POORNIMA
COLLEGE OF ENGINEERING

Department of Electronics & Communication Engineering

CURRICULUM DELIVERY PLAN (CDP)
Odd Sem. 2023-24

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)
• Phone: +919829255102 • E-mail: info.pce@poornima.org
• Website: www.pce.poornima.org

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1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of Continuous Internal Assessment (CIA)

PCE is affiliated to RTU, Kota and follows the planned and prescribed curriculum of University. The Internal Quality Assurance Cell (IQAC) of PCE takes the responsibility of monitoring the effective delivery of the curriculum through a well-planned and documented process. To ensure effective curriculum delivery, a Curriculum Delivery Plan (CDP) is prepared by all PAC's of the respective departments. A CDP includes detailed planning for preparation, verification, execution and adherence to all documents related to academic delivery of all courses. As per the directions received from IQAC, the Examination cell plans for the Continuous Internal Assessment. Examination cell then circulate CIA planning to the PAC. Examination cell sends all the CIE Data to Director's Office for the final approval before its submission to RTU. Detail outlines are as follows.

1. Director Office, PCE receives the curriculum from RTU, Kota through university website.
2. IQAC prepares institute academic calendar aligned with RTU academic calendar considering input received in last GC meeting and other stakeholders. IQAC forwards the Institute Academic Calendar to PAC (Program Assessment Committee) for identifying curriculum gaps and examination cell for CIE. PACs then prepares CDPs after consolidating the course specific planning received from the respective faculty members.
3. A CDP includes activities for gap abridgement which are proposed to be carried out by the faculty members.
4. IQAC also instructs PACs to prepare the department activity calendar. PACs receives approval of department activity calendars and CDPs from DABs before its final approval from IQAC.
5. IQAC also reviews the CDPs approved by DABs and gives suggestions/ approvals periodically. All the activities (SPL, Industrial visit, workshop etc.) planned are taken into consideration for the Department activity calendar after the approval from DABs.
6. Subject wise Course files are prepared by respective faculty, comprising of Syllabus, ABC analysis, Blown-Up, Deployment, Lecture notes, Zero Lecture, Tutorial and Assignment sheets, COs Statements, and Mapping with POs and PSOs.
7. Faculty frequently use ICT tools for more effective content delivery using PPTs, video lectures etc.
8. Student attendance is monitored by tutors and chief proctor office with help of SHARP ERP software. Attendance defaulters are regularly counseled through their tutors for improving their attendance.
9. Institute also conducts Annual Internal Academic Audit for the effectiveness of teaching-learning methodologies and the necessary actions are taken as suggested by the audit team.
10. Conferences, seminars, webinars, workshops, expert lectures, STTPs, and FDPs are organized throughout the year on the recent advances in the field of Engineering.
11. Continuous Internal Assessment process includes Midterm exam, Tutorials, Assignments, Quizzes, presentation, Class Test, viva-voce etc.
12. As per the RTU examination scheme, mid semester examinations are conducted centrally by examination cell as per the planning & academic calendar and other assessments are conducted at departmental level.

13. All the evaluations are carried out by the faculty members which include COs-POs attainment, Gap identification & action taken for the fulfillment of gap.
14. Student feedback and attainment of COs-POs are reviewed by the PAC for any revision in planning & Delivery.
15. End term semester examinations are conducted by the RTU, Kota.

2 Vision & Mission Statements

2.1 Vision &Mission Statements of the Institute

Vision of Institution

To create knowledge based society with scientific temper, team spirit and dignity of labor to face the global competitive challenges

Mission of Institution

To evolve and develop skill based systems for effective delivery of knowledge so as to equip young professionals with dedication & commitment to excellence in all spheres of life

2.2 Vision & Mission Statements of the Programme B. Tech. (Electronics & Communication Engineering)

2.2.1 Vision of Department

- To establish an acknowledged Department of academics in the field of Electronics and Communication Engineering.

2.2.2 Mission of Department

- 1. To equip the students with strong foundations to enable them for continuing education in the field of Electronics and Communication Engineering.
- 2. To provide quality education & to make the students entrepreneur and employable.
- 3. To undertake research and development in the field of Electronics and Communication Engineering.

2.2.3 PEO of the Department

Program Educational Objectives (PEOs)

- PEO1: The graduates will be competent enough to apply knowledge and skills to solve the real time problem.
- PEO2: Graduates will work as a team in diverse field and gradually move into leadership position.
- PEO3: Graduates will understand current professional issues, apply latest technologies and

come out with innovative solutions for the betterment of the society.

2.2.4 Program Specific Outcome (PSOs)

- PSO1: Graduates possesses the ability to understand and apply basic knowledge of core Electronics & Communication Engineering for the benefit of society.
- PSO2: Graduates will be proficient to apply electronic modern IT tools for the design and analysis of complex electronic systems in furtherance to research activities.
- PSO3: The ability to be adaptable to the multidisciplinary nature at workplace, develop excellent Interpersonal Skills & Leadership qualities that benefits the individual & organization.

2.3 Program Outcomes (PO)

Engineering Graduates will be able to:

PO 1: Engineering knowledge: Apply the knowledge of mathematics, science, Engineering fundamentals, and an Engineering specialization to the solution of complex Engineering problems.

PO 2: 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.

PO 3: Design/development of solutions: Design solutions for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: 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.

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools prediction and modeling to complex Engineering activities with an understanding of the limitations.

PO 6: 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.

PO 7: Environment and sustainability: Understand the impact of the professional Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and the need for sustainable development.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.

PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: 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 receive clear instructions.

PO 11: 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 team, to manage projects and in multidisciplinary environments.

PO 12: 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.

3 Department Academic & Administrative Bodies - Structure & Functions

3.1 Department Advisory Board (DAB)

3.1.1 Primary Objective

Department Advisory Board (DAB) of Department of Electronics & Communication Engineering, PCE, Jaipur is formed to provide necessary suggestions for developing a structured approach for continuous improvement in curriculum delivery, planning and incorporation of Curricular, Extra and Co-Curricular activities needed to abridge the pre-identified curriculum gaps.

3.1.2 Roles & Responsibilities

1. Suggest improvement in academic plans and recommend standard practices/system for attainment of Program Educational Objectives, Program Outcomes, Program Specific Outcomes and Course Outcomes.
2. Provide guidelines for industry-institute interactions to bridge up curriculum/industry gap and suggest quality improvement initiatives to enhance employability.
3. Develop a structured Curriculum Delivery Plan, Department Academic Calendar and seek approval for them from Internal Quality Assurance Cell.
4. Incorporate suggestions received from Program Assessment Committee (PAC) by including proposed activities for bridging curricular gaps identified.
5. To identify and suggest thrust areas to conduct various activities (final year projects, training courses and additional experiments to meet PEOs, and propose necessary action plan for skill development of students, required for entrepreneurship development and quality improvement.

3.1.3 Department-Wise Composition

Session 2023-24

S. No.	Category	Nominated by	Name of Members	Address
1	Chairman, DAB-ECE	Chairman, IQAC	Dr. Mahesh Bundele (Principal & Director, PCE)	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
2	Member Secretary	Chairman, DAB-ECE	Dr. Garima Mathur (Head, Department of ECE)	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
3	Faculty representative-2	Chairman, DAB-ECE	Dr. Rajesh Bhathija Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-3	Chairman, DAB-ECE	Dr. Meetu Nag Associate Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-5	Chairman, DAB-ECE	Dr. Nitesh Mudgal Asso.Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Special Invitee	Chairman, DAB-ECE	Dr. Rekha Nair, Dean	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Alumni Representative-1	Chairman, DAB-ECE	Mr. Manish Jangid	Research Scholar, MNIT Jaipur
9	Alumni Representative-2	Chairman, DAB-ECE	Mr. Rahul Chouhan	Entrepreneur, Jaipur
10	Student Representative	Chairman, DAB-ECE	Mr. Hitesh Parihar	Final Year Student ECE
11	Industry Representative	Chairman, DAB-ECE	Mr. Sumit Gupta	Director, iQuanta Jaipur
12	Parents Representative-1	Chairman, DAB-ECE	Mr. Mukesh Saxena	Jaipur
13	Parents Representative-2	Chairman, DAB-ECE	Ms. Sunita Chippa	Jaipur

3.1.4 Meeting Frequency & Objectives

Meeting No.	Meeting Code	Meeting Month-Week	Meeting Objective
1.	DAB-1	July First Week	● Consideration of gaps and proposed activities by PAC last meeting to be implemented in DAC and CDP. ● Prepares final draft of CDP and DAC to be proposed in upcoming IQAC meeting
2.	DAB-2	September Second Week	● Approval / Suggestions of proposals from last PAC Meeting. ● Revision of DAB Drafts for being proposed in upcoming GC
3	DAB-3	December First Week	● Draft preparation for DAC and CDP for upcoming semester after considering inputs from PAC. ● Review Semester closure draft from PAC.
4.	DAB-4	April Last Week / May First Week	● Draft of PCE Academic Calendar and CDP proposed ● Previous session closure with gaps and feedback. ● Completion of ATR-2 for current semester based on last GC sessions and compiling it with ATR-1

3.2 Program Assessment Committee

3.2.1 Primary Objective

The primary objective of Program Assessment Committee (PAC) is to identify bridge and assess the gaps in Program's Curriculum received from University through attainment calculation.

3.2.2 Roles & Responsibilities

1. Identify gaps in curriculum laid down by University and propose activities for bridging identified gaps.

2. Implement academic plans and standard practices/system for attainment of Program Educational Objectives, Program Outcomes, Program Specific Outcomes and Course Outcomes.

3. Regular Monitoring of curriculum gap abridgement and course deployment practices through pre-defined methods.

4. Execute Industry-Institute Interactions to enhance the employability thereby meeting the industry standards and requirements.

5. Implement Curriculum Delivery Plan & Department Academic Calendar.

3.2.3 Department-Wise Composition

S. No.	Category	Nominated by	Name of Members	Address
1	Chairman, PAC-ECE	Chairman, IQAC / Head of Institution	Dr. Garima Mathur (Head, Department of ECE)	Poornima College of Engineering
2	Member Secretary	Chairman, DAB-ECE	Dr. Rajesh Bhatija Professor, ECE)	Poornima College of Engineering
3	Faculty representative-1	Chairman, DAB-ECE	Dr. Shuchi Dave Professor, ECE	Poornima College of Engineering
4	Faculty representative-2	Chairman, DAB-ECE	Dr. Nitesh Mudgal, Associate Prof, ECE	Poornima College of Engineering
5	Faculty representative-3	Chairman, DAB-ECE	Dr. Meetu Naag, Associate Prof, ECE	Poornima College of Engineering
6	Faculty representative-4	Chairman, DAB-ECE	Mr. Durgesh Kumar, Assistant Prof, ECE	Poornima College of Engineering

3.2.4 Meeting Frequency & Objectives

Meeting No.	Meeting Code	Meeting Month-Week	Meeting Objective
1.	PAC-1	July Last Week	● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps
2.	PAC-2	August Last Week	● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps
3.	PAC-3	September	● Execution of Academic, Extra and Co-Curricular activities

		Last Week	● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of academics gaps as previous attainment ● Assessment of activities required for being proposed in upcoming GC ● Submit report to Governing Council about previous semester & planning of next semester.
4.	PAC-4	November Third Week	● Inclusion of suggestions for revising gaps ● Execution of Academic, Extra and Co-Curricular activities according to suggestions in GC ● Regular calculation of attainments ● Revision of academics gaps as previous attainment ● Regular assessment of Academic, Extra and Co-Curricular activities ● Identification and proposal of gaps and activities to be considered by DAB to prepare Department Academic Calendar and CDP for upcoming semester. ● Semester closure report draft to be prepared ● Elective proposals/CBCS
5.	PAC-5	January Last Week	● Incorporation of suggestions from IQAC and DAB meetings in execution of Semester activities ● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps
6.	PAC-6	March Last Week	● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps
7.	PAC-7	April Second Week	● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps ● Draft preparation of Semester closure
8.	PAC-8	June Last Week	● Report submission of Semester closure ● Identification and proposal of gaps and activities to be considered by DAB to prepare Department Academic Calendar and CDP for upcoming semester. ● Feedback of last IQAC and suggestions for new semester to be implemented in CDP and DAC ● Elective proposals/CBCS

4 List of Faculty Members& Technical Staff

1	4961	Dr. Garima Mathur	drg.mathur@poornima.org	Professor
2	3420	Dr. Shuchi Dave	shuchi.dave@poornima.org	Professor
3	1195	Dr. Nitesh Mudgal	Nitesh.mudgal @poornima.org	Associate Professor
4	1165	Dr. Meetu Nag	meetu.nag@poornima.org	Associate Professor
5	3612	Dr. Devendra Somwanshi	devendra.Somwanshi@poornima.org	Associate Professor
6	1131	Mr.Durgesh Kumar	durgesh86@poornima.org	Asst. Professor
7	1300	Mr. Avinash Sharma	avinashsharma@poornima.org	Asst. Professor
8	1195	Mr.Rajveer Marwal	Rajveer.marwal@poornima.org	Asst. Professor
9	1133	Miss Garima Mathur	Garima.mathur@poornima.org	Asst. Professor

5. Institute Academic Calendar

JULY 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

AUGUST 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

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POORNIMA GROUP

Achieving Excellence Together

ACADEMIC CALENDAR 2023-24*#

ODD SEMESTER

JULY 2023

RTU THEORY EXAMINATION OF FIRST YEAR [EVEN SEM 2022-23]

AUGUST 2023

Practical Training [After II, IV, VI Sem.]

Monday 15	Celebration of Independence Day.

