POORNIMA
COLLEGE OF ENGINEERING

Approved by AICTE
Affiliated to Rajasthan Technical University, Kota
Recognized by UGC under Section 2(f) of the UGC Act, 1956

Curriculum Delivery Plans (CDPs) Department of Electronics & Communication Engineering (Odd & Even Semester 2021-22 & Odd Semester 2022-23)

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)
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POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS & COMMUNICATIONENGINEERING

CURRICULUM DELIVERY PLAN

OUTLINE-ODD SEM-2021-22

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

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Sitapura, JAIPUR

Table of Contents

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 ECE) 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 sheet approval for them from Internal Quality Assurance Cell.
4. Incorporate suggestions received from Program Assessment Committee ECE (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 2021-22

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-1	Chairman, DAB-ECE	Dr. Santosh Kumar Agrahari, Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, DAB-ECE	Dr. Anila Dhingra Asso. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-3	Chairman, DAB-ECE	Dr. Payal Bansal Professor, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-4	Chairman, DAB-ECE	Mr. Tarun Mishra Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, DAB-ECE	Mr. Rajveer Marwal Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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9	Special Invitee	Chairman, DAB-ECE	Dr. Rekha Nair, Dean	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
10	Alumni Representative-1	Chairman, DAB-ECE	Mr. Akshat Bhatia	TCS
11	Alumni Representative-2	Chairman, DAB-ECE	Mr. Karan Tamra	Infosys
12	Student Representative	Chairman, DAB-ECE	Mr. Sachin Jaiman	Final Year ECE
13	Industry Representative	Chairman, DAB-ECE	Mr. Ankit Saboo	Elektrolites (Power) Pvt. Ltd., Jaipur
14	Parents Representative-1	Chairman, DAB-ECE	Mr. Arun Sharma	Jaipur
15	Parents Representative-2	Chairman, DAB-ECE	Mr. Naveen Kumar	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 ECE

3.2.1 Primary Objective

The primary objective of Program Assessment Committee ECE (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

2021-22

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
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8	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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 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 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	October Last Week	● Inclusion of suggestions for revising gaps ● Execution of Academic, Extra and Co-Curricular activities according to suggestions in GC ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of academics gaps as previous attainment
5.	PAC-5	November Third Week	● 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
6.	PAC-6	December Third Week	● Incorporation of suggestions from IQAC and DAB meetings in execution of Semester activities ● Execution and assessment of Academic, Extra and Co-Curricular activities ● Revision of academics gaps as previous attainment ● Calculation of attainments
7.	PAC-7	January 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
8.	PAC-8	February 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
9.	PAC-9	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 ● Draft preparation of Semester closure
10.	PAC-10	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

11.	PAC-11	May 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 ● 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.
12.	PAC-12	June Last Week	● 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

Sr. No.	Faculty Name	Emp.ID	Designation	Email ID	Mobile No.
1.	DR. GARIMA MATHUR (HEAD, DEPARTMENT OF ECE)	4961	PROFESSOR	drg.mathur@poornima.org	9829393517
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4.	MS. MANISHA KUMAWAT	1158	ASST PROFESSOR	manisha.kumawat47@yahoo.in	9509472051
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11.	MS. GARIMA MATHUR	3091	ASST PROFESSOR	garima.mathur@poornima.org	9509780741
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14.	DR. ANILA DHINGRA	5419	PROFESSOR	anila.dhingra@poornima.org	9829016670
15.	DR. JITENDRA GUPTA	6487	ASSOCIATE PROFESSOR	jitendra.engg88@gmail.com	8340438698

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42.	Mr. SAKAR GUPTA	5425	ASST PROFESSOR	sakar.gupta@gmail.com	9828501686
43.	Mr. SAURABH ANAND	3186	ASST PROFESSOR	saurabhanand@gmail.com	9783334004
44.	Mr. TARUN MEHTA	3189	ASST PROFESSOR	tarun011986@rediffmail.com	9983501466
45.	Mrs. NIKITA GAUTAM	2019	ASST PROFESSOR	nikita.gautam@poornima.org	9983071805

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5 Institute Academic Calendar

JULY 2021

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

AUGUST 2021

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 2021

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 2021

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

NOVEMBER 2021

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 2021

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	

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ACADEMIC CALENDAR 2021-22*#

ODD SEMESTER

JULY 2021

RTU THEORY EXAMINATION OF FINAL YEAR (EVEN SEM 2021)

AUGUST 2021

Sunday, 01 to Monday 30	Practical Training (After VI Sem.) (Online)
Sunday, 15	Celebration of Independence Day

SEPTEMBER 2021

Wednesday 01 to 15	Practical Training (After II Sem.) (Online)
Wednesday 01 to 15	Practical Training (After IV Sem.) (Online)
Wednesday 01	Commencement of Classes - B. Tech. VII Sem.
Monday 20	Commencement of Classes - B. Tech. V Sem.
Monday 20	Commencement of Classes - B. Tech. III Sem.
Wednesday 01 to Saturday 04	Orientation programme-B. Tech. VII Sem.
Monday 20 to Saturday 25	Orientation programme-B. Tech. V & III Sem.
Sunday 05	Faculty Felicitation Program, Celebration of Teachers' Day, Blood Donation Camp & activities under WISE
Wednesday 15	Engineers' Day • Manthan- Inter-college Debate Competition

OCTOBER 2021

Saturday 02	Annual Day KALANIDHI'2020 & Prize distribution ceremony
Monday 18 to Thursday 21	Department Day
Monday 25 to Saturday 30	I - Mid Term Theory & Practical Exam for B.Tech VII Sem

NOVEMBER 2021

Thursday 11 to Wednesday 17	I - Mid Term Theory & Practical Exam for B.Tech V & III Sem

DECEMBER 2021

Saturday 18 to Friday 24	II - Mid-TermTheory & Practical Exam for B.Tech VII Sem
Saturday 25	Last Teaching Day for B.Tech VII Sem

JANUARY 2022

Monday 03 to Wednesday 05	End-Term Practical Exams for B.Tech VII Sem
Monday 03 to Saturday 08	II - Mid Term Theory & Practical Exam for B.Tech V & III Sem
Saturday 15	Last Teaching Day for B.Tech V & III Sem
Thursday 20 Saturday 22	End-Term Practical Examination for B. Tech V & III Sem

HOLIDAYS IN ODD SEMESTER 2021-22

1	Bakri Id / Eid ul-Adha	Wednesday, July 21, 2021
2	Raksha Bandhan	Sunday, August 22, 2021
3	Vijay Dashmi	Friday, October 15, 2021
4	Diwali Break	Monday, November 01 to Saturday, 06, 2021

HOLIDAYS IN EVEN SEMESTER 2021-22

1	Winter Break	As per RTU Examination Schedule
2	Makar Sankranti	Friday, January 14, 2022
3	Celebration of Republic Day	Wednesday, January 26, 2022
4	Holi	Saturday, March 19 to Sunday, March 20, 2022
5	Ramzan Id/ Eid-ul-Fitar	Tuesday, May 3, 2022
6	Summer Break	As per RTU Examination Schedule

*Subject to revision as per RTU notifications
#For all Engineering Faculty and Students of PCE

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6 Department Activity Calendar

Poornima College of Engineering, Jaipur

Calendar for Electronics & Communication Engineering : Odd Semester - Session 2021-22

(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	Yet to be decided as per RTU calendar	Monday 20, September 2021	Monday 20, September 2021	Wednesday 01, September 2021
2	Orientation programme	Yet to be decided as per RTU calendar	Monday 20 to Saturday 25, September 2021	Monday 20 to Saturday 25, September 2021	Wednesday 01 to Saturday 04, September 2021
3	Date of submission of question papers by faculty members to secrecy for 1st Mid-term		Saturday 30, October 2021	Saturday 30, October 2021	Monday 18, October 2021
4	I Mid Term Theory & Practical Exam	Yet to be decided as per RTU calendar	Thursday 11 to Wednesday 17, November 2021	Thursday 11 to Wednesday 17, November 2021	Monday 25 to Saturday 30, October 2021
5	Showing evaluated answer books of 1st Mid-term exam to students in respective classes		Wednesday 24, November 2021	Wednesday 24, November 2021	Wednesday 10, November 2021
6	Last date of submission of Evaluated Answer Books and Mark of First Mid-term Theory & Practical exam to Exam and Secrecy Cell respectively		Monday 29, November 2021	Monday 29, November 2021	Monday 15, November 2021
7	Date of submission of question papers by faculty members to secrecy for 2nd Mid-term		Monday 27, December 2021	Monday 27, December 2021	Saturday 11, December 2021
8	Revision classes	To be declared later according to RTU Exam Schedule			
9	Last Teaching Day	Yet to be decided as per RTU calendar	Saturday 15, January 2022	Saturday 15, January 2022	Saturday 25, December 2021
10	2nd Mid-term theory & Practical Exams	Yet to be decided as per RTU calendar	Monday 03 to Saturday 08, January 2022	Monday 03 to Saturday 08, January 2022	Saturday 18 to Friday 24, December 2021
11	End-Term Practical Exams	Yet to be decided as per RTU calendar	Thursday 20 Saturday 22, January 2022	Thursday 20 Saturday 22, January 2022	Monday 03 to Wednesday 05, January 2022
(B) Events and Activities					
12	Add-on Course on Basics of Python Programming			July 12 to August 27, 2021	

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13	Expert Session on Application of MATLAB in Engineering		Thursday, July 15, 2021		
14	Add-on Curse on Design of Basic Robots			July 19 to August 3, 2021	
15	Workshop on VLSI Circuit Design using Xilinx & Mentor Graphics Tools			July 29 to September 06, 2021	
16	Workshop On PCB Design & Simulation using PROTEUS Software		August 06 to September 21, 2021		
13	Celebration of Independence Day & Faculty Felicitation Program	Wednesday, 15th August, 2021			
17	National Webinar on Advancement in Electronics		Wednesday, August 18, 2021		
18	An Expert Talk on 5G Technology		Wednesday, November 17, 2021		
19	Expert Lecture on Smart Antenna's		Monday, November 22, 2021		
20	Teachers Day Celebration	Monday, September 06, 2021			
21	Engineers Day Celebration	Wednesday, September 15, 2021			
22	Annual Day KALANIDHI' 2018 & Prize distribution ceremony	Tuesday, 02 October, 2021			
22	Unity Day Celebration	Monday, October 31, 2021			
23	IETE foundation Day	Friday , November 2, 2021	Friday , November 2, 2021	Friday , November 2, 2021	Friday , November 2, 2021
24	Hindi Divas celebration	Tuesday , September 14,2021	Tuesday , September 14,2021	Tuesday , September 14,2021	Tuesday , September 14,2021
25	AICTE Sponsored STTP on Artificial Intelligence in Cooperative Noma (5G) Network	December 21-27, 2021			
(C) Holidays					
26	Eid-ul-Fitar	Wednesday, July 21, 2021			
27	Raksha Bandhan	Sunday, August 22, 2021			
28	Vijay Dashmi	Friday, October 15, 2021			
29	Diwali Break	Monday, November 01 to Saturday, 06, 2021			

"स्वच्छ भारत.. सम्पन्न भारत.."

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7 Teaching Scheme

7.1 RTU Teaching Scheme

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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

SN	Category	Course Code	Course Title	Contact hrs/week L	T	P	Marks Exm Hrs	IA	ETE	Total	Cr
THEORY											
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*

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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	SEC 3-01	Computer Architecture	2	0	0	2	20	80	**100**	**2**
2	PCC/ PEC	SEC 4-02	Electromagnetics Waves	3	0	0	3	30	120	**150**	**3**
3		SEC 4-03	Control system	3	0	0	3	30	120	**150**	**3**
4		SEC 4-04	Digital Signal Processing	3	0	0	3	30	120	**150**	**3**
5		SEC 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**
		SEC 5-11	Bio-Medical Electronics								
		SEC 5-12	Embedded Systems								
		SEC 5-13	Probability Theory & Stochastic Process								
		SEC 5-14	Satellite Communication								
		Sub Total		**16**	**0**	**0**		**160**	**640**	**800**	**16**
PRACTICAL & SESSIONAL											
7	PCC	SEC 4-21	RF Simulation Lab	0	0	3	2	45	30	**75**	**1.5**
8		SEC 4-22	Digital Signal Processing Lab	0	0	3	2	45	30	**75**	**1.5**
9		SEC 4-23	Microwave Lab	0	0	2	2	30	20	**50**	**1**
10	PSIT	SEC 7-30	Industrial Training	0	0	1		75	50	**125**	**2.5**
11	SODECA	SEC 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

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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*

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8 PCE Teaching Scheme

Poornima College of Engineering, Jaipur

Format for Teaching Scheme of Odd Semester 2021-22

Students	Deptt.	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.
		L	T	P	Credit										
13	ECE	3	1	0	4	Electronics Devices	3EC4-07	1	1		3	1	0	4	EC
13	ECE	3	1	0	4	Network Theory	3EC4-06	1	1		3	1	0	4	EC
13	ECE	3	1	0	3	Digital System Design	3EC4-04	1	1		3	1	0	4	EC
13	ECE	3	1	0	3	Signal & Systems	3EC4-05	1	1		3	1	0	4	EC
13	ECE	3	0	0	3	Advanced Engineering Mathematics-I	3EC2-01	1	1		3	0	0	3	MATHS
13	ECE	2	0	0	2	Managerial Economics and Financial	3EC1-03	1	1		2	0	0	2	Humanities
13	ECE	0	0	2	1	Signal Processing Lab	3EC4-23	1	1		0	0	2	2	EC
13	ECE	0	0	2	1	Computer Programming Lab-I	3EC3-24	1	1		0	0	2	2	CS
13	ECE	0	0	2	1	Electronics Devices Lab	3EC4-21	1	1		0	0	2	2	EC
13	ECE	0	0	2	1	Digital System Design Lab	3EC4-22	1	1		0	0	2	2	EC
13	ECE	0	0	1		Industrial training/Project & Seminar	3EC4-30	1	1		0	0	1	1	EC
76	ECE	3	0	0	2	Bio-Medical Electronics /Sat. comm.	5EC 5-11/ 5ECE5-14	2	3		6	0	0	6	EC
76	ECE	3	0	0	2	Computer Architecture	5EC3-01	1	3		3	0	0	3	CS
76	ECE	4	1	0	3	Electromagnetics Waves	5EC4-02	1	3		4	3	0	7	EC
76	ECE	3	1	0	3	Control system	5EC4-03	1	3		3	3	0	6	EC
76	ECE	3	1	0	3	Digital Signal Processing	5EC4-04	1	3		3	3	0	6	EC
76	ECE	3	1	0	3	Microwave Theory & Techniques	5EC4-05	1	3		3	3	0	6	EC
76	ECE	0	0	2	1.5	RF Simulation Lab	5EC4-21	1	3		0	0	6	6	EC
76	ECE	0	0	2	1.5	Digital Signal Processing Lab	5EC4-22	1	3		0	0	6	6	EC
76	ECE	0	0	2	1	Microwave Lab	5EC4-23	1	3		0	0	6	6	EC
76	ECE	0	0	1	2.5	Industrial training/Project & Seminar	5EC7-30	1	3		0	0	3	3	EC
67	ECE	3	0	0	3	VLSI Design/ CMOS design	7EC5-11/ 7EC5-13	2	3		6	0	0	6	EC
67	ECE	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	Humanities/ EC
67	ECE	0	0	4	2	VLSI Design Lab	7EC4-21	1	3		0	0	12	12	EC
67	ECE	0	0	2	1	Advance communication lab (MATLAB	7EC4-22	1	3		0	0	6	6	EC
67	ECE	0	0	2	1	Optical Communication Lab	7EC4-23	1	3		0	0	6	6	EC
67	ECE	1	0	0	2.5	Industrial Training	7EC7-30	1	3		1	0	0	1	EC
67	ECE	0	0	2	2	Seminar	7EC7-40	1	3	H	0	0	6	6	EC
67	ECE	0	0	3	NA	Project	7EC7-Project	1	3	T	0	0	9	9	EC
67	ECE	0	0	0	0.5	Social Outreach, Discipline & Extra Curricular Activities	7EC8-00	1	3		0	0	0	0	SODECA

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8.1 Marking Scheme

MARKING SCHEME FOR PRACTICAL EXAM, ODD SEM., 2021-22,		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
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			30					20		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	22	8	30	8	22	30	22	8	30	75
5CE4-22	Geotechnical Engineering Lab	22	8	30	8	22	30	22	8	30	75
5CE4-23	Water Resource Engineering Design	15	5	20	5	15	20	15	5	20	50
5CE7-30	Industrial Training			75					50		125
5CS4-21	Computer Graphics & Multimedia Lab	15	5	20	5	15	20	15	5	20	50
5CS4-22	Compiler Design Lab	15	5	20	5	15	20	15	5	20	50
5CS4-23	Analysis of Algorithms Lab	15	5	20	5	15	20	15	5	20	50
5CS4-24	Advance Java Lab	15	5	20	5	15	20	15	5	20	50
5CS7-30	Industrial Training			75					50		125
5EC4-21	RF Simulation Lab	22	8	30	8	22	30	22	8	30	75
5EC4-22	Digital Signal Processing Lab	22	8	30	8	22	30	22	8	30	75
5EC4-23	Microwave Lab	15	5	20	5	15	20	15	5	20	50
5EC7-30	Industrial Training			75					50		125
5EE4-21	Power System - I Lab	15	5	20	5	15	20	15	5	20	50
5EE4-22	Control System Lab	15	5	20	5	15	20	15	5	20	50
5EE4-23	Microprocessor Lab	15	5	20	5	15	20	15	5	20	50
5EE4-24	System Programming Lab	15	5	20	5	15	20	15	5	20	50
5EE7-30	Industrial Training			75					50		125
5IT4-21	Computer Graphics & Multimedia Lab	15	5	20	5	15	20	15	5	20	50
5IT4-22	Compiler Design Lab	15	5	20	5	15	20	15	5	20	50
5IT4-23	Analysis of Algorithms Lab	15	5	20	5	15	20	15	5	20	50
5IT4-24	Advanced Java Lab	15	5	20	5	15	20	15	5	20	50
5IT7-30	Industrial Training			75					50		125
5ME3-21	Mechatronic Lab	15	5	20	5	15	20	15	5	20	50
5ME4-22	Heat Transfer lab	15	5	20	5	15	20	15	5	20	50
5ME4-23	Production Engineering Lab	15	5	20	5	15	20	15	5	20	50
5ME4-24	Machine Design Practice I	15	5	20	5	15	20	15	5	20	50
5ME7-30	Industrial Training			75					50		125
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

NOTE: - (1) In Attendance & Performance marks should be given on the basis of student overall performance in semester i. e. continuous evaluation.
(2) In Common Pool marks should be given by HOD on the basis of student Assignment,Non Syllabus Activity,Online Exam Exam,Application/Survey / Case Study based Learning, Pre-Placement Activity, Department Level Career Oriented Activities through out the semester.

