alliance University
3	Dr.Neelapala Anil Kumar	Innovations in Engineering Design and Management	20/02/2023	Bangalore	Alliance University
4	Dr.Neelapala Anil Kumar	Recent trends in composites	02/01/2023	Bangalore	Alliance University

(CAYm3) 2021-22

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr. Sridhar.T	Personality development and Interpersonal skills	24/03/2022	Bangalore	Alliance university
2	Dr. Neelapala Anil Kumar	Personality development and Interpersonal skills	24/03/2022	Bangalore	Alliance university
3	Dr .G. Ramana Murthy	Personality development and Interpersonal skills	24/03/2022	Bangalore	Alliance university
4	Dr.HarinathAireddy	Personality development and Interpersonal skills	24/03/2022	Bangalore	Alliance university
5	Dr.G. Ramana Murthy	Workshop on “Pspice Design Capture & Simulation”	04/04/2021	Bangalore	Department of ECE, Alliance University
6	Dr.G. Ramana Murthy	Workshop on "Higher Education Opportunities- Foreign Universities"	24/03/2022	Bangalore	Department of ECE, Alliance University
7	Dr.G. Ramana Murthy	FPGA Development Exordium on Xilinx Vivado using VHDL	08/06/2022	Bangalore	Department of ECE, Alliance University

6.1.2.2 Faculty Members’ Participation in STTPs/FDPs (5)

Institute Marks : 5.00

Name of the faculty	Max 5 Per Faculty		
	2023-24(CAYm1)	2022-23(CAYm2)	2021-22(CAYm3)
Dr. Amar Choudhary	5.00	5.00	5.00
Dr. Sandeep Dhariwal	5.00	5.00	5.00
Dr.Chitra Kiran.N	5.00	5.00	5.00
Dr. G. Ramana Murthy	5.00	5.00	5.00
Dr. Srikanth Itapu	5.00	5.00	5.00
Dr Aby K Thomas	5.00	5.00	5.00
Dr. Gaurav Kumar	5.00	5.00	5.00
Dr Neelapala Anil Kumar	5.00	5.00	5.00
Dr.Sridhar.T	5.00	5.00	5.00
Dr. Reeba Korah	5.00	5.00	5.00
Dr. B Priestly Shan	5.00	5.00	0.00
Sum	55.00	55.00	50.00
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).	9.90	9.90	9.60
Assessment Points (AP)= (Sum/(0.5* RDF)) (Points limited to 5 for each assessment year)	5.00	5.00	5.00

Average assessment over 3 years: 5.00

6.1.3 Faculty Contribution in Development of SWAYAM MOOCs and other E-Content (5)

Institute Marks : 5.00

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

S.No	Name of the Faculty	Name of the Course Developed and available online on Swayam platform by your Department faculty
1	Aby K Thomas	ECE816 & Medical IoT
2	Aby K Thomas	6EC1253 & Wireless Adhoc Networks
3	Amar Choudhary	ECE815 & Introduction to 5G and Beyond
4	Amar Choudhary	6EC1243 & Next Generation Wireless Communication
5	Chitra Kiran N	4EC1006 & Communication Systems
6	G Ramana Murthy	6EC1012 & Internet of Things
7	Gaurav Kumar	4EC1005 & Signals and Systems
8	Neelapala Anil Kumar	6EC1013 & Embedded Systems Design
9	Neelapala Anil Kumar	6EC1254 & Embedded Machine Vision
10	Sandeep Dhariwal	4EC1990 & Design Project - I
11	Sandeep Dhariwal	6EC1252 & Advanced VLSI Design
12	Shashank Awasthi	4EC1020 & Analog Electronic Circuits
13	Shashank Awasthi	6EC1242 & System on Chip Design
14	Sridhar T	6EC1244 & Robotics and Automation
15	Srikanth Itapu	ECE814 & Semiconductor Packaging and Manufacturing

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

Institute Marks : 10.00

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

S.No	Name of the Faculty	Name of Course Passed	Course Offered by (agency)	Grade obtained if any
1	Dr. Gaurav Kumar	ChatGPT for Beginners: Save time with Microsoft Excel	Coursera	100%
2	Dr. Gaurav Kumar	Intel® Network Academy - Network Transformation 101	Coursera	99.16%
3	Dr. Gaurav Kumar	Learning How to Learn: Powerful mental tools to help you master tough subjects	Coursera	87.49%
4	Dr.Gaurav Kumar	Prompt Engineering for ChatGPT	Coursera	100%
5	Dr.Gaurav Kumar	5G for Everyone	Coursera	98.2%
6	Dr. Gaurav Kumar	Introduction to Computers and Operating Systems and Security	Coursera	90%
7	Dr. Gaurav Kumar	Creating Interactive Learning Videos with Edpuzzle	Coursera	100%
8	Dr Aby K Thomas	The Bits and Bytes of Computer Networking	Coursera	90%
9	Dr.Neelapala Anil Kumar	Sensor and Sensor Circuit Design	Coursera	87%
10	Dr. Amar Choudhary	Create a Promotional Video using Canva	Coursera	83.3%
11	Dr. Amar Choudhary	Intel Telco Cloud Transformation	Coursera	100%
12	Dr. Amar Choudhary	5G for Everyone	Coursera	87.95%
13	Dr. Gaurav Kumar	Introduction to Programming with MATLAB	Coursera	100%

6.1.5 FDP/STTP Organized by the Department (10)

Institute Marks : 10.00

Table No. 6.1.5.1: List of FDPs/STPs organized by Department for the past 3 years.

(CAYm1) 2023-24

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attended
1	Competency Focussed Curriculum Development for Engineering Program	23/02/2024	5	Dr Joshua Earnest, Former Professor and HOD of EEE, NITTTR, Bhopal	100
2	Wefaa Robotics self-reconfigurable robots (Smorphi and Smorphi)	16/02/2024	5	Dr. Harinath Aireddy	20
3	DLP and FDM printers	04/06/2024	5	Dr. Harinath Aireddy	12
4	S1 Pro SLS printers	01/07/2024	5	Dr. Harinath Aireddy	10

(CAYm2) 2022-23

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attended
1	Personality development and Interpersonal skills	16/03/2023	5	Dr. Sridhar. T, Dr. Neelapala Anil Kumar, Dr. G. Ramana Murthy, Dr. Srikanth Itapu	35
2	Recent investments in Science & Technology	06/03/2023	5	Dr. Susant Hazra, IISC et all	68

(CAYm3) 2021-22

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attended
1	Personality development and Interpersonal skills	24/03/2022	5	Dr.Sridhar.T, Dr.Neelapala Anil Kumar Dr.G.Ramana Murthy Dr.HarinathAireddy	20
2	Faculty Development Program on Outcome-Based Education	10/8/2021	8	Dr. Priestly Shan, the Dean of Academic Affairs of Chandigarh University,	68

6.1.6 Faculty Support in Student Innovative Projects (10)

Institute Marks : 10.00

Table No. 6.1.6.1: List of faculty members involved in student innovative projects.
(CAYm1) 2023-24

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1	Dr. Sandeep Dhariwal	IEEE Conference	21/09/2024	Online (2024 IEEE North Karnataka Subsection Flagship International Conference (NKCon))	DOI: 10.1109/NKCon62728.2024.10774898
2	Dr. Sandeep Dhariwal	IEEE Conference	17/05/2024	Online (4th IEEE International Conference on VLSI Systems, Architecture, Technology and Application	DOI 10.1109/VLSISATA61709.2024.10560082
3	Dr. Sandeep Dhariwal	IEEE Conference	21/03/2024	Online (9th International Conference on Wireless Communications, Signal Processing and Networking, W	DOI 10.1109/WiSPNET61464.2024.10533100
4	Dr. Sandeep Dhariwal	IEEE Conference	21/04/2023	2023 International Conference on Artificial Intelligence and Applications, ICAIA 2023 and Alliance T	DOI 10.1109/ICAIA57370.2023.10169461
5	Dr. Sandeep Dhariwal	International Journal	21/04/2023	International Journal of Energy, Environment and Economics	https://www.scopus.com/record/display.uri?eid=2-s2.0-85201530075&origin=recordpage
6	Dr.Sridhar T	IEEE Conference International Conference on Emerging Research in Computational Science	07/12/2023	Online	https://ieeexplore.ieee.org/document/10434208
7	Dr.Sridhar T	IEEE Conference IEEE International Conference on Emerging Research in Computational Science – ICERCS	07/12/2023	Online	10.1109/ICERCS57948.2023.10434124
8	Dr Aby K Thomas	2024 1st International Conference on Advances in Computing, Communication and Networking (ICAC2N)	21/04/2023	Greater Noida, India	https://doi.org/10.1109/ICAC2N63387.2024.10895479
9	Dr. Amar Choudhary	IEEE Conference	12/08/2024	Amity University, Lucknow Campus, on 12-13 September, 2024	https://ieeexplore.ieee.org/document/10829241
10	Dr. Amar Choudhary	IEEE Conference	12/08/2024	Amity University, Lucknow Campus, on 12-13 September, 2024	https://ieeexplore.ieee.org/document/10828997
11	Dr. Harinath Aireddy	National Level Robothon 2024	5/07/2024	Jyothy Institute of Technology, Pipeline Rd, Near Ravi Shankar Guruji Ashram, Thathaguni, Bengaluru,	https://jyothyit.ac.in/college_events/robothon-2k24/
12	Dr. Harinath Aireddy	International Robotics Championship, Roboroarz International 2024	13/07/2024	SUTD Multi-Purpose Hall (MPH), Singapore	https://www.wefaarobotics.com/copy-of-roboroarz-2-content
13	Dr. Harinath Aireddy	Aicte Boot Camp – 2024	23/09/2024	National Institute of Technology, Karnataka, Institute of Management and Research (MGM University),	https://mgmu.ac.in/news/nationallevel-aicte-ide-bootcamp-organized-at-mgm-university?srsltid=AfmBOor
14	Dr. Harinath Aireddy	The Global Competition on Sustainable Entrepreneurship Ideas	29/09/2024	Pahal Horizon	https://pahalhorizon.com/gcse/winners2024
15	Dr. Chitra Kiran. N	International Conference	25/06/2024	Sustainable Smart Computing and Green Energy ICSSGE-2024	https://woxsen.edu.in › icsscge
16	Dr. Srikanth Itapu	2023 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT	14/07/2023	IEEE CONECCT Bangalore Section	https://ieeexplore.ieee.org/abstract/document/10234778

17	G. Ramana Murthy	International Conference on Design and Applications of Multifunctional Materials, Interfaces and Com	14/07/2023	Saint Petersburg, Russia.	DOI: 10.1109/ICRTCST54752.2022.9781952
18	Dr. Harinath Aireddy	TechnoXian World Robotics Championship	25/07/2023	Noida Indoor Stadium, Delhi, India	https://technoxian.com/wrc-winner-2023

(CAYm2) 2022-23

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1	Dr.Chitra Kiran.N	2nd International Symposium on sustainable and Technological Energy Advancements ISSETA 2023 24th –	25/02/2023	NIT Shilong, Meghalaya	https://nitm.ac.in/isseta2023/
2	Dr. Srikanth Itapu	2023 International Conference on Artificial Intelligence and Applications (ICAIA) Alliance Technolog	21/04/2023	Alliance University Bangalore	https://ieeexplore.ieee.org/abstract/document/10234778
3	Dr. Srikanth Itapu	2023 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT	14/07/2023	IEEE CONECCT Bangalore Section	https://ieeexplore.ieee.org/abstract/document/10234778
4	G. Ramana Murthy	International Conference on Design and Applications of Multifunctional Materials, Interfaces and Com	14/07/2023	Saint Petersburg, Russia.	DOI: 10.1109/ICRTCST54752.2022.9781952
5	Dr. Harinath Aireddy	TechnoXian World Robotics Championship	25/07/2023	Noida Indoor Stadium, Delhi, India	https://technoxian.com/wrc-winner-2023
6	Dr. Harinath Aireddy	Tech-Avishkar Hackathon	21/12/2022	ATME College Of Engineering, Mysore	https://atme.edu.in/event/icrtst-2/

(CAYm3) 2021-22

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1	Dr.Chitra Kiran.N	Study of Performance and Analysis of SDM for free space optical Satellite Communication System	01/05/2022	International Journal of Research in Electronics and Computer Engineering ISSN: 2393-9028 (PRINT) |	http://www.i2or-ijrece.com/archives.html
2	G. Ramana Murthy	4th International Conference on Recent Trends in Computer Science and Technology (ICRTCST)	01/02/2022	Jamshedpur, Jharkhand, India	DOI:10.1109/IC3IOT53935.2022.9767976
3	G. Ramana Murthy	IEEE Delhi Section International Conference on Electrical, Electronics and Computer Engineering (DEL	01/02/2022	NewDelhi, INDIA	DOI:10.1109/DELCON54057.2022.9753074
4	Dr. Harinath Aireddy	National Science Day-2022	27/02/2022	AMRITA Vishwa Vidyapeetham, Mysore	https://www.amrita.edu/news/national-science-day-2022-celebrated-at-amrita-vishwa-vidyapeetham/

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

Institute Marks : 10.00

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

S.No	Name of the Faculty	Name of the Internship/ Training/ Collaboration	Name of the Company & Place	Duration	Outcomes of Internship/ Training/ Collaboration
1	Dr. Gaurav Kumar	Signal Processing Onramp	MATLAB Academy	1 day	Gain working experience on Signal Processing Toolbox
2	Dr.Aby K Thomas	International Seminar , IoT Communication Technologies	IoT Communication Technologies Germany	1 day	Hands on Training in 5G equipment's
3	Dr. Amar Choudhary	Workshop on Cybersecurity and Ethical Hacking	Alliance University, Bengaluru	1 day	skills in identifying security vulnerabilities, understanding ethical hacking methodologies
4	Dr. Gaurav Kumar	MATLAB Onramp	MATLAB Academy	1 day	Gain knowledge about the MATLAB work Enviornment
5	Dr. Amar Choudhary	Workshop On RF Networks and Antenna Designing for next generation Communication Systems	VIT, Vellore	2 days	training on RF network analysis for next gen wireless communication technologies
6	Dr. Gaurav Kumar	Short term course on PYTHON + MATLAB-Based 5G Wireless Technologies: Massive MIMO, mmWave, NOMA	IIT Kanpur	5 days	knowledge of PYTHON/ MATLAB programming and practical hands-on experience
7	Dr. Gaurav Kumar	Simscape Onramp	MATLAB Academy	1 day	Gain working experience on Signal Processing Toolbox
8	Dr. Gaurav Kumar	Simulink Onramp	MATLAB Academy	1 day	Gain knowledge about the Simulink Enviornment
9	Dr. Gaurav Kumar	IEEE 5G/6G Innovation Testbed Workshop	IEEE Banglore Section	1 day	Gain knowledge about the IEEE 5G/6G TestBed
10	Dr.Amar Choudhary	Workshop on Data Analytics and Machine Learning	Alliance University, Bengaluru	1 day	apply data-driven and machine learning approaches for optimizing energy systems
11	Dr. Amar Choudhary	Training Session on "Turnitin Feedback Studio with Originality"	Alliance University, Bengaluru	1 day	Turnitin for plagiarism detection and feedback delivery
12	Dr. Amar Choudhary	International workshop on 'Future Prospects and Challenges of Renewable Energy for Sustainability'	VIT, Vellore	3 days	technological, economic, and policy challenges in renewable energy adoption
13	Dr. Amar Choudhary	National Workshop on "AI, Machine Learning and Deep Learning"	VIT, Vellore	1 day	real-world applications of AI, ML, and DL in intelligent systems
14	Dr. Amar Choudhary	Workshop on "RF Circuit and Antenna Designing for 5G Communications Systems	VIT, Vellore	2 day	RF design principles and antenna technologies for 5G communications
15	Dr. Amar Choudhary	National Workshop on "AI, Machine Learning and Deep Learning"	VIT, Vellore	1 day	AI/ML/DL tools with an emphasis on project-based learning
16	Dr. Amar Choudhary	Online Workshop on Deep Learning Techniques using TensorFlow and Python	VIT, Vellore	2 day	deep learning models using TensorFlow and Python
17	Dr. Amar Choudhary	Hands-on Workshop on Wireless Communication Design Using NI USRP Platform	VIT, Vellore	1 Week	practical skills in designing and testing communication systems using the NI USRP.
18	Dr. Harinath Aireddy	Product Design and Realization (PDR)	EOS, GmbH	30 hours	Trained around 543 first-year students on CAD modelling, STL file preparation
19	Dr. Harinath Aireddy	Digital Manufacturing Certification Program	Wipro 3D	30 hours	Trained 30 students through Wipro 3D on Industry 4.0
20	Dr. Harinath Aireddy	Robot studio software & Collaborative Robot	ABB Robotics, India	30 hours	The training and collaboration on Robot Studio software
21	Dr. Harinath Aireddy	Smorphi & Smorphi 2 Robots	Wefaa Robotics, singapore	1 Day	The training on Smorphi and Smorphi 2 robots for 25 students
22	Dr. Harinath Aireddy	Vega Processor – National wide Roadshow on DIR – V VEGA Processors and Ecosystem	CDAC, India	16 hours	The nationwide roadshow training on DIR-V VEGA Processors

23	Dr. T Sridhar	Robot studio software & Collaborative Robot	ABB Robotics, India	30 hours	The training and collaboration on Robot Studio software
24	Dr. Neelapala Anil Kumar	Training on Unity Fundamentals	ARK Info Solutions	5 Days	The training provided inssights into latest application of AR-VR technologies.

6.2 Research and Development Activities (60) Total Marks 40.00

6.2.1 Academic Research (10)

Institute Marks : 10.00

Table No. 6.2.1.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	30	21	6
2	No. of peer reviewed conference papers published	17	11	3
3	No. of books/book chapters published	13	4	6

6.2.2 Ph.D. Student Details (5)

Institute Marks : 5.00

Table No. 6.2.2.1: Ph.D. details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of students enrolled for Ph.D. in the Department	5	1	1
2	No. of Ph.D. students graduated in the Department	1	0	0

6.2.3 Development Activities (10)

Institute Marks : 7.00

Table No. 6.2.4.1: List of patents.

Sl No	AY	Name of the faculty	Title of the Innovations	Type (Patent / Working Model / Prototype)	Status (Granted / Published / Developed)	Year	Patent Application/Registration No. (if any)
1	2023-2024	Dr Aby K Thomas	REMOTE PATIENT MONITORING AND DIAGNOSIS SYSTEM USING IOT DEVICES	Patent	Published	2024	Application No.202341090360 A
2	2023-2024	Dr Aby K Thomas	SECURE HEALTHCARE DATA TRANSFER AND STORAGE IN IOT ENVIRONMENT	Patent	Published	2024	Application No.202441028444 A
3	2023-2024	Dr Aby K Thomas	SMART HOME HEALTH CARE AUTOMATION SYSTEM WITH ADVANCED SECURITY FEATURES	Patent	Published	2024	Application No.202441009135 A
4	2023-2024	Dr Aby K Thomas	IOT-INTEGRATED BLOCKCHAIN PLATFORM FOR REAL-TIME HEALTH MONITORING AND ANALYTICS	Patent	Published	2024	Application No.20244101565 A
5	2023-2024	Dr.Chitra Kiran.N	IoT BASED FACIAL EMOTION DETECTION DEVICE	Patent	Published	2024	App. No.:422816-001,Journal No. 36/2024 Dated 06/09/2024
6	2023-2024	Dr.Gaurav Kumar	AI-BASED PREDATOR PREVENTION DEVICE FOR AGRICULTURE LAND	Patent	Granted	2024	Design No. : 408783-001 Dated 26/04/2024
7	2023-2024	Dr Aby K Thomas	AI Based Wrist Band for Women Safety	UK Design Patent	Design number: 6409732	2024	Design Number:6409732
8	2023-2024	Dr Aby K Thomas	IoT enabled Automatic Screw Jack for car jack for lifting using vechicle batery and mobile control	Patent	Published	2024	202441050282
9	2023-2024	Dr.Neelapala Anil Kumar	Smart Spirometer	Patent	published	2024	Application No: 202341060796A, Date of filing: 11/09/2023, Publication Date: 24/05/2024.
10	2023-2024	Dr. Amar Choudhary	IoT Based Energy Meter	Patent	published	2024	App. No.:413057-001, Journal Number: 52/2024, Published
11	2023-2024	Dr. Amar Choudhary	IOT BASED GAS LEAKAGE DETECTION	Patent	published	2024	App. No.:202431022160, Journal No. 14/2024 Dated 05/04/2024
12	2023-2024	Dr. Amar Choudhary	NOVEL ANTENNA ARRAY FOR BEAMFORMING AND DIRECTIONAL WIRELESS COMMUNICATION	Patent	published	2024	App. No.:202441015674, Journal No. 12/2024 Dated 22/03/2024
13	2023-2024	Dr. Amar Choudhary	AI-BASED PREDATOR PREVENTION DEVICE FOR AGRICULTURE LAND	Patent	published	2024	App. No.:408783-001, Journal No. 17/2024 Dated 26/04/2024
14	2023-2024	Dr. Amar Choudhary	MACHINE LEARNING-BASED APPROACH FOR EXPLORING URBAN DEMAND FOR AGRICULTURAL PRODUCTS, URBAN FARMING, AND RURAL-URBAN MIGRATION	Patent	published		App. No.:202431004232, Journal No. 06/2024 Dated 09/02/2024
15	2023-2024	Dr. Amar Choudhary	DEVICE TO VALIDATE HANDWRITING BANK CHEQUE	Patent	published	2024	App. No.: 6342954, UK Design 6342954, 19.02.2024
16	2023-2024	Dr. Amar Choudhary	AI BASED ELECTRO SURGICAL PENCIL	Patent	published	2024	Application Number: 408783-01, Journal No.17/2024 Dated 26/04/2024

Sl No	AY	Name of the faculty	Title of the Innovations	Type (Patent / Working Model / Prototype)	Status (Granted / Published / Developed)	Year	Patent Application/Registration No. (if any)
17	2023-2024	Dr. Amar Choudhary	ML BASED SOLID FERTILIZER DISSOLVING DEVICE	Patent	published	2024	Application Number: 401385-001 Journal No.6/2024 dated 9/02/2024
18	2023-2024	Dr. Sandeep Dhariwal	STRESS MEASURES AND MANAGEMENT DEVICE AND PROCESS USING IOT	Patent	published	2024	Application No.202321077387 A
19	2023-2024	Dr. Sandeep Dhariwal	AI-BASED PREDATOR PREVENTION DEVICE FOR AGRICULTURE LAND	Patent	Granted	2024	Design No. : 408783-001
20	2023-2024	Dr. Sandeep Dhariwal	Smart wearable device, Communication among heterogenous Internet of Things (IoT) Devices	Patent	published	2024	Application No. 202441094678 A
21	2023-2024	Dr. Gaurav Kumar	A Smart biological Oxygen Demand (BOD) Incubator	UK Patent	Granted	2024	Design number: 6353001 Grant date: 24 March 2024 Registration date: 14 March 2024
22	2023-2024	Dr. Harinath Aireddy	FEED HORN ARRAY	Patent	published		Application Date : 02/04/2024, Design No. : 412348-001
23	2023-2024	Dr G Ramana Murthy	Data processing equipment with screen for education curriculum delivery	Design Patent	published	2024	Design number: 6349565
24	2023-2024	Dr G Ramana Murthy	SOIL LOOSENING AND QUALITY CHECKING	Design Patent	Published	2024	Design No. : 425837-001
25	2022-2023	Dr.Neelapala Anil Kumar	Blood Sugar Monitoring Apparatus	Patent	Design Grant	2023	Design number: 388165-001, Date of filing: 12/06/2023, Date of issue: 13/09/2023.
26	2022-2023	Dr. Amar Choudhary	AI BASED ELECTRO SURGICAL PENCIL	Patent	published	2023	App. No.: 402314-001, Journal No. 07/2024 Dated 16/02/2024
27	2022-2023	Dr. Amar Choudhary	ML BASED SOLID FERTILIZER DISSOLVING DEVICE	Patent	published	2023	App. No.: 401385-001, Journal No. 06/2024 Dated 09/02/2024
28	2022-2023	Dr.Chitra Kiran.N	WIRELESS PORTABLE MUSIC PLAYER DEVICE	Patent	published	2023	Design number: 6274745, Grant date 18/4/2023
29	2022-2023	Dr.Chitra Kiran.N	IoT -INTEGRATED WEARABLE MEDICAL DEVICE	Patent	published	2023	Design number:432514-001, Date of Issue13/12/2024
30	2022-2023	Dr. Gaurav Kumar	IOT BASED REAL TIME MONITORING OF DUST DEPOSITION ON BIPV SYSTEM AND CLEANING DEVICE	Patent	published	2023	Application no. 202341034183 A Published on 16.06.23
31	2022-2023	Dr. Harinath Aireddy	ANTENNA HORN FOR LASER POWDER BED FUSION	Patent	published	2023	Application Date : 24/08/2023, Design No. : 393565-001
32	2022-2023	Dr. Harinath Aireddy	ROAD AND FLOOR CLEANING MACHINE	Patent	published	2023	Application Date : 24/08/2023, Design No. : 393566-001
33	2022-2023	Dr Aby K Thomas	Design system of Vehicle Detection in Moving and Static Traffic Using Radar Sensors on Two-Lane Roads using IoT	Patent	published	2023	Application No.202341056611 A
34	2022-2023	Dr Aby K Thomas	IOT BASED OCEAN SPILLED OIL CLEANING DEVICE	Design Patent	Granted	2023	Design number 400552-001
35	2022-2023	Dr G Ramana Murthy	SOIL TENSIOMETER CUM IOT DEVICE	Design Patent	Published	2023	Design number 380598-001