SEPTEMBER 2023

Monday 11	Commencement of Classes-Odd Semesters B. Tech. III/V/VII Sem.
Wednesday 06 to Sataturday16	Induction Program B.Tech. I Sem
Monday 18	Commencement of Classes-Odd Semesters B. Tech. I Sem.
Tuesday 05	Celebration of Teachers' Day & Activities under WISE
Friday 15	Engineers' Day
Friday 29	Blood Donation Camp

OCTOBER 2023

Monday 02, 2023	Annual Day KALANIDHI' & Faculty Felicitation Program
Monday 16, 2023	Manthan- Inter-college Debate Competition
Wednesday 11, to Friday 13	First Mid Term Theory & Practical Exam for B.Tech VII Sem
Monday 16, to Saturday 21	First Mid Term Theory & Practical Exam for B.Tech V & III Sem

NOVEMBER 2023

Thursday 02, to Wednesday 08	First Mid Term Theory & Practical Exam for B.Tech I Sem
Tuesday 28 to Thursday 30	Second Mid-TermTheory & Practical Exam for B.Tech VII Sem
Thursday 30, 2023	Last Teaching Day for B.Tech VII Sem
Tuesday 28 to Tuesday, Dec. 05	Second Mid Term Theory & Practical Exam for B.Tech V & III Sem

DECEMBER 2023

As Per RTU Exmination Schedule	End-Term Practical Exams for B.Tech VII Sem
Tuesday 05	Last Teaching Day for B.Tech V & III Sem
As Per RTU Exmination Schedule	End-Term Practical Examination for B.Tech V & III Sem
Monday 18, to Saturday 23	Second Mid-TermTheory & Practical Exam for B.Tech I Sem
Saturday 23	Last Teaching Day for B.Tech I Sem

JANUARY 2023

As Per RTU Exmination Schedule	End-Term Practical Examination for B.Tech I Sem

HOLIDAYS IN ODD SEMESTER

Independence Day Celebration	14 August, Monday - 15 August, Tuesday
Raksha Bandhan	30 August, Wednesday
Krishna Janmashtami	7 September, Thursday - 9 September, Saturday
Vijayadashami	24 October, Tuesday
Diwali Break	10 November, Friday - 14 November, Tuesday
Gurunanak Jayanti	25 November, Saturday - 27 November, Monday
Christmas	23 December, Saturday - 25 December, Monday
New Year	01 January, Monday - 02 January, Tuesday

*Subject to revision as per RTU notifications

#For all Engineering Faculty and Students of PCE

5 Department Activity Calendar

Poornima College of Engineering, Jaipur

Calendar forInformation Technology : Odd Semester - Session 2023-24

(A) Academic Processes

S. No.	Activity/ Process	B.Tech. I Sem.	B.Tech. III Sem.	B.Tech. V Sem.	B.Tech. VII Sem.
1	Date of Registration & start of regular classes for students	Wednesday, September 6, 23	Monday, September 11, 23	Monday, September 11, 23	Monday, September 11, 23
2	Orientation programme	Wednesday, September 6, 23 to Saturday, September 16, 23	Monday, September 11, 23 to Tuesday, 12 September, 23	Monday, September 11, 23 to Tuesday, 12 September, 23	Monday, September 11, 23 to Tuesday, 12 September, 23
3	Date of submission of question papers by faculty members to secrecy for 1st Mid-term	Monday, October 23, 23	Monday, October 02, 23	Monday, October 02, 23	Monday, November 20, 23
4	I Mid Term Theory & Practical Exam	Thursday, November 2, 23 to Wednesday, November 8, 23	Wednesday, October 11, 23 to Friday, October 13, 23	Wednesday, October 11, 23 to Friday, October 13, 23	Tuesday, November 28, 23 to Thursday, November 30, 23
5	Showing evaluated answer books of 1st Mid-term exam to students in respective classes	Upto Thursday, November 30, 23	Upto Tuesday, October 31, 23	Upto Tuesday, October 31, 23	Upto Monday, December 18, 2023
6	Last date of submission of Evaluated Answer Books and Mark of First Mid-term Theory & Practical exam to Exam and Secrecy Cell respectively	Upto Friday, December 1, 23	Upto Wednesday, November 1, 2023	Upto Wednesday, November 1, 2023	Upto Tuesday, December 19, 2023
7	Date of submission of question papers by faculty members to secrecy for 2nd Mid-term	Monday, December 11, 23	Monday, November 20, 2023	Monday, November 20, 2023	Monday, November 20, 2023
8	Revision classes	To be declared later according to RTU Exam Schedule			
9	Last Teaching Day	Monday, December 23, 2023	Tuesday, December 5, 23	Tuesday, December 5, 2023	Thursday, November 30, 2023
10	2nd Mid-term theory & Practical Exams	Monday, December 18, 2023 to Saturday, December 23, 2023	Tuesday, November 28, 2023 to Tuesday, Decmber 5, 2023	Tuesday, November 28, 2023 to Tuesday, Decmber 5, 2023	Tuesday, November 28, 2023 to Thursday, November 30, 2023
11	End-Term Practical Exams	January 2024 As per RTU examination schedule	December 2023 As per RTU examination schedule	December 2023 As per RTU examination schedule	December 2023 As per RTU examination schedule

(B) Events and Activities				
12	1	Teachers Day Celebration		September 5, 2023
13	2	Celebration of Engineers Day		September 15, 2023
14	3	Hindi Diwas celebration		September 14,2023
15	4	Technovation 2023 - International Conference on Recent Advances in Engineering (ICRAE) & Technical Paper and Model Contests.		December 22-23,2023
16	5	Session on- Entrepreneurship Development		December 04 2023
17	6	Workshop on Application of IoT in Smart Factory 4.0AI Powered Factory.		7th October. 2023.
18	7	Workshop onIndustry IoT: Concepts and Protocols		7th October. 2023.
19	8	Workshop onApplication of IIoT in Li-Fi Communication & Industry 5.0 with AI.		7th October. 2023.
20	9	Workshop onRecent Trends and Challenges in IoT.		7th October. 2023.
21	10	Unity Day Celebration		October 31, 2023
22	11	Workshop onRecent Trends and Challenges in IoT.		November 11,2023
23	12	Session on- Entrepreneurship Development		December 4,2023
24		Seminar on IOT Sensors Network		November 24, 2023

(C) Holidays

30	Independence Day Celebration	14 August, Monday - 15 August, Tuesday 2023
31	Raksha Bandhan	30 August, Wednesday 2023
32	Shri Krishna Janmashtami	7 September, Thursday - 9 September, Saturday 2023
33	Vijay Dashmi	24 October, Tuesday 2023
34	Diwali Break	10 November, Friday - 14 November, Tuesday 2023
35	Guru Nanak Jayanti	25 November, Saturday - 27 November, Monday 2023
36	Christmas	23 December, Saturday - 25 December, Monday 2023
37	Winter Break	As per RTU examination schedule

"स्वच्छ भारत.. सम्पन्न भारत.."

6 Teaching Scheme

6.1 RTU Teaching Scheme

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme
B.Tech. : Electronics & Communication Engineering
2nd Year - III Semester

THEORY												
SN	**Category**	**Course**		**Contact hrs/week**			**Marks**				**Cr**
		Code	**Title**	**L**	**T**	**P**	**Exm Hrs**	**IA**	**ETE**	**Total**	
1	BSC	3EC2-01	Advanced Engineering Mathematics-I	3	0	0	3	30	70	**100**	**3**
2	HSMC	3EC1-02/ 3EC1-03	Technical Communication/Managerial Economics and Financial Accounting	2	0	0	2	30	70	**100**	**2**
3	PCC	3EC4-04	Digital System Design	3	0	0	3	30	70	**100**	**3**
4		3EC4-05	Signal & Systems	3	0	0	3	30	70	**100**	**3**
5		3EC4-06	Network Theory	3	1	0	3	30	70	**100**	**4**
6		3EC4-07	Electronics Devices	3	1	0	3	30	70	**100**	**4**
			Sub Total	17	2	0					**19**
PRACTICAL & SESSIONAL											
8	PCC	3EC4-21	Electronics Devices Lab	0	0	2		60	40	**100**	**1**
9		3EC4-22	Digital System Design Lab	0	0	2		60	40	**100**	**1**
10		3EC4-23	Signal Processing Lab	0	0	2		60	40	**100**	**1**
11	ESC	3EC3-24	Computer Programming Lab-I	0	0	2		60	40	**100**	**1**
13	PSIT	3EC7-30	Industrial Training	0	0	1		60	40	**100**	**1**
14	SODECA	3EC8-00	Social Outreach, Discipline & Extra Curricular Activities							**100**	**0.5**
			Sub- Total	0	0	9					**5.5**
			TOTAL OF III SEMESTER	17	2	9					**24.5**

***L:** Lecture, **T:** Tutorial, **P:** Practical, **Cr:** Credits*

***ETE:** End Term Exam, **IA:** Internal Assessment*

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme
B.Tech. : Electronics & Communication Engineering
3rd Year –V Semester

THEORY												
SN	Category	Course Code	Course Title	Contact hrs/week L	T	P	Marks Exm Hrs	IA	ETE	Total	Cr
1	ESC	5EC 3-01	Computer Architecture	2	0	0	2	20	80	**100**	**2**
2	PCC/ PEC	5EC 4-02	Electromagnetics Waves	3	0	0	3	30	120	**150**	**3**
3		5EC 4-03	Control system	3	0	0	3	30	120	**150**	**3**
4		5EC 4-04	Digital Signal Processing	3	0	0	3	30	120	**150**	**3**
5		5EC 4-05	Microwave Theory & Techniques	3	0	0	3	30	120	**150**	**3**
6		Professional Elective I (any one)		2	0	0	2	20	80	**100**	**2**
		5EC 5-11	Bio-Medical Electronics								
		5EC 5-12	Embedded Systems								
		5EC 5-13	Probability Theory & Stochastic Process								
		5EC 5-14	Satellite Communication								
		Sub Total		**16**	**0**	**0**		**160**	**640**	**800**	**16**
PRACTICAL & SESSIONAL											
7	PCC	5EC 4-21	RF Simulation Lab	0	0	3	2	45	30	**75**	**1.5**
8		5EC 4-22	Digital Signal Processing Lab	0	0	3	2	45	30	**75**	**1.5**
9		5EC 4-23	Microwave Lab	0	0	2	2	30	20	**50**	**1**
10	PSIT	5EC 7-30	Industrial Training	0	0	1		75	50	**125**	**2.5**
11	SODECA	5EC 8-00	Social Outreach, Discipline & Extra Curricular Activities	0	0	0			25	**25**	**0.5**
		Sub- Total		**0**	**0**	**9**		**195**	**155**	**350**	**7**
		TOTAL OF V SEMESTER		**16**	**0**	**9**		**355**	**795**	**1150**	**23**

L: Lecture, **T:** Tutorial, **P:** Practical, **Cr:** Credits

ETE: End Term Exam, **IA:** Internal Assessment

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Scheme & Syllabus

IV Year- VII & VIII Semester: B. Tech. (Electronics & Communication Engineering)

Teaching & Examination Scheme

B.Tech. : Electronics & Communication Engineering

4th Year - VII Semester

SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
THEORY											
1	PEC		Program Elective								
		7EC5-11	VLSI Design	3	0	0	3	30	120	**150**	**3**
		7EC5-12	Mixed Signal Design								
		7EC5-13	CMOS design								
2	OE		Open Elective-I	3	0	0	3	30	120	**150**	**3**
			Sub Total	**6**	**0**	**0**		**60**	**240**	**300**	**6**
PRACTICAL & SESSIONAL											
3	PCC	7EC4-21	VLSI Design Lab	0	0	4	2	60	40	**100**	**2**
4		7EC4-22	Advance communication lab (MATLAB Simulation)	0	0	2	2	30	20	**50**	**1**
5		7EC4-23	Optical Communication Lab	0	0	2	2	30	20	**50**	**1**
6	PSIT	7EC7-30	Industrial Training	1	0	0		75	50	**125**	**2.5**
7		7EC7-40	Seminar	2	0	0		60	40	**100**	**2**
8	SODECA	7EC8-00	Social Outreach, Discipline & Extra Curricular Activities					0	25	**25**	**0.5**
			Sub Total	**3**	**0**	**8**		**255**	**195**	**450**	**9**
			TOTAL of VII SEMESTER	**9**	**0**	**8**		**315**	**435**	**750**	**15**