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9 Department Load Allocation

Poornima College of Engineering, Jaipur
Department of Electronics & Communication Engineering
Load for Odd Semester 2021-22

S. NO.	FACULTY NAME	CODE	SUBJECT	L	T	P	LOAD
1	Dr. Payal Bansal	3EC4-07	Electronics Devices	3	1	0	4
		5EC5-14	Satellite Communication	3	0	0	3
		5EC4-23	Microwave Lab	0	0	2	6
2	MR. ANKUR DALMIYA	3EC4-06	Network Theory	3	1	0	4
		7EC7-Project	Project	0	0	1	2
3	Tarun Mishra	3EC4-04	Digital System Design	3	0	0	3
4	Manisha Kumawat	3EC4-05	Signal & Systems	3	1	0	4
5	Dr. Shuchi Dave	3EC2-01	Advanced Engineering Mathematics-I	2	2	0	5
6	Kalpana Sharma	3EC1-03	Managerial Economics and Financial Accounting	2	0	0	2
7	Dr. JITENDRA GUPTA	3EC4-23	Signal Processing Lab	0	0	2	2
8	Kavita Lal	3EC3-24	Computer Programming Lab-I	0	0	2	2
		5EC3-01	Computer Architecture	3	0	0	3
9	Mr. SUPREET KUMAR SINGH	3EC4-21	Electronics Devices Lab	0	0	2	2
10	MR. RAKESH KUMAR GOYAL	3EC4-22	Digital System Design Lab	0	0	2	2
11	MS. MONIKA SURANA	3EC4-30	Industrial training/Project & Seminar	0	0	1	1
12	DR. SURENDRA HANS		Design of Basic Robots (Add on)	3	0	0	3
13	MS. JYOTSNA JOSHI	5EC4-02	Electromagnetics Waves	3	2	0	5
14	MR. RAJVEER MARWAL	5EC4-03	Control system	3	2	0	5
15	Mr. SANDEEP GUPTA	5EC4-04	Digital Signal Processing	3	2	0	5

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16	Durgesh Kumar	5EC4-05	Microwave Theory & Techniques	3	2	0	5
		7EC7-40	Seminar	0	0	1	2
17	DR. MEETU NAG	5EC5-11	Bio Medical Electronics	3	0	0	3
18	MR. SUSHIL JAIN	5EC4-21	RF Simulation Lab	0	0	2	6
19	Ms. RISHIKA SETHI	5EC4-22	Digital Signal Processing Lab	0	0	2	6
20	Dr. NITESH MUDGAL	5EC7-30	Training seminar/Project & Seminar	0	0	2	4
21	Dr. ANILA DHINGRA	5EC7-30	Training seminar/Project & Seminar	0	0	1	2
		7EC5-13	CMOS design	3	0	0	3
22	Supreet Kumar	5EC7-30	Training seminar/Project & Seminar	0	0	1	2
		7EC7-Project	Project	0	0	1	2
23	Mr. GAURAV SAXENA		Python Programming: The basics (Add on)	3			3
		7EC4-23	Optical Communication Lab	0	0	6	6
24	Amit Kumar Jain	7EC5-11	VLSI Design	3	0	0	3
25	MR. AJMEET SINGH	7EC6.1-14	Principle of Electronic Communication	3	0	0	3
26	Mr. VIJENDRA KUMAR PATEL	7EC6.2-60	Micro and Smart System Technology	3	0	0	3
		7EC7-30	Industrial Training	0	2	0	4
27	MR. DHEERAJ VADHWANI	7EC4-21	VLSI Design Lab	0	0	6	6
28	MS. UROOJ SULTANA	7EC4-22	Advance communication lab (MATLAB Simulation)	0	0	6	6
29	MR. MANISH SHARMA	7EC7-40	Seminar	0	0	1	2
30	JITENDRA GUPTA	7EC7-40	Seminar	0	0	2	4
31	Dr. Garima Mathur	7EC7-Project	Project	0	0	2	4

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10 Time Table

10.1 Orientation Time Table

POORNIMA COLLEGE OF ENGINEERING
ORIENTATION TIME TABLE FOR ODD SEM. SESSION 2021-2022
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year **Tutor- Manisha Kumawat**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY 20/9/2021	Tutor Interaction Ms. Manisha Kumawat	Placement Interaction Mr. Manish Sharma	Skill Enhancement Ms. Urooj Sultana		3EC2-01/AEM/SD	3EC3-24/CP Lab/MUK
TUESDAY 21/9/2021	NPTELGuidelines Ms. Manisha Kumawat	Internship Interaction Dr.Payal Bansal	HOD Interaction Dr.Garima Mathur	LUNCH	3EC4-04/DSD/TM	3EC2-01/AEM/SD
WEDNESDAY 22/9/2021	Matlab Session Ms. Urooj Sultana	Project Guidelines Ms. Manisha Kumawat	3EC4-22/DSD Lab Mr. Tarun Mishra		3EC1-03/MEFA/KS	3EC2-01/AEM/SD

Manisha Kumawat
Time Table Coordinator

Dr. Garima Mathur
HoD, ECE

Pankaj Dhemla
Vice Principal, PCE

Dr. Mahesh Bundele
Director, PCE

POORNIMA COLLEGE OF ENGINEERING
ORIENTATION TIME TABLE FOR ODD SEM. SESSION 2021-2022
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- III Year **Tutor- Dr. Payal Bansal**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY 20/9/2021	Tutor Interaction Dr.Payal Bansal	HOD Interaction Dr.Garima Mathur	Internship Interaction Dr.Payal Bansal	LUNCH	5EC4-05/MTT/DK	5EC4-23/MW Lab/A1/US
						5EC4-21/RF Lab/A2/TM
TUESDAY 21/9/2021	NPTELGuidelines Dr.Payal Bansal	Add-on Course Preparation Mr. Manish Sharma	Skill Enhancement Ms. Urooj Sultana		5EC4-22/DSP/MK	5EC4-21/RF Lab/A1/TM
						5EC4-23/MW Lab/A2/US
WEDNESDAY 22/9/2021	Placement Interaction Mr. Manish Sharma	Project Guidelines Dr.Payal Bansal	Matlab Session Ms. Urooj Sultana		5EC3-01/CA/MUK	5EC4-22/DSP LAB/A1/MK
						5EC4-22/DSP LAB/A2/MK

Manisha Kumawat
Time Table Coordinator

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HoD, ECE

Pankaj Dhemla
Vice Principal, PCE

Dr. Mahesh Bundele
Director, PCE

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POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

IV Year Tutor-Manish Sharma						
DAY/TIME	**09:00-10:00**	**10:00-11:00**	**11:00-12:00**	**12:00-12:30**	**12:30-1:30**	**1:30-2:30**
MONDAY (6/9/2021)	**Tutor Interaction** Mr. Manish Sharma	**HOD Interaction** Dr.Garima Mathur	**Internship Interaction** Ms. Manisha Kumawat	**LUNCH**	**VLSI Lab** Dr.Payal Bansal	**Advance Comm. Lab** Ms.Urooj Sultana
TUESDAY (7/9/2021)	**Skill Enhancement** Ms. Urooj Sultana	**Project Guidelines** Dr.Payal Bansal	**Seminar Interaction** Dr.Garima Mathur		**Advance Comm. Lab** Ms.Urooj Sultana	**Optical Comm. Lab** Mr. Manish Sharma
WEDNESDAY (8/9/2021)	**NPTEL Guidelines** Dr.Payal Bansal	**Add-on Course Preparation** Ms. Manisha Kumawat	**Placement Interaction** Mr. Manish Sharma		**VLSI Lab** Dr.Payal Bansal	**Optical Comm. Lab** Mr. Manish Sharma

Manisha Kumawat	**Dr. Garima Mathur**	**Pankaj Dhemla**	**Dr. Mahesh Bundele**
Time Table Coordinator	**HoD, ECE**	**Vice Principal, PCE**	**Director, PCE**

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10.2 Academic Time Table

POORNIMA COLLEGE OF ENGINEERING
TIME TABLE FOR ODD SEM. SESSION 2021-2022
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

IV **Tutor- Manish Sharma**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY	7EC6.1-14/PEC/AS	7EC7-40/Seminar/A1/DK/JG	7EC5-11/VLSI/AJ	LUNCH	7EC4-21/VLSI Lab/A1/DV	7EC7-Project/A/ADM
	7EC6.2-60/MSST/VKP	7EC7-40/Seminar/A2/MS	7EC5-13/CMOS/AD		7EC4-22/Advance Comm. Lab/A2/US	
TUESDAY	7EC6.1-14/PEC/AS	7EC5-11/VLSI/AJ	7EC7-30/IT/A1/VKP		7EC4-22/Advance Comm. Lab/A1/US	7EC7-Project/A/Dr. GM
	7EC6.2-60/MSST/VKP	7EC5-13/CMOS/AD	7EC7-30/IT/A2/VKP		7EC4-21/VLSI Lab/A2/DV	
WEDNESDAY	7EC6.1-14/PEC/AS	7EC7-40/Seminar/A1/DK/JG	7EC5-11/VLSI/AJ		7EC4-23/OC Lab/A1/GS	7EC7-Project/A/SKS
	7EC6.2-60/MSST/VKP	7EC7-40/Seminar/A2/MS	7EC5-13/CMOS/AD		7EC4-23/OC Lab/A2/GS	
THURSDAY	7EC7-Project/A/GM	7EC7-Project/A/GM	7EC7-Project/A/SKS		Industrial Training/VKP	
FRIDAY						
SATURDAY	I3 Class				I3 Class	

Manisha Kumawat	**Dr. Garima Mathur**	**Pankaj Dhemla**	**Dr. Mahesh Bundele**
Time Table Coordinator	**HoD, ECE**	**Vice Principal, PCE**	**Director, PCE**

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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

IV Year **Tutor- Manish Sharma**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30	2:30-3:30
MONDAY	7EC6.1-14/PEC/AS	7EC5-11/VLSI/AJ		LUNCH			
	7EC6.2-60/MSST/VKP	7EC5-13/CMOS/AD					
TUESDAY	7EC6.1-14/PEC/AS	7EC5-11/VLSI/AJ					
	7EC6.2-60/MSST/VKP	7EC5-13/CMOS/AD					
WEDNESDAY	7EC6.1-14/PEC/AS	7EC5-11/VLSI/AJ					
	7EC6.2-60/MSST/VKP	7EC5-13/CMOS/AD					
THURSDAY							
FRIDAY	7EC7-Project/A/ADM	7EC4-21/VLSI Lab/A2/DV			7EC7-Project/A/MS/AS-01	7EC4-23/OC Lab/A1/GS	
		7EC7-40/Seminar/A2/MS			7EC7-30/IT	7EC4-22/Advance Comm. Lab/A2/US	
SATURDAY	7EC7-Project/A/ADM	7EC4-21/VLSI Lab/A1/DV			7EC7-Project/A/ADM	7EC4-23/OC Lab/A2/GS	
		7EC7-40/Seminar/A1/DK/JG			7EC7-30/IT/A2/VKP	7EC4-22/Advance Comm. Lab/A1/US	

Manisha Kumawat	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:-IV Year **Tutor- Manish Sharma** **CS-03**

DAY/TIME	08:30-9:30	9:30-10:30	10:30-11:30	11:30-12:10	12:10-1:10	1:10-2:10	2:10-3:00	3:00-4:00
MONDAY	7EC6.1-14/PEC/ AJMEET SINGH/CS-18	7EC4-22/Ad. Comm. Lab/A1/ MS. UROOJ SULTANA/AS-02 A		LUNCH	7EC5-13/CMOS/Dr. Dr. ANILA DHINGRA CS-03	7EC7/Project/AS-01 Dr. GM•SKS	7EC7/Project/ AS-01 Dr. GM•SKS•ADM	7EC7/Project/ AS-01 GM•DK
		7EC4-21/VLSI Lab/A2/ MR. DHEERAJ VADHVANI/AS-02 B						
	7EC6.2-60/MSST/ VIJENDRA KUMAR PATEL/CS-19	7EC4-23/OC Lab/A3 /GAURAV SAXENA/AS-14			7EC5-11/VLSI/ Amit Jain/CS-19			
TUESDAY	7EC6.1-14/PEC/ AJMEET SINGH/CS-18	7EC7-30/Seminar/VIJENDRA KUMAR PATEL			7EC7/Project/AS-01 DK•Dr. GM•SKS	7EC4-22/Ad. Comm. Lab/A2/ MS. UROOJ SULTANA/AS-02 A		7EC5-13/CMOS/Dr. Dr. ANILA DHINGRA CS-03
						7EC4-21/VLSI Lab/A3/ MR. DHEERAJ VADHVANI/AS-02 B		
	7EC6.2-60/MSST/ VIJENDRA KUMAR	7EC7-40/Seminar/DK-MS-JG				7EC4-23/OC Lab/A1 /GAURAV SAXENA/AS-14		7EC5-11/VLSI/ Amit Jain/CS-19
WEDNESDAY	7EC6.1-14/PEC/ AJMEET SINGH/CS-18	7EC5-13/CMOS/Dr. Dr. ANILA DHINGRA CS-03	7EC7/Project/AS-01 Dr. GM•SKS		7EC4-22/Ad. Comm. Lab/A3/ MS. UROOJ SULTANA/AS-02 A			
					7EC4-21/VLSI Lab/A1/ MR. DHEERAJ VADHVANI/AS-02 B		7EC7/Project/ AS-01 DK•ADM	7EC7/Project/ AS-01 Dr. GM•SKS
	7EC6.2-60/MSST/ VIJENDRA KUMAR PATEL/CS-19	7EC5-11/VLSI/ Amit Jain/CS-19			7EC4-23/OC Lab/A2 /GAURAV SAXENA/AS-14			
THURSDAY								
FRIDAY								
SATURDAY								

Manisha Kumawat	Dr. Garima Mathu	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- III Year **Tutor- Dr. Payal Bansal**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY	5EC4-03/CS/RM	5EC4-02/EM/JJ	5EC4-22/DSP/SG	LUNCH	5EC3-01/CA/KL	5EC4-23/MV Lab/A1/PB
						5EC4-21/RF Lab/A2/SJ
						5EC4-22/DSP LAB/A3/RS
TUESDAY	5EC4-05/MTT/DK	5EC4-03/CS/RM	5EC4-02/EM/JJ		5EC4-22/DSP/SG	5EC4-21/RF Lab/A1/SJ
						5EC4-22/DSP LAB/A2/RS
						5EC4-23/MV Lab/A3/PB
WEDNESDAY	5EC5-11/BMI/MN	5EC4-05/MTT/DK	5EC4-22/DSP/SG		5EC4-03/CS/RM	5EC4-22/DSP LAB/A1/RS
						5EC4-23/MV Lab/A2/PB
	5EC5-14/Sat.Comm./PB					5EC4-21/RF Lab/A3/SJ
THURSDAY	5EC4-05/MTT/DK	5EC4-22/DSP/SG	5EC5-11/BMI/MN		5EC3-01/CA/KL	Python Programming: The basics (Add on)-GS
			5EC5-14/Sat.Comm./PB			
FRIDAY	5EC3-01/CA/KL	5EC4-03/CS/RM	5EC5-11/BMI/MN		5EC4-02/EM/JJ	5EC7-30/TS/NM-AD-SKS
			5EC5-14/Sat.Comm./PB			
SATURDAY	I3 Class				I3 Class	

Manisha Kumawat
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Pankaj Dhemla
Vice Principal, PCE