Sl No	AY	Name of the faculty	Title of the Innovations	Type (Patent / Working Model / Prototype)	Status (Granted / Published / Developed)	Year	Patent Application/Registration No. (if any)
36	2022-2023	Dr G Ramana Murthy	PAPER WEIGHT	Design Patent	Published	2023	Design number 378047-001
37	2022-2023	Dr G Ramana Murthy	Smart Content Recommendation Tablet for Tailored Educational Resources	Design Patent	Published	2023	Design number: 6305351
38	2022-2023	Dr G Ramana Murthy	A System for Performing Epi-Retinal Vision Restoration in CMOS Through Wireless Inductive Coupling Power Transfer_German Patent Publish	Design Patent	Published	2023	Design number 202 023100213
39	2021-2022	Dr.Neelapala Anil Kumar	GAS-WATCH: Intelligent Gas Pipeline Leakage and Supply Demand Estimator.	Patent	published	2021	Application No: 202141039033 A, Date of filing: 28/08/2021, Publication Date: 10/09/2021.
40	2021-2022	Dr.Chitra Kiran.N	REAL TIME VISUAL OBJECT DETECTION FOR INTELLIGENT VIDEO SURVEILLANCE USIN IoT	Patent	published	2021	App. No.:20214137721, Date of publication: 27/08/2021
41	2021-2022	Dr.Chitra Kiran.N	IoT AND BLOCK CHAIN-BASED REAL TIME VEHICLE LOCATION TRACKING SYSTEM FOR ECOMMERCE SUPPLY CHAIN	Patent	published	2021	App. No.:202141060131A, Date of publication: 31/12/2021
42	2021-2022	Dr. Sandeep Dhariwal	A BACKFIRE ANTENNA METAMATERIAL DEVICE FOR WIRELESS CHARGING SYSTEM	Patent	published	2021	Application No.202121042610 A
43	2021-2022	Dr Aby K Thomas	SUSTAINABLE FARMING SYSTEM USING IOT FOR CROP MONITORING AND CONTROL	Patent	published	2021	Application No.202141039032 A
44	2021-2022	Dr Aby K Thomas	Smart Mirror based on IoT Using CNN for Information and Home Security System	Patent	published	2021	Application No.202141043812 A
45	2021-2022	Dr Aby K Thomas	Design system for driver risk assessment using machine learning and fuzzy logic	Patent	published	2021	Application No.202141054923 A
46	2021-2022	Dr. Sandeep Dhariwal	A DEVICE AND PROCESS FOR RETURN LOSS AND BANDWIDTH ENHANCEMENT USING MULTILAYER MICROSTRIP APERTURE COUPLED LOG-PERIODIC DIPOLE ANTENNA	Patent	published	2022	Application no.202221009456
47	2022-2023	Dr. Harinath Aireddy	Smart Pill Dispenser for The Automated Delivery of Medicines	Working Model & Patent	Developed & published	2024 & 2025	434645-001
48	2024 – 2025	Dr. Harinath Aireddy	Automated Mist Fan	Working Model & Patent	Developed & published	2025	434647-001
49	2023 – 2024	Dr. Harinath Aireddy	Speed Monitoring and Notification System For Vehicles	Working Model & Patent	Developed & published	2024 & 2025	434643-001
50	2023 – 2024	Dr. Harinath Aireddy	Blink Detection Smart Glasses	Working Model & Patent	Developed & published	2024 & 2025	434644-001
51	2024 – 2025	Dr. Harinath Aireddy	Head-Mounted Drowsiness Detection Apparatus	Working Model & Patent	Developed	2025	462698-001

Sl No	AY	Name of the faculty	Title of the Innovations	Type (Patent / Working Model / Prototype)	Status (Granted / Published / Developed)	Year	Patent Application/Registration No. (if any)
52	2024 – 2025	Dr. Harinath Aireddy	Smart Tea Maker	Working Model & Patent	Developed	2025	462699-001
53	2024 – 2025	Dr. Harinath Aireddy	3D Printed Vital Sign Monitoring Device	Working Model	Developed	2025	
54	2024 – 2025	Dr. Harinath Aireddy	Mosquito Trapper	Working Model	Developed	2025	
55	2024 – 2025	Dr. Harinath Aireddy	Device Tracker	Working Model	Developed	2025	

6.2.4 Sponsored Research Project (15)

Institute Marks : 15.00

2023-24 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Inbarasan Muniraj		Electronics and Communication Engineering	Investigating the efficacy of deep learning networks for 3D imaging and processing	Anusandhan National Research Foundation, Science and Engineering SERB International Travel Support Scheme	1 Year	0.58
Dr. Reeba Korah	Dr. Gaurav Kumar	Electronics and Communication Engineering	"Fractional -order control strategy for quadcopter drone for safe landing during the complete loss of one or two propellers"	Universiti Teknologi petronas Malaysia	1 Year	3.50
Dr. Harinath AireddyDr. Harinath Aireddy		Electronics and Communication Engineering	Investigation of electric field controlled magnetization in ferromagnetic based field effect transistors for spintronic applications'	UGC-DAE CSR (Collaborative Research Scheme)	3 Years	2.40
						Amount received (Rs.):6.48

2022-23 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Inbarasan Muniraj		Electronics and Communication EngineeringElectronics and Communication Engineering	"3D opto-computational bioimaging under low light condition using photon counting detecting"	Govt of India Ministry of science & Technology Department of Science & Technology	2 Years	6.20
						Amount received (Rs.):6.20

2021-22 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Harinath Aireddy		Electronics and Communication Engineering	Studies on selective laser melting of aluminium alloys for rapid prototyping of RF modules	DST-SERB TARE	3 Years	2.75
Dr. Reeba Korah		Electronics and Communication Engineering	Development of Very low power electronics device modeling and chip design center	Vision Group on Science and Technology	3 Years	40.00
						Amount received (Rs.):42.75

Total Amount (Lacs) Received for the Past 3 Years: 55.43

Note*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

6.2.5 Consultancy Work (15) Institute Marks :

2023-24 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2022-23 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2021-22 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

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

Note*:

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

6.2.6 Institution Seed Money or Internal Research Grant to its Faculty for Research Work(5)

Institute Marks : 3.00

6.2.6 A Amount received (3)

2023-24 (CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Chandni Pathak	Unsymmetrical heterodinuclear metal complexes as structural and functional phosphatase models	3 Years	3.00	0.61	To develop metal complexes mimicking phosphatase functionality and structure.
Dr. Rashmi Sinha	Synthesis of ultrafine YAG:Ce phosphors and composites for WLEDs application	3 Years	3.00	0.18	To synthesize YAG:Ce phosphors for enhanced WLED performance.
Dr. Vineetha Sivakumar	Combating Trafficking in Persons: Assessing the Vulnerabilities and Risks	3 Years	3.00	0.00	To Analyze vulnerabilities and risks in human trafficking prevention
Dr. Vivekanand Mishra	Fabrication of Metal Semiconductor Oxide and Thermal Barrier Coating	3 Years	3.00	0.68	eveloped Lanthanum Cerium Oxidenanoparticles for coatings and barriers
Dr. Syed Alay Hashim	Design, Fabrication, and Testing of Metalized Hybrid Propellant Ducted Rocket System	3 Years	3.00	0.00	To optimize metalized hybrid ducted rocket propulsion system
			Amount received (Rs.): 15.00		

2022-23 (CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
			Amount received (Rs.): 0		

2021-22 (CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
			Amount received (Rs.): 0		

Total amount (Lacs) received for the past 3 years : 15.00

6.2.6 B Amount utilized (2) Institute Marks :

7 FACILITIES AND TECHNICAL SUPPORT (100) Total Marks 100.00

7.1 Adequate and well equipped laboratories, and technical manpower (40) Total Marks 40.00

Institute Marks : 40.00

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Analog Electroı	30	CRO,Function	4 Hours	Mr. Shiva Sank	Lab Instructor	Diploma
2	Basic Electrica	30	CRO,Signal Ge	30 Hours	Mr.Hanumath H	Lab Instructor	B. E, Diploma,
3	CMOS VLSI de	30	Artix 7 FPGA k	4 Hours	Ms. Neethu Vija	Lab Instructor	M.Tech
4	Communicatior	30	Signal Generat	4 Hours	Mr. Krishnamoo	Lab Instructor	Diploma
5	Digital Design \	30	Digital ic Traine	4 Hours	Mr. Shivasanka	Lab Instructor	Diploma
6	Digital Signal P	30	DSP Starter Kit	4 Hours	Mr.Sarath Krish	Lab Instructor	B.Tech
7	Embedded Sys	30	Microcontroller	4 Hours	Ms. Neethu Vija	Lab Instructor	M.Tech
8	Internet of Thin	30	Iobit –IoT kit (M	4 Hours	Mr.Sarath Krish	Lab Instructor	B.Tech
9	RF Antenna an	30	klytstron power	4 Hours	Mr. Krishna Mo	Lab Instructor	Diploma

7.2 Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (20)

Total Marks 20.00

Institute Marks : 20.00

Sr. No	Name of the Facility	Details	Purpose for creating facility	Utilization	Relevance to POs/PSOs
1	Centre of Excellence-Indigenous Processor Development	20 Cadence license with CADENCE Academic Bundle	For developing indigenous processor	Undergraduates and Research-Scholars	PSO-[1(Moderate) & 3 (Strong)]
2	Center of Excellence - Makerspace	MS Available Tools and Equipment.docx (for more information kindly refer the provided link)	CoE-Makerspace is a Do It Yourself (DIY) interdisciplinary workspace where students can build, experiment, and learn by working on real projects using tools and machines.	Students, faculty, researchers, innovators, industry experts	PSO-[2(Moderate)]
3	Center of Excellence - Additive Manufacturing	CoE-AM Available Tools and Equipment.docx (for more information kindly refer the provided link)	Center of Excellence in Additive Manufacturing promotes learning, research, and real-time project development using advanced 3D printing technologies.	Students, faculty, researchers, innovators, industry experts	PSO-[1(Moderate) & 3 (Strong)]
4	Centre of Excellence-Robotics & Automation	Facilities available: 1. ABB Cobot - Collaborative Robot. 2. WeFaa Robotics - Smorphi & Smorphi Square 3. eYantra - Lab in a Box	Serves as a specialized hub that focuses on the advancement of robotics technology, education, and research. To bridge the gap between academic learning and industry requirements, while also fostering innovation and interdisciplinary collaboration.	Students, faculty, researchers, Training and Internships	PSO-[1(Moderate) & 3 (Strong)]
5	AU-Sophisticated Testing and Instrumentation Centre (STIC)	"X-Ray Diffractometer Scanning Electron Microscopy JSM-7700F FE-SEM Dynamic Light Scattering Interrogator SR-1080 UV-visible Spectrometer To be installed soon FTIR (Single Reflection Diamond Atr) Atomic Absorption Spectrophotometer Raman Spectroscopy Dynamic Mechanical Analyzer Electrospinning Instrument NMR Spectroscopy High-Resolution Mass Spectrometry High Performance Liquid Chromatography Elemental Analyzer"	"To become a hub for scientific research. Support interdisciplinary research in chemistry, physics, biology, polymer, and material science. Provide knowledge and experience that meet the needs of industry and society. Collaborate with leading institutes and industries globally. Promote environmentally friendly research. Establish partnerships with national and international universities and institutes. Conduct joint research, student, and faculty exchange programs with international universities and institutes. Offer joint PhD programs with international universities and institutes. Create a platform for researchers, scientists, and academics to exchange ideas, knowledge, and thoughts. Emphasize product development, technology translation, high-impact publications, and patents."	Students, faculty, researchers, Training and Internships	PSO-[1(Moderate) & 3 (Strong)]

7.3 Maintenance of laboratories and overall ambiance (10)

Total Marks 10.00

Institute Marks : 10.00

Maintenance Policy

Maintaining a safe, functional, and aesthetically pleasing environment for all is a core commitment. Regular inspections and proactive upkeep are foundational to operational excellence. We prioritize the longevity and optimal performance of all assets and infrastructure. Scheduled maintenance prevents minor issues from escalating into significant problems.

Regular service of equipment is diligently taken care of. If external service is required, it will be maintained through qualified external sources. All maintenance activities adhere to the highest standards of quality and efficiency, minimizing disruption while ensuring the continuous reliability of our facilities.

Corrective Measures

Immediate action is taken to address identified faults or malfunctions swiftly. Issues are diagnosed thoroughly to determine root causes and prevent recurrence. Skilled Lab Staff are deployed to resolve problems with minimal downtime. All corrective actions are documented for future reference and analysis. Full functionality and safety are restored as quickly as possible, and feedback from corrective actions informs preventive strategies.

Preventive Measures

Proactive inspections and routine servicing are the backbone of our prevention strategy. Regular checks identify potential issues before they become critical. Scheduled upgrades and replacements enhance system resilience and efficiency. Trained lab staff can handle situations by identifying and mitigating risks early, and these programs equip staff with the necessary skills. Data analysis helps predict maintenance needs and optimize resource allocation, leading to a preventive approach that minimizes unexpected failures and ensures continuous operation.

Overall Ambiance

An atmosphere that is welcoming, comfortable, and conducive to well-being is cultivated. Cleanliness, orderliness, and attention to detail define the spatial experience. The environment is designed to be aesthetically pleasing and functionally intuitive. Lighting, sound, and temperature are carefully managed for optimal comfort. Green spaces and natural elements are integrated to enhance the sensory experience. The ambiance reflects a commitment to quality and a positive experience for all who enter.

7.4 Safety measures in laboratories (10)

Total Marks 10.00

Institute Marks : 10.00

Sr. No	Laboratory Name	Safety Measures
1	Analog Electronic Circuits Lab	Fire Extinguisher, First Aid Box, Earthing, Sanitizer, Do's And Dont's.
2	Basic Electrical and Electronics Lab	Fire Extinguisher, First Aid Box, Earthing, Sanitizer, Do's And Dont's.
3	CMOS VLSI design Lab	Fire Extinguisher, First AID Box, UPS, Earthing, Firewall, Sanitizer, Do’s And Dont's.
4	Communication Systems lab	Fire Extinguisher, First Aid Box, Earthing, Sanitizer, Do's And Dont's.
5	Digital Design with VHDL Lab	Fire Extinguisher, First AID Box, UPS, Earthing, Firewall, Sanitizer, Do’s And Dont's.
6	Digital Signal Processing Laboratory	Fire Extinguisher, First AID Box, UPS, Earthing, Firewall, Sanitizer, Do’s And Dont's.
7	Embedded System Design Lab	Fire Extinguisher, First AID Box, UPS, Earthing, Firewall, Sanitizer, Do’s And Dont's.
8	Internet of Things Lab	Fire Extinguisher, First AID Box, UPS, Earthing, Firewall, Sanitizer, Do’s And Dont's.
9	RF Antenna and Design lab	Fire Extinguisher, First Aid Box, Earthing, Sanitizer, Do's And Dont's.

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

Total Marks 20.00

Institute Marks : 20.00

Table No.7.5.1: List of Project Laboratory/Research Laboratory/Centre of Excellence

S.No	Name of the Laboratory
1	Indigenous Processor Development (CoE)
2	Robotics (CoE)
3	Additive Manufacturing (CoE)
4	Center of Excellence - Makerspace
5	AU-Sophisticated Testing and Instrumentation Centre (ASTIC)

8 CONTINUOUS IMPROVEMENT (80)

Total Marks 80.00

8.1 Actions taken based on the results of evaluation of each of the COs, POs & PSOs (40)

Total Marks 40.00

8.1.1 Actions Taken Based on the Results of Evaluation of the COs Attainment (20)

Institute Marks : 20.00

Attainment of Course Outcomes (COs):

Course Outcomes (COs) are defined for each course, with action verbs aligned to the appropriate cognitive levels of Bloom's Taxonomy clearly identified.

Direct Assessment:

The mid-semester assessment (MSE) mainly covers CO1 and CO2 each question is mapped to either one of these COs. The CO attainment percentage is calculated as the ratio of the marks obtained by students to the total marks allocated for that CO. All COs are systematically covered through various components of the during-semester assessments (DSA), including assignments, quizzes, and class assessments. For each of these components, CO percentage scores are similarly computed based on prior MSE question paper analysis and mapping.

CO percentage scores for internal assessments are calculated by averaging the scores from mid-term exams, assignments, quizzes, class assessments, and other relevant components mapped to each course. Similarly, CO scores for the Semester End Examination (SEE) are determined based on the university question paper analysis and the COs addressed. The overall CO attainment is then computed as a weighted average, with 50% weightage assigned to During-Semester Assessments (DSA) and 50% to SEE. Of this overall attainment, 80% is considered for direct assessment.

Indirect Assessment:

At the end of the semester, student feedback is collected to evaluate the relevance and effectiveness of each Course Outcome (CO) in achieving the intended Bloom's Taxonomy levels. This feedback contributes 20% to the overall CO attainment for each course.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
2024-2025 (ODD SEMESTER)							
Dr. G. Ramana Murthy	5EC1232 - TVLSI	88.52	88.28	86.09	88.07	92.01	The direct assessment of all Course Outcomes (COs) is satisfactory. For this semester, the target achievement levels for CO3, CO4, and CO5 were set at 50%, in contrast to CO1 and CO2, which were set at 75%. As part of the continuous improvement strategy, the targets for CO3, CO4, and CO5 will be aligned with CO1 and CO2 at 75% in the upcoming semesters.
	EC701 - Internet of Things	87.68	79.44	85.72	85.1	86.61	The direct assessment results for CO1, CO2, CO3, CO4, and CO5 have met the required attainment threshold. However, CO2 exhibits a relatively lower percentage compared to the other course outcomes. To improve CO2 performance in future semesters, group presentations will be considered to reinforce students understanding of key topics such as internet connectivity, IP addressing, and cloud-based data collection, storage, and computing. Overall, all course outcomes have successfully achieved the 75% attainment target.
	ECL707 - IoT Laboratory	88.21	88.21	88.21	88.21	88.21	The direct assessment of all Course Outcomes (COs) has been found satisfactory. As part of the continuous improvement process, the experiments related to CO3, CO4, and CO5 will be enhanced. Additional experiments focusing on communication protocols such as MQTT, HTTP, and CoAP will be incorporated in the upcoming semesters.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Harinath Aireddy	3EC1002 Network Theory and Transmission Lines	55.42	57.26	69.95	74.74	78.08	The CO attainment targets set for all five COs have been met and surpassed, indicating effective delivery and student comprehension. Continued efforts will be made to maintain this trend by refining instructional methods and increasing practice on graphical methods (CO4 & CO5). Additional emphasis will be placed on mini-projects and Smith chart applications to reinforce practical learning. Faculty will explore including real-world transmission line case studies to further improve PO and PSO linkages.
Dr. Sridhar T	5EC1011 - Modern Control Systems	74.58	75.94	62.74	84.47	56.89	CO1 TO CO5 the set target was 75% . The hands-on sessions and tutorial classes will be introduced to enhance students practical skills through varied problem-solving and case studies for CO3 and CO5
Dr. Sandeep Dhariwal	CMOS VLSI Design (5EC1008)	76.35	69.34	76.54	84.29	79.69	Self -Motivation for students to practice in HDL coding and Verification using open source tools to practice anywhere.
	Low Power VLSI Design (ECE 717)	81.5	81.5	78.88	81.01	80.84	Refering the latest research papers to update for newer techniques to lower the power dissipation and applying the same in undertaking desings with EDA tools.
Dr. Gaurav Kumar	MATLAB Programming (3OE1701)						MATLAB Programming (3OE1701) The attainment of CO1 and CO2 has been observed less as compared with the target level. In the subsequent offering, the following steps will be taken to improve the attainments. a. In 2025-26 offering, self-paced learning materials from the MATLAB Academy will be prescribed for better understanding of the average learners. b. Additional learning materials like e-books, small programming problems related to CO-1 and CO-2 shall be provided to the students. c. Hands-on sessions will be provided during the course. d. The advance leaners will be given some review paper to implement using the MATLAB to improve their
Dr. Srikanth Itapu	Spintronics (ECE 714)	91.66	94.39	59.54	91.21	85.74	SEE Direct Assessment of CO 3 need to be reviewed. Inclusion of more technical papers in the domain would augment better student learning experience.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Anil Kumar Neelapala	Embedded Machine Vision (EC716)	81.53	83.41	75.99	82.95	93.47	Identify a specific real-world problem that can be solved or significantly improved using embedded machine vision, and ensure it inherently spans multiple disciplines.
	Embedded System Design (3EC1019)	61.68	62.11	62.25	48.47	62.16	Encompassed understanding the 8051s architecture, its port configurations for interfacing, and peripheral interactions through coding exercises and hobby projects.
	Embedded Sensor Technology (5EC1224)	76.89	73.44	68.92	80.68	88.9	Introduce circuit simulation software (e.g., LTSpice, Proteus, Multisim, Tinkercad Circuits) for simulating basic sensor interfaces and signal conditioning circuits.
Dr Aby K Thomas	3EC1004 Communication Network	64.41884058	44.34710145	58.11062802	79.04878261	74.27857971	CO1 Target successfully met -Include real-world examples to further reinforce concepts CO2 Gaps in MAC protocol understanding- Conduct additional simulation-based labs CO3 Difficulties in subnetting and IPv4 - Schedule remedial class on IP addressing CO4 Low performance in transport layer topics- Add quiz and revision modules on TCP/UDP CO5 Strong lab-based learning observed - Continue using
Dr. Amar Choudhary	Introduction to 5G and Beyond (5EC1233) - PP - 3.00	78.76294737	69.11547368	77.12112281	74.73789474	75.00084211	Encouraged use of Coursera courses on 5G, AI in telecom, and network security. Implemented student-driven research presentations and paper reviews.
	Autonomous Connected Vehicles (ECO796) - PP - 3.00	80.99722222	85.90555556	91.29444444	73.92222222	96.38888889	Conducted guest lectures by industry professionals and organized webinars focusing on project management and innovation in the automotive telecom sector.
2023-2024 (EVEN SEMESTER)							