***L:** Lecture, **T:** Tutorial, **P:** Practical, **Cr:** Credits*

***ETE:** End Term Exam, **IA:** Internal Assessment*

7 PCE Teaching Scheme

Poornima Group, Jaipur																			
Format for Teaching Scheme of Odd Semester 2023-24																			
Working Group	**Year**	**Sem**	**Students**	**Teaching Scheme**				**Course Name**	**Subject Code**	**No. of Sec**	**No. of Batches**	**Batch Size (T/H/F)**	**Total Load (L)**	**Total Load (T)**	**Total Load (P)**	**Total Load (L+T+P)**	**Teaching Dept.**	**Cat.**
				L	**T**	**P**	**Credit**											
ECE	2	3	24	3	1	0	4	Electronics Devices	3EC4-07	1	1		3	1	0	4	EC	PCC
ECE	2	3	24	3	1	0	4	Network Theory	3EC4-06	1	1		3	1	0	4	EC	PCC
ECE	2	3	24	3	1	0	3	Digital System Design	3EC4-04	1	1		3	1	0	4	EC	PCC
ECE	2	3	24	3	1	0	3	Signal & Systems	3EC4-05	1	1		3	1	0	4	EC	PCC
ECE	2	3	24	3	0	0	3	Advanced Engineering Mathematics-I	3EC2-01	1	1		3	0	0	3	MATH S	BSC
ECE	2	3	24	2	0	0	2	Managerial Economics and Financial Accounting	3EC1-03	1	1		2	0	0	2	Human ities	HSMC
ECE	2	3	24	0	0	2	1	Signal Processing Lab	3EC4-23	1	1		0	0	2	2	EC	PCC
ECE	2	3	24	0	0	2	1	Computer Programming Lab-I	3EC3-24	1	1		0	0	2	2	CS	ESC
ECE	2	3	24	0	0	2	1	Electronics Devices Lab	3EC4-21	1	1		0	0	2	2	EC	PCC
ECE	2	3	24	0	0	2	1	Digital System Design Lab	3EC4-22	1	1		0	0	2	2	EC	PCC
ECE	2	3	24	0	0	1		Industrial training/Project & Seminar	3EC4-30	1	1		0	0	1	1	EC	PCC
ECE	3	5	11	3	0	0	2	Bio-Medical Electronics /Sat. comm.	5EC 5-11/ 5ECE5-14	1	1		3	0	0	3	EC	PCC
ECE	3	5	11	3	0	0	2	Computer Architecture	5EC3-01	1	1		3	0	0	3	CS	ESC
ECE	3	5	11	4	1	0	3	Electromagnetic Waves	5EC4-02	1	1		4	1	0	5	EC	PCC
ECE	3	5	11	3	1	0	3	Control system	5EC4-03	1	1		3	1	0	4	EC	PCC
ECE	3	5	11	3	1	0	3	Digital Signal Processing	5EC4-04	1	1		3	1	0	4	EC	PCC
ECE	3	5	11	3	1	0	3	Microwave Theory & Techniques	5EC4-05	1	1		3	1	0	4	EC	PCC
ECE	3	5	11	0	0	2	1.5	RF Simulation Lab	5EC4-21	1	1		0	0	2	2	EC	PCC
ECE	3	5	11	0	0	2	1.5	Digital Signal Processing Lab	5EC4-22	1	1		0	0	2	2	EC	PCC
ECE	3	5	11	0	0	2	1	Microwave Lab	5EC4-23	1	1		0	0	2	2	EC	PCC
ECE	3	5	11	0	0	1	2.5	Industrial training/Project & Seminar	5EC7-30	1	1		0	0	1	1	EC	PSIT
ECE	4	7	69	3	0	0	3	VLSI Design/ CMOS design	7EC5-11/ 7EC5-13	2	3		6	0	0	6	EC	PEC
ECE	4	7	69	3	0	0	3	Principle of Electronic communication/ Micro and Smart System Technology	7EC6.1-14/ 7EC6.2-60	2	3		6	0	0	6	EC	OE
ECE	4	7	69	0	0	2	2	VLSI Design Lab	7EC4-21	1	3		0	0	6	6	EC	PCC
ECE	4	7	69	0	0	2	1	Advance communication lab (MATLAB Simulation)	7EC4-22	1	3		0	0	6	6	EC	PCC
ECE	4	7	69	0	0	2	1	Optical Communication Lab	7EC4-23	1	3		0	0	6	6	EC	PCC
ECE	4	7	69	1	0	0	2.5	Industrial Training	7EC7-30	1	3		1	0	0	1	EC	PSIT
ECE	4	7	69	0	0	2	2	Seminar	7EC7-40	1	3	H	0	0	4	4	EC	PSIT
ECE	4	7	69	0	0	5	NA	Project	7EC7-Project	1	3	T	0	0	15	15	EC	PSIT
ECE	4	7	69	0	0	0	0.5	Social Outreach, Discipline & Extra Curricular Activities	7EC8-00	1	3		0	0	0	0	SODE CA	SODE CA

7.1 Marking Scheme

MARKING SCHEME FOR PRACTICAL EXAM, ODD SEM., 2022-23,		EXAM & SECRECY CELL, PCE									
		I+II Mid Term Exam			Atten & Performance.			End Term Exam			Max.
Code	SUBJECT	Exp.	Viva	Total	Attn.	Perf.	Total	Exp.	Viva	Total	Marks
1FY2-20	Engineering Physics Lab	30	10	40	10	30	40	30	10	40	100
1FY2-21	Engineering Chemistry Lab	30	10	40	10	30	40	30	10	40	100
1FY1-22	Language Lab	30	10	40	10	30	40	30	10	40	100
1FY1-23	Human Values Activities & Sports	30	10	40	10	30	40	30	10	40	100
1FY3-24	Computer Programming Lab	30	10	40	10	30	40	30	10	40	100
1FY3-25	Manufacturing Practices Workshop	30	10	40	10	30	40	30	10	40	100
1FY3-26	Basic Electrical Engineering Lab	30	10	40	10	30	40	30	10	40	100
1FY3-27	Basic Civil Engineering Lab	30	10	40	10	30	40	30	10	40	100
1FY3-28	Computer Aided Engineering Graphics	30	10	40	10	30	40	30	10	40	100
1FY3-29	Computer Aided Machine Drawing	30	10	40	10	30	40	30	10	40	100
3CE4-21	Surveying Lab	30	10	40	10	30	40	30	10	40	100
3CE4-22	Fluid Mechanics Lab	30	10	40	10	30	40	30	10	40	100
3CE4-23	Computer Aided Civil Engineering Drawing	30	10	40	10	30	40	30	10	40	100
3CE4-24	Civil Engineering Maretials Lab	30	10	40	10	30	40	30	10	40	100
3CE4-25	Geology Lab	30	10	40	10	30	40	30	10	40	100
3CE7-30	Training Seminar			60					40		100
3CS4-21	Data Structures and Algorithms Lab	30	10	40	10	30	40	30	10	40	100
3CS4-22	Object Oriented Programming Lab	30	10	40	10	30	40	30	10	40	100
3CS4-23	Software Engineering Lab	30	10	40	10	30	40	30	10	40	100
3CS4-24	Digital Electronics Lab	30	10	40	10	30	40	30	10	40	100
3CS7-30	Training Seminar			60					40		100
3AID4-21	Data Structures and Algorithms Lab	30	10	40	10	30	40	30	10	40	100
3AID4-22	Object Oriented Programming Lab	30	10	40	10	30	40	30	10	40	100
3AID4-23	Software Engineering Lab	30	10	40	10	30	40	30	10	40	100
3AID4-24	Digital Electronics Lab	30	10	40	10	30	40	30	10	40	100
3AID7-30	Industrial Training			60					40		100
3CAI4-21	Data Structures and Algorithms Lab	30	10	40	10	30	40	30	10	40	100
3CAI4-22	Object Oriented Programming Lab	30	10	40	10	30	40	30	10	40	100
3CAI4-23	Software Engineering Lab	30	10	40	10	30	40	30	10	40	100
3CAI4-24	Digital Electronics Lab	30	10	40	10	30	40	30	10	40	100
3CAI7-30	Industrial Training			60					40		100
3CCB4-21	Data Structures and Algorithms Lab	30	10	40	10	30	40	30	10	40	100
3CCB4-22	Object Oriented Programming Lab	30	10	40	10	30	40	30	10	40	100
3CCB4-23	Software Engineering Lab	30	10	40	10	30	40	30	10	40	100
3CCB4-24	Digital Electronics Lab	30	10	40	10	30	40	30	10	40	100
3CCB7-30	Industrial Training			60					40		100
3EC4-21	Electronics Devices Lab	30	10	40	10	30	40	30	10	40	100
3EC4-22	Digital System Design Lab	30	10	40	10	30	40	30	10	40	100
3EC4-23	Signal Processing Lab	30	10	40	10	30	40	30	10	40	100
3EC3-24	Computer Programming Lab-I	30	10	40	10	30	40	30	10	40	100
3EC7-30	Training Seminar			60					40		100
3EE4-21	Analog Electronics Lab	30	10	40	10	30	40	30	10	40	100
3EE4-22	Electrical Machine-I Lab	30	10	40	10	30	40	30	10	40	100
3EE4-23	Electrical circuit design Lab	30	10	40	10	30	40	30	10	40	100
3EE7-30	Training Seminar			60					40		100
3IT4-21	Data Structures and Algorithms Lab	30	10	40	10	30	40	30	10	40	100
3IT4-22	Object Oriented Programming Lab	30	10	40	10	30	40	30	10	40	100
3IT4-23	Software Engineering Lab	30	10	40	10	30	40	30	10	40	100
3IT4-24	Digital Electronics Lab	30	10	40	10	30	40	30	10	40	100
3IT7-30	Training Seminar			60					40		100
3ME4-21	Machine drawing practice	30	10	40	10	30	40	30	10	40	100
3ME4-22	Materials Testing Lab	30	10	40	10	30	40	30	10	40	100
3ME4-23	Basic Mechanical Engineering Lab	30	10	40	10	30	40	30	10	40	100
3ME4-24	Programming using MAT LAB	30	10	40	10	30	40	30	10	40	100
3ME7-30	Training Seminar			60					40		100
5CE4-21	Concrete Structures Design	30	10	40	10	30	40	30	10	40	100
5CE4-22	Geotechnical Engineering Lab	30	10	40	10	30	40	30	10	40	100
5CE4-23	Water Resource Engineering Design	30	10	40	10	30	40	30	10	40	100
5CE7-30	Industrial Training			60					40		100
5CS4-21	Computer Graphics & Multimedia Lab	30	10	40	10	30	40	30	10	40	100
5CS4-22	Compiler Design Lab	30	10	40	10	30	40	30	10	40	100
5CS4-23	Analysis of Algorithms Lab	30	10	40	10	30	40	30	10	40	100
5CS4-24	Advance Java Lab	30	10	40	10	30	40	30	10	40	100
5CS7-30	Industrial Training			60					40		100
5EC4-21	RF Simulation Lab	30	10	40	10	30	40	30	10	40	100
5EC4-22	Digital Signal Processing Lab	30	10	40	10	30	40	30	10	40	100
5EC4-23	Microwave Lab	30	10	40	10	30	40	30	10	40	100
5EC7-30	Industrial Training			60					40		100
5EE4-21	Power System - I Lab	30	10	40	10	30	40	30	10	40	100
5EE4-22	Control System Lab	30	10	40	10	30	40	30	10	40	100
5EE4-23	Microprocessor Lab	30	10	40	10	30	40	30	10	40	100
5EE4-24	System Programming Lab	30	10	40	10	30	40	30	10	40	100
5EE7-30	Industrial Training			60					40		100
5IT4-21	Computer Graphics & Multimedia Lab	30	10	40	10	30	40	30	10	40	100
5IT4-22	Compiler Design Lab	30	10	40	10	30	40	30	10	40	100
5IT4-23	Analysis of Algorithms Lab	30	10	40	10	30	40	30	10	40	100
5IT4-24	Advanced Java Lab	30	10	40	10	30	40	30	10	40	100
5IT7-30	Industrial Training			60					40		100
5ME3-21	Mechatronic Lab	30	10	40	10	30	40	30	10	40	100
5ME4-22	Heat Transfer lab	30	10	40	10	30	40	30	10	40	100
5ME4-23	Production Engineering Lab	30	10	40	10	30	40	30	10	40	100
5ME4-24	Machine Design Practice I	30	10	40	10	30	40	30	10	40	100
5ME7-30	Industrial Training			60					40		100
7CE4-21	Road Material Testing Lab	15	5	20	5	15	20	15	5	20	50
7CE4-22	Professional Practices & Field Engineering	15	5	20	5	15	20	15	5	20	50
7CE4-23	Soft Skills Lab	15	5	20	5	15	20	15	5	20	50
7CE4-24	Environmental Monitoring and Design Lab	15	5	20	5	15	20	15	5	20	50
7CE7-30	Practical Training			75					50		125
7CE7-40	Seminar			60					40		100
7CS4-21	Internet of Things Lab	30	10	40	10	30	40	30	10	40	100
7CS4-22	Cyber Security Lab	30	10	40	10	30	40	30	10	40	100
7CS7-30	Industrial Training			75					50		125
7CS7-40	Seminar			60					40		100
7EC4-21	VLSI Design Lab	30	10	40	10	30	40	30	10	40	100
7EC4-22	Advance communication lab (MATLAB	15	5	20	5	15	20	15	5	20	50
7EC4-23	Optical Communication Lab	15	5	20	5	15	20	15	5	20	50
7EC7-30	Industrial Training			75					50		125
7EC7-40	Seminar			60					40		100
7EE4-21	Embedded Systems Lab	30	10	40	10	30	40	30	10	40	100
7EE4-22	Advance control system lab	30	10	40	10	30	40	30	10	40	100
7EE7-30	Industrial Training			75					50		125
7EE7-40	Seminar			60					40		100
7IT4-21	Big Data Analytics Lab	30	10	40	10	30	40	30	10	40	100
7IT4-22	Cyber Security Lab	30	10	40	10	30	40	30	10	40	100
7IT7-30	Industrial Training			75					50		125
7IT7-40	Seminar			60					40		100
7ME4-21	FEA Lab	22	8	30	8	22	30	22	8	30	75
7ME4-22	Thermal Engineering Lab II	22	8	30	8	22	30	22	8	30	75
7ME4-23	Quality Control Lab	15	5	20	5	15	20	15	5	20	50
7ME7-30	Industrial Training *			75					50		125
7ME7-40	Seminar *			60					40		100

8 Department Load Allocation

Poornima College of Engineering, Jaipur						
Department of Electronics & Communication Engineering						
ODD SEM Session 2023-2024						
S. No.	**Faculty Name**	**Load (Subject/Laboratory)**	**L**	**T**	**P**	**Total**
1	**Dr. Garima Mathur**	VLSI Design (7EC5-11)	3	0	0	3
		Sat. comm. (5ECE5-14)	3	0	0	3
		Project (7EC7-Project)	0	0	4	4
		RF Simulation Lab (5EC4-21)	0	0	2	2
					Total	12
2	**Dr. Nitesh Mudgal**	Digital System Design (3EC4-04)	3	1	0	4
		Digital Signal Processing (5EC4-04)	3	1	0	4
		Digital System Design Lab (3EC4-22)	0	0	2	2
		Advance comm. lab (MATLAB Simulation) (7EC4-22)	0	0	2	2
		Industrial training/Project (5EC7-30)	1	0	0	1
					Total	13
	Mr. Mukesh Chand	Signal & Systems (3EC4-05)	3	1	0	4
		Electromagnetics Waves (5EC4-02)	3	1	0	4
		Signal Processing Lab (3EC4-23)	0	0	2	2
		VLSI Design Lab (7EC4-21)	0	0	2	2
		Industrial training/Project (3EC4-30)	2	0	0	2
					Total	14
4	**Durgesh Kumar**	Network Theory (3EC4-06)	3	1	0	4
		Microwave Theory & Techniques (5EC4-05)	3	1	0	4
		Principle of Electronic communication (7EC6.1-14)	3	0	0	3
		Seminar (7EC7-40)	2	0	0	2
					Total	13
5	**Dr. Meetu Nag**	Control system (5EC4-03)	3	1	0	4
		Micro and Smart System Technology (7EC6.2-60)	3	0	0	3
		Optical Communication Lab (7EC4-23)	0	0	2	2
		Digital Signal Processing Lab (5EC4-22)	0	0	2	2
		Electronics Devices (3EC4-07)	3	1	0	4
					Total	15
6	**Dr. Shuchi Dave**	Advanced Engineering Mathematics-I (3EC2-01)	3	0	0	3
					Total	3