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TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- III Year **Tutor- Dr. Payal Bansal**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30	2:30-3:30
MONDAY	5EC3-01/CA/KL	5EC4-05/MTT/DK	5EC4-22/DSP/SG	LUNCH	5EC4-03/CS/RM	5EC5-11/BMI/MN 5EC5-14/Sat.Comm./PB	
TUESDAY	5EC4-03/CS/RM	5EC4-22/DSP/SG	5EC5-11/BMI/MN 5EC5-14/Sat.Comm./PB		5EC4-02/EM/JJ	5EC3-01/CA/KL	
WEDNESDAY	5ECNSP/NM-AD-SKS	5EC4-23/MW Lab/A1/PB			5EC4-04/DSP/A1/SG	5EC4-21/RF Lab/A1/SJ	
		5EC4-22/DSP LAB/A2/RS			5EC4-03/CS/A2/RM	5EC4-05/MTT/A2/DK	5EC4-02/EW/A2/JJ
THURSDAY	5EC7-30/IT/PB	5EC4-22/DSP LAB/A1/RS			5EC4-03/CS/A1/RM	5EC4-05/MTT/A1/DK	5EC4-02/EW/A1/JJ
		5EC4-23/MW Lab/A2/PB			5EC4-04/DSP/A2/SG	5EC4-21/RF Lab/A2/SJ	
FRIDAY	5EC4-03/CS/RM	5EC4-05/MTT/DK	5EC5-11/BMI/MN 5EC5-14/Sat.Comm./PB		5EC4-02/EM/JJ	5EC3-01/CA/KL	
SATURDAY	I3 Class				I3 Class		

Manisha Kumawat	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- III Year **Tutor-Dr. Payal Bansal** **CS-13**

DAY/TIME	08:30-9:30	9:30-10:30	10:30-11:30	11:30-12:10	12:10-1:10	1:10-2:10	2:10-3:00	3:00-4:00
MONDAY	5EC4-02/EM/ MS. JYOTSNA JOSHI	5EC4-03/CS/ RAJVEER MARWAL	5EC4-05/MTT /Durgesh Kumar	LUNCH	5EC4-04/DSP/ A1/SG/CS-19	5EC4-02/EW/ A1/JJ/CS-19	5EC3-01/CA/ Kavita Lal	5ECNSP/NM-SKS-AD/AS-01
					5EC4-23/MW Lab/A3/PB/AS-08			
					5EC4-21/RF Lab/A1/SJ/AS-02B			
TUESDAY	5EC4-02/EM/ MS. JYOTSNA JOSHI	5EC4-22/DSP/ SANDEEP GUPTA	5EC4-05/MTT /Durgesh Kumar		5EC5-11/BMI/ DR. MEETU NAG/CS-03	5EC3-01/CA/ Kavita Lal	5EC4-03/CS/ RAJVEER MARWAL	Python Programming: The basics (Add on)
					5EC514/Sat.Comm./ Dr. Payal Bansal/CS-13			
WEDNESDAY	5EC3-01/CA/ Kavita Lal	5EC4-23/MW Lab/A1/PB/AS-08			5EC4-03/CS/ RAJVEER MARWAL	5EC4-05/MTT /Durgesh Kumar	5EC5-11/BMI/ DR. MEETU NAG/CS-03	Python Programming: The basics (Add on)
		5EC4-02/EW/ A2/JJ/CS-18	5EC4-03/CS/ A2/RM/CS-13				5EC514/Sat.Comm./ Dr. Payal Bansal/CS-13	
		5EC4-22/DSP LAB/A2/RS/AS-02A						
THURSDAY	5EC4-22/DSP/ SANDEEP GUPTA	5EC4-03/CS/ A1/RM/CS-19	5EC4-05/MTT/ A1/DK/CS-19		5EC5-11/BMI/ DR. MEETU NAG/CS-03	5EC4-21/RF Lab/A2/SJ/AS-02B		Python Programming: The basics (Add on)
		5EC4-22/DSP LAB/A2/RS/AS-02B			5EC514/Sat.Comm./ Dr. Payal Bansal/CS-13	5EC4-04/DSP/A2/ SG/CS-19	5EC4-02/EW/A2/JJ CS-19	
		5EC4-05/MTT/ A3/DK/CS-18	5EC4-03/CS/ A3/TM/CS-18			5EC4-05/MTT/ A3/DK/CS-13	5EC4-03/CS/ A3/RM/CS-13	
FRIDAY	5EC3-01/CA/ Kavita Lal	5EC4-22/DSP LAB/A1/RS/AS-02A			5EC4-03/CS/ RAJVEER MARWAL	5EC4-22/DSP/ SANDEEP GUPTA	5EC4-02/EM/ MS. JYOTSNA JOSHI	Python Programming: The basics (Add on)
		5EC4-23/MW Lab/A2/PB/AS-08						
		5EC4-21/RF Lab/A3/SJ/AS-02B						
SATURDAY	I3 Class				I3 Class			

Manisha Kumawat	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

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POORNIMA COLLEGE OF ENGINEERING
TIME TABLE FOR ODD SEM. SESSION 2021-2022
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year — Tutor- Manisha Kumawat

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00- 12:30	12:30-1:30	1:30-2:30
MONDAY	3EC2-01/AEM/SD	3EC4-06/NT/ADM	3EC4-04/DSD/TM	LUNCH	3EC1-03/MEFA/KS	3EC3-24/CP Lab/KL
TUESDAY	3EC4-06/NT/ADM	3EC4-05/SS/MK	3EC2-01/AEM/SD		3EC4-04/DSD/TM	3EC4-07/ED/PB
WEDNESDAY	3EC4-04/DSD/TM	3EC4-07/ED/PB	3EC4-06/NT/ADM		3EC4-05/SS/MK	3EC4-21/ED Lab/SKS
THURSDAY	3EC2-01/AEM/SD	3EC4-07/ED/PB	3EC4-04/DSD/TM		3EC4-30/IT/MSU	3EC4-23/SP Lab/JG
FRIDAY	3EC4-06/NT/ADM	3EC4-05/SS/MK	3EC4-07/ED/PB		3EC1-03/MEFA/KS	3EC4-22/DSD Lab/RKG
SATURDAY	I3 Class				I3 Class	

Manisha Kumawat	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
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POORNIMA COLLEGE OF ENGINEERING
TIME TABLE FOR ODD SEM. SESSION 2021-2022
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30	2:30-3:30
MONDAY	3EC2-01/A1/AEM/SD	3EC3-24/CP Lab/A1/KL		LUNCH	3EC2-01/AEM/SD	3EC4-23/SP Lab/A1/JG	
TUESDAY	3EC4-06/A1/NT/ADM	3EC4-21/ED Lab/A1/SKS			3EC4-22/DSD Lab/A1/RKG		3ECNSP/MSU
WEDNESDAY	3EC4-06/NT/ADM	3EC4-04/DSD/TM	3EC4-07/ED/PB		3EC2-01/AEM/SD	3EC4-05/SS/MK	3EC1-03/MEFA
THURSDAY	3EC4-05/SS/MK	3EC4-04/DSD/TM	3EC2-01/AEM/SD		3EC4-07/ED/PB	3EC4-06/NT/ADM	3EC1-03/MEFA
FRIDAY	3EC4-07/ED/PB	3EC4-06/NT/ADM	3EC4-05/SS/MK		3EC4-04/DSD/TM		
SATURDAY	I3 Class				I3 Class		

Manisha Kumawat	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR ODD SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year **Tutor-Manisha Kumawat** **CS-04**

DAY/TIME	08:30-9:30	9:30-10:30	10:30-11:30	11:30-12:10	12:10-1:10	1:10-2:10	2:10-3:00	3:00-4:00
MONDAY	3EC2-01/AEM/ Dr. Shuchi Dave	3EC4-05/SS/ Manisha Kumawat	3EC4-04/DSD/ Tarun Mishra		3EC4-07/ED/ Dr. Payal Bansal	3EC4-22/DSD Lab/A1/RKG/AS-07		3ECNSP/MSU
TUESDAY	3EC3-24/CP Lab/A1/KL/AS-02B		3EC4-06/A1/NT/ MR. ANKUR DALMIYA		3EC4-04/DSD/ Tarun Mishra	3EC4-05/SS/ Manisha Kumawat	3EC1-03/MEFA/ Kalpana Sharma	Design of Basic Robots (Add on)
WEDNESDAY	3EC4-04/DSD/ Tarun Mishra	3EC2-01/AEM/ Dr. Shuchi Dave	3EC4-06/A1/NT/ MR. ANKUR DALMIYA		3EC4-05/SS/ Manisha Kumawat	3EC1-03/MEFA/ Kalpana Sharma	3EC4-07/ED/ Dr. Payal Bansal	Design of Basic Robots (Add on)
THURSDAY	3EC4-21/ED Lab/A1/SKS/AS-11		3EC2-01/AEM/ Dr. Shuchi Dave		3EC4-06/A1/NT/ MR. ANKUR DALMIYA	3EC4-05/SS/ Manisha Kumawat	3EC4-07/ED/ Dr. Payal Bansal	Design of Basic Robots (Add on)
FRIDAY	3EC4-04/DSD/ Tarun Mishra	3EC4-07/ED/ Dr. Payal Bansal	3EC4-06/A1/NT/ MR. ANKUR DALMIYA		3EC4-23/SP Lab/A1/JG/AS-02B		3EC2-01/AEM/ Dr. Shuchi Dave	Guide Interaction Club Activity
SATURDAY	I3 Class				I3 Class			

LUNCH

Manisha Kumawat	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

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11 Course Outcome Attainment Process:

11.1 Course Outcome Attainment Process

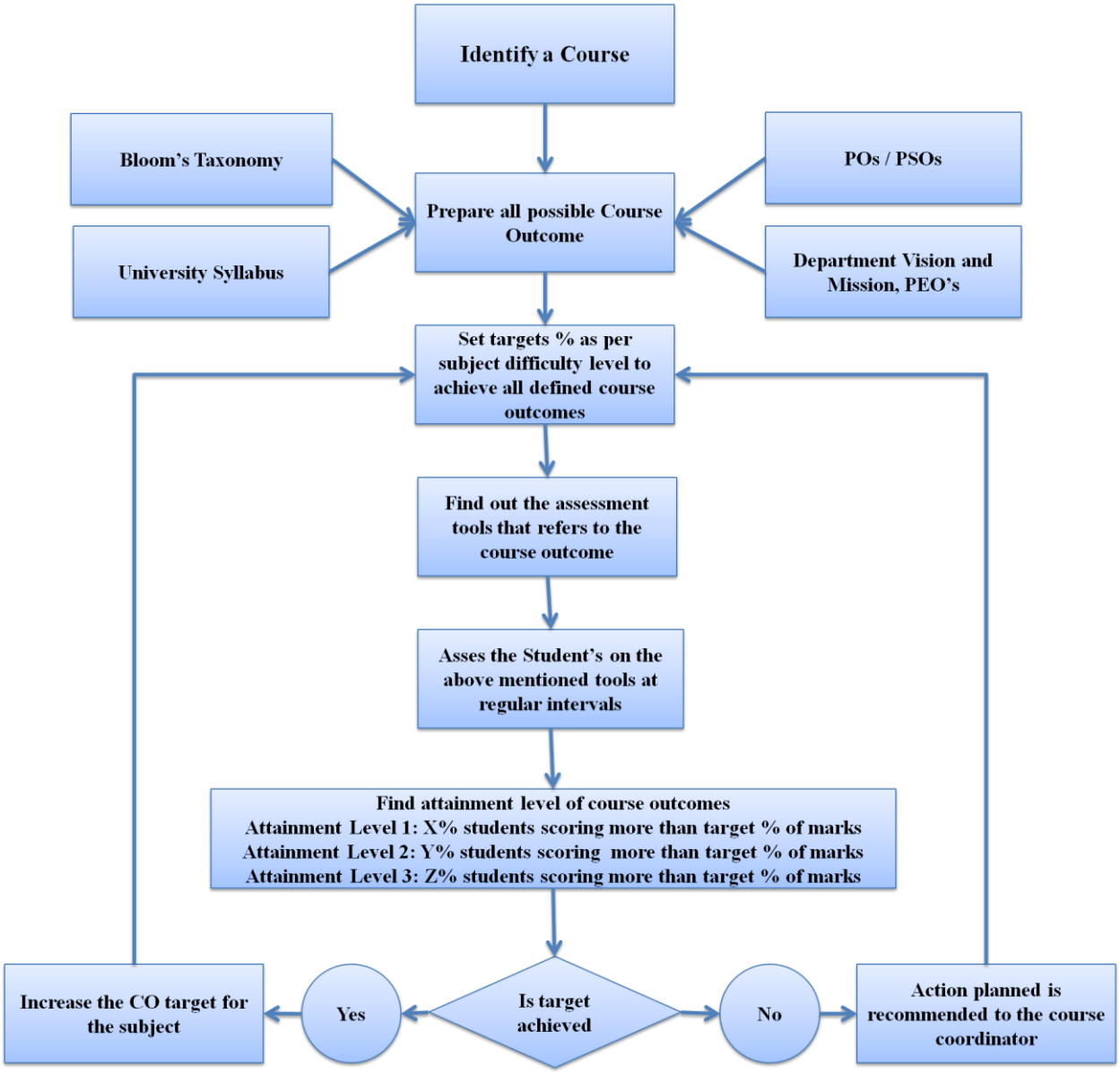

Figure. Course Outcome Attainment Process

11.2 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	PO1	PO2	PO3	PO4	PO5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO 2	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 transform domain formulation.	3	3	2	2	2							3	3	2	2
		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	3	3	2	2	2							3	3	2	1

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			digital filters, especially infinite impulse response (IIR) filters, Spatial filter, Adaptive filter, Inverse and Wiener filter for specific application.															
				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 elasticity, cash flow analysis, fund flow analysis and ratio analysis		3	2	3							3	2			2
		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 sequential circuits using VHDL	2	2	3	2	1							1	3	1	-

		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	2.33	2.75	2						2	2.5	2.25	2.66	2
3EC4-06	Network Theory	CO1	Describe and explain various concept of mesh & node analysis, network theorems, frequency domain, time domain, Electric network, Fourier series, transform, port network & filters analysis.	3	3				2						2	3	2	3
		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, solar cell and CMOS fabrication.	2	1	1	1						1	2		3	1	2
		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	2.33	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 semiconductors 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

				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	-	-	-	-	-	-	-	-	-			
				1.333	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 representation, I/O System organization	1	2							2						
		CO3	Evaluate the computer arithmetic operations on fixed and floating point numbers using different algorithms like restoring	2				2							3			

			method, micro programmed control unit and DMA controller.															
		CO4	Design basic and intermediate RISC pipelines, including the instruction set, functional units and components of computers.	3	3	3									2			
				2	2.66	3		2				2			2.66			
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	
				2.66	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 using time & frequency response.			3	3	3								3	
				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 components in the design of useful systems such as radars, receivers, etc.		3				3							2	3	
		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 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	[illegible]	[illegible]	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 up and pull down ratio, and noise margin)	3	3	3										3	3	
		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 communication concepts and compute and display various parameters along with plots/figures.		2	2										3		
				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 real time industrial or societal problem to select his/her seminar topic	3	1	2	3		3	3	3	3		3	3	2	1	2
		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	2.6	2	2.3	2

																	3 3 3	
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 control and current control loops of an electric drive	3	-	-	3	2	-	-	-	-	-	3	-	-	-	-
				1.50	1.75	1.00	-	1.00	1.0 0	1.5 0	-	-	-	-	1. 50	-	1 . 0 0	-
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	1.0 0	-	-	-	-	-	-	-	1 . 0 0	-
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 management system.	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-
		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	CO1	Develop The Understanding Of Cybercrime and legal Perspectives	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-

	(Open Elective-1)		of Security Implications for Organizations in respect to the Mobile and Wireless Devices.															
		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	-	-	-	-	-	-	-	-	-	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-	Illustrate the concept of Quality Assurance, Acceptance sampling	3	-	-	-	-	-	-	-	-	-	-	-			

		60.2.3	and study quality systems like ISO9000, ISO 14000 and Six Sigma																
		7ME6-60.2.4	Identify engineering problems, concept of reliability and Taguchi Method of Design of experiments	-	2	-	-	-	-	-	-	-	-	-	-	3	3	
				2.00	2.00	-	-	-	-	-	-	-	-	-	-	3		3

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12 Course File Sample

Outcome Based Process Implementation Guidelines for Faculty

12.1 Labelling your course file

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

12.2 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

13 Outcome Based Process Implementation **Guidelines for Faculty**

Course CO-PO, Preparation, Assessment Formats

Academic Session: 2021-2022 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

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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.

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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	Overall CO (-----)	% 0f Marks	Weightage X--/100 B	Overall CO (-----)	% 0f Marks	Weightage 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= Attained Level 3=	% of Students
No. of Students attained level 2= Attained Level 2=	% of Students
No. of Students attained level 1= Attained Level 1=	% of Students
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).

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14 File Formats

14.1 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

14.2 Front Page of Course File

14.3 ABC Analysis Format

14.4 Blown-up Format

14.5 Deployment Format

14.6 Zero Lecture Format

14.7 Lecture Note Front page Format

14.7.1 Detailed Lecture Note Format-1

14.7.2 Detailed Lecture Note Format-2

14.8 Assignment Format

14.9 Tutorial Format

14.10 Mid Term/ End Term Practical Question Paper Format

14.11 Mid Term Theory Question Paper Format

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13. 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		

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POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS & COMMUNICATIONENGINEERING

CURRICULUM DELIVERY PLAN

OUTLINE-EVEN SEM-2021-22

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

• Phone: +91-141-2770790 • E-mail: infor@poornima.org

• Website: www.poornima.org

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Table of Contents

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.