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Ramana Murthy G	4EC1007 - Digital Design with VHDL	80.27	84.76	71.74	69.05	70.05	The direct assessment results for CO1 and CO2 are satisfactory. This semester, the target achievement levels for CO3, CO4, and CO5 were set at 50%, in contrast to the 75% target set for CO1 and CO2. As part of the continuous improvement strategy, the targets for CO3, CO4, and CO5 will be increased to 75% in upcoming semesters to align with CO1 and CO2. To enhance the performance of CO3, CO4, and CO5, additional instructional materials will be introduced, including case studies on sequential logic circuit design, hands-on exercises involving digital IC design based on specific problem statements, and expanded coding examples in VHDL.
	ECE612 - Advanced VLSI	81.26	81.97	77.08	77.17	76.66	The direct assessment outcomes for CO1 and CO2 are satisfactory. In this semester, the target achievement levels for CO3, CO4, and CO5 were set at 50%, compared to the 75% target for CO1 and CO2. As part of the continuous improvement strategy, the targets for CO3, CO4, and CO5 will be raised to 75% in future semesters to ensure consistency across all course outcomes. To support this enhancement, the upcoming semesters will include additional instructional resources such as case studies on sequential logic circuits using CMOS technology, hands-on exercises focused on dynamic logic design to optimize power and delay performance, and expanded HDL coding examples targeting FPGA implementation.
Dr. Harinath Aireddy	CDP-699- Career Development Program	74.18	69.69	78.77	76.78	81.1	All Course Outcomes (COs) surpassed the set attainment targets, indicating effective course delivery. To further enhance student learning, additional structured peer-review sessions and mock interviews will be introduced under CO4. For CO2, industry case studies and planning tools will be integrated to improve project planning skills. Continued emphasis on professional report writing and presentation (CO3) will be supported through workshops and feedback sessions. The CO-PO mapping and assessment strategies remain appropriate and will be sustained for future offerings.
Dr. Sridhar T	ECE616-Advanced Embedded Systems	52.13	87.09	83.76	89.46	89.22	CO1 to CO5 the set target was 70% . Tutorial classes and practical assignments will be introduced to enhance students performance for CO1.
Dr. Chitra Kiran N	EC 601-Wireless and Mobile Communication	91.22	99.41	94.02	99.4	99.69	CO attainment is satifactory ,now industry experts session will be scheduled for improving and maintaining the assesment.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Sandeep Dhariwal	ECE812-Digital VLSI Design	74.27	78.07	72.41	75.23	75.5	The direct assessment outcomes for CO2 , CO4 and CO5 are satisfactory. In this semester, the target achievement levels for CO1 and CO3 are comparatively less and needs to be enhanced in the upcoming semesters. It will include additional instructional resources on sequential logic circuits using CMOS technology, hands-on exercises focused on dynamic logic and delay performance, and expanded HDL coding examples and their implementations.
Dr. Srikanth Itapu	Introduction to MEMS (ECE 614)	89.29	90.35	85.06	84.1	83.83	Direct Attainment of all COs (> 80% attainment) was achieved. More hands-on sessions on modelling of MEMS-based sensors using COMSOL Multiphysics tool would greatly benefit the student understanding at micron-scale.
	Semiconductor Packaging and Manufacturing (ECE 814)	70.18	81.54	82.95	84.32	87.11	Direct Attainment of CO 1 (70.18% attainment) needs review. More case studies on circular economy with semiconductor waste and review of scope 1 and scope 2 emissions with additional review articles will be provided in the next offering.
Dr. Anil Kumar Neelapala	Embedded Architectures (ECE615)	57.22352941	57.22352941	57.6	76.8	86.4	Working on projects that simulate real-world challenges provides context and motivates deeper engagement, while collaborating with peers fosters diverse perspectives, shared problem-solving, and mutual learning.
Dr. Amar Choudhary	Next Generation Wireless Communications - (ece613) (pp - 3.00)	87.68888889	86.5037037	86.8	89.46666667	87.76296296	Organized guest lectures by industry experts from telecom companies focusing on 5G deployments, standardization efforts, and future 6G roadmaps.
	Introduction To 5g And Beyond - (ece811) (pp - 3.00)	93.30285714	93.90428571	90.688	92.06152381	90.91066667	Scheduled webinars with 5G industry professionals to expose students to real-world challenges.
	Vehicular Communications And Networks - (eco697) (pp - 3.00)	86.13333333	87.30666667	85.04488889	85.17911111	83.84177778	Introduced a dedicated session on ethical, legal, and societal impacts of vehicular communications.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr Aby K Thomas	EC603 Data Communication and Networking	70.41666667	71	72.56609687	72.81609687	74.06111111	CO1 Target met successfully -Sustain current strategy with short recaps CO2 Random access protocols not well grasped - Supplement with Packet Tracer simulations CO3 Confusion in subnetting and routing types - Deliver dedicated IP lab sessions and routing visuals CO4 Low performance in transport layer concepts- Introduce quizzes and extra examples on TCP/UDP CO5 Excellent attainment - Continue using real-world protocol
	ECL606 Data Communication and Networking Lab	60.10555556	60.68888889	60.18888889			CO1 Target met - Continue existing pedagogy and maintain assessment standards. CO2 Target met - Continue existing pedagogy and maintain assessment standards. CO3 Target met - Continue existing pedagogy and maintain
	ECE616-Wireless Adhoc Networks	68.47619048	68.47619048	73.13333333	72.06666667	76.90238095	CO1 No major gaps – strong conceptual clarity - Reinforce with case studies and application demos CO2 Difficulty with MAC protocol types - Conduct animated simulation tutorials CO3 Misconceptions in routing classifications - Hands-on classification activities and flowcharts CO4 Low performance in transport & TCP adaptation- Introduce extra tutorial + practice questions CO5 Target met successfully - Maintain current teaching
Dr. Gaurav Kumar	4EC1005 Signals and Systems	68.75	68.9	75.8	68.47	78.07	The traget attainment for all COs have been achived. to improve further, the following actions will be taken a. one extra hours beyond the alocated class room contact hours will be scheduled for inclusion of MATLAB
	EC602 Digital Signal Processing	75.73	75.57	79.43	80.71	78.58	The traget attainment for all COs have been achived. to improve further, the following actions will be taken a. one extra hours beyond the alocated class room contact hours will be scheduled for inclusion of MATLAB
	ECL607 Digital Signal Processing Lab	81.73	81.88	81.02	81.45	82.3	The traget attainment for all COs have been achived. to improve further, the following actions will be taken a.The procurement of campus wide licence will be recomeded to the HoD b. Quick review of the MATLAB software will be provided
2023-2024 (ODD SEMESTER)							

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Ramana Murthy G	ECE511 - Testing of VLSI Circuits	74.24	77.79	75.24	75.07	74.73	The attainment level for all the COs is kept at a threshold value of 75%. The direct assessment for CO2, CO3 and CO4 are in satisfactory category. However, CO1 and CO5 attainment falls below marginally. To enhance the performance of CO1 and CO5, additional instructional materials will be introduced, including presentation topics on design for testability-SCOAP measures for combinational circuits, levels of abstraction in testing and verification, hands-on exercises involving Verilog-based modeling levels and experimental work on FPGA boards.
	ECE712 - RTOS	84.67	84.5	75.65	76.65	79.88	The attainment threshold for all Course Outcomes (COs) is set at 75%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold. However, the attainment levels for CO3, CO4, and CO5 are only marginally above the minimum target, highlighting areas for potential improvement. To strengthen student performance in these outcomes, additional instructional interventions will be implemented. These include presentation assignments on scheduling algorithms and multithreading models (such as thread prioritization and mutex mechanisms), hands-on exercises focusing on process stack management, runtime buffer sizing, swapping, and overlays, as well as experimental labs involving Linux POSIX systems, RTLinux/RTAI, and Windows-based platforms.
	EC701 - Internet of Things	78.07	84.47	75.82	75.91	76.43	The attainment threshold for all Course Outcomes (COs) has been set at 75%, serving as the benchmark for evaluating student performance. The direct assessment results indicate that each CO has achieved this target, placing them within the satisfactory range. This suggests that students are meeting the expected learning objectives across all defined outcomes, demonstrating a solid grasp of the course content.
	ECL707 - IoT Laboratory	86.65	86.4	86.57	86.48	86.57	The attainment threshold for all Course Outcomes (COs) is set at 75%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr Aby K Thomas	ECE515 Wireless Sensor Networks	66.60904762	69.66819048	64.1952381	58.15952381	58.49285714	CO1 None – Target fully achieved - Continue practical examples and IoT-based demos CO2 Confusion in contention-based MAC protocols - Include animations or simulations in lectures CO3 Difficulty in classifying routing protocols - Organize interactive routing protocol classification Seminar CO4 QoS and reliable transfer concepts were not clear Conduct focused tutorial on QoS and rate control with examples CO5 Good performance – no major gap Maintain use of visual
Dr. Sridhar T	EC302 - ANALOG ELECTRONIC CIRCUITS	80.44	81.66	80.99	85.51	82.13	The attainment threshold for all Course Outcomes (COs) is set at 80%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold.
	EC501 - Control Systems	75.43	75.66	75.54	76.48	72.42	The attainment threshold for all Course Outcomes (COs) is set at 75%, serving as the standard benchmark for student performance. The direct assessment results indicate that CO1 TO CO4 fall within the satisfactory category, having met this threshold. CO5 will be taken care by giving Case Stuides.
	ECO798 - Optical Fiber Communications	91.98	91.69	84.3	82.02	81.44	The attainment threshold for all Course Outcomes (COs) is set at 80%, serving as the standard benchmark for student performance. The direct assessment results indicate that all COs fall within the satisfactory category, having met or exceeded this threshold.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Sandeep Dhariwal	EC502-CMOS VLSI Design	63.66	63.66	47.09	47.09	47.09	The Course Outcomes are not as per expectations and needs a rigorous review to enhance the performance in each of the course outcomes. For this, in each of the course outcomes, there will be a class discussion and participation after ending of each of the modules and personal attention during the designing portions during the direct teaching hours.
	ECL507-VLSI Design Lab	65.64	65.72	65.9	65.81	NA	There are four COs as per CDAP and all the outcomes are observed in the average categories. There is a strong requirment of practice for the students to work on designing and coding for combinational as well as sequential designs along with Vivado implementations in the Lab Hours. Individula students need to be observed with daily practical outcomes during the Lab Hours.
	EC711-Analog VLSI Design	77.74	77.74	70.33	70.33	70.33	The direct assessment outcomes for CO1 and CO2 are good . The direct assessment outcomes for CO3 , CO4 and CO5 are satisfactory but needs more improvment in the upcoming semesters. It will include additional instructional resources on Analog and mixed circuits using hands-on exercises on EDA tools.
Dr. Gaurav Kumar	3OE1701 MATLAB Programming	76.41	76.55	76.09	76.12	77.77	The target attainments for COs have been achived. In the subsequent offering, the following steps will be taken to improve the attainments. a. Additional learning materials like e-books, small programming problems related to CO-1 and CO-2 shall be provided to the students. b. Hands-on sessions on CO5 will be provided during the course. c. The advance leaners will be given some review paper to implement using the MATLAB to improve their understanding
	EC714 Software Defined Radio	85.61	85.92	82.87	86.22	83.76	The target outcomes have been attained. The MATLAB simulations will be integarted in the course.

Faculty Name	Subjects Name/Code	CO1	CO2	CO3	CO4	CO5	Action taken
Dr. Harinath Aireddy	3EC1002 Network Theory and Transmission Lines	66.73	66.36	64.11	64.11	64.11	All CO attainment targets (CO1–CO5) were achieved with performance exceeding the set benchmarks. However, marginal differences between target and attained values for CO3–CO5 suggest scope for deeper conceptual understanding in Transmission Lines and Two-Port Networks.
	ECE-505 - RF and Microwave Engineering	80.13	79.1	73.33	73.33	73.33	The attainment for all COs in the course exceeded the target thresholds, indicating overall effective delivery. However, to further improve CO2–CO5 performance, practical exposure through simulation-based design of antennas and active circuits will be enhanced. Additional assignments using tools like CST will be introduced. Case studies and technical papers on recent advancements in microwave systems will be incorporated to deepen conceptual understanding and align with evolving industry trends.
Dr. Srikanth Itapu	ECL 709 Microwave, Antenna and OFC Lab	90.08	91.5	90.46	89.07		All the COs are highly attained. This laboratory only course will be integrated into a hybrid course (both theory and lab components included) in the next offering.
Dr. Anil Kumar Neelapala	EST(ECE-514)	65.27777778	59.33333333	69.83333333	51	64.5	Initiated a robust phase of cross-functional analysis to thoroughly define the problem space from multiple disciplinary perspectives.
	AIML(ECO598)	83.49206349	80.69841048	82.37037037	77.58730159	77.14285714	A structured presentation of advanced algorithms where theoretical concepts are immediately followed by practical implementation and demonstrations on relevant real-world datasets.allowing students to visualize code execution with virtual hardware.
Dr.Chitra Kiran.N	EC 504 Communication System	68.61	70.73	73.18	98.93	88.31	The direct assessment outcomes are met . For continous improvement CO1 will be improved giving casestudies, problem solving experiments.
	EC 504 Communication System LAB	91.38	91.91	91.47	91.91	92.18	The direct assessment outcomes are met . For continous improvement case studies , paper writing, webinars are introduced.
	ECE 713 Introduction to MIMO Systems	76.35	78.46	76.35	78.99	79.68	CO Attaimnment is satisfactory , and further improvent for the extended target will be achieved by Case studies and writing papers

8.1.2 Actions Taken Based on the Results of Evaluation of the POs/PSOs Attainment (20)

Institute Marks : 20.00

POs Attainment Levels and Actions for Improvement- (2024-25) Target:

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge			
PO1	1.8	2.0047	Basic Engineering fundamental knowledge of students further be enhanced.
Action 1:			
Strengthen students' understanding of mathematical fundamentals before introducing subject-specific topics, ensuring a solid foundation through guided problem-solving sessions.			
Action 2:			
Increase the number and variety of practice problems to reinforce key concepts and enhance problem-solving skills across different levels of complexity.			
Action 3:			
Leverage modern ICT tools such as animated videos, simulations, and interactive visual aids to effectively teach fundamental engineering concepts and improve conceptual clarity.			
PO 2: Problem Analysis			
PO 2	1.8	1.8924	Students' analytical skills are to be improved to analyze complex Engineering Problems.
Action 1:			
Introduce mini projects in higher semesters to strengthen students analytical and problem-solving skills through practical application.			
Action 2:			
Increase the focus on hands-on sessions during class hours in upcoming semesters to enhance experiential learning and concept application.			
Action 3:			
Provide additional tutorial problems to deepen students' understanding of subject concepts through regular practice and guided learning.			
PO 3: Design/development of Solutions			
PO 3	1.8	1.8349	Students' ability to design solutions for complex problems can be further improved.
Action 1:			
Encourage students to undertake projects that address real-world societal and environmental issues, promoting awareness and responsibility in engineering design.			
Action 2:			
Enhance lab sessions by requiring students to design and implement additional practical programs, reinforcing their ability to develop and test engineering solutions.			
Action 3:			
Organize industrial visits to expose students to real-life engineering challenges and practical solution strategies, bridging the gap between academic learning and industry practices.			
PO 4: Conduct Investigations of Complex Problems			
PO 4	1.8	1.6922	Students further need to be made more research-oriented towards analysis and synthesis of results.
Action 1:			

Include engineering-focused lab investigations where students design experiments, analyze data, and draw conclusions to solve real-world technical problems.			
Action 2:			
Assign mini research projects where students investigate open-ended engineering problems using research methods such as literature review, experimental design, and data interpretation.			
Action 3:			
Offer workshops or hands-on sessions on using research tools (e.g., MATLAB, Python, PSpice, OrCAD) and statistical methods to improve students ability to analyze and interpret data effectively.			
PO 5: Modern Tool Usage			
PO 5	1.8	1.8914	The usage of modern tools in the program needs to be improvised.
Action 1:			
Incorporate the use of modern engineering and simulation tools (e.g., MATLAB, AutoCAD, ANSYS, Simulink) into lab sessions and assignments to enhance students' technical proficiency.			
Action 2:			
Organize hands-on workshops or certification programs on widely used engineering and IT tools to build practical skills and understanding of tool capabilities and limitations.			
Action 3:			
Encourage students to use modern tools for modeling, simulation, and data analysis in their mini and major projects to reinforce tool-based problem-solving.			
PO 6: The Engineer and Society			
PO 6	1.8	1.5604	The ability to map technology to give solutions to societal problems needs to be strengthened.
Action 1:			
Integrate case studies into coursework that explore real-world engineering decisions involving societal, health, safety, legal, and cultural issues, encouraging critical analysis and ethical reasoning.			
Action 2:			
Host guest lectures by professionals from industry, law, and public policy to discuss the societal responsibilities of engineers and how contextual knowledge informs decision-making.			
Action 3:			
Encourage students to undertake projects focused on solving community problems (e.g., sustainable infrastructure, health-tech solutions), linking engineering practice with societal welfare.			
PO 7: Environment and Sustainability			
PO 7	1.8	1.4103	Motivated to develop a real-time application by considering the impact on environmental contexts.
Action 1:			
Assign projects or design tasks that require students to consider environmental impact, resource efficiency, and sustainable practices in their engineering solutions.			
Action 2:			
Conduct seminars, field visits, or awareness campaigns on sustainability challenges and the engineer's role in addressing them, linking classroom learning with real-world environmental concerns.			
PO 8: Ethics			

PO8	1.8	1.5413	Student knowledge further to be enhanced more on professional ethics and responsibilities.
Action 1:			
Provide students with an overview of the ethical principles outlined in the Constitution of India and introduce key aspects of professional ethics relevant to engineering practice.			
Action 2:			
Encourage students to actively participate in seminars and expert lectures focused on professional ethics to deepen their understanding of ethical responsibilities in the engineering field.			
PO 9: Individual and Team Work			
PO 9	1.8	1.7711	Students need to improve in functioning effectively as an individual and as team leaders.
Action 1:			
Incorporate collaborative projects that require students to work in diverse teams, assigning rotating leadership roles to develop teamwork, coordination, and leadership skills.			
Action 2:			
Organize presentations or classroom activities focused on communication, conflict resolution, and collaboration to enhance students' ability to function effectively in group settings.			
Action 3:			
Introduce structured peer and self-assessment tools to help students reflect on their individual contributions and team dynamics, promoting accountability and continuous improvement.			
PO 10: Communication			
PO10	1.8	1.4652	The communication and presentation skills are to be further improved among the students.
Action 1:			
Require students to prepare well-structured technical reports and design documentation as part of lab work, projects, and assignments to strengthen written communication skills.			
Action 2:			
Organize regular student presentations and workshops focused on improving verbal communication, presentation skills, and the ability to convey technical ideas clearly.			
Action 3:			
Evaluate students not only on technical content but also on how effectively they communicate their ideas during project reviews, including clarity, structure, and audience engagement.			
PO 11: Project Management and Finance			
PO 11	1.8	1.6901	Plan to improve further.
Action:			
Encourage students to take on roles as team members or leaders in organizing departmental or school-level events to develop project management and leadership skills.			
PO 12: Life-long Learning			
PO12	1.8	1.3513	Learning habits among students can be further strengthened.
Action 1:			
Encourage students to enroll in MOOCs, webinars, and certification programs (e.g., NPTEL, Coursera, edX) to stay updated with emerging technologies and industry trends.			
Action 2:			
Integrate self-directed learning tasks such as research assignments, topic explorations, or tech updates into the curriculum to build independent learning habits.			
Action 3:			

Conduct seminars and guest lectures on cutting-edge technologies to expose students to ongoing advancements and foster curiosity for continuous learning.

Program Specific Outcomes (PSO) Attainment

The attainment of the Program Specific Outcomes (PSOs) reflects the effectiveness of the curriculum in preparing students for specialized competencies and industry-relevant skills. The following summarizes the performance across the three defined PSOs:

The CO-PO-PSO attainment benchmarking is as follows:

Table 8.1.2

PO-PSO % attainment	PO-PSO level
%PO-PSO ≥ 60	3
50 ≤ %PO-PSO < 60	2
%PO-PSO < 50	1

PSO1: Foundation in Electronics and Societal Applications

- **Attainment Score: 1.6638**
- This PSO shows the highest level of attainment, indicating that students have developed a strong understanding of fundamental electronics and are effectively able to apply this knowledge to multidisciplinary domains with societal relevance.
- The high score reflects successful integration of foundational courses with practical, real-world problem-solving that aligns with ethical and social responsibilities.

PSO2: Communication Systems and IoT Innovation

- **Attainment Score: 1.6047**
- This attainment level demonstrates that students are well-equipped in designing modern communication systems and contributing to the rapidly evolving Internet of Things (IoT) landscape.
- The score reflects solid practical and design-based skills development, likely enhanced by relevant project work and lab exposure.

PSO3: Specialization in Emerging Technologies

- **Attainment Score: 1.4100**

- Though slightly lower than the others, this PSO still shows commendable performance, suggesting that students are gaining competency in advanced areas such as VLSI, Cyber-Physical Systems, Biomedical Instrumentation, and AI/ML.
- The slightly lower score may point to the need for enhanced exposure to industry-driven projects, internships, or specialized electives to strengthen this outcome further.

Overall Observation

- All three PSOs have scores well above the baseline, indicating effective delivery and alignment with program objectives.
- **PSO1** leads in attainment, showing strength in foundational knowledge and social relevance.
- **PSO2** closely follows, reflecting strong capabilities in communication and IoT systems.
- **PSO3**, while slightly behind, still reflects meaningful student engagement in high-demand technological areas, with room for targeted improvement.

Recommendation: To further enhance PSO3, the program could increase industry collaborations, hands-on workshops, and certifications in emerging technologies to better align with evolving industry expectations.