7	**Kalpna Sharma**	Managerial Economics and Financial Accounting (3EC1-03)	3	0	0	3
					Total	3
8	**Dr Veena Yadav**	Computer Architecture (5EC3-01)	3	0	0	3
		Computer Programming Lab-I	0	0	2	2
					Total	5
9	**Garima Mathur**	Electronics Devices Lab (3EC4-21)	0	0	2	2
					Total	2
10	**Rajveer Marwal**	Microwave Lab (5EC4-23)	0	0	2	2
					Total	2

9 Time Table

POORNIMA COLLEGE OF ENGINEERING
ORIENTATION TIME -TABLE FOR ODD SEM 2023-2024

Dept. Electronics & Communication			**Venue: 2303**				**Class: III**
DAY & DATE/ TIME	**8:30-9:30**	**9:30-10:30**	**10:30-11:30**	**11:30-12:20**	**12:20-01:20**	**01:20-2:20**	**2:20-3:20**
19.02.2024 MONDAY	**Dr. Nitesh Mudgal Tutor**	**Dr. Garima Mathur HOD**	**Dr.Shuchi Dave Skill Enhancement**	**LUNCH**	**Dr. Nitesh Mudgal GATE**	**Dr. Meetu Nag Sensenut Software**	**Mr.Durgesh Kumar Industrial Interaction**
20.02.2024 TUESDAY	**Durgesh Kumar NPTEL Guidelines**	**Dr. Meetu Nag (Placement Coordinator)**	**Durgesh Kumar MOOC Guidelines**		**Dr. Nitesh Mudgal Project Guidelines**	**Mr.Rajveer Marwal Add on Courses**	**Dr.Garima Mathur Paper Writing Skills and Literature Review**

Academic Time Table: - ODD SEM

POORNIMA COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS AND COMMUNICATION, 2023-24 II YEAR III SEM

Minha Escola

	1 8:00 - 9:00	2 9:00 - 10:00	3 10:00 - 11:00	LUNCH 11:00 - 11:50	4 11:50 - 12:50	5 12:50 - 1:50	6 1:50 - 2:50
Monday	S&S 2307 Chand Mukesh	DSD 2307 Mudgal Nitesh	ED 2307 Nag Meetu		SP Lab 1301 A	Chand Mukesh	NT 2307 Kumar Durgesh
Tuesday	AEM 2307 Dave Shuchi	NT 2307 Kumar Durgesh	MEFA 2307 Sharma Kalpana		DSD 2307 Mudgal Nitesh	ED Lab 2308 A	Mathur Garima
Wednesday	AEM 2307 Dave Shuchi	NT 2307 Kumar Durgesh	S&S 2307 Chand Mukesh		CP Lab Yadav Veena		MEFA 2307 Sharma Kalpana
Thursday	S&S 2307 Chand Mukesh	AEM 2307 Dave Shuchi	ED 2307 Nag Meetu		ITS/NSP 2309 Chand Mukesh	DSD 2307 Mudgal Nitesh	ED 2307 Nag Meetu
Friday	MEFA 2307 Sharma Kalpana	DSD 2307 Mudgal Nitesh	AEM 2307 Dave Shuchi		NT Kumar Durgesh	ED 2307 Nag Meetu	S&S 2307 Chand Mukesh
Saturday							

9.1 Academic Time Table

POORNIMA COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS AND COMMUNICATION, III YEAR V SEM

Minha Escola

	1 8:00 - 9:00	2 9:00 - 10:00	3 10:00 - 11:00	LUNCH 11:00 - 11:50	4 11:50 - 12:50	5 12:50 - 1:50	6 1:50 - 2:50
Monday	DSP 2303 Mudgal Nitesh	CA 2303 Yadav Veena	MT&T 2303 Kumar Durgesh		Microwave Lab 2309 F Marwal Rajveer		CS 2303 Nag Meetu
Tuesday	EW 2303 Chand Mukesh	DSD Lab 2308 Mudgal Nitesh			SC 2303 Mathur Dr.Garima	DSP 2303 Mudgal Nitesh	CS 2303 Nag Meetu
Wednesday	SC 2303 Mathur Dr.Garima	EW 2303 Chand Mukesh	DSP 2303 Mudgal Nitesh		MT&T 2303 Kumar Durgesh	DSP Lab 1301 A Nag Meetu	
Thursday	CS 2303 Nag Meetu	DSP 2303 Mudgal Nitesh	EW 2303 Chand Mukesh		RF Simulation Lab 1301 A Mathur Dr.Garima		MT&T 2303 Kumar Durgesh
Friday	CA 2303 Yadav Veena	SC 2303 Mathur Dr.Garima	EW 2303 Chand Mukesh		ITS/NSP 2307 Mudgal Nitesh	CA 2303 Yadav Veena	MT&T 2303 Kumar Durgesh
Saturday							

POORNIMA COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS AND COMMUNICATION, IV YEAR VII SEM

Minha Escola

	1 8:00 - 9:00	2 9:00 - 10:00	3 10:00 - 11:00	LUNCH 11:00 - 11:50	4 11:50 - 12:50	5 12:50 - 1:50	6 1:50 - 2:50
Monday	PEC Group 1 2304 Kumar Durgesh MSST Group 2 Nag Meetu	VLSI Design 2304 Mathur Dr.Garima	ITS/ PROJECT 2309 Mathur Dr.Garima		ITS/ PROJECT 2309 Mathur Dr.Garima	AC LAB Mudgal Nitesh	
Tuesday	PEC Group 1 2304 Kumar Durgesh MSST Group 2 Nag Meetu	VLSI Design 2304 Mathur Dr.Garima	VLSI Design Lab 1301 A Chand Mukesh		VLSI Design Lab 1301 A Chand Mukesh	Seminar 2309 Kumar Durgesh	
Wednesday	PEC Group 1 2304 Kumar Durgesh MSST Group 2 Nag Meetu	VLSI Design 2304 Mathur Dr.Garima	OC LAB 2309 G Nag Meetu		OC LAB 2309 G Nag Meetu	ITS/ PROJECT 2309 Mathur Dr.Garima	
Thursday							
Friday							
Saturday							

10 Course Outcome Attainment Process:

10.1 Course Outcome Attainment Process

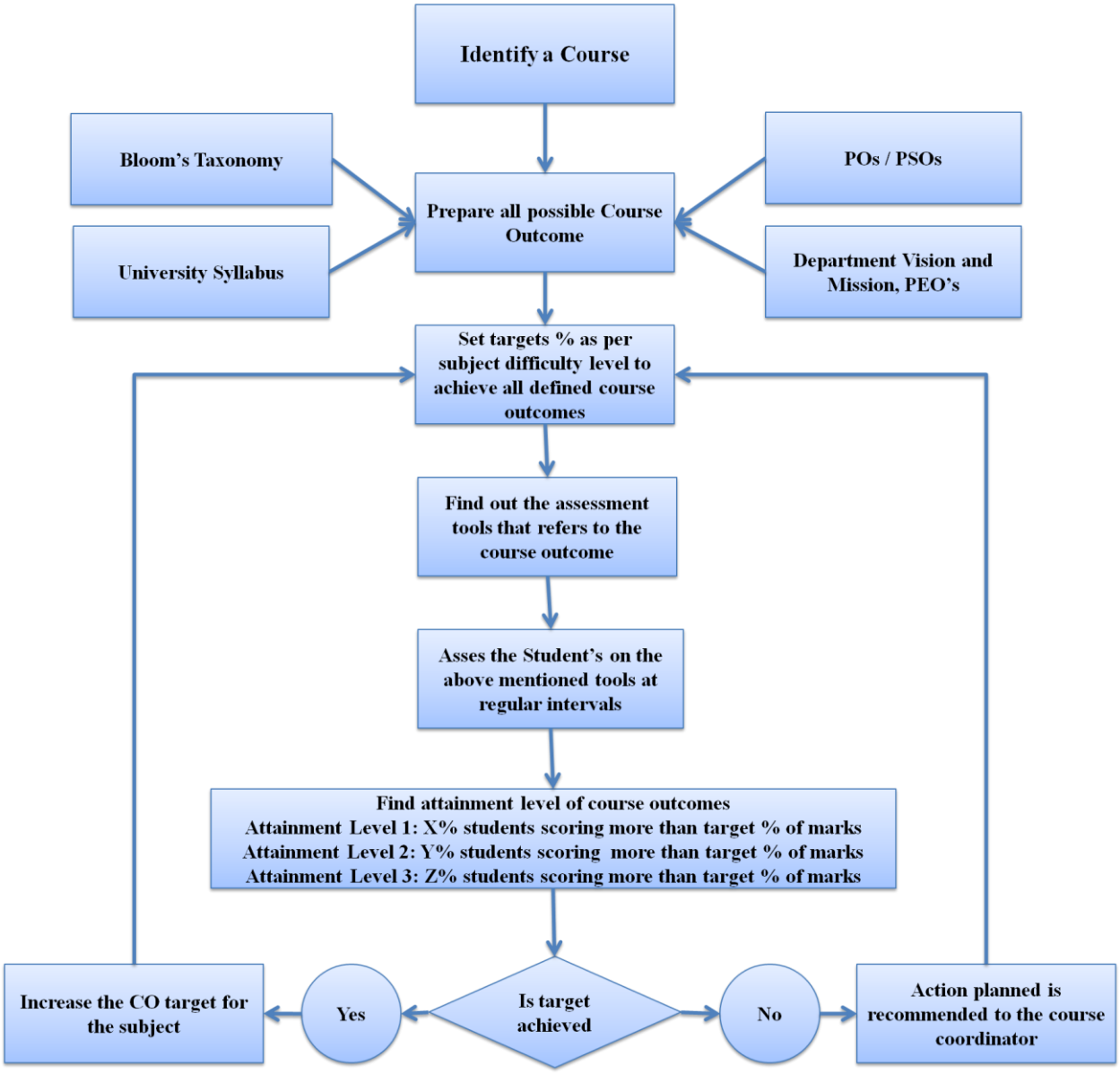


Figure. Course Outcome Attainment Process

10.2 List of CO & CO mapping with PO

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.Tech. (Electronics and Communciation Engineering)

Session 2020-21

MAPPING OF COURSE OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC OUTCOMES

Course Code	Course Name	CO No	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO2	PSO 3
3EC2-01	Advanced Engineering Mathematics-I	CO1	Explain the Laplace transform, Fourier transform ,Z transform ,Numerical methods to find unknown values with help of known values , Roots finding techniques, solution of differential equations like ordinary differential equation, Partial differential equation & simultaneous differential equation.	3	3	2	2	3							3	3	2	2
		CO2	Apply the appropriate technology, and Compare the viability of different approaches to the numerical solution of problems.	3	3	2	2	3							3	3	2	2
		CO3	Analyze the Fundamentals of the Fourier, Laplace, and Z-Transforms. These systems can be carried out in terms of either a time domain or a	3	3	2	2	2							3	3	2	2

			transform domain formulation.															
		CO4	Design of electrical circuits such as filters and networks, and is ideally suited for the analysis of transient response phenomena Similarly the z-transform is an indispensable tool for the design and analysis of digital filters, especially infinite impulse response (IIR) filters, Spatial filter, Adaptive filter, Inverse and Wiener filter for specific application.	3	3	2	2	2							3	3	2	1
				3	3	2	2	2.5							3	3	2	1.75
3EC1-03	Managerial Economics and Financial Accounting	CO1	CO1 – Discuss the concepts of economics like demand, supply, market structure and financial management like balance sheet						1				3	3	3	3		3
		CO2	Apply the economic functions and theories like: demand & supply functions, production & cost functions & pricing theories				2		1			2		3	2			2
		CO3	Analyze the relationship between economic variables using the concept of		3	2	3							3	2			2

			elasticity, cash flow analysis, fund flow analysis and ratio analysis														
		CO4	Evaluate the real life problems of business organizations using capital budgeting techniques		3		3		3	2		2		3	2			2
					3	2	2.667		1.667	2		2	3	3	2.25	3		2.25
3EC4-04	Digital System Design	CO1	Understand and explain basics of number system, Boolean Algebra combinational, sequential circuits, semiconductor memories and VLSI design flow.	3	2	1	2		1						2	3	-	-
		CO2	Apply logic formulation and optimization of combinational and Sequential circuits	2	3	2	3									2	-	-
		CO3	Design and trade-offs in various digital electronic families with a view towards reduced power consumption and miniaturizations	3	2	2	1	1								3	-	-
		CO4	Analysis of synchronous and asynchronous sequential circuits and Develop design capability in synchronous and asynchronous	2	2	3	2	1							1	3	1	-

			sequential circuits using VHDL														
		CO5		2.5	2.25	2	2	1	1						1.5	2.75	1	
3EC4-05	Signal & System	CO1	Describe the mathematical representation and classifications of signals, LSI system, sampling theorem, MIMO System and their properties.	3	2	2	3	1		-	2	-		-	2	3		
		CO2	Apply convolution for finding response of LTI systems that is used in performance analysis of Analog and Digital Communication Systems.	3	1	-	2	3	-		-	-	-		3	2	3	
		CO3	Analyze the signals and system using different transform domain techniques like CTFT, DTFT, Laplace and Z Transforms.	3	2	2	3		-	-	-	-		-	2	3	2	2
		CO4	Investigate whether the system is stable, Linear, causal ,Time Invariant etc.	3	2	2	3	-		-	-	-	-	-	2	3		
		CO5	Design and implement zero order hold and first order hold interpolator	3	2	3	3	1			-	-	-	2	3	1	3	2
				3	1.75	2.33333	2.75	2						2	2.5	2.25	2.66667	2
3EC4-06	Network Theory	CO1	Describe and explain various concept of mesh & node analysis, network	3	3				2						2	3	2	3

			theorems, frequency domain, time domain, Electric network, Fourier series, transform, port network & filters analysis.															
		CO2	Apply the knowledge of mesh & node analysis, network theorems, frequency domain, time domain, Electric network, port network & Transient behavior analysis.	3	3	3								2	3	3	3
		CO3	Compare operation of electric network with reference to parameters & frequency domain, time domain Analysis.	3	3				3						3		2
		CO4	Evaluate the different parameters of the A.C. & D.C. networks.	3	3		3	3	2						3		
				3	3	3	3	3	2.333					2	3	2.5	2.667
3EC4-07	Electronics Devices	CO1	Understand and explain the basic parameters of Semiconductor materials, Compound Semiconductors, Thermistors, P-N diode, Zener diode, Schottky diode, Bipolar Junction Transistor, MOSFET, LED, photodiode,	2	1	1	1						1	2		3	1	2

			solar cell and CMOS fabrication.															
		CO2	Apply different technical methods to obtain the parameters like current, voltage, power, energy in different-different semiconductor devices and established their relation	3	2	2			2							3		
		CO3	Analyze and identify the changes in the parameters like (current, voltage, power, energy, power dissipation, time and temperature).	2	3	1								2			3	
		CO4	Construct the V-I characteristic of semiconductor devices with and without variation of temperature and Design the CMOS by using different fabrication steps like (oxidation, Deposition, Etching, Diffusion and Metallization).	2	1	3	2		2						2		3	
			-	2.25	1.75	1.75	1.5		2				1	2	2	3	2.33333	2
3EC4-21	Electronics Devices Lab	LO1	Understand the semiconductor devices and component like diode, BJT, JFET and MOSFET.	3												3		
		LO2	Explain the working principle of the semiconductor s devices.	3												3		