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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 2021-22

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

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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-1	Chairman, DAB-ECE	Dr. Santosh Kumar Agrahari, Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, DAB-ECE	Dr. Anila Dhingra Asso. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-3	Chairman, DAB-ECE	Dr. Payal Bansal Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-4	Chairman, DAB-ECE	Mr. Tarun Mishra Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, DAB-ECE	Mr. Rajveer Marwal Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
9	Special Invitee	Chairman, DAB-ECE	Dr. Rekha Nair, Dean	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
10	Alumni Representative-1	Chairman, DAB-ECE	Mr. Akshat Bhatia	TCS
11	Alumni Representative-2	Chairman, DAB-ECE	Mr. Karan Tamra	Infosys
12	Student Representative	Chairman, DAB-ECE	Mr. Sachin Jaiman	Final Year ECE
13	Industry Representative	Chairman, DAB-ECE	Mr. Ankit Saboo	Elektrolites (Power) Pvt. Ltd., Jaipur
14	Parents Representative-1	Chairman, DAB-ECE	Mr. Arun Sharma	Jaipur
15	Parents Representative-2	Chairman, DAB-ECE	Mr. Naveen Kumar	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

2021-22

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
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4	Faculty representative-2	Chairman, DAB-ECE	Dr. Anila Dhingra Asso. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-3	Chairman, DAB-ECE	Dr. Payal Bansal Professor, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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6	Faculty representative-4	Chairman, DAB-ECE	Mr. Tarun Mishra Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, DAB-ECE	Mr. Rajveer Marwal Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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 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 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	October Last Week	● Inclusion of suggestions for revising gaps ● Execution of Academic, Extra and Co-Curricular activities according to suggestions in GC ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of academics gaps as previous attainment
5.	PAC-5	November Third Week	● 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
6.	PAC-6	December Third Week	● Incorporation of suggestions from IQAC and DAB meetings in execution of Semester activities ● Execution and assessment of Academic, Extra and Co-Curricular activities ● Revision of academics gaps as previous attainment ● Calculation of attainments
7.	PAC-7	January	● 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 • Prepared regular report of program for all assessment, attainment & gaps
8.	PAC-8	February 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
9.	PAC-9	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 • Draft preparation of Semester closure
10.	PAC-10	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
11.	PAC-11	May 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 • 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.
12.	PAC-12	June Last Week	• 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

Sr. No.	Faculty Name	Emp.ID	Designation	Email ID	Mobile No.
1.	DR. GARIMA MATHUR (Head, Department of ECE)	4961	PROFESSOR	drg.mathur@poornima.org	9829393517
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3.	Dr. PAYAL BANSAL	1135	PROFESSOR	payal.bansal@poornima.org	9785487195
4.	MS. MANISHA KUMAWAT	1158	ASST PROFESSOR	manisha.kumawat47@yahoo.in	9509472051
5.	MS. MONIKA SURANA	1168	ASST PROFESSOR	monikasurana@poornima.org	9460895589
6.	MR. RAJVEER MARWAL	1195	ASST PROFESSOR	rajveer.ec@poornima.org	9887729792

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41.	MR. AVINASH SHARMA	1300	ASST PROFESSOR	avinashsharma@pornima.org	9928329591
42.	Mr. SAKAR GUPTA	5425	ASST PROFESSOR	sakar.gupta@gmail.com	9828501686
43.	Mr. SAURABH ANAND	3186	ASST PROFESSOR	saurabhanand@gmail.com	9783334004
44.	Mr. TARUN MEHTA	3189	ASST PROFESSOR	tarun011986@rediffmail.com	9983501466
45.	Mrs. NIKITA GAUTAM	2019	ASST PROFESSOR	nikita.gautam@poornima.org	9983071805

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5 Institute Academic Calendar

JANUARY 2022

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

FEBRUARY 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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27	28					

MARCH 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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APRIL 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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MAY 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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15	16	17	18	19	20	21
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29	30	31				

JUNE 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31					1	2
3	4	5	6	7	8	9
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POORNIMA
COLLEGE OF ENGINEERING

Affiliated to RTU, Kota • Approved by AICTE & UGC under 2(f) • Accredited by NBA

ACADEMIC CALENDAR 2021-22*#

EVEN SEMESTER

January 2022

Saturday, 08	Annual Alumni Meet [VIRTUAL MODE]
Thursday, 20	First Day, B. Tech. VI and VIII Sem.
Thursday, 27	First Day, B. Tech. IV Sem.
Wednesday, 26	Republic Day Celebration

February 2022

Wednesday, 23 to Saturday, 26	Aarohan -2022

March 2022

Friday, 11 to Saturday, 12	Wise Activity
Friday, 25 to Sunday, 27	Hostel Fest (AAYAM, TATVA TORQUE,PARAM, AADHYAY)

April 2022

Friday,01	First Day, B. Tech. II Sem.
Monday, 04 to Saturday, 09	First Mid Term Examination for B.Tech VI & VIII Sem
Monday, 25 to Saturday, 30	First Mid Term Examination for B.Tech IV Sem

May 2022

Friday, 06 to Sunday, 08	Mentorship Summit / Students' Council Meet
Saturday, 14	Last Teaching Day for B.Tech VI & VIII Sem
Monday, 16 to Saturday, 21	Second Mid-Term Examination for B.Tech VI & VIII Sem
Monday, 23 to Saturday, 28	First Mid Term Examination for B.Tech II Sem
Monday, 23 to Wednesday, 25	End-Term Practical Exams for B.Tech VI & VIII Sem

June 2022

Monday, 06 to Saturday, 11	Second Mid-Term Examination for B.Tech IV Sem
Monday, 13 to Wednesday, 15	End-Term Practical Examination for B.Tech IV Sem

July 2022

Monday, 04 to Saturday, 09	Second Mid-Term Examination for B.Tech II Sem
Monday, 11 to Wednesday, 13	End-Term Practical Examination for B.Tech II Sem

HOLIDAYS IN EVEN SEMESTER 2021-22

1	Winter Break	As per RTU Examination Schedule
2	Makar Sankranti	Friday, January 14 to Saturday, January 15, 2022
3	Celebration of Republic Day	Wednesday, January 26, 2022
4	Holi	Friday, March 18 to Saturday, March 19, 2022
5	Ramzan Id/Eid-ul-Fitar	Tuesday, May 03, 2022
6	Summer Break	As per RTU Examination Schedule

*Subject to revision as per RTU notifications
#For all Engineering Faculty and Students of PCE

Dr. Mahesh Bundele
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6 Department Activity Calendar

Poornima College of Engineering, Jaipur

Calendar for Electronics & Communication Engineering : EVEN Semester - Session 2021-22

(A) Academic Processes

S. No.	Activity/ Process	B. Tech. II Sem.	B. Tech. IV Sem.	B. Tech. VI Sem.	B. Tech. VIII Sem.
1	Date of Registration & start of regular classes for students	Friday,01, April 2022	Thursday, 27, January 2022	Thursday, 20, January 2022	Thursday, 20, January 2022
2	Orientation programme	Friday, 01 to Thursday, 07, April 2022	Thursday, 27 January to 04 February, 2022	Thursday, 27 January to 04 February, 2022	Thursday, 27 January to 04 February, 2022
3	Date of submission of question papers by faculty members to secrecy for 1st Mid-term	Monday 9, May 2022	Monday 11, April 2022	Monday 11, April 2022	Monday 11, April 2022
4	I Mid Term Theory & Practical Exam	Monday, 23 to Saturday, 28, May 2022	Monday, 25 to Saturday, 30, April 2022	Monday, 04 to Saturday, 09, April 2022	Monday, 04 to Saturday, 09, April 2022
5	Showing evaluated answer books of 1st Mid-term exam to students in respective classes	Monday, 06/06/2022	Saturday, 07/05/2022	Saturday, 16-04-2022	Saturday, 16-04-2022
6	Last date of submission of Evaluated Answer Books and Mark of First Mid-term Theory & Practical exam to Exam and Secrecy Cell respectively	Saturday, 4 June 2022	Thursday, 5 May 2022	Saturday, 16 April 2022	Saturday, 16 April 2022
7	Date of submission of question papers by faculty members to secrecy for 2nd Mid-term	Monday, 27 June 2022	Monday, 30 May 2022	Monday, 2 May 2022	Monday, 2 May 2022
8	Revision classes				
9	Last Teaching Day*	Thursday, 30 June 2022	Friday 3 June 2022	Saturday, 14, May 2022	Saturday, 14, May 2022
10	2nd Mid-term theory & Practical Exams*	Monday, 04 to Saturday, 09, July 2022	Monday, 06 to Saturday, 11, June 2022	Monday, 16 to Saturday, 21, May 2022	Monday, 16 to Saturday, 21, May 2022
11	End-Term Practical Exams	Monday, 11 to Wednesday, 13, July 2022	Monday, 13 to Wednesday, 15, June 2022	Monday, 23 to Wednesday, 25, May 2022	Monday, 23 to Wednesday, 25, May 2022

(B) Events and Activities

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12	Add-on Course on Opti-System Fundamentals and Design Techniques		January 3 to February 18, 2022		
13	Add-on Course on Use of AI in Electronics			January 17 to March 04, 2022	
14	NITTTR Chandigarh -Digital Media Tools for Effective Teaching Learning	March 21-25, 2022			
15	DST-NIMAT-Entrepreneurship Development Institute of India, Ahmedabad Entrepreneurship Awareness Camp (EAC)	11 April-13 April 2022			
16	Third International Conference On Artificial Intelligence: Advances And Applications-2022 (ICAIAA-2022)	April 23-24, 2022			
17	IEEE Prakash Bharati India, Organizing Quiz on Light and Light Based Technologies, International Day of Light	Wednesday, May 11, 2022			
18	National Technology Day, An Expert Session on Technological Achievements in the Field of Indian Metrology	Friday, May 13, 2022			
(C) Holidays					
27	Makar Sankranti	Friday, January 14 to Saturday, January 15, 2022			
28	Celebration of Republic Day	Wednesday, January 26, 2022			
29	Holi	Friday, March 18 to Saturday, March 19, 2022			
30	Ramzan Id/Eid-ul-Fitar	Tuesday, May 03, 2022			

"स्वच्छभारत.. सम्पन्नभारत.."

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7 Teaching Scheme

7.1 RTU Teaching Scheme

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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

SN	Category	Course Code	Course Title	Contact hrs/week L	T	P	Marks Exm Hrs	IA	ETE	Total	Cr
THEORY											
1	BSC	4EC2-01	Advanced Engineering Mathematics-II	3	0	0	3	30	70	**100**	**3**
2	HSMC	4EC1-03/ 4EC1-02	Managerial Economics and Financial Accounting/ Technical Communication	2	0	0	2	30	70	**100**	**2**
3	PCC	4EC4-04	Analog Circuits	3	0	0	3	30	70	**100**	**3**
4		4EC4-05	Microcontrollers	3	0	0	3	30	70	**100**	**3**
5	ESC	4EC3-06	Electronics Measurement & Instrumentation	3	0	0	3	30	70	**100**	**3**
6	PCC	4EC4-07	Analog and Digital Communication	3	0	0	3	30	70	**100**	**3**
			Sub Total	17	0	0					**17**
PRACTICAL & SESSIONAL											
8	PCC	4EC4-21	Analog and Digital Communication Lab	0	0	3		60	40	**100**	**1.5**
9		4EC4-22	Analog Circuits Lab	0	0	3		60	40	**100**	**1.5**
10		4EC4-23	Microcontrollers Lab	0	0	3		60	40	**100**	**1.5**
11		4EC4-24	Electronics Measurement & Instrumentation Lab	0	0	3		60	40	**100**	**1.5**
12	SODECA	4EC18-00	Social Outreach, Discipline & Extra Curricular Activities							**100**	**0.5**
			Sub- Total	0	0	12					**6.5**
			TOTAL OF IV SEMEESTER	17	0	12					**23.5**

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

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

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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

THEORY												
SN	Category	Course Code	Course Title	Contact hrs/week L	T	P	Marks Exm Hrs	IA	ETE	Total	Cr
1	ESC	6EC 3-01	Power Electronics	2	0	0	3	30	70	100	**2**
2	PCC/ PEC	6EC 4-02	Computer Network	3	0	0	3	30	70	100	**3**
3		6EC 4-03	Fiber Optics Communications	3	0	0	3	30	70	100	**3**
4		6EC 4-04	Antennas and Propagation	3	0	0	3	30	70	100	**3**
5		6EC 4-05	Information theory and coding	3	0	0	3	30	70	100	**3**
6		Professional Elective II (any one)		3	0	0	3	30	70	100	**3**
		6EC 5-11	Introduction to MEMS								
		6EC 5-12	Nano Electronics								
		6EC 5-13	Neural Network And Fuzzy Logic Control								
		6EC 5-14	High Speed Electronics								
		Sub Total		**17**	**0**	**0**					**17**
PRACTICAL & SESSIONAL												
7	PCC	6EC 4-21	Computer Network Lab	0	0	4	2	60	40	100	**2**
8		6EC 4-22	Antenna and wave propagation Lab	0	0	2	2	60	40	100	**1**
9		6EC 4-23	Electronics Design Lab	0	0	4	2	60	40	100	**2**
10		6EC 4-24	Power Electronics Lab	0	0	2	2	60	40	100	**1**
11	SODECA	6EC 8-00	Social Outreach, Discipline & Extra Curricular Activities	0	0	0			100	100	**0.5**
		Sub- Total		0	0	12					**6.5**
		TOTAL OF VI SEMESTER		**17**	**0**	**12**					**23.5**

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

ETE: End Term Exam, IA: Internal Assessment

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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 - VIII Semester

SN	Category	Course Code	Course Title	Contact hrs/week			Marks				Cr
				L	T	P	Exm Hrs	IA	ETE	Total	
THEORY											
1	PEC		Program Elective	3	0	0	3	30	120	**150**	**3**
		8EC5-11	Artificial Intelligence And Expert Systems								
		8EC5-12	Digital Image and Video Processing								
		8EC5-13	Adaptive Signal Processing								
2	OE		Open Elective-II	3	0	0	3	30	120	**150**	**3**
			Sub Total	**6**	**0**	**0**		**60**	**240**	**300**	**6**
PRACTICAL & SESSIONAL											
3	PCC	8EC4-21	Internet of Things (IOT) Lab	0	0	2	2	30	20	**50**	**1**
4		8EC4-22	Skill Development Lab	0	0	2	2	30	20	**50**	**1**
5	PSIT	8EC7-50	Project	3	0	0		210	140	**350**	**7**
6	SODECA	8EC8-00	Social Outreach, Discipline & Extra Curricular Activities						25	**25**	**0.5**
			Sub Total	**3**	**0**	**4**		**270**	**205**	**475**	**9.5**
			TOTAL of VIII SEMESTER	**9**	**0**	**4**		**330**	**445**	**775**	**15.5**