2021-2025																
Course Code	**Course Name**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
C101	Engineering Mathematics -I	1.56	1.04	1.04	1.04										1.56	
C102	Engineering Physics -I	1.47	0.98	0.98	0.98											1.47
C103	Engineering Chemistry-I	1.74	1.16	1.16	1.16										1.16	1.74
C104	Technical English		1.8								1.8					
C105	Problem Solving using C	1.14	1.14				1.14		1.14		1.14			1.14	1.14	1.14
C106	Basics of Mechanical Engineering	1.04			1.04											
C107	Basics of Civil Engineering and Engineering Mechanics	1.04			1.04											
C108	Environmental Studies	1.71						1.71	1.71					1.14	1.14	1.14
C109	Engineering Physics Lab	1.89	1.26	1.26	1.26											
C110	Basic Engineering Workshop	2.28	2.28	2.28	0.76		0.76			0.76						
C111	Engineering Mathematics-II	1.53	1.02	1.02	1.02										1.53	
C112	Engineering Physics-II	1.47	0.98	0.98	0.98											1.47
C113	Engineering Chemistry-II	1.74	1.16	1.16	1.16										1.16	1.74
C114	Communication and Soft Skills		1.89								1.89					
C115	Problem Solving Using Python	1.14	1.14				1.14		1.14		1.14			1.14	1.14	1.14
C116	Basics of Electrical Engineering	1.04			1.04											
C117	Engineering Graphics	1.04			1.04									1.04	1.04	1.04
C118	Basics of Electronics Engineering	2.7	2.7	2.7	2.7									2.7	2.7	2.7

2021-2025																
C119	Engineering Chemistry Lab	1.89	1.26	1.26	1.26											
C120	Electrical and Electronics Lab	2.7	2.7	2.7	2.7									2.7	2.7	2.7
C121	Vocational Courses									1.89						
C201	Engineering Mathematics- III	1.55	1.49	1.24			1.24			1.24		1.24		1.12		
C202	Electronic Devices and Circuits	1.93	1.85	1.54			1.54			1.54		1.54		1.39		
C203	Network Theory	1.64	1.64	1.47	1.58					1.26	1.26			1.26		
C204	Logic Design with VHDL	1.77	1.77	1.65	1.65		1.18							1.77	1.18	1.53
C205	Principals of Electronic Instrumentation	1.95	1.82	1.69	1.95	1.95	1.95			1.30		1.30		1.17		
C206	Fundamentals of Nanomaterials and Nanodevices	2.16	2.16	2.16	2.16								1.44			1.44
C207	MATLAB Programming	1.02	1.02	1.02	1.53	1.02				1.02			1.02	1.02	1.02	1.02
C208	Electronics Devices and Circuits Lab	2.13	2.04	1.87			1.70			1.70	1.70	1.70	0.85	1.87		
C209	Logic Design Lab	2.52	1.68	1.68						1.68	1.68			2.52		
C210	Career Development Program-II	1.40	2.10	2.10	0.70					1.40	1.75		1.75			2.10
C211	Engineering Mathematics-IV	2.46	2.30		2.46	1.64	1.64	1.64				1.64	2.46	1.64	2.05	1.64
C212	Analog Circuits	1.77	1.65	1.18	1.65		0.59			1.18	0.59		1.18	1.77	1.18	
C213	Electromagnetic Waves	1.86	1.86	1.24		1.86				1.86	1.55			1.24	1.86	
C214 a	Fundamentals of Robotics	2.25	1.50	1.50	2.25	1.80	1.05						1.50			1.80
C214 b	Foundations of IC Technology	2.13	2.13	1.42	2.13	2.13							1.42	1.42		2.13
C215	Signals and Systems	1.92	1.28	1.28	1.28	1.92									1.92	1.92
C216	Microcontrollers and Embedded Systems	1.95	1.73	1.63	1.95	1.79							1.95	1.14		1.95
C217	Microcontrollers and Embedded Systems Lab	2.40	2.40	0.80		1.60				1.60			1.60	2.40	2.40	2.40
C218	Analog Circuits Lab	2.37	2.37	2.11	1.58	1.58			2.37	2.11		1.58	2.37	2.11	1.58	1.58
C219	Career Development Program-III	1.52	2.28	2.28	0.76					1.52	1.90		1.90			2.28
C220	Design Thinking -I	2.49	2.49	2.49	2.49	1.83	2.49	1.66	2.49	2.49	2.16	1.16	1.66		2.49	1.66

2021-2025																
C301 a	Artificial Intelligence and Machine Learning	1.45	1.29	2.41	0.66	1.43								2.41	1.61	1.61
C301 b	Python for Image Processing and Machine Learning	1.81	1.81	1.81	1.21	1.57	1.21	0.98				1.57	1.21	0.85	0.97	
C302	CMOS VLSI DESIGN	1.61	1.36	1.26	1.26	1.36										1.61
C303	Control Systems	2.27	2.24	2.10										2.25		1.20
C304	Communication Systems	2.06	1.41	1.46	1.98								1.37	1.37	1.37	
C305	RF and Microwave Engineering	1.96	1.96	1.50	0.30	1.37								2.12	1.68	
C306 a	Embedded Sensor Technology	1.86	1.52	1.06	0.59	1.16				0.74		1.78			1.07	1.66
C306 b	Wireless Sensor Networks	1.90	1.90	1.90							1.27	0.00		1.27	1.27	
C306 c	Testing of VLSI Circuits	2.26	1.96	1.81	1.81	1.96								1.51		2.26
C307	VLSI Design Lab	1.97	1.64	1.48	1.48	1.64										1.97
C308	Communications Lab	2.73	2.73	2.73	2.73	2.73								1.82	2.73	
C309	Career Development Program -IV	1.60	1.60	2.39	1.60	2.40	1.58		0.79	2.42	2.41	2.13	1.58	2.40	1.60	1.99
C310	Design Thinking -II	2.02	2.02	2.02	2.02				2.02		2.02	2.02	2.02			
C311 a	Smart Healthcare Systems	1.45	1.29	2.41	0.66	1.43								2.41	1.61	1.61
C311 b	Vehicular Communication Networks	2.57	2.22	2.23	2.39	2.23	0.34			2.22					2.57	
C312 a	Advanced Embedded Systems	1.89	1.96	1.61										2.41		
C312 b	Next Generation Wireless Communications	2.28	2.28	2.10	2.10	2.10	1.75			2.10				1.75		2.63
C312 c	Introduction to MEMS	2.60	2.60	2.60	2.60			1.73				2.60	2.60			2.60
C313	Digital Signal Processing	2.34	2.34	1.56	1.87	2.34							1.56		2.34	
C314	Data Communications and Networking	2.17	2.17	1.44	0.72	2.17					1.44		1.44	2.17	1.44	
C315	Digital Signal Processing Lab	1.91	1.91	1.91	1.91	1.91			1.91	1.91			1.27		1.91	
C316	Computer Networks and Simulation Lab	1.64	1.64	1.10	0.55	1.64								1.64	1.10	
C317	Professional Ethics and Constitution of India								2.02							

2021-2025																
C318	Career Development Program - V	1.60	1.60	2.39	1.60	2.40	1.58		0.79	2.42	2.41	2.13	1.58	2.40	1.60	1.99
C319	Design Thinking - III	2.02	2.02	2.02	2.02				2.02		2.02	2.02	2.02			
C320 a	Embedded Architectures	2.01	1.72	1.19	0.65	1.30				1.04		1.95		1.95		0.80
C320 b	Wireless Adhoc Networks	2.15	2.15	2.15							1.44			1.44	1.44	
C320 c	Advanced VLSI	2.36	2.04	1.88	1.88	2.04								1.58		2.36
C321	Wireless and Mobile Communications	2.90	2.12	2.50	2.13	2.52	1.93		0.80	1.93	1.93		1.93		2.90	
C401	Internet of Things	2.52	1.70	1.70	1.72									2.55	1.93	
C402 a	Embedded Machine Vision	2.50	2.18	1.51	0.83	1.67				1.22		2.50		1.02	1.50	2.34
C402 b	Introduction to MIMO Systems	2.44	2.08	2.08	1.92	2.09	1.77	0.96	1.13	2.10	1.47		2.28	2.44	2.44	1.63
C402 c	Low power VLSI	2.26	1.94	1.94	2.10	1.78										2.42
C403 a	Intelligent Automation	2.30	2.30	2.30	1.53	2.02	1.53	1.28				2.04	1.53	1.14	1.24	
C403 b	Information Theory and coding	2.28	1.52	1.97	1.82	1.52	1.97	0.76	0.76	1.83			1.52		2.12	
C403 c	Spintronics	2.54	2.54	2.54	2.54			1.69				1.69	2.54		2.54	
C404	Autonomous Connected Vehicles	2.57	2.21	2.20	2.40	2.57	1.62			2.24	1.71		2.03		2.57	
C405	Entrepreneurship Management								2.02			2.02	2.02			
C406	Internet of Things Lab	2.12	2.12	2.65	2.47	2.65	1.23	1.41	1.23	2.65	0.88			2.65	1.76	
C407	RF Antenna Design Lab	2.12	2.12	2.65	2.47	2.65	1.23	1.41	1.23	2.65	0.88			2.65	1.76	
C408	Industry Internship	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
C409 a	Medical IoT	2.63	2.63	2.63	2.63								2.63	2.63		
C409 b	Introduction to 5G and Beyond	2.73	2.73	2.73	2.73		2.73			2.73	2.73	2.73	2.73		2.73	
C409 c	Semiconductor Packaging and Packaging	2.79	2.79	2.79	2.79								2.79			2.79
C410	Intellectual Property Rights			2.10					2.10				2.10			
C411	Project Work	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
	Average PO Direct Attainment	**2.01**	**1.90**	**1.86**	**1.68**	**1.94**	**1.57**	**1.60**	**1.66**	**1.83**	**1.73**	**1.87**	**1.87**	**1.84**	**1.80**	**1.88**
	Target = 60%	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**	**1.8**
	% difference	11.84	5.50	3.16	-6.93	7.54	-12.53	-11.01	-7.59	1.58	-3.77	3.74	4.10	1.98	-0.06	4.24

2021-2025																
	PO Attained	**Y**	**Y**	**Y**		**Y**				**Y**		**Y**	**Y**	**Y**	**Y**	**Y**

2020-2024																
Course Code	**Course Name**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
C101	Engineering Mathematics -I	1.56	1.04	1.04	1.04										1.56	
C102	Problem Solving using Python	1.14	1.14				1.14		1.14		1.14			1.14	1.14	1.14
C201	Electronic Devices and Circuits	1.93	1.85	1.54			1.54			1.54		1.54		1.39		
C202	Microcontrollers and Embedded Systems	1.95	1.73	1.63	1.95	1.79							1.95	1.14		1.95
C301	Control Systems	2.27	2.24	2.10										2.25		1.20
C302	Data Communications and Networking	2.17	2.17	1.44	0.72	2.17					1.44		1.44	2.17	1.44	
C401	Introduction to 5G and Beyond	2.64	2.64	2.64	2.64						2.64	2.64	2.64		2.64	
C402	Semiconductor Packaging and Packaging	2.73	2.73	2.73	2.73						2.73	2.73	2.73			2.73
	Average PO Direct Attainment	**2.05**	**1.94**	**1.87**	**1.82**	**1.98**	**1.34**	**0.00**	**1.14**	**1.54**	**1.99**	**2.30**	**2.19**	**1.62**	**1.70**	**1.75**
	Target = 55%	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**	**1.65**
	% difference	24.06	17.73	13.60	10.08	19.78	-18.79	-100.00	-30.91	-6.67	20.51	39.60	32.78	-2.04	2.78	6.33
	PO Attained	**Y**	**Y**	**Y**	**Y**	**Y**					**Y**	**Y**	**Y**		**Y**	**Y**

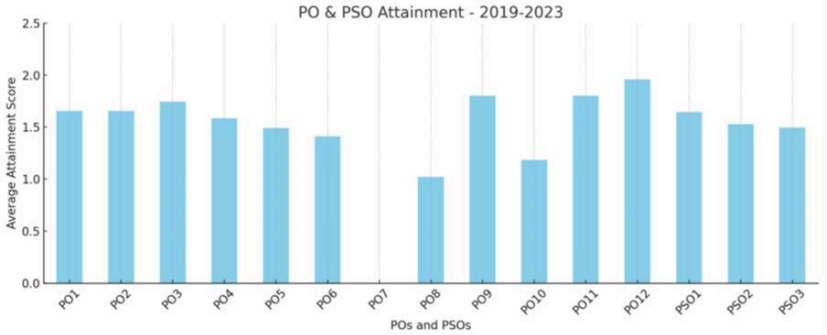
2019-2023																
Course Code	**Course Name**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
C101	Engineering Mathematics -I	1.04	1.04	1.04	1.04										1.04	
C102	Problem Solving using Python	1.02	1.02				1.02		1.02		1.02			1.02	1.02	1.02
C201	Electronic Devices and Circuits	1.80	1.80	1.80			1.80			1.80		1.80		1.80	1.80	1.80
C202	Microcontrollers and Embedded Systems	1.63	1.63	1.63	1.63	1.63							1.63	1.63		1.63
C301	CMOS VLSI Design	1.53	1.53	1.53	1.53											1.53
C302	Computer Communication Networks	1.35	1.35	1.35	0.45	1.35					1.35		1.35	1.35	1.35	
C401	Biomedical Instrumentation	2.43	2.43	2.43	2.43								2.43	2.43		
C402	Satellite Communications	2.43	2.43	2.43	2.43								2.43		2.43	
	Average PO Direct Attainment	**1.65**	**1.65**	**1.74**	**1.59**	**1.49**	**1.41**	**0.00**	**1.02**	**1.80**	**1.19**	**1.80**	**1.96**	**1.65**	**1.53**	**1.50**
	Target = 50%	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
	% difference	10.25	10.25	16.29	5.67	-0.67	-6.00	-100.00	-32.00	20.00	-21.00	20.00	30.67	9.73	1.87	-0.33
	PO Attained	**Y**	**Y**	**Y**	**Y**	**Y**				**Y**		**Y**	**Y**	**Y**	**Y**	**Y**

Year-wise Summary and Remedial Actions for PO & PSO Attainment (2019–2023)

2019–2023

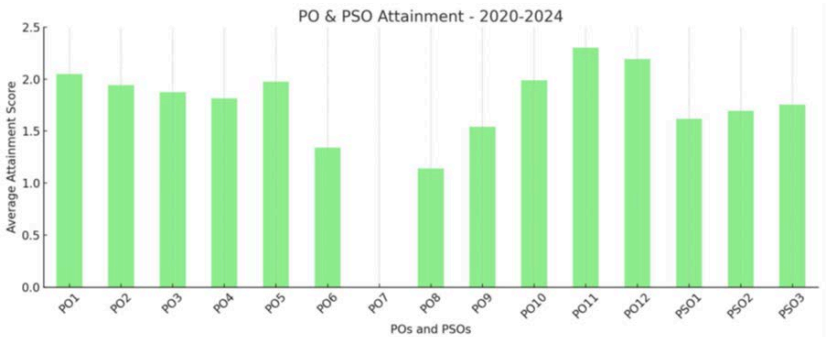
- **Average Attainment Score:** 1.46
- **Overview:**
  During this cycle, the attainment levels reflect a developing stage in outcome-based education implementation. Several Program Outcomes (POs) met the target threshold (set at 50%), particularly those related to foundational engineering knowledge (PO1–PO5), communication (PO9), and domain-specific skills (PSO1).
- **Strengths:**
  - **PO9, PO11, PO12**: These indicate students have acquired strong communication, management, and lifelong learning skills—likely due to structured final-year projects and interactive classroom engagements.
  - **PSO1**: Suggests a stable grounding in electronics and multidisciplinary applications.
- **Challenges:**

- **PO7 (Modern Tool Usage):** Registered zero attainment. Indicates either the tools were not integrated effectively into coursework, or students lacked exposure to simulation/modeling tools.
- **PO6 and PO8 (Engineering and Society, Ethics):** Scored well below the benchmark, revealing gaps in curriculum components addressing societal impact, ethics, and legal responsibilities.
- Introduce mandatory **lab modules with modern engineering tools** like MATLAB, Simulink, VHDL, and AutoCAD.
- Conduct regular **workshops on professional ethics**, legal case studies, and group discussions on current technological impacts on society.
- Include **interdisciplinary projects** that address social problems using engineering solutions.
- **Remedial Actions:**



2020–2024

- **Average Attainment Score:** 1.68
- **Overview:**
  This cycle showed substantial progress across most POs and PSOs, reflecting curriculum enhancement, better faculty alignment with outcome-based teaching, and improved student involvement in projects and assessments.
- **Improvements:**
  - Strong growth in **PO1–PO5** reflects effective strengthening of the core curriculum.
  - **PO10–PO12** showed remarkable performance, suggesting improved focus on report writing, leadership, and lifelong learning.
  - **PSO3** improved significantly, showing better alignment with specialized domains such as VLSI, AI/ML, and IoT.
- **Persistent Issues:**
- **PO7** still recorded **zero attainment**, showing that tool usage training was either still absent or not measured correctly.
- **PO6 and PO8** remained below the target, requiring focused interventions.
- Introduce **certification programs** and **internships** focused on tool use and modern engineering practices.
- Make use of **community-based design projects**, guest lectures from public policy experts, and participation in social engineering contests to address PO6 and PO8.
- Encourage **reflection journals** or ethical audits in major projects for real-time ethical evaluation.
- **Remedial Actions:**



2021–2025

- **Average Attainment Score:** 1.80
- **Overview:**
  This cycle represents a breakthrough in terms of reaching and even exceeding the 60% attainment threshold across most outcomes. There's evidence of mature implementation of outcome-based

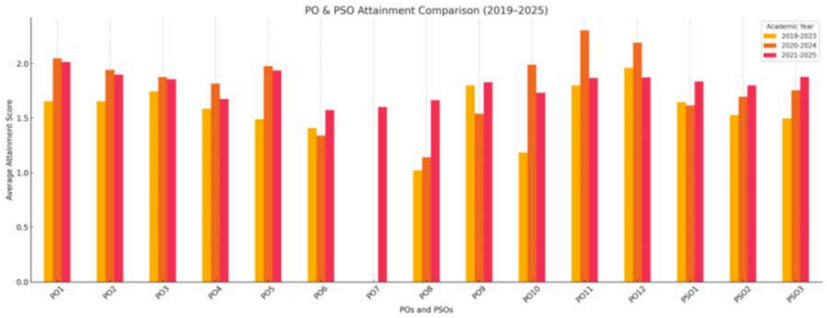
practices, as well as an increasing connection between curriculum delivery and industry relevance.

- **Key Achievements:**
  - **PO7** jumped from 0 to over **1.60**, reflecting successful corrective actions-possibly through improved lab infrastructure, tool-based assignments, and software-based project integration.
  - **PO1–PO5 and PO9-PO12** saw consistent growth, indicating balanced academic development in both technical and soft skill domains.
  - **All PSOs** achieved above the target, validating the alignment of the program with its stated specialization goals.
- **Areas for Continued Focus:**
- **PO6 (Engineer and Society)** and **PO8 (Ethics)**, though improved, still remained slightly below target.
- These outcomes require experiential and value-based learning, beyond traditional lecture formats.
- Incorporate **case studies**, industry examples, and **group debates** on the societal and ethical implications of technology.
- Organize field visits to **waste treatment plants, hospitals, smart cities**, etc., to expose students to real-life engineering and societal intersections.
- Include **peer-reviewed reflective assessments** to measure student understanding of ethical decision-making.
- **Remedial Actions:**



Conclusion

- The comparative bar chart clearly illustrates a **consistent upward trajectory** in PO and PSO attainment over three academic cycles, with significant gains in technical competencies and management skills.
- The successful improvement of **PO7** highlights the effectiveness of targeted remedial actions. This model can now be applied to underperforming outcomes like **PO6 and PO8**.



8.2 Academic Audit and actions taken thereof during the period of Assessment (15) Total Marks 15.00

Institute Marks : 15.00

Academic Audits in Quality Assurance

Academic audits are a vital component of institutional quality assurance frameworks. They serve as systematic, evidence-based evaluations of academic and administrative processes to ensure that the institution adheres to prescribed standards, delivers quality education, and continually improves its practices.

These audits typically assess:

- The effectiveness of curriculum design and delivery.
- Alignment with Outcome Based Education (OBE)
- Faculty competency and development initiatives.
- Infrastructure readiness and digital learning environments.
- Research promotion and innovation ecosystems.

By identifying strengths and areas for improvement, academic audits provide actionable insights for institutions to enhance their educational outcomes and readiness for accreditations such as NBA and NAAC.

Academic Audits at Alliance University: Overview

Alliance University has adopted a dual-pronged approach to academic audits during the assessment period:

1. External Academic and Administrative Audit (AAA)

In the academic year 2022–23, Alliance University commissioned an external Academic and Administrative Audit (AAA) conducted by **external agency.** This audit assessed the university's academic processes, governance structures, and support systems.

The AAA covered seven key criteria:

- Curricular Aspects
- Teaching, Learning, and Evaluation
- Research, Innovations, and Extension
- Infrastructure and Learning Resources
- Student Support and Progression
- Governance, Leadership, and Management
- Institutional Values and Best Practices

The audit also reviewed administrative units such as Human Resources, Finance, IT, and Campus Infrastructure to ensure holistic quality management.

2. Internal Academic Audits

Post the external AAA, Alliance University institutionalized a robust **internal audit system** to monitor compliance, prepare for accreditations, and sustain continuous improvement. The internal audits conducted included:

- **Semester Readiness Audits**: Assessing preparedness in lesson planning, lab readiness, and resource allocation before each semester.
- **End-Semester Audits**: Evaluating syllabus completion, assessment practices, and feedback mechanisms.
- **Learning Management System (LMS) Audits**: Ensuring effective utilization of digital learning platforms.
- **Course Delivery and Assessment Plan Audits**: Verifying alignment with COs, POs, and attainment metrics.
- **Centre for Research Audits**: Reviewing faculty publications, research grants, and innovation activities.
- **IT Infrastructure Audits**: Assessing digital readiness and support systems.
- **Accreditation Preparedness Audits**: Focused audits to ensure compliance with NBA, NAAC, and other statutory requirements.

To facilitate these audits, a **pool of internal auditors** was created by inviting Expressions of Interest (EoI) from faculty members. Trained auditors from this pool were deployed to conduct evaluations across departments.

Key Findings and Recommendations from AAA

The AAA provided a comprehensive assessment and recommendations, including:
✓ Establishing a **Dean of Academics Office** for centralized governance of curriculum design and review.
✓ Developing policies on **Curriculum Design, Outcome Based Education, CBCS, and Value-Added Courses**.
✓ Aligning existing curricula with **OBE principles** to improve CO-PO-PSO attainment tracking.
✓ Strengthening research ecosystems through the creation of **Research Centres, Innovation Hubs, and Incubation Facilities**.
✓ Improving student support systems and mentoring processes.
✓ Enhancing documentation practices for regulatory compliance.

Actions Taken During the Period of Assessment

In response to both external and internal audit findings, Alliance University implemented the following initiatives:

- **Governance and Policy Strengthening**

- Established comprehensive policies on **Curriculum Design & Review, OBE Implementation and Value-Added Courses**.
- Developed Standard Operating Procedures (SOPs) for periodic internal audits and compliance monitoring.

- **Curricular and Pedagogical Reforms**

- Revised curricula to incorporate contemporary industry requirements and OBE principles.
- Introduced value-added and enrichment courses to improve employability and skill development.
- Conducted workshops for faculty on **OBE, CO-PO mapping, and attainment analysis**.

- **Research and Innovation Ecosystem Development**

- Strengthened the Centre for Research with enhanced funding and infrastructure.
- Encouraged faculty to publish in high-impact journals and pursue patents .
- Initiated steps to establish the **Centre for Innovation, Incubation, and Entrepreneurship**.

- **Enhanced Digital and Administrative Infrastructure**

- Upgraded IT systems to support ERP, LMS, and automated data analytics for decision-making.
- Implemented periodic audits of IT systems, digital classrooms, and e-learning modules.

- **Continuous Monitoring and Improvement**

- Established a system for documenting **Audit Reports, Action Taken Reports (ATRs), and Progress Reviews** by the Internal Quality Assurance Cell (IQAC).
- Periodic review meetings with academic councils ensured effective closure of gaps identified in audits.
- **Outcome and Impact**
    - The combined impact of external and internal academic audits has resulted in: Strengthened academic governance and regulatory compliance.
    - Improved teaching-learning processes aligned to **NEP 2020 and accreditation standards**.
    - Enhanced readiness for NBA, NAAC, and other accreditations.
    - A culture of continuous quality improvement across the university.