		LO3	Design and analysis different-different component related to the practical on the bread board.	3	3								3	2	2		2
		LO4	Evaluate the result and justify it by comparison to the ideal result.	3		3	3						3	2	2	2	2
				3	3	3	3						3	2	2.5	2	2
3EC4-22	Digital System Design Lab	LO1	Design, test and evaluate various combinational circuits such as adders, subtractors, comparators, multiplexers and demultiplexers.	2		2		3							2	2	
		LO2	Design and develop sequential circuits.		3	3		3							2	3	
		LO3	Demonstrate the truth table of various expressions using logic gates.		3											3	
		LO4	Identify the various digital ICs and understand their operation.	2	3			3								3	2
		LO5	Analyze, design and implement Flip-Flop.		3	3	3	3								3	
				2	3	3	3	3							2	3	2
3EC4-23	Signal Processing Lab	LO1	Understand the basics features of MATLAB, fundamentals of signals and their different operations	3		1	-	3	-	-	-		-	-	2	2	3	
		LO2	Generate random signals and different continuous and discrete time signals	2	1	1	-	2	-	-	-		-	-		2	2	

		LO3	Develop simple algorithms for signal processing and test them using MATLAB.	2	2	3	1	3	-	-	-		-	-	3		3	2
		LO4	Verify random sequences with arbitrary distributions, mean and variance	2	1	1		2	-	-	-		-	-		2	3	
		LO5	Design and conduct experiments interpret and analyze data and report results	2	1	2	2	3	-	-	-		-	-	2	2	3	2
				2	1.25	1.75	1.5	2.5							2.5	2	2.75	2
3EC4-24	Computer Programming Lab-I	LO1	Understand the importance of structure and abstract data type, and their basic usability in different applications	2	3	2	-	-	-	-	-	-	-	-	-			
		LO2	Analyze and differentiate different algorithms based on their time complexity.	-	3	_	-	-	-	-	-	-	-	-	-			
		LO3	Implement linear and non-linear data structures using linked lists.	2	2	3	-	-	-	-	-	-	-	-	-			
		LO4	Understand and apply various data structure such as stacks, queues, trees, graphs, etc. to solve various computing problems.	1	2	1	-	-	-	-	-	-	-	-	-			
		LO5	Implement various kinds of searching and sorting techniques, and decide when to choose which technique.	1	2	2	-	-	-	-	-	-	-	-	-			

				1.33	2.25	2												
3EC7-30	Industrial Training	LO1	Participate in the projects in industries during his or her industrial training.	3	1	1	3		3	2	3	3	3	3	3	2	1	2
		LO2	Interact with industrial personnel and follow engineering practices and discipline prescribed in industry.				2		3	3	2		3		3	1		2
		LO3	Develop awareness about general workplace behavior and build interpersonal and team skills.				3	2			3		3		2		1	1
		LO4	Prepare professional work reports and presentations.				3	2			3		3		3		1	1
				3	1	1	2.75	2	3	2.5	2.75	3	3	3	2.75	1.5	1	1.5
5EC3-01	Computer Architecture	CO1	Understand the principles of computer organization and the basic architecture concepts of processor organization, memory organization and input-output system.		3										3			
		CO2	Discuss the basic structure of a digital computer how to add and multiply integers and floating-point numbers using two's complement and IEEE floating point	1	2							2						

			representation, I/O System organization														
		CO3	Evaluate the computer arithmetic operations on fixed and floating point numbers using different algorithms like restoring method, micro programmed control unit and DMA controller.	2				2						3			
		CO4	Design basic and intermediate RISC pipelines, including the instruction set, functional units and components of computers.	3	3	3								2			
				2	2.6667	3		2				2		2.6667			
5EC4-02	Electromagnetic Wave	CO1	Explain basic concepts of transmission line, electromagnetic fields, waveguides and radiation parameter.	3											3	2	3
		CO2	Solve specific problems related to transmission line , Maxwell's equation, uniform plane waves for different media interface	3	3										3		3
		CO3	Analyze parameter of transmission line and time varying electromagnetic wave propagation in different media	2	3	3									3	3	

		CO4	Evaluate the nature of electromagnetic wave propagation in guided medium for specific applications			3	2									3		
				2.666	3	3	2								3	2.66	3	
5EC4-03	Control System	CO1	Describe basic concept of control system with & without feedback, time & frequency response analysis, state variable analysis, optimal control & nonlinear control systems.	3											3	2	3	
		CO2	Solve problems on feedback control system, time response, frequency response & state variable analysis & stability analysis using Routh-stability criterion, root locus, polar plot, bode plot, Nyquist plots, state model, etc.	3	3										3		3	
		CO3	Analyze the behavior of different types of control systems through performance in time domain, frequency domain & through state space analysis.	2	3	3	3								3	3		
		CO4	Design appropriate compensator for a typical control application			3	3	3								3		

			using time & frequency response.														
				2.666	3	3	3	3							3	2.666	3
5EC4-04	Digital Signal Processing	CO1	To define the concept of sampling and it's. Reconstruction .[Remember]	3													
		CO2	Describe Z-Transform, DFT and FFT algorithm. [Understanding]	2													
		CO3	Apply Z-Transform, DFT and FFT algorithm to analyze LSI system.[Apply and Analyze]		3		1										
		CO4	Design IIR and FIR filter using different method for various D.S.P. applications. [Design]			3	2										
				2.5	3	3	1.5										
5EC4-05	Microwave Theory & Techniques	CO1	Understanding the basic concepts and principles of microwave engineering.	3											3		3
		CO2	Apply the knowledge of EM wave's transmission to implements the active and passive microwave network and also determine microwave parameters.		2										3	3	3
		CO3	Analyze an impedance tuning network for efficient transmission of satellite and RADAR communication .		3	2	2								3	3	

		CO4	Design microwave active and passive component to create a typical communication system to evaluate the effect on human body.			3	3	2	2	2						3		
				3	2.5	2.5	2.5	2	2	2						3	3	3
5EC5-12	Satellite Communication	CO1	Understand the architecture of satellite systems as a means of high speed, high communication range system.	3	2		2								2	3		
		CO2	Explain various aspects related to satellite systems such as orbital equations, sub-systems in a satellite, link budget, modulation and multiple access	2	3	2	3									2		
		CO3	Analyze the multiple access schemes used in satellite communication.	3	2	2										3		
		CO4	Calculate numerical problems related to orbital motion and design of link budget for the given parameters and conditions	2	2	3	2								1	3	1	
		CO5		2.5	2.25	2.33	2.33								1.5	2.75	1	
5EC4-21	RF Simulation Lab	LO1	Describe basic microwave network theory and the use of scattering matrix.	2												2	2	
		LO2	Apply the application of microwave		3				3							2	3	

			components in the design of useful systems such as radars, receivers, etc.															
		LO3	Demonstrate broad knowledge about RF basic concepts, RF amplifier and RF filter.		3	3	3	3									3	2
		LO4	Designing of RF amplifier using microwave BJT and microwave FET		3	3	3	3									3	
		LO5	Design and fabricate microwave component or device using micro strip technology		3	3	3	3									3	
					3	3	3	3	3							2	3	2
5EC4-22	Digital Signal Processing Lab	LO1	Classify signals and apply different operations on signals	3												3		
		LO2	Analyze various properties of digital systems		2											3		
		LO3	Design Simulink model and GUI for analog and digital modulation techniques			2		3								3	3	2
		LO4	Develop various DSP Algorithms using MATLAB Software package for different transformation			3	2	3								3	0	2
		LO5	Design, analyze, and implement Analog & Digital filters using MATLAB programming			3	2	3								3	3	2

					2	2.66	2	3								3	2	2
5EC4-23	Microwave Lab	LO1	Describe the basic concept of microwave components mechanism used in wire line communication.	3												3		2
		LO2	Explain the different mode of microwave transmission used in different application as mobile, satellite.	2												3	2	
		LO3	Analyze the behavior of different type of microwave parameter based on its fundamental characteristics.		3	3	2									3	2	
		LO4	Evaluate & Design real time application based microwave waveguide for used in communication.		2	3	3	3	2								3	
				2.5	2.5	3	2.5	3	2							3	2.33	2
5EC7-30	Industrial Training	LO1	Participate in the projects in industries during his or her industrial training.	3	1	1	3		3	2	3	3	3	3	3	2	1	2
		LO2	Interact with industrial personnel and follow engineering practices and discipline prescribed in industry.				2		3	3	2		3		3	1		2
		LO3	Develop awareness about general workplace				3	2			3		3		2		1	1

			behavior and build interpersonal and team skills.															
		LO4	Prepare professional work reports and presentations.				3	2			3		3		3		1	1
				3	1	1	2.75	2	3	2.5	2.75	3	3	3	2.75	1.5	1	1.5
7EC5-11	VLSI Design	CO1	Understand and explain different digital components like MOSFET, NMOS inverter, PMOS inverter, CMOS, CMOS inverter, logic Gates Clocked CMOS (C2MOS) logic, DOMINO logic, NORA logic, NP(ZIPPER) logic, PE(pre-charge and Evaluation) Logic. Basic Memory circuits, SRAM and DRAM	3												3		
		CO2	Apply different technical methods to obtain the parameters of MOSFET(like channel length modulation, higher order effects, model parameter, drain –source current relationship and body effect), CMOS(like inverter parameter, pull	3	3	3										3	3	

			up and pull down ratio, and noise margin)															
		CO3	Analyze and identify the problems in MOS and CMOS devices (like estimate of gate delay, transistor sizing, power dissipation, over pressure and temperature).	2	3	3	3								3	3		
		CO4	Create the VHDL code for combinational and sequential components		3	3										3	3	
		CO5	Design the layouts and stick diagram of MOSFET, CMOS inverter and any Boolean expression and different fabrication methods of NMOS and CMOS.												3	-		
				2.5	3	3	3								3	3	3	
7EC5-13	CMOS design	CO1	Describe the fabrication process and properties of MOS devices.	3	2	2	-	-	-	-	-	-	-	-	2	3	2	
		CO2	Comprehend the need of hardware description language and its features.	2	3	3	2	1	-	-	-	-	-	-		2	3	
		CO3	Analyze the impact of scaling on MOS circuits.	2	2	3	1		-	-	-	-	-	-	3	1	3	1
		CO4	Design combinational and sequential circuits using VHDL.	2	3		2	3		-	-	-	-	-		1	2	3
		CO5		2.25	2.5	2.66	1.667	2							2.5	1.75	2.5	2

7EC7-21	VLSI Design Lab	CO1	Understand the physical design process of Digital Integrated Circuits	2	3											3	2	
		CO2	Describe procedure for designing of programmable circuits.	2	3											3	3	
		CO3	Demonstrate the ability to use various EDA tools for digital system design		3	3	3										3	
		CO4	Implement various combinational and sequential circuits using VHDL on FPGA		3	3			3								3	
		CO5	Implement schematic and layout of various digital CMOS logic circuits using EDA tools															
				2	3	3	3		3							3	3	
7EC4-22	Advance communication lab	CO1	Design and demonstrate the digital modulation techniques	3												3		2
		CO2	Demonstrate and measure the wave propagation in microstrip antennas		2	2										3		
		CO3	Characteristics of microstrip devices and measurement of its parameters.	3		2	2									3	2	2
		CO4	Model an optical communication system and study its characteristics.			2	2									3		2
		CO5	Simulate the digital		2	2										3		

			communication concepts and compute and display various parameters along with plots/figures.															
				3	2	2	2									3	2	2
7EC4-23	Optical Communication Lab	CO1	Describe the principles of optical sources and power launching-coupling methods.	3	3	2	2	-	--	-	-	-	-	-	-	3	2	2
		CO2	Compare the characteristics of fiber optic receivers	3	3	3	2	3								3		
		CO3	Design a fiber optic link based on budgets	3		3	3	3								3		
		CO4	Demonstrate an understanding of optical fiber communication link, structure, propagation and transmission properties of an optical fiber.	3		3	3	3								3	3	
		CO5		3	3	2.75	2.5	3								3	2.5	2
7EC7-30	Industrial Training	LO1	Monitor and understand industry processes.	3	1	1	3		3	2	3	3	3	3	3	2	1	2
		LO2	Demonstrate various industrial equipment.				2		3	3	2		3		3	1		2
		LO3	Develop his/her report writing skill.				3	2			3		3		2		1	1
		LO4	Enhance their communication skills and confidence level through presentation.				3	2			3		3		3		1	1
		LO5		3	1	1	2.75	2	3	2.5	2.75	3	3	3	2.75	1.5	1	1.5
7EC7-40	Practical Training Seminar	LO1	identify engineering professional	3	1	2	3		3	3	3	3		3	3	2	1	2