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

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

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8 PCE Teaching Scheme

Poornima College of Engineering, Jaipur

Format for Teaching Scheme of Even Semester 2021-22

Working Group	Campus	Year	Sem	No. of Students	Deptt.	Teaching Scheme				Course Name	Subject Code	L/T/P	Load Per Week	No. of Sec	No. of Batches	Batch Size (T/H/F)	Tutorial Load (L)	Tutorial Load (T)	Tutorial Load (P)	Total Load (L+T+P)	Teaching Dept.	Cat.
						L	T	P	Credit													
ECE	PCE	2	4	66	ECE	4	0	0	3	Advanced Engineering Mathematics-II	4EC2-01	L	3	1	3	F	3	0	0	3	Maths	BSC
ECE	PCE	2	4	66	ECE	0	1	0	NA	Advanced Engineering Mathematics-II	4EC2-01	T	1	1	3	F	0	3	0	3	Maths	BSC
ECE	PCE	2	4	66	ECE	2	0	0	2	Technical Communication	4EC1-02	L	2	1	3	F	2	0	0	2	English	HSMC
ECE	PCE	2	4	66	ECE	4	0	0	3	Analog Circuits	4EC4-04	L	3	1	3	F	3	0	0	3	ECE	PCC
ECE	PCE	2	4	66	ECE	0	1	0	NA	Analog Circuits	4EC4-04	T	1	1	3	F	0	3	0	3	ECE	PCC
ECE	PCE	2	4	66	ECE	4	0	0	3	Microcontrollers	4EC4-05	L	3	1	3	F	3	0	0	3	ECE	PCC
ECE	PCE	2	4	66	ECE	0	1	0	NA	Microcontrollers	4EC4-05	T	1	1	3	F	0	3	0	3	ECE	PCC
ECE	PCE	2	4	66	ECE	4	0	0	3	Electronics Measurement & Instrumentation	4EC3-06	L	3	1	3	F	3	0	0	3	ECE	ESC
ECE	PCE	2	4	66	ECE	4	0	0	3	Analog and Digital Communication	4EC4-07	L	4	1	3	F	4	0	0	4	ECE	PCC
ECE	PCE	2	4	66	ECE	0	1	0	0	Analog and Digital Communication	4EC4-07	T	1	1	3	F	0	3	0	3	ECE	PCC
ECE	PCE	2	4	66	ECE	0	0	2	75	Analog and Digital Communication Lab	4EC4-21	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	2	4	66	ECE	0	0	2	75	Analog Circuits Lab	4EC4-22	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	2	4	66	ECE	0	0	2	75	Microcontrollers Lab	4EC4-23	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	2	4	66	ECE	0	0	2	75	Electronics Measurement & Instrumentation Lab	4EC4-24	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	2	4	66	ECE	2	0	0	NA	CRT by WAE	4CRTEC	L	0	1	3	F	0	0	0	0	WAE	WAE
ECE	PCE	2	4	66	ECE	0	0	0	25	Social Outreach, Discipline & Extra Curricular Activities	4EC18-00	NA	0	1	3	F	0	0	0	0	SODECA	SODECA
ECE	PCE	3	6	64	ECE	3	0	0	2	Power Electronics	6EC3-01	L	3	1	3	F	3	0	0	3	ECE	ESC
ECE	PCE	3	6	64	ECE	0	1	0	NA	Power Electronics	6EC3-01	T	1	1	3	F	0	3	0	3	ECE	NA
ECE	PCE	3	6	64	ECE	4	0	0	3	Computer Network	6EC4-02	L	3	1	3	F	3	0	0	3	OS	NA
ECE	PCE	3	6	64	ECE	0	1	0	NA	Computer Network	6EC4-02	T	1	1	3	F	0	3	0	3	OS	PCC/PEC
ECE	PCE	3	6	64	ECE	3	0	0	3	Fiber Optics Communications	6EC4-03	L	3	1	3	F	3	0	0	3	ECE	PCC/PEC
ECE	PCE	3	6	64	ECE	3	0	0	3	Antennas and Propagation	6EC4-04	L	3	1	3	F	3	0	0	3	ECE	PCC/PEC
ECE	PCE	3	6	64	ECE	0	1	0	3	Antennas and Propagation	6EC4-04	T	1	1	3	F	0	3	0	3	ECE	NA
ECE	PCE	3	6	64	ECE	4	0	0	3	Information theory and coding	6EC4-05	L	3	1	3	F	3	0	0	3	ECE	PCC/PEC
ECE	PCE	3	6	64	ECE	0	1	0	3	Information theory and coding	6EC4-05	T	1	1	3	F	0	3	0	3	ECE	
ECE	PCE	3	6	64	ECE	3	0	0	3	Introduction to MEMS / Nano Electronics / Neural Network And Fuzzy Logic Control / High Speed Electronics	6EC5-11/ 6EC5-12/ 6EC5-13/ 6EC5-14	L	3	1	3	F	6	0	0	6	ECE	PCC/PEC
ECE	PCE	3	6	64	ECE	0	0	2	2	Computer Network Lab	6EC4-21	P	2	1	3	T	0	0	6	6	OS	PCC
ECE	PCE	3	6	64	ECE	0	0	2	1	Antenna and wave propagation Lab	6EC4-22	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	3	6	64	ECE	0	0	2	2	Electronics Design Lab	6EC4-23	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	3	6	64	ECE	0	0	2	1	Power Electronics Lab	6EC4-24	P	2	1	3	T	0	0	6	6	ECE	PCC
ECE	PCE	3	6	64	ECE	0	0	1	NA	NSP	6NSPEC	P	0	1	3	T	0	0	0	0	ECE	NA
ECE	PCE	3	6	64	ECE	3	0	0	NA	CRT by WAE	6CRTEC	L	0	1	3	F	0	0	0	0	WAE	NA
ECE	PCE	3	6	64	ECE	0	0	0	0.5	Social Outreach, Discipline & Extra Curricular Activities	6EC8-00	NA	0	1	3	F	0	0	0	0	NA	SODECA
ECE	PCE	4	8	88	ECE	4	0	0	NA	Artificial Intelligence And Expert Systems / Digital Image and Video Processing / Adaptive Signal Processing	8EC5-11/ 8EC5-12/ 8EC5-13	L	4	2	4	F	8	0	0	8	ECE	NA
ECE	PCE	4	8	88	ECE	4	0	0	NA	Open Elective-II		L	4	2	4	F	8	0	0	8	ECE	NA
ECE	PCE	4	8	88	ECE	0	0	2	NA	Internet of Things (IOT) Lab	8EC4-21	P	3	2	4	T	0	0	12	12	ECE	NA
ECE	PCE	4	8	88	ECE	1	0	0	NA	Skill Development Lab	8EC4-22	P	3	2	4	T	0	0	12	12	ECE	NA
ECE	PCE	4	8	88	ECE	0	0	7	NA	Project	8EC7-50	P	10	2	4	T	0	0	40	40	ECE	NA
ECE	PCE	4	8	88	ECE	0	0	0	0.5	Social Outreach, Discipline & Extra Curricular Activities	8EC8-00	NA	0	1	3	F	0	0	0	0	NA	SODECA

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8.1 Marking Scheme

MARKING SCHEME FOR PRACTICAL EXAM, EVEN SEM., 2021-22,		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
2FY2-21	Engineering Chemistry Lab	30	10	40	10	30	40	30	10	40	100
2FY2-20	Engineering Physics Lab	30	10	40	10	30	40	30	10	40	100
2FY1-23	Human Values Activities and Sports	30	10	40	10	30	40	30	10	40	100
2FY1-22	Language Lab	30	10	40	10	30	40	30	10	40	100
2FY3-25	Manufacturing Practices Workshop	30	10	40	10	30	40	30	10	40	100
2FY3-24	Computer Programming Lab	30	10	40	10	30	40	30	10	40	100
2FY3-27	Basic Civil Engineering Lab	30	10	40	10	30	40	30	10	40	100
2FY3-26	Basic Electrical Engineering Lab	30	10	40	10	30	40	30	10	40	100
2FY3-29	Computer Aided Machine Drawing	30	10	40	10	30	40	30	10	40	100
2FY3-28	Computer Aided Engineering Graphics	30	10	40	10	30	40	30	10	40	100
4CE4-21	Material Testing Lab	30	10	40	10	30	40	30	10	40	100
4CE4-22	Hydraulics Engineering Lab	30	10	40	10	30	40	30	10	40	100
4CE4-23	Building Drawing	30	10	40	10	30	40	30	10	40	100
4CE4-24	Advanced Surveying Lab	30	10	40	10	30	40	30	10	40	100
4CE4-25	Concrete Lab	30	10	40	10	30	40	30	10	40	100
4CS4-21	Microprocessor & Interfaces Lab	30	10	40	10	30	40	30	10	40	100
4CS4-22	Database Management System Lab	30	10	40	10	30	40	30	10	40	100
4CS4-23	Network Programming Lab	30	10	40	10	30	40	30	10	40	100
4CS4-24	Linux Shell Programming Lab	30	10	40	10	30	40	30	10	40	100
4CS4-25	Java Lab	30	10	40	10	30	40	30	10	40	100
4EC4-21	Analog and Digital Communication Lab	30	10	40	10	30	40	30	10	40	100
4EC4-22	Analog Circuits Lab	30	10	40	10	30	40	30	10	40	100
4EC4-23	Microcontrollers Lab	30	10	40	10	30	40	30	10	40	100
4EC4-24	Electronics Measurement & Instrumentation	30	10	40	10	30	40	30	10	40	100
4EE4-21	Electrical Machine - II Lab	30	10	40	10	30	40	30	10	40	100
4EE4-22	Power Electronics Lab	30	10	40	10	30	40	30	10	40	100
4EE4-23	Digital Electronics Lab	30	10	40	10	30	40	30	10	40	100
4EE3-24	Measurement Lab	30	10	40	10	30	40	30	10	40	100
4IT4-21	Linux Shell Programming Lab	30	10	40	10	30	40	30	10	40	100
4IT4-22	Database Management System Lab	30	10	40	10	30	40	30	10	40	100
4IT4-23	Network Programming Lab	30	10	40	10	30	40	30	10	40	100
4IT4-24	Java Lab	30	10	40	10	30	40	30	10	40	100
4IT4-25	Web Technology Lab	30	10	40	10	30	40	30	10	40	100
4ME3-21	Digital Electronics lab	30	10	40	10	30	40	30	10	40	100
4ME4-22	Fluid Mechanics lab	30	10	40	10	30	40	30	10	40	100
4ME4-23	Production practice lab	30	10	40	10	30	40	30	10	40	100
4ME4-24	Theory of machines Lab	30	10	40	10	30	40	30	10	40	100
6CE4-21	Environmental Engineering Design and Lab	22	8	30	8	22	30	22	8	30	75
6CE4-22	Steel Structure Design	22	8	30	8	22	30	22	8	30	75
6CE4-23	Quantity Surveying and Valuation	15	5	20	5	15	20	15	5	20	50
6CE4-24	Water and Earth Retaining Structures Design	15	5	20	5	15	20	15	5	20	50
6CE4-25	Foundation Design	15	5	20	5	15	20	15	5	20	50
6CS4-21	Digital Image Processing Lab	22	8	30	8	22	30	22	8	30	75
6CS4-22	Machine Learning Lab	22	8	30	8	22	30	22	8	30	75
6CS4-23	Python Lab	22	8	30	8	22	30	22	8	30	75
6CS4-24	Mobile Application Development Lab	22	8	30	8	22	30	22	8	30	75
6EC 4-21	Computer Network Lab	30	10	40	10	30	40	30	10	40	100
6EC 4-22	Antenna and wave propagation Lab	15	5	20	5	15	20	15	5	20	50
6EC 4-23	Electronics Design Lab	30	10	40	10	30	40	30	10	40	100
6EC 4-24	Power Electronics Lab	15	5	20	5	15	20	15	5	20	50
6EE4-21	Power System - II Lab	30	10	40	10	30	40	30	10	40	100
6EE4-22	Electric Drives Lab	30	10	40	10	30	40	30	10	40	100
6EE4-23	Power System Protection Lab	15	5	20	5	15	20	15	5	20	50
6EE4-24	Modelling and simulation lab	15	5	20	5	15	20	15	5	20	50
6IT4-21	Digital Image Processing Lab	22	8	30	8	22	30	22	8	30	75
6IT4-22	Machine Learning Lab	22	8	30	8	22	30	22	8	30	75
6IT4-23	Python Lab	22	8	30	8	22	30	22	8	30	75
6IT4-24	Mobile Application Development Lab	22	8	30	8	22	30	22	8	30	75
6ME4-21	CIMS Lab	22	8	30	8	22	30	22	8	30	75
6ME4-22	Vibration Lab	22	8	30	8	22	30	22	8	30	75
6ME4-23	Machine Design Practice II	22	8	30	8	22	30	22	8	30	75
6ME4-24	Thermal Engineering Lab I	22	8	30	8	22	30	22	8	30	75
8CE4-21	Project Planning & Construction	15	5	20	5	15	20	15	5	20	50
8CE4-22	Pavement Design	15	5	20	5	15	20	15	5	20	50
8CE7-50	Project			210					140		350
8CS4-21	Big Data Analytics Lab	15	5	20	5	15	20	15	5	20	50
8CS4-22	Software Testing and Validation Lab	15	5	20	5	15	20	15	5	20	50
8CS7-50	Project			270					180		450
8EC4-21	Internet of Things (IOT) Lab	15	5	20	5	15	20	15	5	20	50
8EC4-22	Skill Development Lab	15	5	20	5	15	20	15	5	20	50
8EC7-50	Project			210					140		350
8EE4-21	Energy Systems Lab	30	10	40	10	30	40	30	10	40	100
8EE7-50	Project			210					140		350
8IT4-21	Internet of Things Lab	15	5	20	5	15	20	15	5	20	50
8IT4-22	Software Testing and Validation Lab	15	5	20	5	15	20	15	5	20	50
8IT7-50	Project			210					140		350
8ME4-21	Industrial Engineering Lab	15	5	20	5	15	20	15	5	20	50
8ME4-22	Metrology Lab	15	5	20	5	15	20	15	5	20	50
8ME7-50	Project			210					140		350

NOTE: - (1) In Attendance & Performance marks should be given on the basis of student overall performance in semester i. e. continuous evaluation.
(2) In Common Pool marks should be given by HOD on the basis of student Assignment,Non Syllabus Activity,Online Exam Exam,Application/Survey / Case Study based Learning, Pre-Placement Activity, Department Level Career Oriented Activities through out the semester.

9 Department Load Allocation

Poornima College of Engineering, Jaipur
Department of Electronics & Communication Engineering
Load for Even Semester 2021-22

S. NO.	FACULTY NAME	CODE	SUBJECT	L	T	P	LOAD
1	Dr. Garima Mathur	8EC7-50	Project	0	0	4	4
							4
2	Dr. Payal Bansal	6EC 4-24	Power Electronics Lab	0	0	2	**6**
							6
3	Dr. Anila Dhingra	6NSPEC	NSP	0	0	4	4
		8EC5-12	Digital Image and Video Processing	3	0	0	3
							4
4	Amit Jain	8EC5-11	Artificial Intelligence And Expert Systems	3	0	0	3
		6EC 5-11	Introduction to MEMS	3	0	0	3
							6
5	Durgesh Kumar		OptiSystem Fundamentals and Design Techniques (Add or	3	0	0	3
		8EC7-50	Project	0	0	2	2
		6EC 4-03	Fiber Optics Communications	3	2	0	5
							10
6	Manish Sharma	8EC7-50	Project	0	0	2	2
							2
7	Manisha Kumawat	4EC4-05	Microcontrollers	3	1	0	4
							4
8	Tarun Mishra	4EC4-07	Analog and Digital Communication	4	1	0	5
							5

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9	**Dr. Shuchi Dave**	4EC2-01	Advanced Engineering Mathematics-II	3	1	0	4
10	**Prince Dawar**	4EC1-02	Technical Communication	2	0	0	2
11	**Dr. NITESH MUDGAL**	4EC4-04	Analog Circuits	3	1	0	4
12	**DR. MEETU NAG**	4EC3-06	Electronics Measurement & Instrumentation	3	1	0	4
		6EC 5-12	Nano Electronics	3	0	0	3
13	**Dr. JITENDRA GUPTA**	4EC4-21	Analog and Digital Communication Lab	0	0	2	2
14	**MR. SUSHIL JAIN**	4EC4-22	Analog Circuits Lab	0	0	2	2
		6EC 4-22	Antenna and wave propagation Lab	0	0	2	6
15	**Mr. SUPREET KUMAR SINGH**	4EC4-23	Microcontrollers Lab	0	0	2	2
		6NSPEC	NSP	0	0	4	4
16	**MR. RAKESH KUMAR GOYAL**	4EC4-24	Electronics Measurement & Instrumentation Lab	0	0	2	2
17	**DR. SURENDRA HANS**	6EC 3-01	Power Electronics	3	0	0	3
18	**Kavita Lal**	6EC 4-02	Computer Network	3	2	0	5
		6EC 4-21	Computer Network Lab	0	0	2	6
19	**Mr. SANDEEP GUPTA**	6EC 4-04	Antennas and Propagation	3	2	0	5
20	**MR. RAJVEER MARWAL**	6EC 4-05	Information theory and coding	3	2	0	5
21	**Ms. RISHIKA SETHI**	6EC 4-23	Electronics Design Lab	0	0	2	6

22	**MR. AJMEET SINGH**	8EC6-60.1	Industrial and Biomedical applications of RF Energy	3	0	0	3
23	**Mr. VIJENDRA KUMAR PATEL**	8EC6-60.2	Robotics and control	3	0	0	3
24	**MR. DHEERAJ VADHWANI**	8EC4-21	Internet of Things (IOT) Lab	0	0	6	6
25	**MS. UROOJ SULTANA**	8EC4-22	Skill Development Lab	0	0	6	6
26	**Mr. Gaourav Saxena**	8EC7-50	Project	0	0	4	4
27	**Mr. Ankur Dalmiya**	8EC7-50	Project	0	0	3	3

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10 Time Table

10.1 Orientation Time Table

POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR EVEN SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year Venue: (CS-05) **Tutor- Dr. Payal Bansal**

DAY/TIME	08:00-9:00	9:00-10:00	10:00-11:00	11:00-11:40	11:40-12:40	12:40-1:40	1:40-2:30
TUESDAY 16/08/2022	Tutor Interaction Dr. Nitesh Mudgal	HOD Interaction Dr.Garima Mathur	Skill Enhancement Ms. Jyotsna Joshi	LUNCH	3EC4-22/DSD LAB/AT-01 NM		3EC4-05/SS/JS
WEDNESDAY 17/08/2022	NPTELGuidelines Dr. Surender hans	Internship Interaction Dr.Payal Bansal	Add on Course Dr. Meetu Nag		3EC3-24/CP Lab/A1/AT-20 VY		3EC4-04/DSD/NM

Dr. Payal Bansal	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR EVEN SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year Venue: (CS-04) **Tutor- Ms. Jyotsna Joshi**

DAY/TIME	08:00-9:00	9:00-10:00	10:00-11:00	11:00-11:40	11:40-12:40	12:40-1:40	1:40-2:30
TUESDAY 16/08/2022	Tutor Interaction Dr. Nitesh Mudgal	HOD Interaction Dr.Garima Mathur	Skill Enhancement Ms. Jyotsna Joshi	LUNCH	3EC4-22/DSD LAB/AT-01 NM		3EC4-05/SS/JS
WEDNESDAY 17/08/2022	NPTELGuidelines Dr. Surender hans	Internship Interaction Dr.Payal Bansal	Add on Course Dr. Meetu Nag		3EC3-24/CP Lab/A1/AT-20 VY		3EC4-04/DSD/NM
THRUSDAY 18/08/2022	Matlab Session Ms. Jyotsna Joshi	NSP Guidelines Ms. Payal Bansal	Placement Interaction Dr. Nitesh Mudgal		3EC4-21/ED Lab/A1/AT-02 PB		3EC4-06/NT/SH