Type of Audit	**Key Areas Covered**	**Action Taken**
External AAA	Curriculum, Teaching-Learning, Research	Policies framed, OBE adoption, reforms
Semester Readiness Audit	Lesson plans, lab readiness, faculty plans	Timely interventions for readiness
End-Semester Audit	Syllabus completion, assessment quality	Action plans for delayed courses

LMS Audit	Digital learning content, student engagement	Enhanced LMS content delivery
Research Audit	Faculty publications, research grants	Established Centre for Research
IT Department Audit	Digital infrastructure, ERP systems	Upgraded IT systems and digital classrooms

8.3 Improvement in Faculty Qualification/Contribution (15)

Total Marks 15.00

Institute Marks : 15.00

Academic Performance	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**	**CAYm3 (2021-22)**
No. of faculty members with Ph.D. degree	13.00	12.00	11.00
No. of publications in peer reviewed journals	28.00	19.00	4.00
No. of publications in conferences	10.00	11.00	3.00

8.4 Improvement in Academic Performance (10)

Total Marks 10.00

Institute Marks : 10.00

Academic Performance	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**	**CAYm3 (2021-22)**
Academic Performance Index (API) of the First-Year Students in the Program (Refer to section 4.3)	5.96	5.95	4.87
Academic Performance Index (API) of the Second-Year Students in the Program (Refer to section 4.4)	6.91	6.50	5.17
Academic Performance Index (API) of the Third-Year Students in the Program (Refer to section 4.5)	5.44	4.76	5.71

9 STUDENT SUPPORT AND GOVERNANCE (120)

Total Marks 110.00

9.1 First Year Student-Faculty Ratio (FYSFR) (5)

Total Marks 3.00

Institute Marks : 3.00

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	From Engineering Courses	Date of Receiving Highest Degree	Area of Specialization	Designation	Date of joining	Currently Associated (Yes / No)	Nature Of Association (Regular / Contract)	Date Of leaving(In case Currently Associated is 'No')
Dr Rakesha Ch	BOWPD4217D	Ph.D	Yes	25/02/2022	Aerospace Engineering	Assistant Professor	01/08/2022	No	Regular	12/09/2023
Prof. Hariprasa	AKFPT8228E	MS	Yes	30/08/2008	Aerospace Engineering	Assistant Professor	01/08/2012	Yes	Regular	
Mr. Prabhat Ra	AZLPR1815J	Ph.D	Yes	25/02/2022	Aerospace Engineering	Assistant Professor	12/09/2022	No	Regular	14/07/2023
Dr. Mahantesh	ACJPB1283B	Ph.D	Yes	30/06/2020	Civil Engineering	Associate Professor	23/06/2014	No	Regular	16/10/2023
Dr. Sumeet Ch	AXFPC7102D	Ph.D	Yes	25/02/2022	Civil Engineering	Assistant Professor	20/07/2022	No	Regular	22/02/2024
Prof. Asha Ran	ARFPN4952Q	M.E.	Yes	30/06/2016	Civil Engineering	Assistant Professor	01/03/2018	Yes	Regular	
Dr. Mithun.H	EFNPM2108K	Ph.D	Yes	05/10/2022	Civil Engineering	Assistant Professor	01/06/2023	Yes	Regular	
Dr. Rajeev Kun	ALXPK2305G	Ph.D	Yes	14/04/2002	Civil Engineering	Assistant Professor	08/07/2024	Yes	Regular	
Dr.Gopinath	AWWPG6208C	Ph.D	Yes	25/02/2022	Civil Engineering	Assistant Professor	10/06/2024	No	Regular	17/09/2024
Dr. Mir Wajaha	AMNPH5152K	Ph.D	Yes	16/09/2021	Computer Science	Assistant Professor	13/09/2021	Yes	Regular	
Dr. Rajagopal	BCKPR5873B	Ph.D	Yes	22/12/2008	Information and Communication	Associate Professor	14/11/2022	Yes	Regular	
Dr. Saswati De	BTLPD0308P	Ph.D	Yes	20/10/2020	Computer Science	Assistant Professor	16/08/2021	Yes	Regular	
Ananthanagu U	AOIPA1709E	M.Tech	Yes	30/06/2012	Computer Science	Assistant Professor	01/08/2023	Yes	Regular	
Dr. Virendar Ku	AUGPS7396M	Ph.D	Yes	29/05/2011	Computer Science	Professor	01/08/2022	Yes	Regular	
Dr. Gnanaprak	AWSPG1689D	Ph.D	Yes	31/03/2016	Computer Science	Professor	13/03/2024	Yes	Regular	
Nivedita Manol	ATXPM9258Q	M.Tech	Yes	12/04/2012	Computer Network Engineerings	Assistant Professor	01/08/2023	Yes	Regular	
Aniruddha Prat	BHCPA6833R	M.Tech	Yes	30/08/2016	Computer Science	Assistant Professor	01/08/2023	Yes	Regular	
Dr. Pavithra K	BIIPP0717Q	Ph.D	Yes	23/01/2023	Computer Science	Assistant Professor	01/09/2023	Yes	Regular	
Dr. R. C. Karpa	CTMPK9172L	Ph.D	Yes	30/12/2016	Information and Communication	Professor	01/09/2023	Yes	Regular	

Dr. Smitha Raj	DMLPS5476N	Ph.D	Yes	21/02/2021	Computer Science	Assistant Professor	01/09/2023	Yes	Regular	
Dr. Chetan J Sl	EDVPS1346R	Ph.D	Yes	20/12/2018	Computer Science	Associate Professor	15/07/2019	Yes	Regular	
Dr. M Selvam	AQVPS9831J	Ph.D	Yes	10/02/2010	Computer Science	Professor	01/08/2023	Yes	Regular	
Dr. N Rajkumai	ANRPR3802M	Ph.D	Yes	22/12/2018	Computer Science	Assistant Professor	10/08/2023	Yes	Regular	
Dr. Neeraj Jain	AIOPJ8547P	Ph.D	Yes	05/11/2023	Computer Science	Assistant Professor	19/09/2023	Yes	Regular	
Dr. A. Ezil Sam	AALPE8951B	Ph.D	Yes	23/04/2010	Computer Science	Professor	01/08/2023	Yes	Regular	
Dr Jagdish Cha	ANUPP9405D	Ph.D	Yes	09/02/2016	Computer Science	Professor	19/03/2024	Yes	Regular	
Mr. Ebin P. M.	ABLPE5315L	M.Tech	Yes	21/04/2013	Computer Science	Assistant Professor	01/08/2023	Yes	Regular	
Dr. Mahmood H	CXPPM4868N	Ph.D	Yes	04/04/2023	Computer Science	Assistant Professor	07/08/2023	Yes	Regular	
Dr. C. Viji	ALWPV7575Q	Ph.D	Yes	22/12/2018	Information and Communication	Assistant Professor	21/08/2023	Yes	Regular	
Dr. Lokesh Sing	BNQPS2701A	Ph.D	Yes	04/07/2022	Internet of Things	Assistant Professor	04/07/2022	Yes	Regular	
Dr. Uday Kuma	DPUPS4040L	M.Tech	Yes	01/08/2023	Information Technology	Assistant Professor	01/08/2023	Yes	Regular	
Suneet Gupta	AGWPG6886C	Ph.D	Yes	21/08/2023	Computer Science	Professor	21/08/2023	Yes	Regular	
Dr. Mousumi K	LQIPK7648R	Ph.D	Yes	16/08/2023	Computer Science	Assistant Professor	16/08/2023	Yes	Regular	
Dr. Usha Arcot	ABKPU1134C	Ph.D	No	30/01/2018	Mathematics	Professor	01/08/2012	Yes	Regular	
Dr. Nupur Nanc	AXCPN1806G	Ph.D	No	16/08/2023	Mathematics	Assistant Professor	17/07/2023	Yes	Regular	
Dr. Mamatha R	AYQPM9492G	Ph.D	No	30/12/2021	Mathematics	Assistant Professor	20/02/2023	Yes	Regular	
Dr. Vivek Mishr	AMLPM0824F	Ph.D	No	30/12/2015	Mathematics	Associate Professor	02/03/2022	Yes	Regular	
Dr. Manju Sang	ATXPS2776H	Ph.D	No	16/08/2023	Mathematics	Assistant Professor	01/09/2022	No	Regular	19/07/2024
Prof. Ishita Sar	HJEPS9073R	Ph.D	No	31/05/2025	Mathematics	Assistant Professor	08/07/2024	Yes	Regular	
Dr. Sanjay Yad	AKRPY4619E	Ph.D	No	29/10/2014	Applied Mathematics	Assistant Professor	18/06/2024	Yes	Regular	
Prof. Meghana	DSGPM7504G	M.Sc	No	09/09/2024	Mathematics	Assistant Professor	01/07/2024	Yes	Regular	
Dr. Srashti Dwi	BSLPD9246D	Ph.D	No	30/11/2020	Mathematics	Assistant Professor	17/01/2022	Yes	Regular	

Prof. Pratheek	BNTPN3892C	M.Sc	No	30/05/2019	Mathematics	Assistant Professor	08/07/2024	Yes	Regular	
Dr. Manish Cha	ARZPC6623M	Ph.D	No	28/02/2022	Applied and Computational Mathematics	Assistant Professor	07/08/2023	Yes	Regular	
Dr. Jasmine Be	BQIPJ9888C	Ph.D	No	15/10/2017	Mathematics	Assistant Professor	05/08/2024	Yes	Regular	
Dr. Tejinder Ku	EPGPK0428K	Ph.D	No	21/04/2013	Mathematics	Assistant Professor	03/07/2023	No	Regular	28/10/2024
Dr. Govardhana	ATMPR8890A	Ph.D	No	30/01/2020	Mathematics	Assistant Professor	23/07/2014	Yes	Regular	
Dr. Jineesh AC	AQYPG5422C	Ph.D	No	30/04/2016	Polymer Science	Assistant Professor	01/02/2022	Yes	Regular	
Dr. Chandini Pa	CRQPP9159N	Ph.D	No	30/01/2018	Chemistry	Assistant Professor	01/12/2021	Yes	Regular	
Dr. Chitrakara I	ACHPH0046A	Ph.D	No	30/10/2012	Membrane Chemistry	Associate Professor	21/06/2012	Yes	Regular	
Dr.Pravin bhan	AHVPB9979M	Ph.D	No	30/06/2011	Medical Chemistry	Professor	11/08/2021	Yes	Regular	
Dr.V. Thiruvegc	AKTPT9105G	Ph.D	No	13/08/2016	Material Science	Assistant Professor	01/08/2022	Yes	Regular	
Dr. Rashmi	AMGPR0777F	Ph.D	No	15/03/2021	Physics	Assistant Professor	08/11/2021	Yes	Regular	
Dr.Sonanki Kes	CQBPK8670F	Ph.D	No	16/08/2023	Sciences	Assistant Professor	08/07/2024	Yes	Regular	
Dr. S. M. Shiva	ATRPM3828L	Ph.D	No	30/11/2016	Bioresources and Biotechnology	Associate Professor	25/09/2023	Yes	Regular	
Dr. Ajam Chan	FUUPS6474P	Ph.D	No	30/06/2011	Organic Chemistry	Assistant Professor	04/03/2024	Yes	Regular	
Dr. Swastika Ba	BFZPB1142M	Ph.D	No	30/04/2021	Botany	Assistant Professor	01/04/2024	Yes	Regular	
Dr. Vipin Prasa	ABZPV2238F	Ph.D	No	30/06/2001	Sciences	Professor	18/06/2018	No	Regular	29/04/2025
Dr. Suvarna Ra	EKSPR6789B	Ph.D	No	30/01/2018	Physics	Assistant Professor	01/08/2022	Yes	Regular	
Dr.Dhriti Majum	CEJPM7590C	Ph.D	No	30/07/2014	Neurovirology	Assistant Professor	08/07/2024	Yes	Regular	
Dr. Jyotishkum	BFWPP1710C	Ph.D	No	13/08/2016	Chemistry	Professor	03/01/2022	Yes	Regular	
Dr. Neetu Talre	AONPT5599L	Ph.D	No	30/10/2016	Chemistry	Associate Professor	02/03/2022	Yes	Regular	
Dr. Vivekanand	BDIPM5879D	Ph.D	No	31/07/2021	Physics	Professor	15/09/2021	Yes	Regular	
Dr. Priyanka Bi	BIUPB3856N	Ph.D	No	31/01/2019	Physics	Assistant Professor	12/07/2022	Yes	Regular	

Dr. Jimin Georg	DAFPG5823R	Ph.D	No	30/01/2018	Physics	Assistant Professor	01/08/2022	Yes	Regular	
Dr. Vijay Bahad	AXFPB0962N	Ph.D	No	20/05/2015	Organic Chemistry	Assistant Professor	01/12/2021	Yes	Regular	
Dr. Soni	DERPS6624L	Ph.D	No	06/07/2021	Physics	Assistant Professor	20/03/2024	Yes	Regular	
Dr. Deepshikha	AUZPR9640J	Ph.D	No	30/09/2013	Cyano Techonology	Associate Professor	18/06/2024	Yes	Regular	
Dr. Sheila Mah	ATUPM9825A	Ph.D	Yes	16/12/2016	Electrical and Electronics Engineering	Professor	16/07/2018	Yes	Regular	
Prof. Manjulata	BHIPB9748L	M.Tech	Yes	30/07/2012	Electrical and Electronics Engineering	Assistant Professor	09/10/2014	Yes	Regular	
Prof. Swetha S	AXMPG3997K	Ph.D	Yes	02/02/2024	Electrical and Electronics Engineering	Assistant Professor	01/07/2015	Yes	Regular	
Dr. Kaushik Sit	DEYPS3094K	Ph.D	Yes	20/03/2023	Electrical and Electronics Engineering	Assistant Professor	05/08/2024	Yes	Regular	
Dr. Ila Rai	AIDPR6229D	Ph.D	Yes	20/03/2023	Electrical and Electronics Engineering	Assistant Professor	01/08/2023	Yes	Regular	
Dr Chitra Kiran	ASSPK5606N	Ph.D	Yes	20/05/2013	Electronics and Communication Engineering	Professor	10/07/2018	Yes	Regular	
Dr Sandeep Dh	ARBPD5781H	Ph.D	Yes	28/02/2015	Electronics and Communication Engineering	Associate Professor	02/07/2018	Yes	Regular	
Dr. Inbarasan M	ACJPI4717R	Ph.D	Yes	01/10/2017	Electronics and Communication Engineering	Assistant Professor	06/10/2022	Yes	Regular	
Dr. Reeba Kora	AEHPR8674L	Ph.D	Yes	17/06/2009	Electronics and Communication Engineering	Professor	23/06/2014	Yes	Regular	
Dr. Srikanth Ita	ABKPI6255J	Ph.D	Yes	28/07/2017	Electronics and Communication Engineering	Assistant Professor	01/09/2021	Yes	Regular	
Dr. Harinath Ail	BSNPA9942B	Ph.D	Yes	17/11/2017	Electronics and Communication Engineering	Associate Professor	05/03/2018	Yes	Regular	
Dr. Amar Chou	AKNPC6677Q	Ph.D	Yes	11/11/2022	Electronics and Communication Engineering	Assistant Professor	01/08/2023	Yes	Regular	

Dr. Shashank A	CGCPA7318B	Ph.D	Yes	28/11/2022	Electronics and Communication Engineering	Assistant Professor	10/06/2024	Yes	Regular	
Dr. Gaurav Kur	ATYPK1078M	Ph.D	Yes	04/10/2019	Electronics and Communication Engineering	Associate Professor	15/07/2021	Yes	Regular	
Dr. Aby K Thon	ACDPT3322P	Ph.D	Yes	30/06/2016	Electronics and Communication Engineering	Professor	16/08/2021	Yes	Regular	
Dr. Sridhar T	ACGPT4701K	Ph.D	Yes	20/10/2020	Electronics and Communication Engineering	Professor	03/08/2015	Yes	Regular	
Dr. Atul	BDTPA4716J	Ph.D	Yes	30/12/2015	Mechanical Engineering	Assistant Professor	02/07/2018	Yes	Regular	
Dr.Girish BM	ACKPG6843K	Ph.D	Yes	28/02/1998	Mechanical Engineering	Professor	01/06/2015	Yes	Regular	
Dr.Mohith Hem	BWEPM6061L	Ph.D	Yes	30/10/2019	Mechanical Engineering	Assistant Professor	07/10/2021	Yes	Regular	
Dr.Saurabh Mo	CBEPM3064M	Ph.D	Yes	30/10/2019	Mechanical Engineering	Assistant Professor	18/07/2022	No	Regular	25/05/2024
Mr. Chiranjibi C	AUKPC0455D	Ph.D	Yes	28/12/2022	Mechanical Engineering	Assistant Professor	01/08/2023	Yes	Regular	
Dr. Abhay Gupt	BGMPG2745K	Ph.D	Yes	30/11/2021	Mechanical Engineering	Assistant Professor	01/08/2022	Yes	Regular	
Dr. Satya Prak	CFLPP9507B	Ph.D	Yes	30/03/2022	Mechanical Engineering	Assistant Professor	01/08/2023	Yes	Regular	
Dr. Sasmita Ba	AMYPB4954A	Ph.D	Yes	30/03/2018	Mechanical Engineering	Assistant Professor	03/09/2018	Yes	Regular	
Dr. Sunanda R	BUFPR4815Q	Ph.D	Yes	10/02/2012	Mechanical Engineering	Associate Professor	01/08/2022	Yes	Regular	
Dr. Rajesh Kun	BTIPK8804Q	Ph.D	Yes	30/11/2021	Mechanical Engineering	Assistant Professor	07/02/2023	No	Regular	10/08/2024
Ms. Snata Bag	CLWPB6893H	MA	No	19/01/2019	English and Literature	Assistant Professor	01/07/2022	Yes	Regular	
Ms. Nupur Cha	BSLPA7322R	MA	No	16/08/2022	English and Literature	Assistant Professor	01/07/2022	Yes	Regular	
Mr. Kasaniya N	BRTPK8246H	MA	No	05/11/2005	Kannada and Sanskrit	Assistant Professor	04/08/2010	Yes	Regular	
Dr. Arindam Da	AJEPD0872C	Ph.D	No	08/01/2015	English and Literature	Professor	02/07/2018	Yes	Regular	
Dr. Ekta Sawhr	CNUPS6043N	Ph.D	No	02/08/2019	English and Literature	Assistant Professor	05/08/2019	Yes	Regular	
Dr. Soumodip S	FQWPS5296B	Ph.D	No	25/02/2023	Sociology	Assistant Professor	07/08/2023	Yes	Regular	

Dr. Chitra Krish	AERPK1884M	Ph.D	No	10/02/2014	English and Literature	Assistant Professor	03/01/2024	Yes	Regular	
Dr. Divya K	DRQPK5942D	Ph.D	No	01/12/2022	Sociology	Assistant Professor	19/03/2024	Yes	Regular	
Dr. Bivitha Eas	ABYPE3992Q	Ph.D	No	09/04/2024	English and Literature	Assistant Professor	03/06/2024	Yes	Regular	
Mr. Pankaj Roy	BHCPR6572E	MA	No	15/07/2019	English and Literature	Assistant Professor	11/11/2024	Yes	Regular	
Dr. Liju Jacob I	EMMPK1219P	Ph.D	No	28/06/2021	English and Literature	Assistant Professor	30/06/2021	Yes	Regular	
Dr. Anirudh Sri	DOIPS3538Q	Ph.D	No	09/06/2021	English and Literature	Assistant Professor	01/07/2021	Yes	Regular	
Dr. Anupama T	ASCPT0576A	Ph.D	No	14/10/2012	Hindi	Assistant Professor	02/08/2021	Yes	Regular	
Dr. Vivekanand	HDLPS4071L	Ph.D	No	23/03/2022	Kannada	Assistant Professor	02/08/2021	Yes	Regular	
Dr. Ravi Chakra	APLPC0549L	Ph.D	No	05/11/2022	English and Literature	Assistant Professor	02/08/2021	Yes	Regular	
Dr. Paret Julier	GUSPP1115H	Ph.D	No	19/07/2018	English and Literature	Assistant Professor	07/02/2022	Yes	Regular	
Dr. Rima Namh	AGPPN4076J	Ph.D	No	23/02/2021	English and Literature	Assistant Professor	02/03/2022	Yes	Regular	
Ms. Elizabeth T	AFRPT3651C	M.Phil	No	05/03/2005	English and Literature	Assistant Professor	02/03/2022	Yes	Regular	
Ms. P. Devipriy	CKPPP0303Q	MA	No	01/10/2005	English and Literature	Assistant Professor	25/07/2022	Yes	Regular	
Dr. Sandip Deb	BXRPD7795Q	Ph.D	No	29/01/2014	English and Literature	Assistant Professor	03/07/2023	Yes	Regular	
Dr. Shaheen El	BOYPA9289J	Ph.D	No	30/07/2016	English and Literature	Associate Professor	03/07/2023	Yes	Regular	
Dr. Poulami Pa	ARZPP8078M	Ph.D	No	22/09/2022	English and Literature	Assistant Professor	10/02/2025	Yes	Regular	
Mr. Vishnu T	EUJPD8131C	M.Tech	Yes	14/09/2023	Civil Engineering	Assistant Professor	23/08/2024	Yes	Regular	
Dr. Anthony Arc	ESDPA1583H	Ph.D	No	27/06/1997	English and Literature	Professor	01/07/2022	No	Regular	04/01/2024
Dr. Jiss Varghe	HCNPM0414E	Ph.D	No	08/05/2020	HRM	Assistant Professor	15/11/2021	No	Regular	27/02/2024
Dr. Preeti Gupt	AEHPJ3198K	Ph.D	No	10/01/2011	English and Literature	Professor	18/04/2022	No	Regular	07/08/2024
Dr. Sayan Dey	AVRPD6219J	Ph.D	No	08/09/2018	English and Literature	Assistant Professor	03/07/2023	No	Regular	24/09/2024
Dr. Apurva	BAOPA7673L	Ph.D	No	19/03/2021	English and Literature	Assistant Professor	15/12/2021	No	Regular	09/04/2022

Dr. Manisha Di	AHTPD9988J	Ph.D	No	25/09/2014	English and Literature	Professor	20/07/2021	No	Regular	05/08/2022
Dr. Gaana Jaya	ASOPG2015P	Ph.D	No	22/09/2021	English and Literature	Associate Professor	23/12/2021	No	Regular	14/09/2022
Dr. Anik Nandi	AXDPN1711F	Ph.D	No	22/06/2017	English and Literature	Assistant Professor	01/02/2022	No	Regular	14/07/2022
Mr. Prasanna S	AOLPB4654E	MA	No	15/06/2010	English and Literature	Assistant Professor	01/10/2024	No	Regular	18/10/2024
Dr. Priyadarshi	CDDPM2395A	Ph.D	No	26/07/2024	Biotechnology	Assistant Professor	24/01/2025	Yes	Regular	
Dr. S Akash	EZIPS0412R	Ph.D	No	22/11/2023	Nanotechnology	Assistant Professor	10/02/2025	Yes	Regular	
Dr. Janagi K	AOZPJ3186M	Ph.D	No	01/12/2018	Science and Humanities	Assistant Professor	10/02/2025	Yes	Regular	
Dr. Dibyangana	BZEPB4934L	Ph.D	No	03/04/2024	Psychology	Assistant Professor	01/04/2025	Yes	Regular	
Dr. Zakaria Fay	AHOPE1641G	Ph.D	No	23/06/2024	Hotel Studies	Assistant Professor	05/05/2025	Yes	Regular	
Dr. Noel Georg	BLTPN4422Q	Ph.D	No	27/05/2024	Biostatistics	Assistant Professor	05/05/2025	Yes	Regular	
Dr. Praveena P	CABPP2871B	Ph.D	No	15/06/2024	Industry Chemistry	Assistant Professor	05/05/2025	Yes	Regular	
Mr. Francis Bar	CKYPB5142A	MA	No	27/08/2021	English	Assistant Professor	01/07/2022	Yes	Regular	
Mr.Hemant Kur	MVPPS3128H	MA	No	13/11/2017	Economic	Assistant Professor	01/07/2022	Yes	Regular	
Mr. Chetan Kur	BGWPV2609B	M.Tech	No	27/07/2019	Chemical	Assistant Professor	23/08/2024	Yes	Regular	
Mrs. Pooja Sha	EUFPS2476M	MA	No	12/12/2023	Hindi	Assistant Professor	24/01/2025	Yes	Regular	
Ms. Ishita Maity	BYWPM5671G	MA	No	20/08/2016	Political Science	Assistant Professor	01/07/2022	Yes	Regular	
Ms. Snata Sorr	CLWPB6893H	MA	No	19/01/2019	English	Assistant Professor	01/07/2022	Yes	Regular	
Ms. Amala Vinc	BBUPV9713P	MA	No	02/11/2019	English	Assistant Professor	01/07/2023	Yes	Regular	
Ms. Isabella Vir	CNPPV4084H	MA	No	04/04/2023	English	Assistant Professor	11/08/2023	Yes	Regular	
Ms. Megha Shi	RHIPS6540D	MA	No	13/05/2023	English	Assistant Professor	01/07/2023	Yes	Regular	
Ms. Tias Maity	EXTPM1306P	MA	No	24/12/2016	Philosophy	Assistant Professor	01/08/2022	Yes	Regular	
Ms. Ankita Sun	FWEPS5044B	MA	No	06/01/2025	International Relation	Assistant Professor	24/01/2025	Yes	Regular	

Ms. Simran Du	FAVPD1718Q	MA	No	30/11/2024	Polatical Science	Assistant Professor	03/02/2025	Yes	Regular	
Ms. Nandana F	FFLPR5967C	M.Sc	No	13/07/2024	Clinical Psychology	Assistant Professor	06/01/2025	Yes	Regular	
Ms. Sharvani K	LDIPS4972H	M.Sc	No	29/12/2023	Physics	Assistant Professor	20/02/2025	Yes	Regular	
Ms. Shravani N	CYAPN9153P	M.Sc	No	09/10/2023	Physics	Assistant Professor	24/01/2025	Yes	Regular	
Ms. Souda	HAMPS4710Q	M.Sc	No	11/04/2014	Applied Chemistry	Assistant Professor	23/08/2024	Yes	Regular	
Ms. Maha Sale	CVMPN9295H	M.Sc	No	28/08/2024	Chemistry	Assistant Professor	23/08/2024	Yes	Regular	

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) +(NS2*0.2))/RF
2022-23(CAYm2)	920	46	40	28	82
2023-24(CAYm1)	1280	64	50	45	77
2024-25(CAY)	1880	94	63	53	65
				Average Percentage	74.40

9.2 Mentoring system (5)

Total Marks 5.00

Institute Marks : 5.00

Interpretation: “A mentor is someone who allows you to see the hope within yourself”
Mentoring is a process of using faculty’s experience to provide guidance, pragmatic advice and support that will help the students in their learning and development process.