			real time industrial or societal problem to select his/her seminar topic															
		LO2	Investigate various reported solution of engineering problems throughout the corner of society.	3	3	2	3	3				3		3	2	2	3	2
		LO3	argue and judge his/her findings in the selected area				2	3			3	3	3	3	3		2	2
		LO4	prepare a good professional document with his concluding remarks					3			3		3	3	3		2	2
		LO5	Enhance their communication skills and confidence level through presentation.															
				3	3	2	2.5	3			3	3	3	3	2.66667	2	2.33333	2
7EE6-60.1	Electrical Machines and Drives	CO1	Understand the constructional details and principle of operation of rotating electrical machines	3	-	-	3	3	-	-	-	-	-	3	-	-	-	-
		CO2	Acquire knowledge about the working principle and various aspects of electric drives.	3	-	-	2	3	-	-	-	-	-	2	-	-	-	-
		CO3	To study and analyze the various control techniques for speed control on various electric drives.	2	-	-	3	3	-	-	-	-	-	3	-	-	-	-
		CO4	Develop design knowledge on how to design the speed	3	-	-	3	2	-	-	-	-	-	3	-	-	-	-

			control and current control loops of an electric drive															
				1.50	1.75	1.00	-	1.00	1.00	1.50	-	-	-	-	1.50	-	1.00	-
7EE6-60.2	Power Generation Sources	CO1	Classify and describe various renewable energy sources.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		CO2	Predict possible renewable energy sources.	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
		CO3	Illustrate the renewable energy sources.	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-
		CO4	re-organize energy sources	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-
		CO5	Prioritize all other renewable energy sources as needed by societal application.	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-
				1.50	1.75	1.33	1.00	1.50	1.00	-	-	-	-	-	-	-	1.00	-
7CE6-60.1	Environmental Impact Analysis (EIA)	CO1	Define terms used in Environmental impact assessment, quality standards for environmental Components	2	1	-	-	-	-	1	-	-	-	-	1	-	-	-
		CO2	Understand the concepts about EIA i.e.; ecological imbalance, effects of pollution, importance of stakeholders in the EIA process	2	1	-	-	-	-	1	-	-	-	-	1	-	-	-
		CO3	Organize an environmental impact assessment for a proposed project/activity	1	2	1	-	1	1	2	-	-	-	-	2	-	1	-
		CO4	Analyze different methodologies and impacts related to EIA	1	3	1	-	1	1	2	-	-	-	-	2	-	1	-

				-	3.00	3.00	3.00	-	-	-	-	-	-	-	-	2.00	1.00	-
7CE6-60.2	Disaster Management (DM)	CO1	Understand concept of disasters, risks, hazards, capacity building, coping with disaster and disaster management act and policy in India	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		CO2	Explain concept of disasters, risks, hazards, capacity building, coping with disaster and disaster management act and policy in India	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
		CO3	Classify disasters, risks, hazards, management techniques	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-
		CO4	Apply the concept of capacity building, coping with disaster and disaster management act and policy in India	1	2	1	-	1	1	-	-	-	-	-	-	-	1	-
		CO5	Investigate natural and manmade disasters	-	2	2	1	2	1	-	-	-	-	-	-	-	1	-
				-	2.00	-	-	3.00	2.00	-	2.00	-	-	-	-	1.00	-	-
7CS6-60.1	Quality Management / ISO 9000 (Open Elective-1)	CO1	Understand the importance of quality management and the ways individuals can affect quality.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
		CO2	Analyze the components of a quality management system and the role of the quality	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-

			management system.															
		CO3	Apply quality management to improve computer based systems.	-	-	-	3	-	-	-	-	-	-	-	-	-	1	-
		CO4	Design Various components of quality system to avoid failures and rectification.	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7CS6-60.2	Cyber Security (Open Elective-1)	CO1	Develop The Understanding Of Cybercrime and legal Perspectives of Security Implications for Organizations in respect to the Mobile and Wireless Devices.	-	-	-	-	-	2	-	-	-	-	-	-	1	-	-
		CO2	Analyze different cyber offences & attacks and Determine How a Criminals plan the cyber Attacks.	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-
		CO3	Understanding the cyber security solutions and use of cyber security Tools in Cybercrime.	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
		CO4	Evaluate and communicate the Management Perspective human role in security systems with an Organizational, emphasis on ethics, social engineering vulnerabilities and training.	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-

				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7ME6-60.1	Finite Element Analysis	7ME6-60.1.1	Apply FEM mathematical models to solve complex engineering problems.	3	-	-	-	-	-	-	-	-	-	-	-			
		7ME6-60.1.2	Analyze 1D and 2D problems of Mechanical and Allied engineering	-	3	-	-	-	-	-	-	-	-	-	-			
		7ME6-60.1.3	Evaluate suitable mathematical model to solve realistic problems of industry	-	-		-	-	-	-	-	-	-	-	-	3	-	-
		7ME6-60.1.4	Create solutions for Higher order complex engineering problems	-	-	-	3	-	-	-	-	-	-	-	-	3	3	-
				3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	-	3	2	-
7ME6-60.2	Quality Management	7ME6-60.2.1	Describe the basic concept of Quality Management	1	-	-	-	-	-	-	-	-	-	-	-	3	-	-
		7ME6-60.2.2	Explain a system, component, and process to meet desired needs within limits using modeling process quality and learn the concept of control charts	2	-	-	-	-	-	-	-	-	-	-	-	3	2.5	
		7ME6-60.2.3	Illustrate the concept of Quality Assurance, Acceptance sampling and study quality systems like ISO9000, ISO 14000 and Six Sigma	3	-	-	-	-	-	-	-	-	-	-	-	3		
		7ME6-60.2.4	Identify engineering problems, concept of reliability and	-	2	-	-	-	-	-	-	-	-	-	-	3	3	

			Taguchi Method of Design of experiments																
				2.00	2.00	-	-	-	-	-	-	-	-	-	-	3		3

11 Course File Sample

Outcome Based Process Implementation Guidelines for Faculty

11.1 Labeling your course file

- Name of faculty:
- Class- SEM:
- Branch:
- Course Code:
- Course Name:
- Session:

11.2 List of Documents:

1. Vision & Mission Statements of the Institute
2. Vision &Mission Statements of the Department
3. List of PEO, PSO and PO of department
4. Personal Time Table
5. RTU Syllabus
6. Document as per point no. 1-4 in guidelines
7. Course Plan
8. Document as per point no 6-12 in guidelines
9. Document for CO AssessmentStage1: As per point no13, up to 13.2.5
10. Document for CO Assessment Stage2: As per point no13, upto13.2.5, with comparison to previous
11. Document for CO Assessment Stage3: As per point no13, upto13.2.5, with comparison to previous
12. Document for CO Attainment through RTU Component: Previous RTU Result: point no. 13.3 upto13.3.2
13. Document for PO attainment through RTU Component: Previous RTU Result: point no. 13.4 upto13.4.2
14. Document for Overall Attainment of PO through CO: As per point no13.5
15. Document for last years (Repeat process from6-14 above): Comparative data should be included in course file
16. Lecture Notes
17. Copy of Assignments questions given from time to time
18. Copy of Tutorial Sheets given (if applicable)
19. RTU Question Papers with answer
20. Internal Assessment Question Papers with answer from time to time
21. Topics covered beyond syllabus-References
22. Details of any other activity and its assessment through rubric be included
23. Mapping department level/focus activities with your COs

12 Outcome Based Process Implementation Guidelines for Faculty

Course CO-PO, Preparation, Assessment Formats

Academic Session: 2023-2024 Class: Semester:

Name of the Faculty:

Subject: Subject Code:

This document is meant as guidelines for implementing Outcome based education system as per to NBA process.

1. Vision & Mission of Department: Statement and Mapping with Institute

Mission Here you have to include department mission& vision statements and show mapping of keywords with institute mission.

2. Program Educational Objectives (PEOs): Statement and Mapping with Department Vision &Mission
   Here you have to include department PEO statements and show mapping of keywords with department vision &mission.
3. Program Specific Outcome (PSOs): Statement and Mapping with Department Vision & Mission
   Here you have to include department PSO statements and show mapping of keywords with department vision & mission.
4. Program Outcome (POs): Statement and Mapping with PEO and PSO
   Here you have to include PO statements and show mapping of keywords with department PEOs &PSOs.
5. Course Plan (Deployment):

(Please write how you intend to cover the contents: i.e., coverage of Units by lectures, guest lectures, design exercises, solving numerical problems, demonstration of models, model preparation, or by assignments, etc.), for example

Coverage of Units by lectures
Design exercises
Demonstration of models
By assignments

ExampleT1: Principles of Machine, By P.S.Bhimra, Khanna Publication, Edition 2019

6. Course Outcomes: Look for strong mapping of course with specific PO (2-3). Define Generic Course Outcomes (max.) using Blooms Taxonomy. (In case of Lab Course define generic Lab Outcomes LO and refer CO as LO in this document).

7. CO-PO-PSO Mapping: Mapping Levels: 1- Low, 2- Moderate, 3-Strong
   First try to find out 2-3 PO the strongly related to your subject contents. Go through the contents and try to formulate 4-5 Course Outcome as per bloom taxonomy. Map each CO with PO and PSO as above. While mapping please rethink if you map any PO with 3, it means you are planning to deliver the contents of that level and you will also examine the students at that level.

CO	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1															
CO2															
CO3															
CO4															
CO5															

7.1 PO Strongly Mapped: (Example):
O PO2: Write full statement with keywords highlighted o PO3: Write full statement with keywords highlighted o PO4: Write full statement with keywords highlighted

7.2 PO Moderately Mapped: (Example)
O PO1: Write full statement with keywords highlighted
O PO11: Write full statement with keywords highlighted
7.3 PO Low Mapped: (Example)
O PO12: Write full statement with keywords highlighted

7.4 PSO Strongly Mapped: (Example)
O PSO 1: Write full statement with keywords highlighted

7.5 P S O Moderately Mapped: (Example)
O PSO 2: Write full statement with keywords highlighted

6.6 PSO Low Mapped: (Example)
O PSO 3: Write full statement with keywords highlighted

8. Rules for CO/LO Attainment Levels: (Targets)

All the courses of your department should be divided into the ECE categories A-Most Difficult course, B-Medium level of Difficulty, C- Low level of Difficulty – (Easy)
According to difficulty level, you can decide specific range for CO attainment targets for Continuous assessment from the following table.
Remember that targets for internal assessment should be higher.

Course Category	Level 3	Level 2	Level 1
A	60 % of students getting > 60% marks	50-60 % of students getting > 60% marks	40-50 % of students getting > 60% marks
B	80 % of students getting > 60% marks	60-80 % of students getting > 60% marks	40-60 % of students getting > 60% marks
C	90 % of students getting > 60% marks	70-90 % of students getting > 60% marks	40-70 % of students getting > 60% marks

9. End Term RTU Component: CO Attainment Levels

All the courses of your department should be divided into the ECE categories A-Most Difficult course, B-Medium level of Difficulty, C- Low level of Difficulty – (Easy)
According to difficulty level and the results of past 3-5 years, you can decide specific range for CO attainment targets for RTU component from the following table.

Course Category	Level 3	Level 2	Level 1
A	50 % of students getting > 60% marks	40-50 % of students getting > 60% marks	30-40 % of students getting > 60% marks
B	60 % of students getting > 60% marks	40-60 % of students getting > 60% marks	30-40 % of students getting > 60% marks
C	80 % of students getting > 60% marks	60-80 % of students getting > 60% marks	40-60 % of students getting > 60% marks

For the specific CO/LO attainment levels of your respective course please use the above tables as reference according your subject difficulty level and prepare following table.

S. No.	Course Type	Attainment Level=1	Attainment Level=2	Attainment Level=3
1	Theory Courses Mid Semester Exams			
2	Theory Courses University Exam			
4	Practical Courses – Internal Exams			
5	Practical Courses - University Exam			
6	Assignments/Unit Test			
7.	Any other			

10. CO wise Assessment Activities (as Mentioned in Session Plan):
You can plan for each CO, activities/ assessment tools to be conducted/ used for its achievement. Use X to those you select for specific CO. Remove all unused columns.

	Activities															
CO	Pre Mid I Test	Post Mid I Test	Quiz 1	Quiz 2	Pre Mid II Test	Post Mid II Test	Assignment 1	Assignment 2	Workshop	Seminar	Project	Training	Discussion	Mid 1	Mid 2	Ind. visit
CO1																
CO2																
CO3																
CO4																
CO5																
CO6																

In case of Lab course some activities are as follows:

LO	Internal Practical exams	Laboratory Tests	Viva	Records	Project Presentation	Project Evaluation	External practical exams
LO1							
LO2							
LO3							
LO4							

11. CO wise Assessment Activities:

Based on CO-PO mapping, determine targets for each CO as average of targets of all relevant POs.

CO	PO												Avg.	PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO Targets	PSO1	PSO2	PSO3
CO1																
CO2																
CO3																
CO4																
CO5																

12. Activity wise Assessment Tools:

This gives you generalized view of different direct and indirect tools those can be used for assessment / achievement of CO/PO. (Decide which tools are required for assessing a particular CO/LO and in reference to Course A, B, C difficulty level).

Sr. No.	Activity	Assessment Method	Tools	Weightage Marks	Recommendation
1.	Pre-Mid Term 1	Direct	Marks	10	For CO
2.	Post-Mid Term 1	Direct	Marks	10	For CO
3.	Quiz 1	Direct	Marks	10	For CO
4.	Quiz 2	Direct	Marks	10	For CO
5.	Pre Mid Term 2	Direct	Marks	10	For CO
6.	Post Mid Term 2	Direct	Marks	10	For CO
7.	Mid Term 1	Direct	Marks	20	For CO
8.	Mid Term 2	Direct	Marks	20	For CO
9.	Assignment 1	Direct	Marks	10	For CO
10.	Assignment 2	Direct	Marks	10	For CO
11.	Workshop	Indirect	Rubrics	5	For LO
12.	Seminar/ SPL	Indirect	Rubrics	5	For CO/LO
13.	Project (Mini or NSP)	Indirect	Rubrics	20	For LO
14.	Discussion	Indirect	Rubrics	5	For LO
15.	Training	Indirect	Rubrics	20	For LO
16.	Industrial Visit	Indirect	Rubrics	20	For LO
17.	Or any other activity	Direct/ Indirect	Marks/ Rubrics	any	For LO
18.					
Note that for every rubrics you need to decide assessment criteria, range of marks or weightage – above values are indicative					

13. CO Assessment Process:

After every activity (Ideally as per above table): (Frequency of Assessment- Can be taken as monthly). So the assessment can be for all activities held during the month. Do the following.