Dr. Payal Bansal	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR EVEN SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year Venue: (CS-05) **Tutor- Dr. Payal Bansal**

DAY/TIME	08:00-9:00	9:00-10:00	10:00-11:00	11:00-11:40	11:40-12:40	12:40-1:40	1:40-2:30
TUESDAY 16/08/2022	Tutor Interaction Dr. Nitesh Mudgal	HOD Interaction Dr.Garima Mathur	Skill Enhancement Ms. Jyotsna Joshi	LUNCH	3EC4-22/DSD LAB/AT-01 NM		3EC4-05/SS/JS
WEDNESDAY 17/08/2022	NPTELGuidelines Dr. Surender hans	Internship Interaction Dr.Payal Bansal	Add on Course Dr. Meetu Nag		3EC3-24/CP Lab/A1/AT-20 VY		3EC4-04/DSD/NM

Dr. Payal Bansal	Dr. Garima Mathur	Pankaj Dhemla	Dr. Mahesh Bundele
Time Table Coordinator	HoD, ECE	Vice Principal, PCE	Director, PCE

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10.2 Academic Time Table

POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR EVEN SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:-IV Year **Tutor- Dr. Anila Dhingra**

DAY/TIME	08:00-9:00	9:00-10:00	10:00-11:00	11:00-11:40	11:40-12:40	12:40-1:40	1:40-2:30	2:30-4:00
MONDAY	8EC6-60.1/Industrial & Biomedical applications of RF Energy/AJMEET SINGH/CS-04	8EC4-21/Internet of Things (IOT) Lab/A1/DHEERAJ VADHWANI/AS-02 B		LUNCH	8EC5-11/Artificial Intelligence & Expert Systems/Amit Kumar Jain/CS-04	8EC7-50/Project/AS-01/Dr. Garima Mathur		
		8EC4-22/Skill Development Lab/A3UROOJ SULTANA/AS-02 A			8EC5-12/Digital Image & Video Processing/Dr. ANILA DHINGRA/AS-03	Ankur Dalmiya + GAURAV SAXENA	Ankur Dalmiya + GAURAV SAXENA	
	8EC6-60.2/Robotics & Control/VIJENDRA KUMAR PATEL/AS-03	8EC7-50/Project/A3/AS-01/Durgesh Kumar						
TUESDAY	8EC6-60.1/Industrial & Biomedical applications of RF Energy/AJMEET SINGH/CS-04	8EC5-11/Artificial Intelligence & Expert Systems/Amit Kumar Jain/CS-04	8EC7-50/Project/AS-00/Garima Mathur		8EC4-22/Skill Development Lab/A1UROOJ SULTANA/AS-02 A		8EC7-50/Project/AS-01/Ankur Dalmiya + GAURAV SAXENA	
		8EC5-12/Digital Image & Video Processing/Dr. ANILA DHINGRA/AS-03			8EC7-50/Project/A2/AS-01/Dr. Payal Bansal			
	8EC6-60.2/Robotics & Control/VIJENDRA KUMAR PATEL/AS-03				8EC4-21/Internet of Things (IOT) Lab/A3/Manisha Kumawat/AS-02 B			
WEDNESDAY	8EC6-60.1/Industrial & Biomedical applications of RF Energy/AJMEET SINGH/CS-04	8EC7-50/Project/A1/AS-01/Durgesh Kumar			8EC7-50/Project/AS-01/Dr. Garima Mathur		8EC5-11/Artificial Intelligence & Expert Systems/Amit Kumar Jain/CS-04	
		8EC4-21/Internet of Things (IOT) Lab/A2/DHEERAJ VADHWANI/AS-02 B			Ankur Dalmiya + GAURAV SAXENA	Ankur Dalmiya + GAURAV SAXENA	8EC5-12/Digital Image & Video Processing/Dr. ANILA DHINGRA/AS-03	
	8EC6-60.2/Robotics & Control/VIJENDRA KUMAR PATEL/AS-03	8EC4-22/Skill Development Lab/A2/UROOJ SULTANA/AS-02 A						
THURSDAY								
FRIDAY								
SATURDAY								

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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR EVEN SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:-III Year

DAY/TIME	08:00-9:00	9:00-10:00	10:00-11:00	11:00-11:40	11:40-12:40	12:40-1:40	1:40-2:30
MONDAY	6EC3-01/Power Electronics/DR. SURENDRA HANS/CS-13	6EC4-23/Electronics Design Lab/A1/RISHIKA SETHI/AS-07		LUNCH	6EC4-05/Information theory & Coding/RAJVEER MARWAL/CS-13	6EC5-11/Introduction to MEMS/Amit Kumar Jain/CS-19	6EC4-02/Computer NetworkKavita Lal/CS-13
		6EC4-22/Antenna & Wave propagation Lab/A2/SUSHIL JAIN/AS-14				6EC5-12/Nano Electronics /DR. MEETU NAG/CS-13	
		6EC3-01/Power Electronics /A3/DR. SURENDRA HANS/CS-13	6EC4-04/Antennas & Propagation /A3/SANDEEP GUPTA/CS-13				
TUESDAY	6EC4-05/Information theory & Coding/RAJVEER MARWAL/CS-13	6EC5-11/Introduction to MEMS/Manisha Kunawat/CS-19	6EC4-03/Fiber Optics Communications/Durgesh Kumar/CS-13		6EC4-04/Antennas and PropagationSANDEEP GUPTA/CS-13	6EC3-01/Power Electronics/ A1/DR. SURENDRA HANS/CS-13	6EC4-04/Antennas & Propagation/A1/SANDEEP GUPTA/CS-13
						6EC4-04/Antennas & Propagation/A2/SANDEEP GUPTA/CS-04	6EC3-01/Power Electronics/A2/DR. SURENDRA HANS/CS-04
		6EC5-12/Nano Electronics /Dr. Payal Bansal/CS-13				6EC4-23/Electronics Design Lab/A3/RISHIKA SETHI/AS-07	
WEDNESDAY	6EC3-01/Power Electronics/DR. SURENDRA HANS/CS-13	6EC4-04/Antennas and PropagationSANDEEP GUPTA/CS-13	6EC4-03/Fiber Optics Communications/Durgesh Kumar/CS-13		6EC5-11/Introduction to MEMS/Amit Kumar Jain/CS-19	6EC4-02/Computer NetworkKavita Lal/CS-13	6EC4-05/Information theory & Coding/RAJVEER MARWAL/CS-13
					6EC5-12/Nano Electronics /DR. MEETU NAG/CS-13		
THURSDAY	6EC4-04/Antennas and Propagation/SANDEEP GUPTA/CS-13	6EC4-05/Information Theory & Coding/A1/Tarun Mishra/CS-13	6EC4-03/Fiber Optics Communications /A1/Durgesh Kumar/CS-13		6EC4-21/Computer Network Lab/A1/Kavita Lal/AS-02		6EC3-01/Power Electronics/DR. SURENDRA HANS/CS-13
		6EC4-21/Computer Network Lab/A2/Kavita Lal/AS-02			6EC4-23/Electronics Design Lab/A2/RISHIKA SETHI/AS-07		
		6EC4-24/Power Electronics Lab/A3/Dr. Payal Bansal/AS-08			6EC4-22/Antenna & wave propagation Lab/A3/SUSHIL JAIN/AS-14		
FRIDAY	6EC4-03/Fiber Optics Communications/Durgesh Kumar/CS-13	6EC4-24/Power Electronics Lab/A1/Dr. Payal Bansal/AS-08			6EC4-02/Computer NetworkKavita Lal/CS-13	6EC4-22/Antenna & wave propagation Lab/A1/SUSHIL JAIN/AS-14	
		6EC4-05/Information Theory & Coding/A2/RM/CS-04	6EC4-03/Fiber Optics Communications /A2/Durgesh Kumar/CS-04			6EC4-24/Power Electronics Lab/A2/Dr. Payal Bansal/AS-08	
		6EC4-03/Fiber Optics Communications/A3/ Durgesh Kumar/CS-13	6EC4-05/Information theory & coding/A3/RM/CS-13			6EC4-21/Computer Network Lab/A3/Kavita Lal/AS-02	
SATURDAY	I3 Day				I3 Day		

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POORNIMA COLLEGE OF ENGINEERING

TIME TABLE FOR EVEN SEM. SESSION 2021-2022

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:-II Year **Tutor- Manisha Kumawat**

DAY/TIME	08:00-9:00	9:00-10:00	10:00-11:00	11:00-11:40	11:40-12:40	12:40-1:40	1:40-2:40	2:40-4:00
MONDAY	4EC2-01/Advanced Engineering Mathematics-II/Dr. Shuchi Dave/CS-03	4EC4-04/Analog Circuits/Dr. NITESH MUDGAL/CS-03	4EC3-06/Electronics Measurement & Instrumentation/DR. MEETU NAG/CS-03	LUNCH	4EC4-07/Analog & Digital Communication/ Tarun Mishra/CS-03	4EC4-05/Microcontrollers /Manisha Kumawat /CS-03	4EC4-04/Analog Circuits/Dr. NITESH MUDGAL/CS-03	OptiSystem Fundamentals and Design Techniques (Add on)
TUESDAY	4EC4-24/Electronics Measurement & Instrumentation Lab/MR. RAKESH KUMAR GOYAL/AS-11		4EC4-05/Microcontrollers /Manisha Kumawat/ CS-03		4EC1-02/Technical Communication/Prince Dawar/CS-03	4EC2-01/Advanced Engineering Mathematics-II/Dr. Shuchi Dave/CS-03	4EC4-07/Analog & Digital Communication/ Tarun Mishra/CS-03	Guide Interaction
WEDNESDAY	4EC3-06/Electronics Measurement & Instrumentation/DR. MEETU NAG/CS-03	4EC4-04/Analog Circuits/Dr. NITESH MUDGAL/CS-03	4EC2-01/Advanced Engineering Mathematics-II/Dr. Shuchi Dave/CS-03		4EC4-21/Analog & Digital Communication Lab/Dr. JITENDRA GUPTA/AS-16		Non Syllabus Project	OptiSystem Fundamentals and Design Techniques (Add on)
THURSDAY	4EC4-05/Microcontrollers /Manisha Kumawat/ CS-03	4EC4-07/Analog & Digital Communication/ Tarun Mishra/CS-03	4EC4-04/Analog Circuits/Dr. NITESH MUDGAL/CS-03		4EC4-23/Microcontrollers Lab /Mr. SUPREET KUMAR SINGH/AS-07		4EC3-06/Electronics Measurement & Instrumentation/DR. MEETU NAG/CS-03	Guide Interaction
FRIDAY	4EC1-02/Technical Communication/Prince DawarCS-03	4EC2-01/Advanced Engineering Mathematics-II/Dr. Shuchi Dave/CS-03	4EC4-07/Analog & Digital Communication/ Tarun Mishra/CS-03		4EC4-22/Analog Circuits Lab/MR. SUSHIL JAIN/AS-11		4EC2-01/Advanced Engineering Mathematics-II/Dr. Shuchi Dave/CS-03	OptiSystem Fundamentals and Design Techniques (Add on)
SATURDAY	I3 Day				I3 Day			

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11 Course Outcome Attainment Process:

11.1 Course Outcome Attainment Process

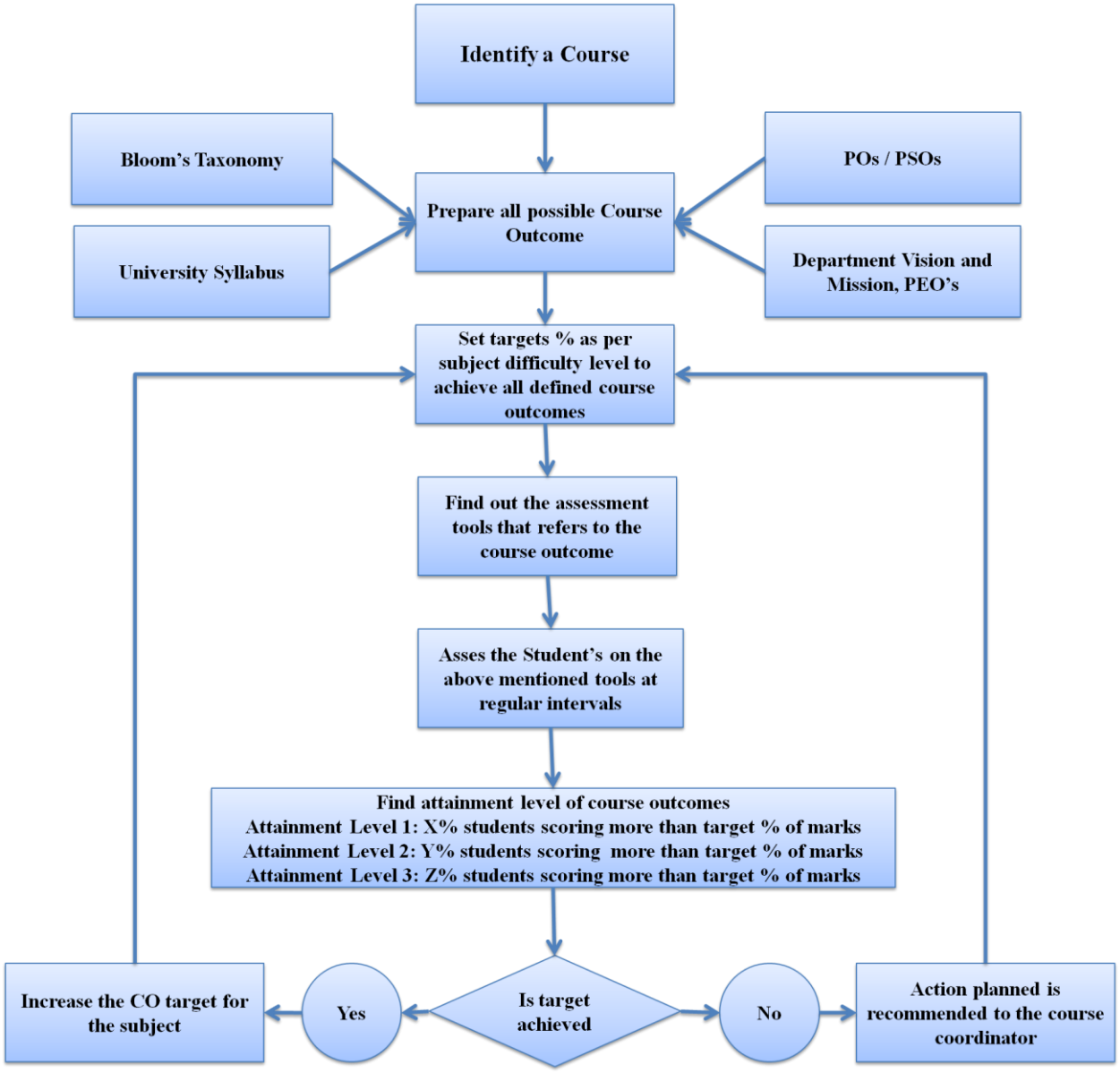

Figure. Course Outcome Attainment Process

11.2 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	PO1	PO 2	PO3	PO 4	PO 5	PO 6	PO7	PO8	PO 9	PO10	PO 11	PO12	P
4EC 2-01	Advanced Engineering Mathematics-II	CO-1	Define properties of complex numbers , special function and linear algebra and can apply this knowledge to the solution of complex engineering problems like in signal processing which has applications to telecommunications (cellular phone), radar(which assists the navigation of airplanes), and even biology(in the analysis of firing events from neurons in the brain).	1											1	
		CO-2	Classify complex contour integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various forms.	2											1	
		CO-3	Identified different techniques to solve the differential equations of higher order like Bessel's and Legendre and their application in the solution of hydrodynamics, theory of elasticity and loading of electrical transmission lines in Electronics & Communication Engineering .	3											1	

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		CO-4	Analyzed a variety of numerical Problems and solve them by using appropriate technology, and Compare the viability of different approaches to the numerical solution of problems.(Analyze)		3										1	
				2	3										1	
4EC 1-02	Technical Communication	CO-1	Define the process of technical communication in terms of LSRW.	-	-	-	-	-	--	-	-	-	3	-	3	
		CO-2	Examine the concept of Technical Materials/Texts in various technical documents.	-	-	-	-	-	--	-	-	-	3	-	3	
		CO-3	Apply various professional corresponding documents and knowledge of basics of grammar	-	-	-	-	-	--	-	-	-	3	-	3	
		CO-4	Analyze the basic concepts of Technical Reports, articles and their formats.	-	-	-	-	-	--	-	-	-	3	-	3	
													3		3	
4EC 4-04	Analog Circuits	CO-1	Explain the Analog Circuits related to transistor amplifiers such as BJT, FET, etc. and oscillators such as Phase Shift, Harley, etc.	2										-		
		CO-2	Apply mathematical equations for transistor amplifiers and oscillators in various domains.		2											
		CO-3	Analyze BJT, FET, OP-AMP amplifiers and oscillators such as Phase Shift, Hartley, etc. Their characteristics.		2											
		CO-4	Design transistor amplifiers and oscillators for different applications through numerical problems.	2	2								3		3	
				2												