Dept. of ECE has introduced the mentorship programme with effect from AY 2018-19 in a view to accelerate personal & professional development of mentees.

Objectives:

The main objectives of the mentorship programme are:

- To offer effective academic counselling.
- To provide emotional support to students.
- To monitor attendance and behavioural aspects of every student.
- To establish an understanding between teachers, students and parents.
- To recognise the weak zones of students and discovering apt solutions.
- To boost the morale of the students by constant interaction.
- To help the students set realistic goals.

Specific Outcomes of Mentoring:

1. Ensure that no student is unable to appear for the final examination due to insufficient attendance (below 75%).
2. Guarantee that all students meet the minimum DSA Marks requirement to take the final examination.
3. Prevent any student from having backlogs upon promotion to the 7th semester.
4. Prepare all final-year students to be ready for placements or further education opportunities.
5. Foster the development of students personality, attitude, and discipline.

Type of Mentoring: All round development of students

Number of Faculty Mentors: All Faculty Members

Number of Students per Mentor: 20 (Maximum)

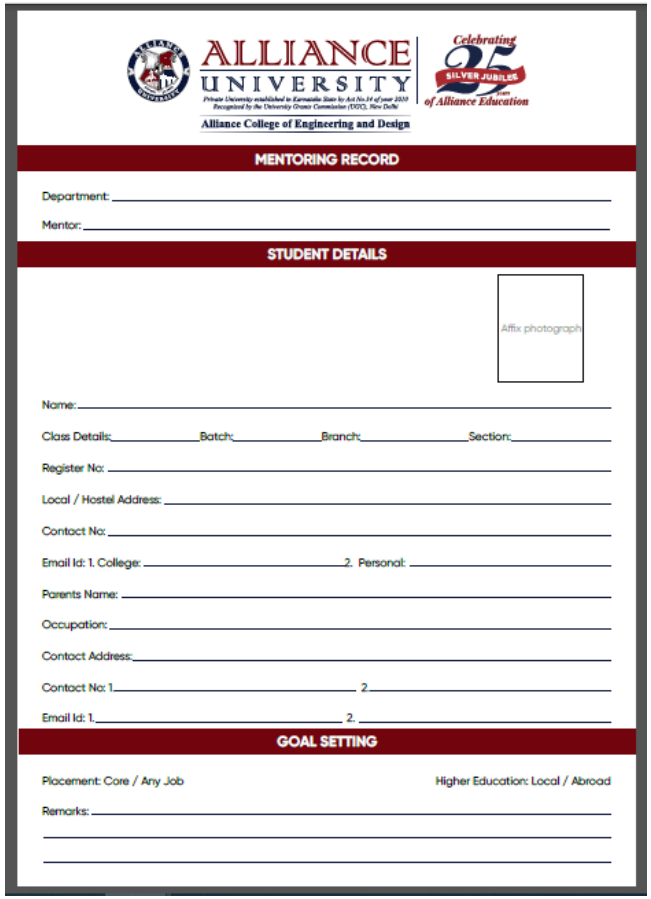
Frequency of Mentoring: It is mandatory for each mentee to meet their mentor **once every fortnight.** However, need based, in addition to helping the students at any time on individual basis, providing personal mentoring and Professional guidance/career advancement.

An effective Student Mentoring System is actively practiced in the Department of Electronics and Communication Engineering (ECE).

Implementation and Structure

- The mentoring system covers all students of the department from their first day in the department.
- Faculty members are designated as Student Mentors, and each mentor is allotted 20 students- Mentees.
- Mentors are provided with Mentoring Records to document and monitor the progress of their mentees.

Copy of Mentor Record Cover Page: Total Record comprising of 4 Pages



ALLIANCE UNIVERSITY

Private University established in Karnataka State by Act No.14 of year 2010
Recognized by the University Grants Commission (UGC), New Delhi

Celebrating 25 SILVER JUBILEE Years of Alliance Education

Alliance College of Engineering and Design

MENTORING RECORD

Department: _____

Mentor: _____

STUDENT DETAILS

Affix photograph

Name: _____

Class Details: _____ Batch: _____ Branch: _____ Section: _____

Register No: _____

Local / Hostel Address: _____

Contact No: _____

Email Id: 1. College: _____ 2. Personal: _____

Parents Name: _____

Occupation: _____

Contact Address: _____

Contact No: 1. _____ 2. _____

Email Id: 1. _____ 2. _____

GOAL SETTING

Placement: Core / Any Job Higher Education: Local / Abroad

Remarks: _____

_____

_____

Flowchart of working of Mentorship Programme.

Allotment of Students to Mentor in starting of the Academic Year



Mentor–Open the Mentee Record & Fortnight meetings start



Mentor – HOD Meeting to resolve the issues raised by Mentee at department level



Dean – HOD meeting to address the issues raised by Mentee at institutional level & to update the issues

By Implementing mentoring system in the department, the following parameters are improved.

Efficacy of mentoring system

S.NO	Parameters	Outcomes
1	Regularization of Student Attendance	Improved academic engagement and consistency in learning
2	Academic Performance	Development of intellectual curiosity and critical thinking
3	Involvement of Co-curricular Activities and Extra-Curricular Activities	Strengthened team-building abilities, leadership qualities, and effective communication skills
4	Guidance towards Self learning	Increased student participation in certification programs and skill development
5	Placements guidance	Enhanced Placements
6	Counselling students towards overall well being	Improved self-confidence, self-esteem and holistic development
7	Extended support to peer related issues in consultation with parents	Positive behavioural changes and enhanced interpersonal relationships

9.3 Feedback Analysis (10) Total Marks 10.00

9.3.1 Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (5)

Institute Marks : 5.00

1. Feedback collected for all courses: Yes

2. Feedback collection process:

Every semester, 2 feedback are collected centrally through an online process.

3. Percentage of students participating: 100 %

4. Feedback analysis process:

Feedback is taken through online questionnaire format for each semester.

All students of each class are given opportunity to express their opinion with regards to effectiveness in teaching by a teacher and the on the subject which is detailed in the online feedback format.

The feedback is a measurement score of 5.

The collection of feedback draft will be given to respective faculty.

The feedback will be considered for the individual appraisal for every academic year.

The HOD and the Dean will have a discussion with the concern faculty member if not attained the breakeven set by the department.

One Sample Analysis:

Program	Sem	Section	Subject	Credits	No. of Sessions	Ses 1 Feed Back Score	Ses2 Feed Back Score	Feed Back Score	Feedback Given Students	No. of Students
B.Tech.	5	V BTech 2020 ECE	Control Systems	3	45	4.9	4.9	4.9	26	26
B.Tech.	7	VII BTech 2019 ECE	Optical Fiber Communication	3	45	5	4.7	4.8	15	15
B.Tech.	3	III BTech 2021 ECE	Electronic Devices and Circuits	3	45	4.4	4.2	4.3	45	47
Program	**Semester**	**Section**	**Subject**	**Credits**	**No. of Sessions**	**Session 1 Feed Back Score**	**Session 2 Feed Back Score**	**Feed Back Score**	**Feedback Given Students**	**No. of Students**
B.Tech	3	III BTech 2021 ECE	Electronics Devices and Circuits Lab	1	15	4.2	4.3	4.2	44	46
B.Tech	1	I BTECH Dec 2022 CSE - Sec O	Electrical and Electronics Lab	1	15	5	5	5	1	34

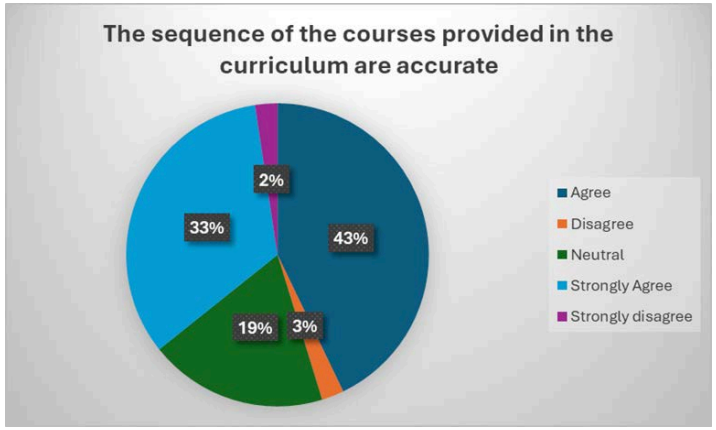
9.3.2 Feedback on Academic Facilities (5)

Institute Marks : 5.00

STUDENT FEEDBACK ANALYSIS REPORT – B.Tech ECE ACADEMIC YEAR 2023-24

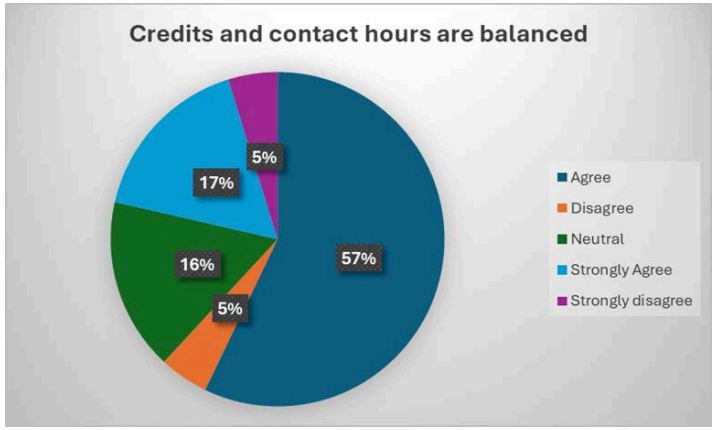
A comprehensive survey was conducted among students enrolled in the B.Tech ECE program to gather their feedback on various aspects of the curriculum. The purpose of the survey was to assess their perspectives on different dimensions, including course sequencing, balance of credits and contact hours, research-based learning, holistic education, clarity of course outcomes, value-added courses, flexibility in learning, balance between theory and practical components, emphasis on management and entrepreneurship skills, and personal and career development. Additionally, students were given the opportunity to suggest any additional courses they would like to see included in the curriculum. The following suggestions from BoS experts were well received by the students:

Course Sequencing:



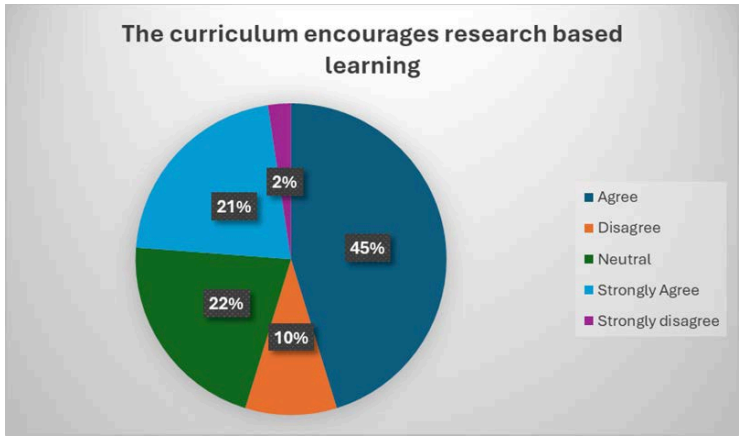
76 % of Students provided positive feedback regarding the sequence of courses provided in the curriculum, highlighting the accuracy and coherence of the structure after recommendations from the CRC 2023 were shared to them.

Balance of Credits and Contact Hours:



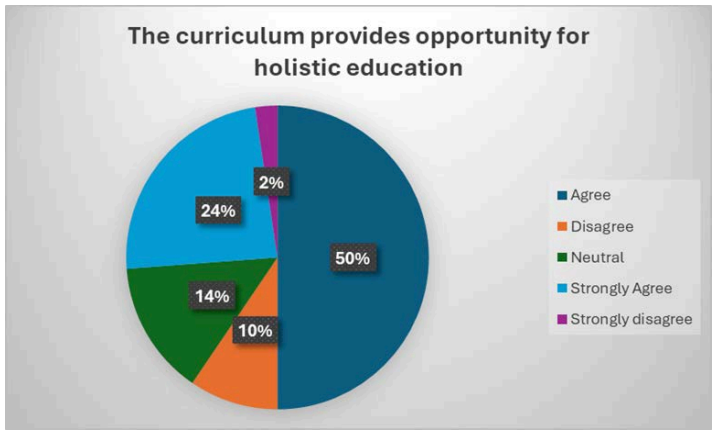
74 % of students expressed overall satisfaction with the balance between credits and contact hours in the curriculum. They acknowledged that the workload was manageable and that the allocated contact hours adequately supported their learning experience.

Research-Based Learning:



The curriculums emphasis on research-based learning received high praise from the students. They recognized the value of this approach in fostering critical thinking, problem-solving skills, and a deeper understanding of the subjects. Students appreciated the opportunities provided to engage in research projects, enhancing their ability to apply theoretical knowledge to practical situations. Outcomes of these projects resulting in publications, patents and IPR.

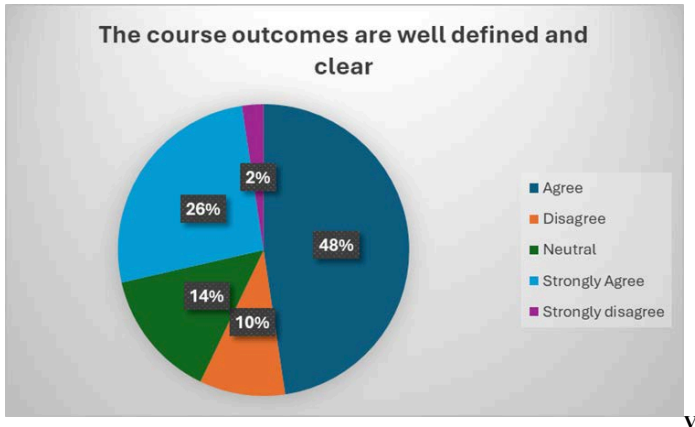
Holistic Education:



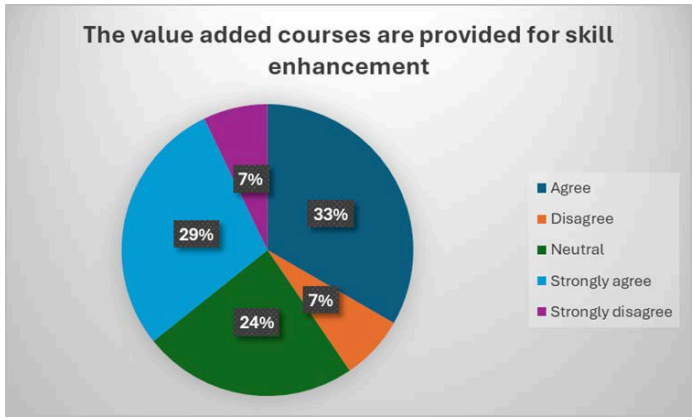
74 % Students acknowledged that the curriculum provided opportunities for holistic education, which encompassed personal growth, social awareness, and interdisciplinary learning. They appreciated the integration of diverse subjects, allowing them to develop a well-rounded understanding of various fields and perspectives. Students also emphasized the importance of extracurricular activities and community engagement as integral components of their holistic education.

Clarity of Course Outcomes:

The students found the course outcomes to be well-defined and clear. They valued the explicit learning objectives, as it helped them understand what they were expected to achieve by the end of each course. The clarity of course outcomes facilitated effective learning and allowed students to track their progress throughout the program.

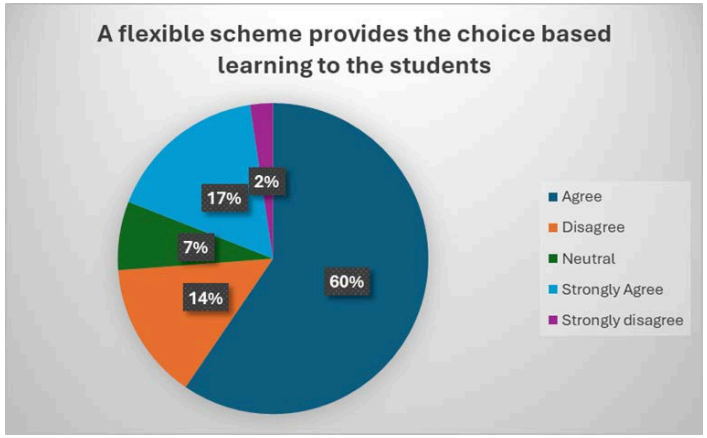


Value-Added Courses for Skill Enhancement:



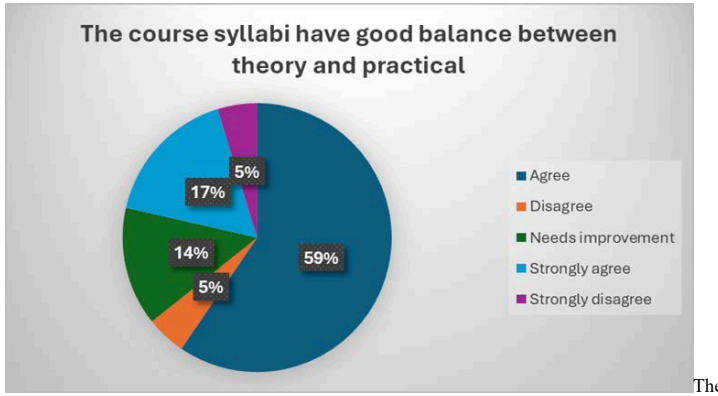
Students praised the inclusion of value-added courses aimed at enhancing their skill sets. These courses provided them with additional knowledge and practical skills beyond the core curriculum, making them more competitive in the job market. Students appreciated the focus on developing transferable skills such as communication, leadership, and problem-solving.

Flexibility in Learning:



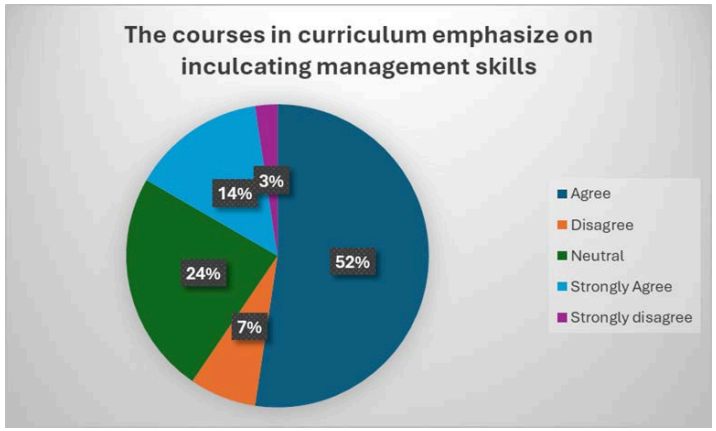
Students expressed satisfaction with the flexibility offered in the curriculum, enabling them to tailor their learning experience based on their interests and aspirations. The choice-based learning approach allowed students to explore subjects beyond their core requirements, fostering a sense of ownership and personalized growth.

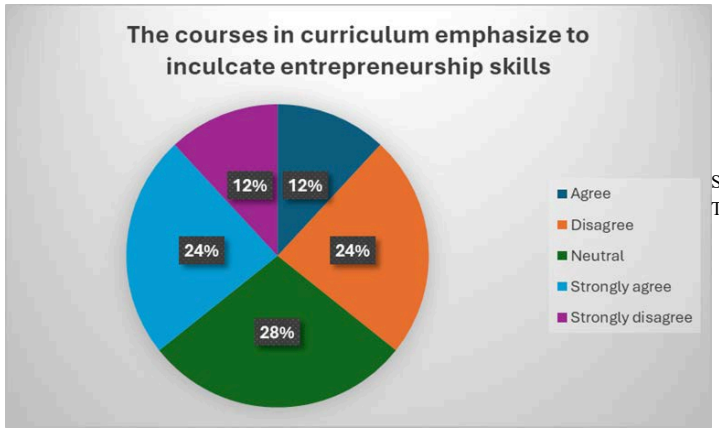
Balance between Theory and Practical Components:



The curriculum was generally perceived as striking a good balance between theoretical and practical components. Students appreciated the integration of hands-on activities, case studies, and projects, which enhanced their understanding and application of concepts However, some students indicated that there is room for improvement in further aligning theory with practical learning experiences.

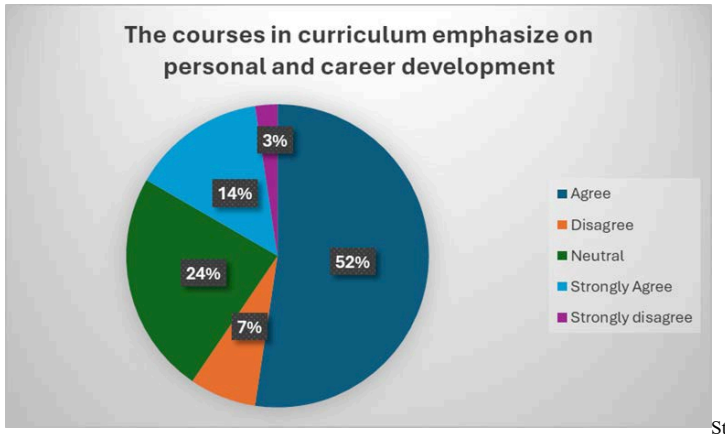
Emphasis on Management and Entrepreneurship Skills:





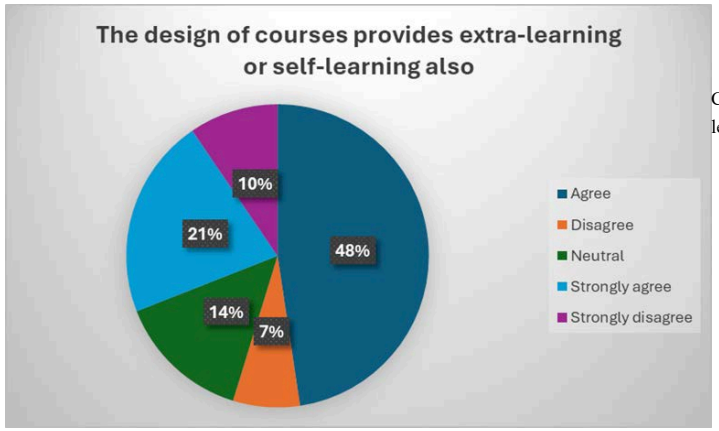
Students recognized the curriculums emphasis on developing management and entrepreneurship skills. They appreciated the inclusion of courses that provided insights into these domains, preparing them for leadership roles and fostering an entrepreneurial mindset. Students believed these skills were crucial for their future professional endeavours.

Personal and Career Development:



Students acknowledged the curriculums emphasis on personal and career development. They valued the incorporation of courses and activities that promoted self-awareness, personal growth, and the acquisition of skills necessary for career success. Students recognized the efforts made to prepare them for the challenges of the professional world.

The design of courses provides extra learning or self-learning also.



Close to 70% of the students expressed that the course outlines provide the scope for extra learning and self-learning through the introduction of MOOCs into the mainstream of teaching learning processes.

9.4 Training and Placement Support (10)

Total Marks 10.00

Career Advancement & Networking (https://www.alliance.edu.in/placements/career-advancement-networking) **(CAN):** The Career Advancement and Networking (CAN) office at Alliance University is a dedicated entity responsible for handling all placement-related activities. It plays a crucial role in preparing students for their professional journey and acts as a bridge between academia and industry.

OVERVIEW

The Career Advancement and Networking (CAN) aims at helping students in achieving their career goals. It helps the students in better understanding their career, exploring new possibilities, guiding them on career paths, preparing them for interviews, and navigating them from the tangled web of job searches. CAN facilitates various guest lectures, corporate events, seminars, in-plant training, certificate programs, workshops, live projects, industry exposure visits for the university graduates.

One-on-one career counselling sessions by the Office of Career Advancement and Networking (CAN), examine the interests, skills, and competencies along with regular scrutiny of the academic growth of students to help, guide and support them at each stage of their journey. A plethora of opportunities are created year after year at Alliance for graduating students in leading firms and companies.