13.1 Attainment of COs

13.1.1 Attainment Table for CO1: 3ECEA101.1

CO1: 4ECEA101.1: Attainment Table (Columns) As Applicable CO wise-Monthly									
Student	Pre Mid I Test 10	Quiz 1 10	Assignment 10	Quiz 1 10	WS 10	Training 10	Total (60)	% 0f Marks	Level of Attainment
Name1									3
Name2									2
Name 3									1
Name 4									2
Name 5									1
Name 6									2
----									--
------									--
	No. of Students attained level 3=					% of Students Attained Level 3=			
	No. of Students attained level 2=					% of Students Attained Level 2=			
	No. of Students attained level 1=					% of Students Attained Level 1=			
	Target Achieved= ? (Check Level 3 % attainment -If No Find Gap)								
	Mark X for absent- Take avg. of all present								

(Repeat it for all other COs, (CO2 – CO5))

13.1.2 CO-Gap Identifications

COs	CO 1	CO 2	CO 3	CO4	CO5
Target					
Achieved					
Gap					

13.1.3 Gaps Identified:

Describe what the reasons for gaps are

i.
ii.

Overall CO Attainment Table: Example

COs	CO 1	CO 2	CO 3	CO4	CO5	Co6
Attainment level as per rules set	3	1	3	3	3	3
Average CO attainment through internal assessment	2.67					

13.1.4: Activities Decided to bridge the gap

Please do analyze whether you could get improvement through activities decided and conducted for improvements. Reason should be noted why / how it is improved or not.

13.2 Attainment of POs & PSO:

13.2.1 Target-Expected Attainment of PO by attainment of CO- Put all mappings of 3, 2 and 1. Based on CO-PO mapping, determine targets for each PO as average of targets of all relevant COs.

CO	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
4ECEA101.1															
4ECEA101.2															
4ECEA101.3															
4ECEA101.4															
4ECEA101.5															
Obtain Average-PO/PSO Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets	Targets

13.2.2 Attainment of POs & PSO through CO as Continuous Evaluation:

Put all attainment values of CO as per mappings with 3, 2, 1 as evaluated in 13.1.1 (Frequency- Monthly)

CO	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
4ECEA101.1															
4ECEA101.2															
4ECEA101.3															
4ECEA101.4															
4ECEA101.5															
Obtain Avg. PO/PSO Attainment	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved

13.2.3 PO Gap Identification:

	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Targets															
Achieved															
Gap															

13.2.4 Gaps Identified:

Describe what the reasons for gap (for PO) are.

i.

ii.

13.2.5 Activities Decided to bridge the gap

Please do analyze whether you could get improvement through activities decided and conducted for improvements. Reason should be noted why / how it is improved or not.

Repeat whole process after one month, Two months, and three months. Plot bar chart for improvement in CO, PO & PSO. (Every month)

13.3 Attainment of CO through RTU Exam:

This may be possible for previous semester results so overall attainment. If faculty is changed, data will be evaluated by concerned faculty who taught and handed over to current faculty. If faculty not available, then current faculty will do the same.

Attainment of CO: 3ECEA101: Subject:			
Student	RTU Marks (80)	% 0f Marks	Level of Attainment
Name1			3
Name2			2
Name 3			1
Name 4			2
Name 5			1
Name 6			2
----			--
------			--
No. of Students attained level 3=		% of Students Attained Level 3=	
No. of Students attained level 2=		% of Students Attained Level 2=	
No. of Students attained level 1=		% of Students Attained Level 1=	
CO Attainment = ? (Check Level 3 % attainment -If No Find Gap)			
Mark X for absent- Take avg. of all present			

13.3.1 Attainment of CO through RTU Component:

CO: Course Code: Course Name					
Target					
Achieved					
Gap					

13.3.1 Gaps for CO attainment through RTU Component:

Analyze RTU Question paper with respect to COs formulated, contents delivered and students examined, find out reasons for gaps

i.
ii.

13.3.2 Action to be taken:
Prepare recommendations for improvement in planning & teaching for gaps identified.

13.4 Attainment of PO through CO (RTU) Component
Put RTU Results as per target achieved only and mapping level, in following table

Attainment of PO through CO (RTU) Component															
CO	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
4ECEA101															

Attainment of PO through CO (RTU) Component															
4ECEA101	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Targets															
Achieved															
Gap															

13.4.1 Gaps in PO through CO from RTU component:
Analyze RTU Question paper with respect to COs formulated & mapped, contents delivered and students examined, find out reasons for gaps
Describe what are the reasons for gap i.
ii.

13.4.2 Action to be taken:
Prepare recommendations for improvement in planning & teaching for gaps identified.

13.5 Overall Attainment of PO & PSO: Through Continuous Assessment & RTU

While combining attainment through Continuous evaluation and RTU component, following weightage be considered.

1. Internal Assessment – Total weightage- 40 %
2. RTU Component ------- Weightage – 60 %

Put all attainments in the following table and compute.

13.5.1: Table 1

	RTU Component			Internal Assessment				
Student	RTU Marks (80)	% of Marks	60% Weightage X6/100 (A)	Overall CO (-----)	% of Marks	Weightage X4/100 (B)	Total (A+B)	Level of Attainment
Name1								3
Name2								2
Name 3								1
Name 4								2
Name 5								1
Name 6								2
----								--
------								--
No. of Students attained level 3=					% of Students Attained Level 3=			
No. of Students attained level 2=					% of Students Attained Level 2=			
No. of Students attained level 1=					% of Students Attained Level 1=			
PO Attainment = ? (Check Level 3 % attainment -If No Find Gap)								
Mark X for absent- Take avg. of all present								

OR

13.5.2: Table 2

	RTU			Internal CO1/ Activity 1 (Weightage %)			Internal CO2/ Activity 2 (Weightage			Internal CO3/ Activity 3 (Weightage %)				
Student	RTU Marks (80)	% 0f Marks	60% Weight age X----- /100 A	Over all CO (-----)	% 0f Marks	Weightage X-- /100 B	Overall CO (-----)	% 0f Marks	Weight age X-- /100 C	Overall CO (-----)	% 0f Marks	Weightage X--/100 D	Total (A+B+ C+ D)	Level of Attainments
Name1														3
Name2														2
Name 3														1
Name 4														2
Name 5														1
Name 6														2
----														--
------														--

No. of Students attained level 3=	% of Students Attained Level 3=
No. of Students attained level 2=	% of Students Attained Level 2=
No. of Students attained level 1=	% of Students Attained Level 1=
PO Attainment = ? (Check Level 3 % attainment -If No Find Gap)	
Mark X for absent- Take avg. of all present	

13.5.3: Overall PO & PSO Attainment through Course:
Put Overall PO & PSO attainment as per mapping 3, 2, and 1 above:

Attainment of Overall PO for Session 2021-2022															
CO	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
4ECEA101															
PO Attainment															

13.5.4: Overall Gaps for Attainment of PO and PSO from the Course
Put Overall PO & PSO targets & attainment as per mapping 3, 2, and 1 above:

Attainment & Gap of Overall PO Session ----------															
4ECEA101	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Targets															
Achieved															
Gap															

13.5.5. Overall Gaps for Course taught:
Go through all gaps identified above and summarize. Describe what the reasons are.
i.
ii.

13.5.6 Action to be taken:
Prepare recommendations for improvement in planning & teaching (Internal & RTU) for gaps identified. Decide Activities to be conducted to bridge the gaps in COs.

Repeat whole process after One year before, Two year before, and thee year before. Plot bar charts for Continuous improvements check in CO, PO & PSO. (Every Year).

13 File Formats

13.1 List of File Formats

i. Front Page of Course File
ii. ABC Analysis Format
iii. Blown-up Format
iv. Deployment Format
v. Zero Lecture Format
vi. Tutorial Format
vii. Assignment Format
viii. Lecture Note Format
ix. Mid Term Question Paper Format
x. Mid Term Practical Exam Format
xi. Evaluation Sheets Format
xii. Activity Report Format

13.2 Front Page of Course File

POORNIMA
COLLEGE OF ENGINEERING

TEACHING MANUAL

COURSE: _____

SEMESTER: _____

SUBJECT: _____

SUB. CODE: _____

CONTENT: PGC Syllabus, Blown-up, Deployment, Zero Lectures, Detailed lecture notes with cover page, Tutorial/Home-Assignment Sheets

_____

SESSION: 20___-___

NAME OF FACULTY: _____

DEPARTMENT: _____

CAMPUS: _____

13.3 ABC Analysis Format

POORNIMA
COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

ODD Semester- 2023-24

ABC ANALYSIS

Campus: PCE **Course: B.Tech** **Class:3rd year** **Date:**

Name of Faculty: **Name of Subject:** **Code:**

Unit no.	Category-A (Hard Topic)	Category-B (Topics with average hardness level Topic)	Category-C (Easy to understands Topic)	Preparation of "A" Category topic
1	Mechanics of Solids, Stress in Solids, Strain, Derivation of Gauge Factor	Thermal Expansion Phenomena of Bending	Hook`s Law, Poisson Ratio, Relation Between Poisson Ratio and Gauge Factor	**PPT and Notes**
2	Designing of Process sequence in Fabrication, Oxidation Types of Oxidation	Process sequence of Lithography Process Introduction to Photo resist. Positive and Negative Photo Resist	Dry and Wet Etching	**Special Lecture**
3	Role of Sacrificial Layer during fabrication Method of deposition of Sacrificial Layer	Bulk Micromachining Process flow of Micromachining	Metallization, Wafer-bonding and Process of Metallization	**PPT**
4	Role of Sacrificial Layer during fabrication	Surface and Bulk Micromachining	Role of Sacrificial Layer during fabrication	**Special Lecture and notes**

13.4 Blown-up Format

Campus: PCE Course: B. Tech	Class/Section:4th Year	Date :
Name of Faculty:	Name of Subject: Micro and Smart System Technology	Code:7EC-6.60-02

S.No.	TOPIC AS PER SYLLABUS	BLOWN UP TOPICS (up to 10 Times Syllabus)
	Unit-1	
1.1	**Introduction**	1.1.1 Basic introduction of the Technology 1.1.2 Smart Technologies 1.1.3 Smart Materials 1.1.4 Micro Technology 1.1.5 Applications 1.1.6 Scope and outcome of the course
	Unit-2	
2.1	**Introduction to Micro and Smart Systems:**	2.1.1 Introduction of Unit
2.2	Smart-material Systems History& Evolution of smart materials	2.2.1 Introduction of Smart Materials 2.2.2 Examples with their Electronic Properties 2.2.3 History and Evolution 2.2.4 Currently used smart materials and their analysis
2.3	Structures and systems	2.3.1 Designing of Smart Electronic Systems 2.3.2 Different Geometries of systems and its effect on the output
2.4	Components of a smart system	2.4.1 Measuring Parameters 2.4.2 Methods for measurement 2.4.3 Basic components of Smart Systems 2.4.4 Operating principle of Smart Systems
2.5	Application areas.	2.5.1 Application in medical field, Automobile etc.
2.6	Microsystems Introduction	2.6.1 Introduction of Microsystems 2.6.2 Micro Scale 2.6.3 Exampes
2.7	History and their evolution	2.7.1 History

Curriculum Delivery Plan 69

13.5 Deployment Format

POORNIMA
COLLEGE OF ENGINEERING

BLOWN UP SYLLABUS

Campus: PCE Course: B. Tech.	Class/Section: 3rd Year	Date:
Name of Faculty:	Name of Subject: Micro and Smart System Technology	Code: 5EC4-03

S.No.	TOPIC AS PER BLOWNUP SYLLABUS	LECT. NO.	PLANNED DATE	ACTUAL DEL. DATE	REASON FOR DEVIATION	REF. / TEXT BOOK WITH PAGE NO.
	ZERO LECTURE • Introduction • Basic Knowledge about the subject • Syllabus • PCE Question • Conclusion	L-0				
1.1	**Unit-1** **Introduction** 1.1.7 Basic introduction of the Technology 1.1.8 Smart Technologies 1.1.9 Smart Materials 1.1.10 Micro Technology 1.1.11 Applications 1.1.12 Scope and outcome of the course	L -1 L- 2				
2.1	**Unit 2** **Introduction to Micro and Smart Systems:** 2.1.1 Introduction of Unit	L-3				
2.2	Smart-material Systems History& Evolution of smart materials					

13.6 Zero Lecture Format

POORNIMA
COLLEGE OF ENGINEERING

ZERO LECTURE

Session: 20 - (Sem.)

Campus: ……..…… Course: ……..…. Class/Section: ……..……

Name of Faculty: ……..

Zero Lecture

1). Name of Subject: …….. Code: ……

2). Self-Introduction:

a). Name:
b). Qualification:
c). Designation:
d). Research Area:
e). E-mail Id: ……..@poornima.org
f). Other details: Information about areas of proficiency/ expertise such as subject taught, laboratory taken, Member of Professional body, Academic Proficiency, Book Authored, Paper published in National and International Conference/Journals etc.