4EC 4-05	Microcontrollers	CO-1	Explain basics of Microprocessors and Microcontrollers	1	-	-	-	-	-	-	-	-	-	-	-
		CO-2	Illustrate interfacing of peripheral devices with basic and advanced microprocessors and microcontrollers	2	1	-	-	-	-	-	-	-	-	-	-
		CO-3	Design embedded system for solving industry problems using basic and advanced microprocessors and microcontrollers	-	3		-		-	-	-	-	-	-	-
		CO-4	Analysis for optimization of hardware created for industry problems	-	-	2	-		-	-	-	-	-	-	-
				1.5	2	2									
4EC 3-06	Electronics Measurement & Instrumentation	CO-1	Describe and explain various concept of Errors, Electronic Instruments, Meters, Oscilloscope, Signal Generators, and Analyzers & Transducers. [Understanding]	3	3	-	-	-	-	-	-	-	-	-	2
		CO-2	Apply the knowledge of Electronic meters, Oscilloscope, Q-Meters, Different types of errors, Signal generators, Wave Analyzers & Selection of transducers. [Applying ,Understanding]	3	3	-	-	-	-	-	-	-	-	-	2
		CO-3	Compare the operation of different instruments with usability & reference to parameters. [Analyzing]	3		3	-	-	-	-	-	-	-	-	-
		CO-4	Evaluate the different parameters of different Instruments & Transducers. Selection to the Instruments & transducers according to application. [Analyzing, Design]	3	2	3	-	-	-	-	-	-	-	-	-
				3	2.6667	3									2
4EC 4-07	Analog and	CO-1	Demonstrate understanding of	3	-	-	-	-	-	-	-	-	-	-	-

	Digital Communication		various analog and digital modulation and demodulation techniques												
		CO-2	Apply the knowledge to calculate different parameters of modulation and demodulation schemes.	3	-	-	-	-	-	-	-	-	-	-	-
		CO-3	Analyze the performance of modulation and demodulation techniques in various transmission environments.	-	3	-	2	-	-	-	-	-	-	-	-
		CO-4	Design the transmitter and receiver for analog and digital communication like Viterbi receiver etc.	-	-	3	-		-	-	-	-	-	-	-
				3	3	3	2								
4EC 4-21	Analog and Digital Communication Lab	LO-1	Understand different analog modulation schemes for their efficiency and bandwidth.	3	2							3			
		LO-2	Analyze the behavior of a communication system in presence of noise.	3	2							3			
		LO-3	Investigate pulse modulation system and analyze their system performance.	3	2							3			
		LO-4	Analyze different digital modulation schemes and can compute the bit error performance.	3	2	3						3			
		LO-5	Design a communication system comprised of both analog and digital modulation techniques.	3	3	3	3					3			
				3	2.25	3	3					3			
4EC 4-22	Analog Circuits Lab	LO-1	Explain transistor amplifiers and oscillators for experimental evaluation of their characteristics in different dimensions	2											
		LO-2	Apply circuit diagrams for experimental		2										

			evaluations of these transistors and oscillators													
		LO-3	Perform experiment in appropriate manner for experimental data generation			2										
		LO-4	Analyze experimental data for the characteristic profiles of these transistors and oscillators			2										
				2	2	2										
4EC 4-23	Microcontrollers Lab	LO-1	Recall basic concept of digital fundamentals to Microprocessor and microcontroller.	3												
		LO-2	Develop various systems related to assembly level programming of microprocessors and microcontroller.		3											
		LO-3	Distinguish/Analyze the properties of Microprocessors & Microcontrollers.				3									
		LO-4	Interpret the basic knowledge of microprocessor and microcontroller interfacing, delay generation, waveform generation and Interrupts.			3										
				3	3	3	3									
4EC 4-24	Electronics Measurement & Instrumentation Lab	LO-1	Understanding of the fundamentals of Electronic Instrumentation. Explain and identify measuring instruments	3	3											
		LO-2	Apply the knowledge to measure resistance, inductance and capacitance by various methods.	3	3											
		LO-3	Analysis the instrumentation system that meets desired specifications, requirements & results.	3	3											

		LO-4	Evaluate the different parameters with different- different measuring instruments & transducers	3	3										
				3	3										
6EC 3-01	Power Electronics	CO-1	Describe Basic operation and compare performance of various Power Semiconductor Devices, passive components and switching circuits.	3	2		2							3	
		CO-2	Apply the basic operational characteristic of power semiconductor devices to understand the working of step up and step down Choppers, power supplies and Buck Boost converters.	2	3		2		-	-	-	-	2	3	
		CO-3	Derive typical alternative solutions and select suitable power converters to control electrical motors and other industry grade apparatus.	2	3	2		2	-	2	-	-		3	
		CO-4	Design and analyze single phase and three Phase Controlled Converters , Voltage and current source Inverters		3	2			-		-	-	2	3	
				2.3333	2.75	2	2	2		2			2	3	
6EC 4-02	Computer Network	CO-1	Able to learn and analyze the principles of layered protocol architecture; be able to identify and describe the system functions in the correct protocol layer and further describe how the layers interact.	3	3	-	-	-	-	-	-	2	3	-	3
		CO-2	Apply and solve mathematical problems for data-link and network protocols.	3	3	-	-	-	-	-	-	2	3	-	2

		CO-3	To apply network layer protocols and calculate number of subnets required for a network.	3	3	2	-	2	-	-	-	2	3	-	3
		CO-4	To evaluate the reliability of data transfer over transport layer by loss channel bit errors problem.	3	3	-	3	2	-	-	-	2	3	-	3
		CO-5	Demonstrate and describe for common services, system services, such as name and address lookups, and communications applications.	-	-	-	3	-		-	-	3	3	-	3
				3	3	2	3	2				2.25	3		2.75
6EC 4-03	Fiber Optics Communications	CO-1	Understanding the basic concepts and principles of Fiber Optics Communication.	3	2										
		CO-2	Apply the knowledge of Fiber Optics Communication to implements the optical measurement system and determine all parameters like numerical aperture, dispersion, attenuation, refractive index profile.	3	2	3	3								
		CO-3	Analyze the structure of different types of optical source and receivers for implementation of optical link.	2	3	3	3								
		CO-4	Design the WDM and DWDM systems and also characterize the performance of optical active and passive components. .	2	3	3	3	3							
				2.5	2.5	3	3	3							
6EC 4-04	Antennas & Propagation	CO-1	Explain the fundamental concept of antenna and its applications.	3											
		CO-2	Apply the concept of electromagnetic waves to calculate radiation pattern of different antennas.		3										

		CO-3	Analyze the radiation pattern of various antennas.				3									
		CO-4	Design Smart Antenna system for Real Time applications			3										
		CO-5		3	3	3	3									2
6EC 4-05	Information Theory & Coding	CO-1	Explain fundamental of information theory like uncertainty, information, entropy, channel capacity and need of coding	3												
		CO-2	Apply coding techniques for source and channel like Huffman, Lempel-Ziv, Block codes etc.	3												
		CO-3	Analyze different coding & Decoding techniques for various applications like Compression, Data Transmission etc.		3											
		CO-4	Design efficient codes for error detection and correction Techniques			3										
		CO-5		3	3	3										
6EC 5-11	Introduction to MEMS (Elective-1)	CO-1	Understand the fundamental principles, structure, fabrication, properties and approach of MEMS/NEMS including Micro devices, Micro systems and Micromachining techniques.	3												
		CO-2	Apply the appropriate MEMS fabrication techniques for Micromachining.	3	3	2										
		CO-3	Analyze the Scaling effect of Micro/Nano Sensors for specific application.	3	3		2									
		CO-4	Design and Develop Micro/Nano devices, Micro/Nano systems for solving the real life problems			3	3	3								

		CO-5		3	3	2.5	2.5	3								
6EC 5-12	Nano Electronics (Elective-2)	CO-1	Explain and understand the Schrodinger equation, CMOS Scaling, the Nano scale MOSFET, Funfest, Vertical MOSFETs, Resonant Tunneling Diode, Coulomb dots, Quantum blockade, Single electron transistors, Carbon nanotube electronics.	2	2	2				3						
		CO-2	Apply different technical methods to obtain energy, wave function, propagation constant, channel length in MOSFET and CMOS.	3												
		CO-3	Analyze and identify the changes in the parameters like inter-atomic distance, 2D and 3D structure, Scaling of CMOS.	2	3											
		CO-4	Synthesis the structure of CMOS, Fine, Vertical MOSFET and Carbon Nano tubes.			3									3	
		CO-5		2.3333	2.5	2.5				3					3	
6EC 4-21	Computer Network Lab	LO-1	Understand the concept of TCP/IP PROTOCOLS, LAYERED STRUCTURE, LAN, and MAN, WAN.	3	2	1									3	
		LO-2	Use of Data Structures in Networking using the concept of Weighted and Unweight Graph.	3	2	1									3	
		LO-3	Describe the simulation of Queuing Theory.	3	2	1									3	
		LO-4	Design LAN Training Kit using the concept of CSMA/CD/CA.	3	2	1									3	
6EC 4-22	Antenna & Wave Propagation Lab	LO-1	Understand the basic concept of antenna radiation mechanism used in wireless communication.	3												
		LO-2	Apply the different mode of	3												

			communication used in different application as mobile, satellite.												
		LO-3	Analyze and identify the problems in MOS and CMOS devices (like estimate of gate delay, transistor sizing, power dissipation, over pressure and temperature).		3		2								
		LO-4	Analyze the behavior of different type of antenna based on its fundamental parameters.			3	3	3						3	
		LO-5		3	3	3	2.5	3						3	
6EC 4-23	Electronics Design Lab	LO-1	Understand the basic concepts and applications of Op-amp IC (741), 555 timer IC, CRO, bread board and function generator	3											
		LO-2	Apply the different designing methods on bread board using IC-741 and IC- 555 for different applications.	3										3	
		LO-3	Analyze the behavior of different type of circuits using IC-741 and IC-555 in different application for different inputs		3		2								
		LO-4	Design the circuit diagram on bread board using IC-741 and IC-555 for different applications.			3	3	3							
		LO-5		3	3	3	2.5	3						3	
6EC 4-24	Power Electronics Lab	LO-1	Understand the characteristics of SCR and its triggering using RC and UJT triggering circuits.	3	2			3							3
		LO-2	Understand AC voltage regulators using TRIAC, anti-parallel thermistors, TRIAC and DIAC as well as pulse generation using DSP/FPGA platform	3	3	2	2	3							3
		LO-3	Study single-phase bridge converter,	3			3								3

			single-phase cycloconverter and single-phase dual converter along with dc motor speed control												
		LO-4	Perform experiment on single phase PWM inverter, buck, and boost and buck-boost regulators.	2	3			3							3
		LO-5	Perform speed control of DC motor using a chopper and induction motors using single phase AC voltage regulator along with open loop & closed loop motor control.	3		3		3							3
				2.75	3	2.5	2.5	3							3
8EC 5-11	Artificial Intelligence And Expert Systems	CO-1	Demonstrate fundamental understanding of artificial intelligence (AI) and expert systems.	3		2		-	2	-	-	-	-	-	2
		CO-2	Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning	2	3	2	3	-	2	-	-	-	-	-	2
		CO-3	Demonstrate proficiency in applying scientific method to models of machine learning.	3	3	2	1	-	3	-	-	-	-	-	2
		CO-4	Discuss the basics of ANN and different optimizations techniques.	3	3	2	-	-	2	-	-	-	-	-	2
				2.75	3	2	2		2.25						2
8EC 5-12	Digital Image and Video Processing	CO-1	Understand image formation and the role of different color formats.	3											
		CO-2	Compute the effect of intensity transformations on an image and apply the spatial and frequency domain filtering.	3	3	3									

		CO-3	Describe the techniques for image enhancement and image restoration in a degraded environment.	3	3	2	2									
		CO-4	Analyze the effect and requirement of morphological operations for an image and its applications.	3	3	3	3									
				3	3	2.667	2.5									
8ME6-60.2	Simulation Modeling and Analysis	8ME6-60.2.1	Define the simulation modeling and analyze the practical situations in organizations	3	-	-	-	-	-	-	-	-	-	-	-	
		8ME6-60.2.2	Examine the random numbers and random variants approach in different applications	2	-	-	-	-	-	-	-	-	-	-	-	
		8ME6-60.2.3	Investigate the sensitivity of simulation solutions for realistic problems	-	3	-	-	-	-	-	-	-	-	-	-	
		8ME6-60.2.4	Interpret the model and apply the results to solve critical issues of a realistic problem		3	-	-	-	-	-	-	-	-	-	-	
				2.50	3.00	-	-	-	-	-	-	-	-	-	-	
8ME6-60.1	Operations Research	8ME6-60.1.1	Generate mathematical models of complex engineering problems	2	-	-	-	-	-	-	-	-	-	-	-	
		8ME6-60.1.2	Analyze the various optimization techniques with the appropriate tools	3	-	-	-	-	-	-	-	-	-	-	-	
		8ME6-60.1.3	Identify suitable optimization techniques to solve industrial and societal problems	-	3	-	-	-	-	-	-	-	-	-	-	
		8ME6-60.1.4	Interpret the solution and apply the results to solve complex engineering problems	-	-	3	-	-	-	-	-	-	-	-	-	
				2.50	3.00	3.00	-	-	-	-	-	-	-	-	-	
8EE6-60.1	Energy Audit and	CO 1	Understand the current Energy Scenarios in India.	3	-	-	-	-	-	-	-	-	-	-	-	

	Demand side Management	CO 2	Understand the energy auditing of motors, lighting system and building, by appropriate analysis methods through survey instrumentations.	3	3	-	-	-	-	-	-	-	-	-	-
		CO 3	Understand the Electrical-Load Management and Demand side Management.	3	2	2	-	-	-	-	-	-	-	-	-
		CO 4	Apply the Energy Conservation in transport, agriculture, household and commercial sectors.	3	2	2	1	-	-	-	-	-	-	-	-
				3.00	2.33	2.00	1.00	-	-	-	-	-	-	-	-
8EE6-60.2	Soft Computing	CO1	Learn about soft computing techniques and their applications.	2	2	3	-	-	-	-	-	-	-	-	-
		CO2	Analyze various neural network architectures.	2	2	3	-	-	-	-	-	-	-	-	-
		CO3	Define the fuzzy systems	-	-	3	-	-	-	-	-	-	-	-	-
		CO4	Understand the genetic algorithm concepts and their applications	3	2	3	-	-	-	-	-	-	-	-	-
		CO5	Identify and select a suitable Soft Computing technology to solve the problem.	3	3	3	-	-	-	-	-	-	-	-	-
				2.50	2.25	3.00	-	-	-	-	-	-	-	-	-
8CE6-60.1	Composite Materials (CM)	CO1	Explain the basics of composites, its structure and its properties	2	-	-	-	-	-	-	-	-	-	-	-
		CO2	Compute the physic-mechanical properties of composites from tests	2	1	-	-	-	-	-	-	-	-	-	-
		CO3	Assessment of engineering properties of composite materials	1	2	1	-	-	-	-	-	-	-	-	-
		CO4	Analyze the failure and maintenance of composite materials	1	-	1	1	1	-	-	-	-	-	-	-
				1.50	1.50	1.00	1.00	1.00	-	-	-	-	-	-	-
8CE6-60.2	Fire and Safety	CO1	Explain the fundamentals of Fire Engineering	2	-	-	-	-	1	-	-	-	-	-	-

	Engineering (F&SE)	CO2	Apply the learned principles in planning, designing and management of fire safe buildings	2	1	1	-	1	1	-	-	-	-	1	-	
		CO3	Assess firefighting installations, control technologies and hazardous materials	1	2	1	-	1	1	-	-	-	-	-	-	
		CO4	Design of fire safety building for fire resistant construction by following safety legislation	1	-	1	1	1	1	-	1	-	-	-	-	
				1.50	1.50	1.00	1.00	1.00	1.00	-	1.00	-	-	1.00	-	1
8CS6-60.1	Big Data Analytics (Open Elective-II)	CO1	Understanding of Big Data and their needs in Industry	3	-	-	-	-	-	-	-	-	-	-	-	
		CO2	Designing of Hardtop and Google File System	-	3	-	-	-	-	-	-	-	-	-	-	
		CO3	Analysis of Map Reduce and their basic programs map reduce.	-	-	3	-	-	-	-	-	-	-	-	-	
		CO4	Design a Hive Data system.	-	-	-	3	-	-	-	-	-	-	-	-	
				3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	-	1
8CS6-60.2	IPR, Copyright and Cyber Law of India (Open Elective-II)	CO1	To Determine and analyze the domain name system (DNS) in internet and various cybercrime offence in cyber space.	3	-	-	-	-	-	-	-	-	-	-	-	
		CO2	To understand the concept of Intellectual Property and Intellectual Property Rights with special reference to India and abroad.	-	-	-	-	-	-	-	3	-	-	-	-	
		CO3	To Apply intellectual property law principles including the copyright law, patents law, designs and trademarks, to real problems and analyze the social impact of intellectual property law and policy.	-	-	-	-	-	3	-	-	-	-	-	-	
		CO4	To Study the Jurisdiction Issues in Cyber Space and Competition Law in India	-	2	-	-	-	-	-	-	-	-	-	-	

				3.00	2.00	-	-	-	3.00	-	3.00	-	-	-	-	
8EC 4-22	Skill Development Lab	LO1	Comprehend various modern engineering tools/software's.	3												
		LO2	Identify current requirements of industries.	3	2	2										1
		LO3	Implement various tools/software's using different design patterns.		3	2										
		LO4	Select Startup for innovation/ entrepreneurship.			3										
		LO5	Develop projects to provide solution for different real-life problems.													
				3	2.5	2.333										
8EC 7-50	Project	LO1	Acquire documentation, project management and Problem solving skills.	3												
		LO2	Identify, analyze and solve real-life problems.		2	2										
		LO3	Develop Professionalism, team work ability.	3		2	2									
		LO4	Develop oral as well as written presentation skills.			2	2									
		LO5	Make comprehensive use of the technical knowledge gained from previous courses.		2	2										
				3	2	2	2									
8EC 4-21	Internet of Things (IOT) Lab	LO1	Understand the concept of Internet of Things	2	-	-	-	-	-	-	-	-	-	-	-	
		LO2	Implement interfacing of various sensors with Arduino/Raspberry Pi.	2	1	-	-	-	-	-	-	-	-	-	-	
		LO3	Demonstrate the ability to transmit data wirelessly between different devices.	1	2	1	-	-	-	-	-	-	-	-	-	
		LO4	Show an ability to upload/download sensor data on cloud and server.	1	2	1	-	1	1	-	-	-	-	-	-	

		LO5	Examine various SQL queries from MySQL database.	-	2	2	1	2	1	-	-	-	-	-	-	
				1.3333	1.75	1.333										

12 Course File Sample

Outcome Based Process Implementation Guidelines for Faculty

12.1 Labelling your course file

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

12.2 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

13 Outcome Based Process Implementation Guidelines for Faculty

Course CO-PO, Preparation, Assessment Formats

Academic Session: 2021-2022 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.