Objective and Mission

The primary objective of CAN is to **help students achieve their career aspirations** by offering comprehensive career support services. The mission revolves around:

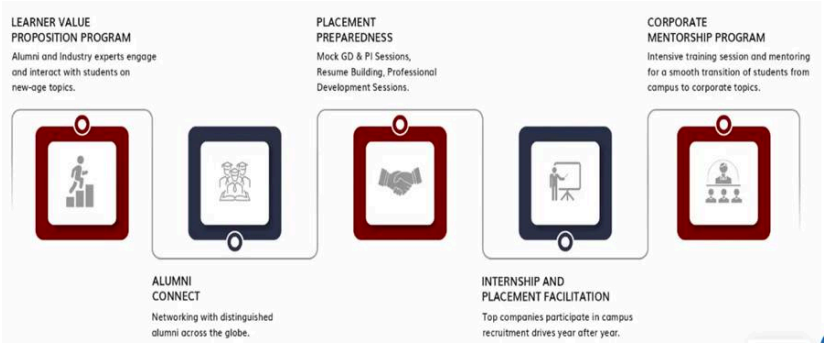
- Understanding and developing student career goals
- Providing structured guidance for career path exploration
- Preparing students for job interviews and recruitment processes

CAN conducts a wide array of **career enrichment programs** aimed at enhancing student employability:

- Guest Lectures – Delivered by industry experts to offer real-world insights
- Corporate Events & Seminars – Opportunities for students to engage with corporate professionals
- Workshops and Certificate Programs – Skill-building sessions in various technical and managerial areas
- Industry Exposure Visits – Field visits to prominent companies for practical learning

CAN facilitates connections between students and the industry by:

- Organizing campus recruitment drives with leading national and international firms
- Creating and expanding a network of corporate partnerships to ensure a consistent flow of placement opportunities
- Enabling students to secure placements in top-tier companies across various domains



9.5 Start-up and Entrepreneurship Activities (5)

Total Marks 5.00

Institute Marks : 5.00

Alliance University - Technical Business Incubator (AU - TBI)

Alliance University has established the Alliance University Technology Business Incubator (AU-TBI) to promote entrepreneurship and nurture innovative technology startups. AU-TBI aims to build a thriving startup ecosystem by empowering aspiring entrepreneurs from ideation to successful commercial launch.

Vision and Objectives:

AU-TBIs vision is to become a leading incubator that catalyses technological innovations and fosters the growth of sustainable businesses with societal impact. The key objectives include:

- Inculcating an entrepreneurial mindset among students, faculty and community.
- Providing comprehensive support to transform ideas into market-ready products/services.
- Creating avenues for industry-academia collaboration and knowledge transfer.
- Contributing to the local and national startup landscape across diverse tech domains.
- Generating employment opportunities through successful venture creation.

Incubation Facilities and Support:

AU - TBI offers a multitude of facilities and support services to incubates:

Pre-Incubation:

- Idea validation and feedback from domain experts
- Access to universitys state-of-the-art labs, maker spaces and prototyping facilities
- Mentorship on product design, business modelling and pitching skills
- Assistance in intellectual property protection and commercialization roadmap

Incubation:

- Dedicated co-working spaces with high-speed internet, utilities and amenities
- Faculty, alumni and industry mentors to guide technology and business aspects
- Seed funding assistance through university/government grants, angel investors, VCs
- Legal, accounting and regulatory compliance guidance
- Corporate networking events and pitching opportunities
- Support for product testing, trials, and go-to-market strategies
- Library access and knowledge resources

Focus Areas:

- **Information and Communication Technology (ICT):** Mobile apps, cloud computing, cybersecurity
- **Internet of Things (IoT):** Smart devices, sensors, industrial automation
- Electronics System Design & Manufacturing (ESDM)
- Artificial Intelligence (AI) and Machine Learning
- Robotics and Unmanned Systems
- **Emerging Areas:** AR/VR, blockchain, quantum computing

Startup Process:

Both internal (students/faculty) and external entrepreneurs can apply to AU - TBI through:

- Idea/Business Plan Submission
- Screening by an expert panel
- Pitching and product demo
- Evaluation criteria: Innovation, Patentability, Technology Commercialization potential, Team, Scalability

Selected startups go through structured stages:

- Pre-incubation (6 months): Mentoring, prototyping support
- Incubation (18-24 months): Facilities, funding, business support
- Graduation and Partner Linkages: Facilitating investments, manufacturing, marketing

9.6 Governance and Transparency (25)

Total Marks 25.00

9.6.1 Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (10)

Institute Marks : 10.00

Alliance University has charted a well-defined **Institutional Development Plan (IDP)** that reflects its vision to emerge as a globally recognized center of academic excellence, research innovation, and societal impact. The IDP serves as a strategic blueprint for growth and development, outlining key priorities, initiatives, and milestones to be achieved over the medium to long term.

The plan was developed through an inclusive and participatory process involving the University's senior leadership, Governing Body, Academic Council, Deans of Faculties, administrative officials, and other stakeholders. Inputs were also drawn from industry partners, alumni, and regulatory guidelines to ensure that the IDP is comprehensive, forward-looking, and aligned with both national and global higher education trends.

The IDP was formally reviewed and approved by the **Governing Body** after multiple deliberations and consultations. This approval signifies institutional commitment at the highest level, ensuring that the plan is embedded in the University's operational and strategic agenda. The document is publicly accessible at https://www.alliance.edu.in/mandatory-disclosure/Strategic-Plan.pdf (https://www.alliance.edu.in/mandatory-disclosure/Strategic-Plan.pdf), reinforcing the University's emphasis on transparency and stakeholder engagement.

Key Focus Areas of the Institutional Development Plan

1. Academic Excellence and Curriculum Innovation

The IDP emphasizes a dynamic and contemporary academic environment that fosters intellectual growth and holistic development. Key initiatives in this area include:

- **Curriculum Renewal:** Introducing multidisciplinary and flexible curriculum structures aligned with the National Education Policy (NEP) 2020.
- **Experiential Learning Models:** Strengthening project-based learning, internships, and industry-oriented assignments to bridge the gap between theory and practice.
- **Pedagogical Innovation:** Adoption of innovative teaching methodologies such as flipped classrooms, blended learning, and case-based teaching.

2. Research and Innovation Ecosystem

The IDP envisions creating a robust ecosystem for research and innovation that contributes to knowledge creation and societal advancement. Key areas of focus include:

- **Research Infrastructure:** Establishment of interdisciplinary research centers and advanced laboratories to support high-impact research.
- **Faculty and Student Research Support:** Incentives for publications in reputed journals, seed funding for faculty projects, and encouragement for student-led research initiatives.
- **Collaborations:** Partnerships with national and international institutions, industries, and government agencies for joint research and consultancy.

3. Faculty Development and Human Resource Strategies

Recognizing the critical role of faculty in institutional success, the IDP outlines strategies for faculty recruitment, retention, and professional development:

- **Recruitment of Distinguished Faculty:** Attracting accomplished academicians and industry practitioners to enrich the teaching-learning process.
- **Continuous Professional Development:** Organizing faculty development programs (FDPs), workshops, and training sessions to upgrade pedagogical and research skills.
- **Performance-linked Incentives:** Implementing systems to recognize and reward excellence in teaching, research, and service.

4. Student Development and Support Services

Student-centric initiatives form a cornerstone of the IDP, with a focus on enhancing employability, entrepreneurship, and holistic well-being.

- **Career Services Enhancement:** Expanding placement facilitation, industry linkages, and career counseling services.
- **Skill Development:** Introducing add-on certification programs and workshops to equip students with cutting-edge skills.
- **Wellness and Support:** Strengthening psychological counseling, mentorship programs, and student engagement activities to support mental and emotional well-being.

5. Infrastructure and Digital Transformation

To support academic and research aspirations, the IDP includes targeted investments in infrastructure and technology:

- **Modern Classrooms and Laboratories:** Upgrading physical infrastructure to provide state-of-the-art learning environments.
- **Digital Platforms:** Adoption of Learning Management Systems (LMS) and virtual learning platforms to enable blended and online education.
- **Green Campus Initiatives:** Incorporation of sustainability measures such as renewable energy installations, waste management systems, and green landscaping.

6. Global Engagement and Internationalization

The IDP reflects the University's aspiration to be a globally engaged institution:

- **International Partnerships:** Establishing collaborations for student and faculty exchanges, joint degree programs, and cross-border research.
- **Global Student Recruitment:** Initiatives to attract international students and create a multicultural campus environment.
- **Participation in Global Rankings:** Aligning institutional practices with parameters considered in international ranking frameworks.

7. Community Engagement and Social Responsibility

Social responsibility is embedded in the University's ethos, with outreach initiatives that align academic knowledge with community needs:

- **Community Development Projects:** Engaging students and faculty in literacy drives, health camps, and environmental conservation activities.
- **NGO Partnerships:** Collaborations with non-profit organizations for sustainable development projects.
- **Student Volunteering:** Encouraging student participation in service-learning projects that address societal challenges.

Monitoring and Review of Implementation

To ensure effective implementation, the University has established dedicated committees and task forces for each strategic area. Progress is monitored through periodic reviews, and outcomes are reported to the Governing Body for oversight and guidance. Key performance indicators (KPIs) have been defined for each focus area, enabling evidence-based assessment and course correction where required.

Transparency and Stakeholder Engagement

In line with its commitment to transparency, the approved Institutional Development Plan is publicly available on the University's website at https://www.alliance.edu.in/mandatory-disclosure/Strategic-Plan.pdf (https://www.alliance.edu.in/mandatory-disclosure/Strategic-Plan.pdf). Stakeholders, including students, parents, faculty, and external collaborators, are encouraged to engage with the plan and contribute to its realization.

Conclusion

The Institutional Development Plan of Alliance University is a living document that charts a clear course for academic excellence, innovation, and societal impact. Its implementation reflects the University's proactive approach to meeting emerging challenges in higher education and positioning itself as a leader in fostering knowledge, skills, and values for the 21st century.

9.6.2 Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Recruitment procedures and Promotion Policies (10)

Institute Marks : 10.00

Alliance University, established under The Alliance University Act, 2010 (Karnataka Act 34 of 2010), is governed and administered through a robust statutory framework that defines its administrative setup, functions of various bodies, and service-related policies. The University ensures compliance with national standards through statutory and non-statutory committees and follows a transparent, merit-based system for recruitment and promotions.This section provides a detailed account of:

- The governing and administrative structure
- Functions of statutory and non-statutory committees
- Service rules, recruitment, and promotion policies
- Documentation processes

1. **Governing Body and Administrative Framework**

Alliance University operates under a multi-tiered governance system that enables policy formulation, academic planning, administrative oversight, and financial management.

Officers of the University

The University is headed by the Chancellor, who functions as the ceremonial and administrative leader and assisted by the Pro-Chancellor. The Vice-Chancellor serves as the principal executive and academic officer, supported by Pro-Vice-Chancellors, the Registrar, and the Finance Officer. This administrative team ensures the seamless execution of academic and administrative operations.

Officer	**Role Description**
Chancellor	Head of the University; presides over the Governing Body and convocation ceremonies.
Pro-Chancellor	Senior official who acts as the deputy or second-in-command to the Chancellor appointed by the sponsoring body
Vice-Chancellor	Principal executive responsible for day-to-day administration and academic leadership.
Pro-Vice-Chancellors	Assist the Vice-Chancellor in academic and administrative functions.
Registrar	Custodian of University records; oversees statutory documentation and administrative processes.
Finance Officer	Manages financial operations and oversees budgeting and audits.

This structure promotes accountability, transparency, and institutional autonomy.

2. Statutory Committees: Composition and Functions

a) Board of Governors

- Composition: Chancellor (Chairperson), Pro-Chancellor, Vice-Chancellor, Government nominees, Sponsoring Body nominees.
- Key Functions:
  - Acts as the principal governing body.
  - Approves policies, budgets, statutes, and strategic plans.
  - Appoints statutory auditors and resolves institutional conflicts.
  - Oversees the overall development and direction of the University.

b) Board of Management

- Composition: Vice-Chancellor (Chairperson), Pro-Chancellor ,Pro-Vice-Chancellor, Registrar, Deans, Sponsoring Body nominees.
- Key Functions:
  - Executes decisions of the Board of Governors.
  - Handles academic, administrative, and financial operations.
  - Addresses urgent matters requiring immediate action.

c) Academic Council

- Composition: Vice-Chancellor (Chairperson), Pro-Chancellor, Pro-Vice-Chancellor, Registrar, Deans.
- Key Functions:
  - Principal academic authority of the University.
  - Oversees curriculum design, teaching standards, and research initiatives.

- Approves academic collaborations and new programs.

d) Research Council

- Composition: Vice-Chancellor (Chairperson), Pro-Chancellor , Pro-Vice-Chancellor, Dean of Research, Faculty Deans.
- Key Functions:
  - Advises on research priorities and policies.
  - Encourages interdisciplinary research and innovation.
  - Reviews research proposals and monitors progress.

e) Finance Committee

- Composition: Chancellor (Chairperson) or nominee, Pro-Chancellor , Vice-Chancellor, Registrar, Finance Officer, Sponsoring Body nominee.
- Key Functions:
  - Prepares and reviews annual budgets.
  - Monitors fund utilization and recommends fee structures.
  - Advises on financial policies and strategies.

3. Non-Statutory Committees: Quality Assurance and Grievance Redressal Mechanisms

a) Internal Quality Assurance Cell (IQAC)

IQAC functions as a continuous improvement mechanism for academic and administrative activities.

- Functions:
  - Develops quality benchmarks and best practices.
  - Conducts periodic academic audits.
  - Facilitates faculty development programs and workshops.
  - Prepares and submits the Annual Quality Assurance Report.

b) Grievance Redressal Committee

Established to address grievances of students, faculty, and staff.

- Functions:
  - Provides a structured process for handling complaints.
  - Ensures fairness and transparency in resolving issues.
  - Offers a platform for appeals and mediation.

c) Internal Complaints Committee (ICC) / POSH Committee

Formed under the provisions of the Sexual Harassment of Women at Workplace Act.

- Functions:
  - Handles cases of workplace harassment.
  - Conducts sensitization programs on gender equality.
  - Submits annual compliance reports to statutory authorities.

d) Anti-Ragging Committee

As mandated by UGC and AICTE, this committee safeguards students against ragging.

- Functions:
  - Implements anti-ragging policies and procedures.
  - Conducts orientation sessions and awareness campaigns.
  - Investigates complaints and recommends disciplinary actions.

e) Disciplinary Committee

Maintains discipline across the campus community.

- Functions:
  - Enforces the code of conduct for students and staff.
  - Investigates breaches of discipline and recommends penalties.
  - Works in conjunction with the Registrar’s office.

4. Service Rules, Recruitment Procedures, and Promotion Policies

a) Service Rules

- All appointments are made through written contracts.
- Terms of service cover recruitment, probation, retirement, and termination.
- Disciplinary actions are governed by laid-down procedures.
- Welfare provisions include provident fund, pension schemes, and group insurance.

b) Recruitment Procedures

- Senior positions are appointed with approval from the Chancellor.
- Faculty and staff recruitment follows merit-based processes and complies with UGC/AICTE norms.
- Selection committees include subject experts and senior administrators.

c) Promotion Policies

- Faculty promotions follow performance appraisal systems and national regulatory frameworks such as the Career Advancement Scheme.
- Administrative staff promotions are based on experience, qualifications, and performance reviews.

5. Documentation Practices

To ensure transparency and accountability, all committees maintain:

- Meeting notices and agendas
- Minutes of meetings
- Action taken reports

The Registrar is responsible for the custody and authentication of these documents, which are readily available for scrutiny by regulatory and accreditation bodies.The governance and administrative setup of Alliance University demonstrates a structured, transparent, and accountable system. Statutory and non-statutory committees function cohesively to ensure quality education, regulatory compliance, and continuous institutional improvement. Service rules, recruitment, and promotion policies are aligned with statutory provisions and national regulatory frameworks, meeting NBA's standards for accreditation.

Composititon of the Committees: https://www.alliance.edu.in/iqac/assets/nba/composition.pdf (https://www.alliance.edu.in/iqac/assets/nba/composition.pdf)
Copies of Minutes of Meeting and ATRs: https://www.alliance.edu.in/iqac/assets/nba/mom-atr.pdf (https://www.alliance.edu.in/iqac/assets/nba/mom-atr.pdf)

9.6.3 Transparency (5)

Institute Marks : 5.00

Alliance University has put in place a comprehensive and dynamic policy framework to govern its academic, administrative, financial, and student-related functions. The University believes that well-defined policies and transparent processes are critical to fostering an environment of trust, accountability, and excellence among all stakeholders.

The institutional policies encompass a broad spectrum of areas and are designed to provide clear guidance to faculty, staff, students, and external partners. Prominent among these are the Academic Policy, Admission Policy, Research Policy, Human Resource Policy, Student Code of Conduct, and the Amendment to Promotion Policy. Alongside these, the University has also articulated key operational policies such as the Scholarship and Refund Policies, Reservation Policy, Re-Registration Policy, Examination and Evaluation Manual, Information Technology Policy, and the Central Library Policy. To support student-centric initiatives and global outreach, the Placement Facilitation Policy, International Student Policy, Student Support Services Policy, Technology Enabled Learning Policy, and MOOC Policy are also in place.

In addition to these major policies, the University has framed several other domain-specific and process-oriented policies that cater to emerging needs, regulatory requirements, and best practices. These include guidelines related to grievance redressal, gender sensitization, community engagement, environmental sustainability, and technology integration, among others. Together, these policies form a cohesive governance ecosystem that ensures academic rigor, administrative efficiency, and student welfare.

To ensure transparency and easy accessibility, all major policies and relevant supporting documents have been published on the University's official website and are available in the public domain at https://www.alliance.edu.in/iqac/ (https://www.alliance.edu.in/iqac/). This platform serves as a central repository where stakeholders can view, download, and reference the University's policy documents. Updates to policies, amendments, and new policy introductions are also communicated through this portal, ensuring stakeholders remain informed in real time.

The University also maintains a practice of uploading agendas and minutes of meetings of statutory bodies such as the Governing Body, Academic Council, and other key committees. This reinforces the University's commitment to participatory governance and provides stakeholders with insights into institutional decision-making processes.

Awareness of these policies among stakeholders is promoted through various channels. For students and parents, information sessions and orientation programs are conducted at the start of the academic year, while periodic notifications through emails and the student portal keep them updated. Faculty and staff are oriented through induction programs, staff meetings, and access to internal portals where policies are archived for reference. External stakeholders, including alumni, recruiters, and collaborators, are engaged through newsletters, the University website, and institutional outreach programs.

Overall, Alliance University's approach reflects a deliberate effort to ensure that institutional policies are not just documents of compliance but living frameworks that are actively communicated and practiced across the campus community. The combination of online availability, regular updates, and multi-channel dissemination fosters a high level of awareness and engagement among all stakeholders.

9.7 Budget Allocation, Utilization, and Public Accounting at Institute Level (12) Total Marks 12.00

:

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3
CFY : (Current Financial Year),
CFYm1 : (Current Financial Year minus 1),
CFYm2 : (Current Financial Year minus 2) and
CFYm3 : (Current Financial Year minus 3)

Table 1 - CFY 2024-2025

Total Income 3506000000				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
3423900000	0	0	82100000	4605760000	9451	487330.44

Table 2 - CFYm1 2023-2024

Total Income 2646820000				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
2600962000	0	0	45858000	3160157000	5794	545418.88

Table 3 - CFYm2 2022-2023

Total Income 1942800000				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
1835701000	0	0	107099000	1993243000	4543	438750.39

Table 4 - CFYm3 2021-2022

Total Income 1335274000				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
1311651000	0	0	23623000	1245397000	3438	362244.62

Items	**Budgeted in 2024-2025**	**Actual Expenses in 2024-2025 till**	**Budgeted in 2023-2024**	**Actual Expenses in 2023-2024 till**	**Budgeted in 2022-2023**	**Actual Expenses in 2022-2023 till**	**Budgeted in 2021-2022**	**Actual Expenses in 2021-2022 till**
Infrastructure Built-Up	130000C	137865C	400000C	3816091	235000C	230896C	6000000	5398100

Library	7000000	6493500	5500000	5464900	3100000	3051100	2000000	1803600
Laboratory equipment	9500000	9000900	9000000	8523562	7000000	7006116	2250000	2043200
Teaching and non-teaching staf	1500000	1369600	1100000	1027415	8000000	7352910	6500000	6084695
Outreach Programs	2200000	2010000	2000000	1975400	1500000	1483500	1000000	9556000
R&D	7500000	7000000	6000000	6011670	5500000	5503200	4000000	3780000
Training, Placement and Indust	6250000	6013000	5200000	5152000	4750000	4559000	3000000	2970000
SDGs	2750000	2687000	2000000	1967800	1750000	1560000	8000000	7600000
Entrepreneurship	2500000	2680000	2250000	2273800	2000000	2001800	9000000	8435000
Others, specify	1500000	1498666	1450000	1437441	8000000	7754088	5000000	4513875
Total	**4677000000**	**4605760000**	**3269500000**	**3160157000**	**2091000000**	**1993243000**	**1349500000**	**1245397000**

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 2024-2025

Total Budget 162500000		Actual expenditure (till…): 161201600		Total No. Of Students 198
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
165000000	162500000	161201600	99.20	814149.49

Table 2 :: CFYm1 2023-2024

Total Budget 115000000		Actual expenditure (till…): 110605495		Total No. Of Students 198
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
115000000	115000000	110605495	96.18	558613.61

Table 3 :: CFYm2 2022-2023

Total Budget 73000000		Actual expenditure (till…): 69763505		Total No. Of Students 192
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
75000000	73000000	69763505	95.57	363351.59

Table 4 :: CFYm3 2021-2022

Total Budget 47000000		Actual expenditure (till…): 43588895		Total No. Of Students 133
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
47500000	47000000	43588895	92.75	327736.05

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	266000	2520252	252000	2386597	160000	1961713	630000	572096
Software	665000	630063	630000	596650	490000	490428	157500	143024
SDGs	962500	940450	700000	688730	612500	546000	280000	266000
Support for faculty developmen	884000	884000	884000	884000	680000	680000	680000	680000
R & D	262500	2450000	210000	2104085	192500	1926120	140000	132300
Industrial Training, Industry exp	218750	2104550	182000	1803200	166250	1595650	105000	103950

Miscellaneous Expenses*	152516C	1516722	106346C	1021422	6747000	6256359	4028250	3717127
Total	**162500000**	**161201600**	**115000000**	**110605495**	**73000000**	**69763505**	**47000000**	**43588895**

9.9 Quality of Learning Resources (Hard/Soft) (5)

Total Marks 5.00

Institute Marks : 5.00

Alliance University Library:

https://www.alliance.edu.in/library (https://www.alliance.edu.in/library)

Monday – Saturday: 8.30 AM to 10.00 PM and during holidays: 9.00 AM to 5.00 PM

Alliance University Central Library commenced operations in 2008. It is housed in an independent, building with four floors and a total carpet area of 55,000 Sq. Ft.

This area is divided into the following sections: Circulation; Reference; Periodical; Audiovisual; Book Bank; and the Kannada language section. The Central Library has ample seating capacity on all floors and can accommodate 1000 users.

Alliance Libraries are fully computerized with RFID & Bar-Code technology and the libraries are using KOHA integrated library management software for automating all library operations. Koha is a Full catalogue module which enables library staff to capture details of all library items, it is MARC compliant, and z39.50 compliant, meaning data entry and exchange will be greatly simplified. The circulation module fully automates borrowing and item management. Library Catalogue is hosted on Cloud with Web OPAC.

Library has a collection of Books, Periodicals, Journal Bound Volumes, Case Studies, Articles, CD/DVD/VCD's, Dissertations and Theses, Audio Books, E-Books, E-Journals, Student's Projects Reports and e-resources.

Library has adopted Open Access System; this enables readers to go to the stacks, browse, select books and other sources freely. The printed material in the library is classified as per Dewey decimal classification. Bay guides and Shelf-lists are provided at the storage locations and on storage racks, to easy find the information material that reader need.