3). Introduction of Students:

a). *Records of students in 12th*

Sr. No.	Average result of 12th	Name of student scored highest marks	Marks 60% above (No. of students)	Marks between 40%-60% (No. of students)	English Medium Students (No.)	Hindi Medium Students (No.)	No. of Hostellers	No. of Day Scholar

b). *Name of 05 best students based on previous results:* ……, ……, ……, ……, ……

4). Instructional Language: - ……%English; ……..% Hindi (English not less than 60%)

5). Introduction to subject: - (Pl. separate out subject specific matter and general matter valid for all subjects and group/place them appropriately)

a). Relevance to Branch:
b). Relevance to Society:
c). Relevance to Self:
d). Relation with laboratory:
e). Connection with previous year and next year:

6). Syllabus of Poornima Group of Colleges, Jaipur

a). Unit Name:
b). ABC analysis (RGB method) of unit & topics

7). Books/ Website/Journals & Handbooks/ Association & Institution:

a). Recommended Text & Reference Books and Websites:

S. No.	Title of Book	Authors	Publisher	Cost (Rs.)	No. of books in Library
Text Books					
T1					
T2					
T3					
Reference Books					
R1					
R2					
R3					
Websites related to subject					
1					
2					

b). Journals & Handbooks: - To give information about different Journals & Handbooks available in library related to the subject and branch.

c). Associations and Institutions: - To give information about different Associations and Institutions related to the subject and branch.

8). Syllabus Deployment: -

a). Total weeks available for academics (excluding holidays) as per Poornima Foundation calendar-

Semester	
No. of Working days available(Approx.)	
No. of Weeks (Approx.)	

- Total weeks available for special activities (as mentioned below)- 02 weeks (Approx.)

Note: Individual faculty must calculate the exact no. of lectures available according to time table etc. after consultation with HOD.

b). Special Activities (To be approved by HOD & Dean & must be mentioned in deployment):

- Open Book Test- Once in a semester
- Quiz - Once in a semester
- Special Lectures (SPL)- Minimum 10% of total no. of lectures including following
  - i. Smart Class by the faculty, who is teaching the subject
  - ii. SPL by expert faculty at PGC level
  - iii. SPL by expert from industry/academia (other institution)
- Revision classes (Solving Important Question Bank):- 1 class before Mid Term and 2 classes before End Term Exam

c). Lecture schedule per week

i). University scheme (L+T+P) = ...+....+.....

Sr. No.	Name of Unit	No. of lectures	Broad Area	Degree of difficulty (High/Medium/Low)	Text/ Reference books
1.					
2.					
3.					
4.					
5.					

d). Introduction & Conclusion: Each subject, unit and topic shall start with introduction & close with conclusion. In case of the subject, it is Zero lecture.

e). Time Distribution in lecture class: - Time allotted: 60 min.

i. First 5 min. should be utilized for paying attention towards students who were absent for last lecture or continuously absent for many days + taking attendance by calling the names of the students and also sharing any new/relevant information.

ii. Actual lecture delivery should be of 50 min.
iii. Last 5 min. should be utilized by recapping/ conclusion of the topic. Providing brief introduction of the coming up lecture and suggesting portion to read.
iv. After completion of any Unit/Chapter a short quiz should be organized.
v. During lecture student should be encouraged to ask questions.

Note: Pl. ensure that each student is having Lecture Note Book. Also, write on the black board day and date, name of the teacher, name of subject with code, unit and lecture no. and topics to be covered at the beginning of each lecture and ensure that students write in lecture note book. Ask students to leave 4/5 pages blank for copying the note from fellow students in case of their absenteeism.

9). Tutorial: - An essential component of Teaching- Learning process in Professional Education.

Objective: - To enhance the recall mechanism.
To promote logical reasoning and thinking of the students.
To interact personally to the students for improve numerical solving ability.

a). *Tutorial processing:* - Tutorial sheet shall be provided to each students

Ist Phase: - It is consisting of questions to be solved in the class assignment session in test mode on perforated sheet given in tutorial notebook and to be collected & kept by respective faculty for review & analysis (20 minutes).

IInd Phase: - Indicating/Initializing the weak issues/ drawback and Evaluating and providing the grade. Making a group with good student for assisting the weak students to explain/solve questions by every student on plain papers given in tutorial note book (20 minutes).

IIIrd Phase: - Solving/ explaining difficulties of lecture class and providing the new home assignment (20 minutes). To be done in tutorial note book.

b). *Home assignment shall comprise of two parts:*

Part (i) Minimum essential questions, which are to be solved and submitted by all with in specified due date.

Part (ii) Other important questions, which may also be solved and submitted for examining and guidance by teacher.

10). Examination Systems:

A. FOR ALL THEORY COURSES:-

a. Continuous Internal Evaluation (CIE)	**20%**
-Assignment / Project / Papers / Essays / Class Participation	10%
-Quiz / Class Test (Announced / Unannounced)	5%
- Attendance and Discipline	5%
b. Mid Semester Exams (MSE) – Two	**20%**
c. End Semester Exam (ESE) - One	**60%**
TOTAL	**100 %**

B. FOR ALL PRACTICAL (LABORATORY) COURSES:-

a. Continuous Internal Evaluation (CIE)	**40%**
-Performance (Lab Record, Viva,)	30%
-Attendance and Participation in laboratory work	10%
b. Mid Semester Exam (MSE)– Two	**20 %**
c. End Semester Exam (ESE) - One	**40%**
TOTAL	**100 %**

11). Any other important point:

Place & Date: Name of Faculty with Designation

13.7 Lecture Note Front page Format

POORNIMA
COLLEGE OF ENGINEERING

LECTURE NOTES

Campus: ……..…. Course: ……..……... Class/Section: ……..… Date: ……..…….

Name of Faculty: …….…….. Name of Subject: …… Code: ……..…

Date (Prep.): ……..……. Date (Del.): ……..……Unit No.:……..…..…..Lect. No: ……..…….

OBJECTIVE: To be written before taking the lecture (Pl. write in bullet points the main topics/concepts etc., which will be taught in this lecture)

_____

_____

_____

_____

IMPORTANT & RELEVANT QUESTIONS:

_____

_____

_____

_____

FEED BACK QUESTIONS (AFTER 20 MINUTES):

_____

_____

_____

_____

OUTCOME OF THE DELIVERED LECTURE: To be written after taking the lecture (Pl. write in bullet points about students' feedback on this lecture, level of understanding of this lecture by students etc.)

_____

_____

_____

REFERENCES: Text/Ref. Book with Page No. and relevant Internet Websites:

_____

_____

13.7.1 Detailed Lecture Note Format-1

POORNIMA
COLLEGE OF ENGINEERING

DETAILED LECTURE NOTES

Campus: ..... Course:	Class/Section:	Date: .....
Name of Faculty:	Name of Subject:	Code: .....

13.7.2 Detailed Lecture Note Format-2

POORNIMA
COLLEGE OF ENGINEERING

DETAILED LECTURE NOTES

PAGE NO. .....

13.8 Assignment Format

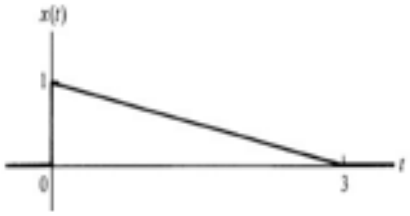
POORNIMA
COLLEGE OF ENGINEERING

ASSIGNMENT SHEET

Campus: PCE **Course: B.Tech.** **Class/Section: 2nd year** **Date: ……**

Name of Faculty: **Name of Subject: Signal & Systems** **Code: 3EC4-03**

Date of Preparation: **Scheduled Date of Submission:**

Q. NO.	QUESTIONS	COs	POs	PSOs
1	Determine whether or not the following signal is Energy or Power Signals $x(n)=\left(\frac{1}{5}\right)^n u(n)$	1	1	1
2	Determine whether or not the following signal is periodic. If it is periodic determine the fundamental period. (i) $x(n) = Cos(2\pi n/5) + Sin(2\pi n/7)$ (ii) $x(t) = Cos\frac{\pi}{3}t + Sin\frac{\pi}{4}t$	1	2	2
3	Determine the following system as linear or non-linear. (i) $y(n)=x(n^2)$ (ii) $y(n)=x^2(n)$	2	1	1
4	Determine the convolution of the given signal. (i) $X(t)=u(t-1)$ and $h(t)=e^{-2t}u(t)$ (ii) $X(t)=u[n]$ and $h[n]=2^n u(n)$	1	1	1
5	Check the following systems is: Linear, Causal, Time-invariant and stable $Y(t)=\sin[x(t+2)]$	3	2	2
6	Given a discrete time signal $x(n) = \{1,0.5,1,2,1\}$ ↑ Sketch $x[n]$ and $x[n].u[n-2]$	2	2	1
7	Find and sketch the Even and Odd components of following: $X[n] = \begin{cases} t, & 0 \le t \le 1 \\ 2-t, & 1 \le t \le 2 \end{cases}$	2	3	1
8	For given x(t) sketch the following: (i) X(-t) (ii) X(t+2) (iii) X(2t+2) (iv) X(1-3t) 	2	3	1

SAMPLE

13.9 Tutorial Format

POORNIMA
COLLEGE OF ENGINEERING

TUTORIAL SHEET

TUTORIAL SHEET SHEET No.....

Campus: ..... Course: ..... Class/Section: ..... Date: .....

Name of Faculty: ..... Name of Subject: ..... Code: .....

Date of Tut. Sheet Preparation:..... Scheduled Date of Tut.:.....Actual Date of Tut. :.....

Name of Student:.....Scheduled & Actual Date of H.A. Submission:.....&.....

	Questions	CO	PO
FIRST 20 MT. CLASS QUESTIONS			
2 HRS. SOLVABLE HOME ASSIGNMENT (H.A.) QUESTIONS			
OTHER IMPORTANT QUESTIONS			

13.10 Mid Term/ End Term Practical Question Paper Format

a. Mid Term/ End Term Practical Question Paper Format

Poornima College of Engineering
FRIST MID TERM PRACTICAL EXAM-23-24
5EC4-23: Microwave Lab, RTU Lab exam 2023-24
(Department of Electronics and Communication)

Max Marks 30+10(Viva) =40

SET-I

Question No	LO	PO	Questions	Marks

b. Mid Term/ End Term Practical Question Paper Format

Poornima College of Engineering
FRIST MID TERM PRACTICAL EXAM-23-24
5EC4-23: Microwave Lab, RTU Lab exam 2023-24
(Department of Electronics and Communication)

Max Marks 30+10(Viva) =40

SET-II

Question No	LO	PO	Questions	Marks

13.11 Mid Term Theory Question Paper Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

II B.TECH. (III Sem.) **Roll No. _____**

SECOND MID TERM EXAMINATION 2022-23

Code: SEC4-06 Category: PCC Subject Name– Signal & Systems

(BRANCH – ELECTRONICS AND COMMUNICATION ENGINEERING)

Course Credit: 03

Max. Time: 2 hrs. **Max. Marks: 60**

NOTE:- **Read the guidelines given with each part carefully.**

Course Outcomes (CO):

At the end of the course the student should be able to:

CO1:

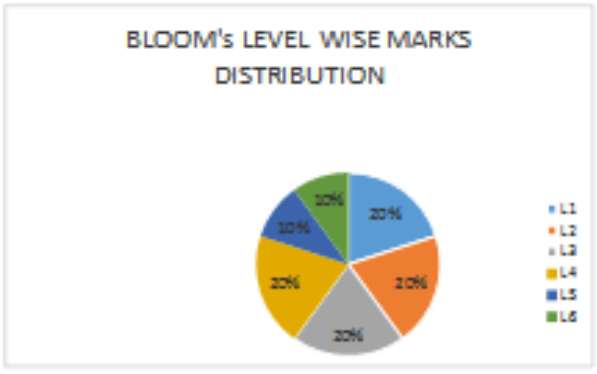
CO2:

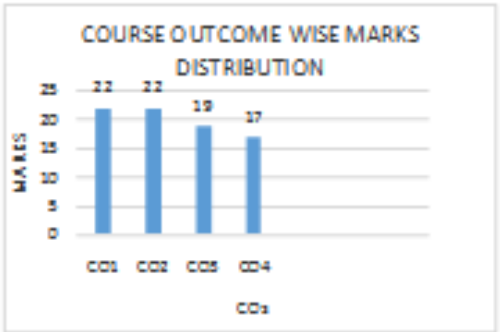
CO3:

CO4:

	PART - A: (All questions are compulsory) Max. Marks (10)				
		Marks	**CO**	**BL**	**PO**
Q.1					
Q.2					
Q.3					
Q.4					
Q.5					
	PART - B: (Attempt 4 questions out of 8) Max. Marks (20)				
Q.6					
Q.7					
Q.8					
Q.9					
Q.10					
Q.11					
	PART - C: (Attempt 3 questions out of 4) Max. Marks (30)				
Q.12					
Q.13					
Q.14					
Q. 15					

SAMPLE





BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analyzing, 5 – Evaluating, 6 - Creating) CO – Course Outcomes; PO – Program Outcomes

15. List of Important Links

List of Important Links		
Sr. No.	**Link**	**Particulars**
1	https://www.rtu.ac.in/index/	Rajasthan Technical University
2	http://www.pce.poornima.org	Institute Website
3	http://www.pce.poornima.org/Downloads.html	Format of Students & Employee
4	https://www.turnitin.com/login_page.asp?lang=en_us	Plagiarism Checker
5	http://pcelibrary.poornima.org/	PCE Digital Library
6	https://ndl.iitkgp.ac.in/	National Digital Library of India (NDLI)
7	https://swayam.gov.in/	SWAYAM MOOCs platform
8	https://www.vlab.co.in/	Virtual Labs
9	https://spoken-tutorial.org/	Spoken Tutorial
10	https://fossECE.in/	FOSSECE (Free/Library and Open Source Software for Education)
11	https://www.sih.gov.in/	Smart India Hackathon
12	https://www.swayamprabha.gov.in/	32 high quality educational channels through DTH on 24X7 basis.
13	https://iECECExplore.iECECE.org/Xplore/home.jsp.You	IECECE All Society Periodicals Package
14	https://booksc.org/	Link for Free for book and articles
15	https://jgateplus.com/home/	J-gate Plus (JOURNALS -GATE) subscriptions
16	http://www.delnet.nic.in/	Developing Library Network
17	https://dst.rajasthan.gov.in/content/dst-gov/en/home.html	Department of Science & Technology, Government of Rajasthan
18	https://ipindia.gov.in/index.htm	Official website of Intellectual Property India
19	http://pce.poornima.org/Downloads.html	Academic Formats Word File
Note:- Required Credentials can be taken from Respective Department Heads		