Salient Features of Library

- Total area: 55,000 Sq. Ft.
- Automated Library with RFID Technology
- Wi-Fi Connectivity
- Digital Library
- Seating Capacity: 1000+
- Audiovisual Section
- Library Website
- Disabled-friendly building with lift facility

Engineering & Technology Resource available in Library

IEEE Electronic Library (IEL)

J-Gate Science & Technology

McGraw Hill Express Library (e-Books)

NPTEL

PHI E-Books (e-Books)

Pearson eLibrary (e-Books)

Self-Learning

Self-learning is promoted in the institute by providing following facilities:

High speed Internet facility: Internet facility has been provided through Wi Fi

Details: Intel(R) 82579LM Gigabit Network Connection

Digital Library has been established in the Central Library along with their access in Department Library also.

E-Journals

E-Learning Sites

NPTEL video lectures

Coursera online courses

Webinars

College level Students forum and Student clubs

9.10 E-Governance (5) Total Marks 5.00

Institute Marks : 5.00

Alliance University has a strong focus on e-governance, integrating technology to streamline processes and improve efficiency. This is reflected in their various initiatives and programs, including a focus on digital transformation and public policy.

Focus on Technology:

The university utilizes technology to improve various aspects of governance, including academic processes, administrative tasks, and student services.

E-Governance Initiatives:

Alliance University actively promotes e-governance through various initiatives, including the development and implementation of digital platforms and systems.

Alliance University uses a combination of technologies for its operations, including a cloud-based ERP system iCloud EMS. This ERP system, developed by www.icloudems.com, provides various functionalities for managing student lifecycle, accreditation, learning management, and other academic and non-academic tasks. While the university utilizes cloud-based storage, its not explicitly stated whether they use Apples iCloud specifically.

University ERP System:

Alliance University has implemented a University ERP system, which is a comprehensive software solution for managing various administrative and academic processes.

iCloud EMS:

The ERP system is likely powered by iCloud EMS, which is a web-based platform providing a range of modules for higher education institutions.

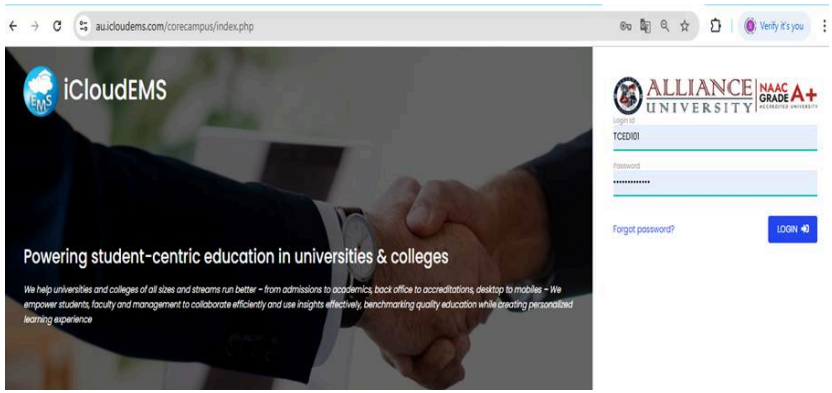
Cloud-based Storage:

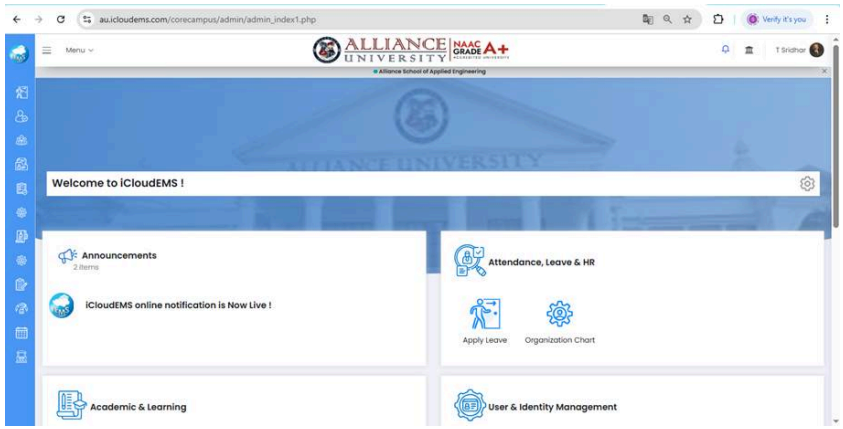
The ERP system offers quick and secure data storage and recovery, leveraging cloud-based technologies.

Student Lifecycle Management:

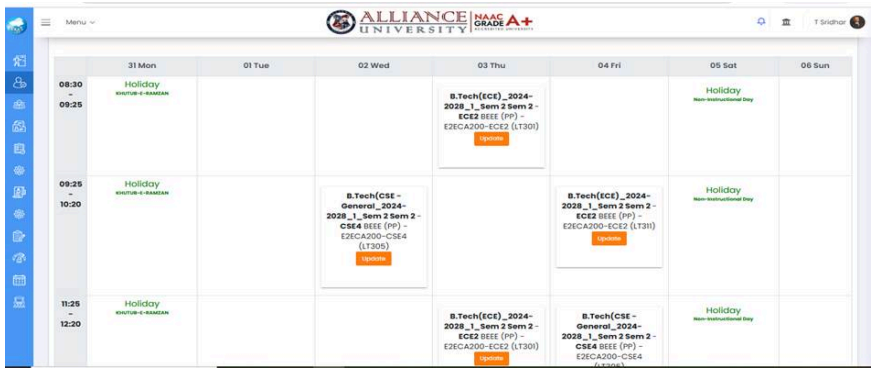
The ERP system includes a student lifecycle management system that facilitates data storage, access, and interaction with alumni.

ERP Management:

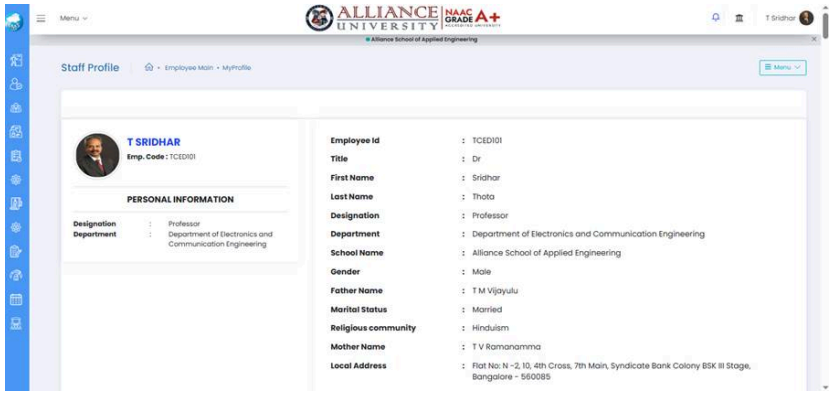




Class Management:

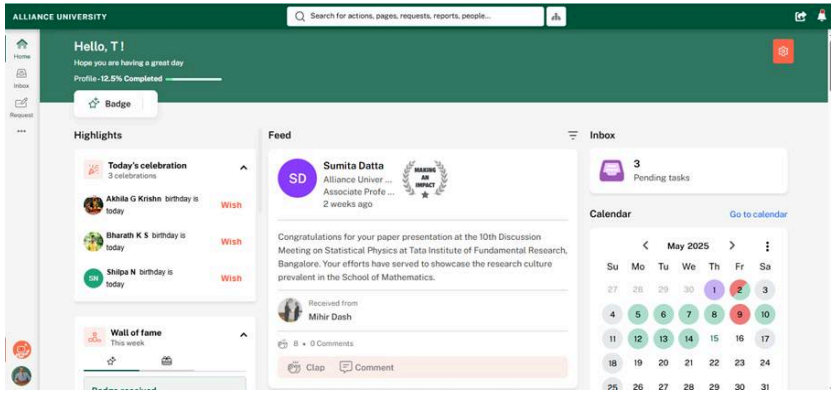


Profile Management:



HROne: Mobile App: Leave Management & Digital Docs (Salary Slips)

Alliance University uses an HR management system for handling various HR functions, including payroll, benefits, and performance management. While not explicitly mentioned as "HRone," its possible they use a system with similar features, such as HROne, offers recruitment, employee management, and payroll solutions.



9.11 Initiatives and Implementation of Sustainable Development Goals (SDGs) (10) Total Marks 10.00

Alliance University has several initiatives and implementations focused on achieving the Sustainable Development Goals (SDGs). These include the SDG Sustainability Project, the Alliance ONE 2.0 event, the Green Campus program, and scholarships for economically weaker students, all aimed at promoting awareness, collaboration, and sustainability practices.

Strategic Plan (2021-2025):

Alliance Universitys strategic plan highlights its commitment to fostering academic excellence, research innovation, and global engagement, while promoting inclusivity, diversity, and community service, all of which align with various SDGs.

Accessibility Initiatives:

Alliance University is committed to providing an accessible environment for all students, including those with disabilities, ensuring inclusivity and equal opportunity.

PACT 2030:

Alliance University is a founding member of PACT 2030, an SDG initiative by QS India, highlighting the universitys commitment to addressing global challenges and fostering innovation in higher education.

Merit Scholarship for Economically Weaker Students:

This scholarship program supports students from Karnataka, particularly those facing economic challenges, ensuring access to quality education and promoting inclusivity in line with SDG 4, which focuses on inclusive and equitable education.

“Alliance Vidya Spandana”

Championing social change through empowering the economically weaker students hailing from Karnataka under Alliance Universitys commitment towards the SDG-4 goals set by the UNICEF ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. Through our major initiative, "Education for All, Access to All," were breaking barriers and opening pathways to success. With a firm commitment to inclusivity, we offer freeship to economically weaker sections, ensuring that talent knows no bounds.

The free ship offers a 100% tuition fee waiver to economically weaker students hailing from Karnataka. Alongside, AU provide career advancement support through internships, empowering students to excel beyond the classroom.



9.12 Innovative Educational Initiatives and Implementation (5)

Total Marks 5.00

Institute Marks : 5.00

Alliance University employs a blended approach to teaching and learning, integrating technology and innovative pedagogical methods to foster independent thinking and holistic development.

AI-Powered Learning Platform (Alliance.AI):

- Alliance University has developed Alliance.AI, an AI-powered learning platform in collaboration with Edwisely.
- This platform signifies a commitment to integrating technology into education and enhancing the learning experience.

Blended Learning Approach:

- Alliance University employs a blended learning approach, combining traditional classroom instruction with online learning tools and resources.
- This allows for a more personalized and flexible learning experience for students.

Innovative Pedagogy:

- Faculty can creatively design curricula, evaluation methods, and modes of delivery, incorporating field visits and innovative teaching techniques.
- The focus is on developing independent thinking and critical analysis skills in students.

Experiential Learning:

- The university emphasizes experiential learning, where students learn by doing and engaging in real-world activities.
- This includes case studies, simulations, presentations, assignments, field work, and mini-projects.

Student-Centric Approach:

- The university focuses on student-centered learning and holistic development, ensuring students acquire both social-emotional and academic skills.
- This includes encouraging collaboration, peer learning, and fostering a sense of community among students.

Technology Integration:

- Alliance University actively integrates technology into the teaching-learning process, leveraging platforms like Blackboard LMS and Coursera.
- This includes using online tools and resources to supplement classroom instruction and provide students with access to a wider range of learning materials.

Competency-Based Education (CBE):

- The university is also incorporating competency-based education (CBE) principles into their curriculum development, focusing on equipping students with relevant skills and knowledge.
- This includes developing curricula that meet industry needs and utilizing assessment strategies that measure student competencies.

Introduction of Alliance.AI

Alliance Universitys Alliance.AI is an AI-powered learning platform designed to personalize and enhance the learning experience for students and faculty. It leverages AI to adapt to individual learning styles, provide personalized feedback, and offer customized learning paths. This platform is developed in collaboration with Edwisely.

Launching of Alliance.AI

Alliance University has launched Alliance.AI, an AI-powered learning platform developed in collaboration with Edwisely. This new platform represents a significant step towards integrating technology into education. The launch event, attended by around 200 participants, including students, faculty, and distinguished guests, marked an important milestone in the university’s commitment to enhancing the learning experience through advanced technology.



Key Features and Benefits of Alliance.AI:

Personalized Learning:

AI algorithms analyze student data and learning preferences to create customized learning paths, ensuring that students receive the most relevant and effective learning materials.

Adaptive Learning:

The platform adapts to the students progress and learning style, adjusting the difficulty and complexity of the material accordingly.

Personalized Feedback:

AI can provide instant and tailored feedback on student performance, allowing for targeted improvement and support.

Improved Academic Performance:

By optimizing the learning process and providing personalized support, Alliance.AI aims to enhance student academic outcomes.

Enhanced Teaching Experience:

Faculty can use Alliance.AI to gain insights into student learning, create more effective lesson plans, and track student progress.

Increased Accessibility:

AI-powered learning can make education more accessible to students with diverse learning needs and preferences.

How Alliance.AI is Used in Teaching and Learning:

Adaptive Assessments:

AI can generate personalized quizzes and assessments based on the students learning progress and identified knowledge gaps.

Interactive Learning Resources:

The platform can provide students with access to interactive learning tools, such as virtual simulations and digital textbooks.

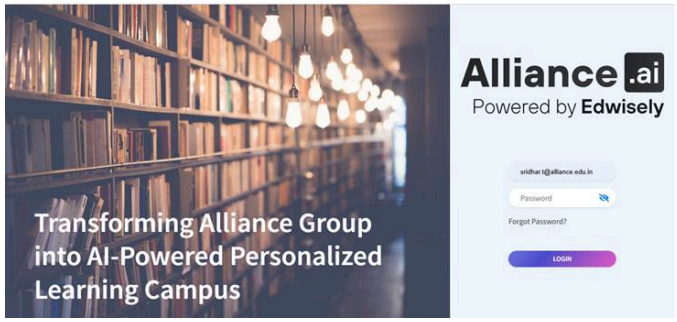
Personalized Tutoring:

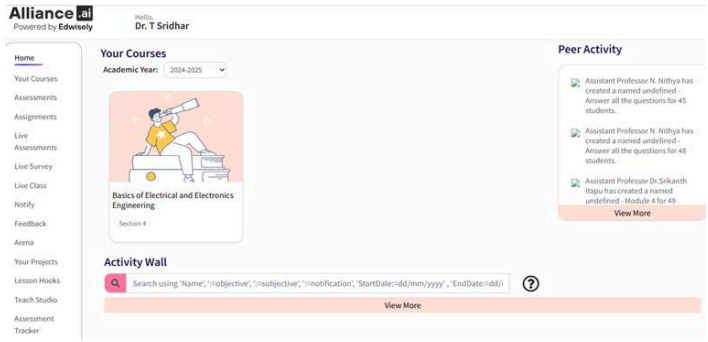
AI can be used to create virtual tutors that provide personalized feedback and support to students.

Automated Grading and Feedback:

AI can automate the grading process and provide students with immediate feedback on their assignments

Overall, Alliance.AI represents a significant step towards leveraging AI to improve the teaching and learning experience at Alliance University, making education more personalized, accessible, and effective for all students.

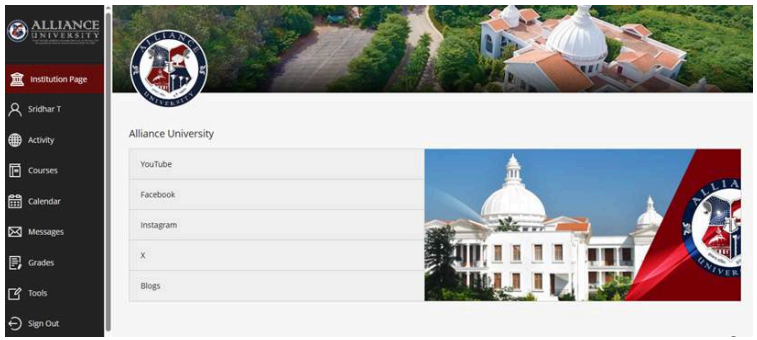


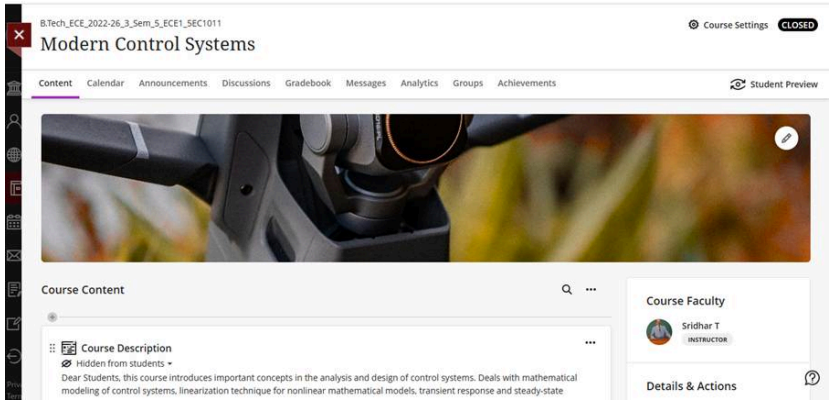


Introduction of LMS

A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting, automation, and delivery of educational courses, training programs, materials or learning and development programs. The learning management system concept emerged directly from e-Learning.

Alliance University employs a blended approach to teaching and learning, integrating technology and innovative pedagogical methods to foster independent thinking and holistic development. The university uses a learning management system (LMS) in conjunction with experiential learning, technology integration, and student-centric approaches.





9.13 Faculty Performance Appraisal and Development System (FPADS (10)

Total Marks 10.00

Institute Marks : 10.00

The University puts in place the performance appraisal system with the following objectives:

To facilitate employees to perform at their optimum levels, ensuring their maximum contributions to the betterment of the University

To develop employees into intellectual professionals

To administer promotions, increments and such other rewards

Frequency of Appraisal

Performance appraisal is an annual activity. The University may also undertake performance appraisal of an employee who is in temporary service or who is on probation and awaiting a confirmation decision. The competent authority may also call for a special appraisal of an employee whenever necessary.

Appraisal Period

For all employees, the appraisal period shall be from the 1st of July of the previous year to 30th June of the current year.

Performance Appraisal Procedure

The performance appraisal of all employees is carried out by using a well-designed, performance appraisal form, separately for faculty and staff and is a fair, transparent system free of any discrimination based on race, color, religion, gender, sexual orientation, marital status, creed, age, social origin, national origin, citizenship status, disability or veterans status.

Training and Development

The University believes that of all the resources, human resource is the greatest resource, which shall be given proper training for the all-round development of the University through individual development. To increase the efficiency of an employee, the University may organize orientation and training sessions. The employee may also be deputed for external training sessions, if it is found to be necessary.

9.14 Outreach Activities (5)

Total Marks 5.00

Institute Marks : 5.00

Alliance University recognizes that a higher education institution must extend its role beyond the boundaries of its campus. Outreach, in this context, is not merely an auxiliary activity but an integral part of the University's mission to impact society, industry, and the global community positively. Through a variety of initiatives spanning academic, industrial, societal, and global domains, the University has built a culture of engagement that bridges the gap between knowledge and practice, research and development, and education and empowerment.

The outreach ecosystem at Alliance University is broad-based, encompassing academic collaboration, industry partnerships, community service, international linkages, and digital engagement. This holistic approach ensures that the University's expertise and resources are meaningfully shared with diverse stakeholders while enriching the learning and research environment for students and faculty alike.

1. Academic Outreach

Academic outreach forms the foundation of Alliance University's external engagement strategy. It reflects the University's commitment to knowledge dissemination, capacity building, and academic leadership in the higher education landscape.

The University regularly organizes seminars, workshops, conferences, and colloquiums that bring together scholars, educators, practitioners, and policymakers. These events serve as platforms for the exchange of ideas, presentation of research findings, and development of innovative solutions to contemporary challenges. Faculty members frequently engage as resource persons in programs organized by other institutions, thereby contributing to the broader academic community.

In addition, the University hosts faculty development programs (FDPs) and continuing education initiatives aimed at upskilling educators and professionals. These initiatives cover emerging areas such as artificial intelligence, sustainability, entrepreneurship, and policy innovation. By fostering such engagements, Alliance University positions itself as a thought leader in addressing both disciplinary and interdisciplinary issues.

The institution also collaborates with professional associations and academic bodies at regional and national levels, contributing to curriculum development, accreditation processes, and policy discussions. Such collaborations reinforce its role in shaping the higher education ecosystem and improving academic quality across institutions.

2. Industry Engagement

Alliance University maintains robust partnerships with industry as part of its mission to bridge the gap between academia and real-world practice. The University's industry outreach activities are multi-pronged and include initiatives such as guest lectures, industrial visits, collaborative research, consultancy services, and skill development programs.

Corporate leaders and domain experts are regularly invited to deliver talks and interact with students, providing them with insights into industry trends, technological advancements, and evolving skill demands. These engagements not only enrich the academic curriculum but also equip students with practical knowledge and industry readiness.

The University has also developed tailored executive education and training programs for working professionals in partnership with leading organizations. These programs are designed to enhance managerial capabilities, technical skills, and leadership qualities among participants.

Collaborative research and consultancy projects further strengthen the University's industry connect. Faculty and students work alongside industry experts on projects that address real-world challenges, fostering innovation and knowledge transfer.

In addition, the University's Office of Career Advancement and Networking actively liaise with employers to facilitate internships, apprenticeships, and placement opportunities, ensuring students' smooth transition into professional roles.

3. Social Outreach

As part of its commitment to social responsibility, Alliance University engages in a wide range of community-oriented initiatives. These social outreach programs are designed to address pressing societal challenges, promote inclusive development, and foster a sense of civic responsibility among students and faculty.

The University organizes health camps, blood donation drives, literacy campaigns, and environmental conservation projects in collaboration with local communities and non-governmental organizations (NGOs). Students participate actively in these programs, often under the guidance of faculty mentors, as part of service-learning modules that integrate community engagement into academic learning.

Special emphasis is placed on empowering marginalized communities through skill development workshops, awareness campaigns on health and hygiene, and livelihood enhancement projects. Such initiatives have a dual purpose: uplifting disadvantaged sections of society and sensitizing students to the values of empathy, equity, and sustainability.

The University also commemorates days of national and international significance with events focused on social causes, thereby raising awareness and encouraging participation among all stakeholders.

4. Global Outreach

Alliance University recognizes the importance of global perspectives in higher education and has actively pursued international collaborations to create a globally relevant learning environment.

Through partnerships with universities and research institutions across Asia, Europe, North America, and Australia, the University facilitates faculty and student exchange programs, joint degree offerings, and collaborative research projects. These engagements provide opportunities for cross-cultural learning, exposure to global best practices, and participation in international academic discourse.

Faculty members often contribute to international conferences and symposia, while the University hosts visiting scholars from partner institutions to foster intellectual exchange. Such activities enhance the institution's academic reputation and provide a rich, diverse environment for students.

Additionally, the University caters to an increasingly global student body, with dedicated support services for international students, including orientation programs, language support, and cultural integration activities. This not only strengthens the University's international profile but also enriches the cultural fabric of the campus.

5. Technology-Enabled Outreach

Leveraging the power of technology, Alliance University has expanded its outreach activities beyond geographical limitations. The University hosts webinars, online workshops, and virtual conferences that allow participation from a wider audience, including alumni, industry professionals, and global academic partners.

The University's official website and social media channels are actively used to disseminate information about institutional activities, achievements, and opportunities for engagement. These platforms serve as vital tools for maintaining continuous communication with stakeholders and extending the University's impact.

Alliance University's outreach activities are multidimensional and dynamic, reflecting its commitment to academic excellence, social responsibility, and global engagement. By fostering academic collaboration, industry partnerships, community development, international linkages, and digital engagement, the University ensures that its intellectual and institutional resources contribute meaningfully to society at large.

This holistic approach to outreach not only reinforces the University's standing as a center of learning and innovation but also prepares students and faculty to act as responsible global citizens who can positively influence their communities and profession

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	The learners should be able to understand the fundamentals electronics and analyze its multidisciplinary applications to benefit societal needs while upholding the harmony
PSO2	The learners should be able to able to design advanced communication systems and develop innovative IoT designs to drive the digital world.
PSO3	The learners should be able to able to develop core competency in the specialized areas like VLSI, Cyber Physical systems, Biomedical Instrumentation/Automation, AI/ML to meet the industry demands.

Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines inforce as on date and the institutes hall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute willbe initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Head of the Institute
Name : Dr. B Priestly Shan
Designation : Vice-Chancellor
Signature :



Seal of The Institution :



Place : Bengaluru
Date : 08-07-2025 19:10:38