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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	Overall CO (-----)	% 0f Marks	Weightage X--/100 B	Overall CO (-----)	% 0f Marks	Weightage 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
----														--
------														--

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No. of Students attained level 3=	% of Students Attained Level 3=
No. of Students attained level 2= 2=	% of Students Attained Level
No. of Students attained level 1= 1=	% of Students Attained Level
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).

14 File Formats

14.1 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

14.2 Front Page of Course File

14.3 ABC Analysis Format

14.4 Blown-up Format

14.5 Deployment Format

14.6 Zero Lecture Format

14.7 Lecture Note Front page Format

14.7.1 Detailed Lecture Note Format-1

14.7.2 Detailed Lecture Note Format-2

14.8 Assignment Format

14.9 Tutorial Format

14.10 Mid Term/ End Term Practical Question Paper Format

14.11 Mid Term Theory Question Paper Format

13. 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		

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POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS & COMMUNICATIONENGINEERING

CURRICULUM DELIVERY PLAN

OUTLINE-ODD SEM-2022-23

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)

• Phone: +91-141-2770790 • E-mail: infor@poornima.org

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Table of Contents

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.

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- 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 2022-23

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

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3	Faculty representative-1	Chairman, DAB-ECE	Dr. Santosh Kumar Agrahari, Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, DAB-ECE	Dr. Anila Dhingra Asso. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-3	Chairman, DAB-ECE	Dr. Payal Bansal Asso. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-4	Chairman, DAB-ECE	Mr. Tarun Mishra Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, DAB-ECE	Mr. Rajveer Marwal Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
9	Special Invitee	Chairman, DAB-ECE	Dr. Rekha Nair, Dean	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
10	Alumni Representative-1	Chairman, DAB-ECE	Mr. Akshat Bhatia	TCS
11	Alumni Representative-2	Chairman, DAB-ECE	Mr. Karan Tamra	Infosys
12	Student Representative	Chairman, DAB-ECE	Mr. Sachin Jaiman	Final Year ECE
13	Industry Representative	Chairman, DAB-ECE	Mr. Ankit Saboo	Elektrolites (Power) Pvt. Ltd., Jaipur
14	Parents Representative-1	Chairman, DAB-ECE	Mr. Arun Sharma	Jaipur
15	Parents Representative-2	Chairman, DAB-ECE	Mr. Naveen Kumar	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

2022-23

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-1	Chairman, DAB-ECE	Dr. Santosh Kumar Agrahari Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, DAB-ECE	Dr. Anila Dhingra Asso. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
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6	Faculty representative-4	Chairman, DAB-ECE	Mr. Tarun Mishra Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
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8	Faculty representative-6	Chairman, DAB-ECE	Mr. Durgesh Kumar Asst. Prof, ECE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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 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 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	October Last Week	● Inclusion of suggestions for revising gaps ● Execution of Academic, Extra and Co-Curricular activities according to suggestions in GC ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of academics gaps as previous attainment
5.	PAC-5	November Third Week	● 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
6.	PAC-6	December Third Week	● Incorporation of suggestions from IQAC and DAB meetings in execution of Semester activities ● Execution and assessment of Academic, Extra and Co-Curricular activities ● Revision of academics gaps as previous attainment ● Calculation of attainments
7.	PAC-7	January 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
8.	PAC-8	February 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
9.	PAC-9	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 ● Draft preparation of Semester closure
10.	PAC-10	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
11.	PAC-11	May 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 ● 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.
12.	PAC-12	June Last Week	● 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

Sr. No.	Faculty Name	Emp.ID	Designation	Email ID	Mobile No.
1.	Dr. GARIMA MATHUR (Head, Department of ECE)	4961	PROFESSOR	drg.mathur@poornima.org	9829393517
2.	MR. DURGESH KUMAR	1131	ASST PROFESSOR	durgesh.kumar@poornima.org	9460878065
3.	Dr. PAYAL BANSAL	1135	PROFESSOR	payal.bansal@poornima.org	9785487195
4.	MS. MANISHA KUMAWAT	1158	ASST PROFESSOR	manisha.kumawat47@yahoo.in	9509472051
5.	MS. MONIKA SURANA	1168	ASST PROFESSOR	monikasurana@poornima.org	9460895589
6.	MR. RAJVEER MARWAL	1195	ASST PROFESSOR	rajveer.ec@poornima.org	9887729792
7.	MR. TARUN MISHRA	1366	ASST PROFESSOR	tarunmishra@poornima.org	9982013388
8.	MR. SUSHIL JAIN	3803	ASST PROFESSOR	sushil.kumar@poornima.org	7726018381
9.	MR. AMIT KUMAR JAIN	2688	ASST PROFESSOR	amitjain.2012@poornima.org	9509677599
10.	MS. GARIMA MATHUR	3091	ASST PROFESSOR	garima.mathur@poornima.org	9509780741

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11.	MR. AJMEET SINGH	4466	ASST PROFESSOR	ajmeet.singh@poornima.org	7597714528
12.	Dr. ANILA DHINGRA	5419	PROFESSOR	anila.dhingra@poornima.org	9829016670
13.	MS. JYOTSNA JOSHI	7126	ASST PROFESSOR	jyotsna.joshi@poornima.org	9460281909
14.	DR. SURENDRA HANS	7017	ASSOCIATE PROFESSOR	surendra.hans@poornima.org	9911543993
15.	DR. MEETU NAG	1165	ASSOCIATE PROFESSOR	meetu.nag@poornima.org	9829339925
16.	Mr. SANDEEP GUPTA	1211	ASST PROFESSOR	guptasandy007@gmail.com	9785052878
17.	Ms. RISHIKA SETHI	3817	ASST PROFESSOR	rishika.sethi@poornima.org	9694984905
18.	MR. DHEERAJ VADHWANI	3899	ASST PROFESSOR	dheeraj.vadhwani@poornima.org	7737519119
19.	Mr. VIJENDRA KUMAR PATEL	4392	ASST PROFESSOR	vijendra.patel@poornima.org	9910635429
20.	Mr. SUPREET KUMAR SINGH	3441	ASST PROFESSOR	supreetsingh95@yahoo.com	8854844187
21.	DR. NITESH MUDGAL	7113	ASSOCIATE PROFESSOR	nitesh.mudgal@poornima.org	9928481538
22.	MR. AVINASH SHARMA	1300	ASST PROFESSOR	avinashsharma@pornima.org	9928329591
23.	MR. CHANDAN KUMAR DUBEY	1245	ASST PROFESSOR	chandan19@gmail.com	9783957210
24.	MR. TRIMESH KUMAR	2308	ASST PROFESSOR	trimesh@poornima.org	9413056699
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31.	Mr. GHANSHYAM SINGH	6919	ASST PROFESSOR	kaviya01singh@gmail.com	9887814008
32.	Dr. KAMLESH GAUTAM	6935	ASSOCIATE PROFESSOR	ankamlesh@gmail.com	9351196851
33.	Dr. ABHISHEK SHARMA	7111	ASSOCIATE PROFESSOR	abhishek.sharma@poornima.org	9628277381
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35.	Mr. RAJ KUMAR JAIN	6017	ASST PROFESSOR	rajkumar.jain@poornima.org	9784630036

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36.	Mrs. NIKITA GAUTAM	2019	ASST PROFESSOR	nikita.gautam@poornima.org	9983071805

5 Institute Academic Calendar

JULY 2022

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

AUGUST 2022

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 2022

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 2022

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

NOVEMBER 2022

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 2022

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

POORNIMA
COLLEGE OF ENGINEERING

Affiliated to RTU, Kota • Approved by AICTE & UGC under 2(f) • Accredited by NBA

ACADEMIC CALENDAR 2022-23*#

ODD SEMESTER

JULY 2022

RTU THEORY EXAMINATION OF FIRST YEAR (EVEN SEM 2021-22)
Practical Training (After II, IV, VI Sem.)

AUGUST 2022

Tuesday 16 — Commencement of Classes-Odd Semesters B. Tech III Sem.
Wednesday 17 — Commencement of Classes-Odd Semesters B. Tech VII Sem.
Monday 15 — Celebration of Independence Day
Tuesday 16 to Thursday 18 — Orientation programme-B. Tech. III Sem.
Wednesday 17 to Saturday 20 — Orientation programme-B. Tech. VII Sem.

SEPTEMBER 2022

RTU THEORY EXAMINATION OF SECOND YEAR (EVEN SEM 2021-22)
Monday 05 — Faculty Felicitation Program, Celebration of Teachers' Day & activities under WISE
Thursday 15 — Engineers' Day
Monday 19 — Commencement of Classes-Odd Semesters V Sem.
Monday 19 to Wednesday 21 — Orientation programme-B. Tech. V Sem.
Monday 26 to Friday 30 — First Mid Term Theory & Practical Exam for B.Tech VII Sem

OCTOBER 2022

Sunday 02 — Annual Day 'KALANIDHI' & Prize distribution ceremony
Thursday 06 — Manthan- Inter-college Debate Competition
Monday 10 to Saturday 15 — First Mid Term Theory & Practical Exam for B.Tech III Sem
Monday 10 to Saturday 29 — Orientation programme-B. Tech. I Sem.
Monday 31 — Commencement of Classes-Odd Semesters I Sem.

NOVEMBER 2022

Tuesday 01 — Blood Donation Camp
Monday 07 to Saturday 12 — First Mid Term Theory & Practical Exam for B.Tech V Sem
Monday 28 — Last Teaching Day for B.Tech VII Sem
Tuesday 29 to Saturday 03 — Second Mid-Term Theory & Practical Exam for B.Tech VII Sem

DECEMBER 2022

Wednesday 07 — End-Term Theory Exams for B. Tech VII Sem
Monday 12 — End-Term Practical Exams for B. Tech VII Sem
Monday 12 to Saturday 17 — First Mid Term Theory & Practical Exam for B.Tech I Sem
Saturday 17 — Last Teaching Day for B.Tech III Sem
Monday 19 to Saturday 24 — Second Mid-Term Theory & Practical Exam for B.Tech II Sem
Friday 30 — Last Teaching Day for B.Tech V Sem

JANUARY 2023

Monday 02 to Saturday 07 — Second Mid-Term Theory & Practical Exam for B.Tech V Sem
Tuesday 03 — End-Term Practical Exams for B. Tech III Sem
Monday 09 — End-Term Practical Exams for B. Tech V Sem
Tuesday 17 — End-Term Theory Exams for B. Tech III Sem
Wednesday 18 — End-Term Theory Exams for B. Tech V Sem

FEBRUARY 2023

Thursday, 09 — Last Teaching Day for B. Tech I Sem
Friday 10 to Friday 17 — Second Mid Term Theory & Practical Exam for B.Tech I Sem
Monday 20 — End-Term Practical Exams for B. Tech I Sem
Saturday 11 March — End-Term Theory Exams for B. Tech I Sem

HOLIDAYS IN ODD SEMESTER

Bakrid / Eid-ul-Adha*	Sunday, July 10, 2022
Raksha Bandhan	Thursday, August 11, 2022
Shri Krishna Janmashtami	Friday, August 19, 2022
Vijay Dashmi	Wednesday, October 5, 2022
Diwali Break	Saturday, Oct. 22 to Wednesday, Oct. 26
Guru Nanak Jayanti	Tuesday, November 8, 2022
Christmas	Sunday, December 25, 2022
Winter Break	As per RTU Examination Schedule
New Year Day	December 31, 2022 to January 01, 2023

*Subject to revision as per RTU notifications

#For all Engineering Faculty and Students of PCE

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6 Department Activity Calendar

Poornima College of Engineering, Jaipur

Calendar for Electronics & Communication Engineering : Odd Semester - Session 2022-23

(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	Monday, October 31, 22	Tuesday, August 16, 22	Monday, September 19, 22	Wednesday, August 17, 22
2	Orientation programme	Monday, October 31, 22 to Saturday, October 29, 22	Tuesday, August 16, 22 to Thursday August18, 22	Monday, September 19, 22 to Wednesday, September 21, 22	Wednesday, August 17, 22 to Saturday, August 20, 22
3	Date of submission of question papers by faculty members to secrecy for 1st Mid-term	Tuesday, December 06, 22	Saturday, October 01, 22	Tuesday, November 01, 22	Friday, September 16, 22
4	I Mid Term Theory & Practical Exam	Monday, December 12, 22 to Saturday, December 17, 22	Monday, October 10, 22 to Saturday, October 15, 22	Monday, November 7, 22 to Saturday, November 12, 22	Monday, September 26, 22 to Friday, October 30, 22
5	Showing evaluated answer books of 1st Mid-term exam to students in respective classes	up to Wednesday, December 21, 22	up to Saturday, October 22, 22	up to Monday, November 21, 2022	up to Saturday, November 5, 2022
6	Last date of submission of Evaluated Answer Books and Mark of First Mid-term Theory & Practical exam to Exam and Secrecy Cell respectively	up to Monday, December 26, 22	up to Saturday, November 12, 2022	up to Saturday, November 26, 2022	Up to Monday, November 7, 2022
7	Date of submission of question papers by faculty members to secrecy for 2nd Mid-term	Friday, December 09, 22	Thursday, November 17, 2022	Wednesday, November 30, 2022	Monday, October 17, 2022
8	Revision classes	To be declared later according to RTU Exam Schedule			
9	Last Teaching Day	Monday, January 09, 2023	Saturday, December 17, 22	Friday, December 30, 2022	Monday, November 28, 2022

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10	2nd Mid-term theory & Practical Exams	Friday, February 10, 2023 to Friday 17, 2023	Monday - Saturday, December 19-24 , 22	Monday- Saturday, January 02- 07, 2023	Tuesday - Saturday, November 29- December 03, 2022
11	End-Term Practical Exams	Monday, February 20, 2023	Tuesday, January 03, 23	Wednesday, January 18, 2023	Monday, December 12, 2022
(B) Events and Activities					
12	Key points of Manuscript & Research proposal Writing			Thursday, July 21, 2022	
13	Celebration of Independence Day & Faculty Felicitation Program	Wednesday, 15th August, 2018			
13	Circuit Layout Hands-on session using Eagle Software		Tuesday, August 23, 2022		
14	Teachers Day Celebration		Monday, September 05, 2022		
15	Hindi Divas celebration		Tuesday , September 14,2022		
16	Celebration of Engineers Day		Thursday, September 15, 2022		
17	Ardiono based circuit Designing Hands-on Session		Saturday, September 17, 2022		
22	Annual Day KALANIDHI' 2018 & Prize distribution ceremony	Tuesday, 02 October, 2018			
18	Unity Day Celebration		Monday, October 31, 2022		
19	Industrial Visit at VVDN Techonologies, Maneser		Thursday, November 24, 2022		
20	HANDS-ON TRAINING ON SOLAR STUDY LAMP ASSEMBLY		Thursday, November 03, 2022		
21	IETE foundation Day		Friday , November 2, 2022		
(C) Holidays					
22	Bakrid / Eid ul-Adha	Sunday, July 10, 2022			
23	Raksha Bandhan	Thursday, August 11, 2022			

24	Shri Krishna Janmashtami	Friday, August 19, 2022
25	Vijay Dashmi	Wednesday, October 05, 2022
26	Diwali Break	Saturday, October 22 -26, 2022
27	Guru Nanak Jayanti	Tuesday, November 08, 2022
28	Christmas	Sunday, December 25, 2022
29	Winter Break	As per RTU examination schedule

"स्वच्छ भारत. सम्पन्न भारत."

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7 Teaching Scheme

7.1 RTU Teaching Scheme

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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

SN	Category	Course Code	Course Title	Contact hrs/week L	T	P	Marks Exm Hrs	IA	ETE	Total	Cr
THEORY											
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*

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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	SEC 3-01	Computer Architecture	2	0	0	2	20	80	**100**	**2**
2	PCC/ PEC	SEC 4-02	Electromagnetics Waves	3	0	0	3	30	120	**150**	**3**
3		SEC 4-03	Control system	3	0	0	3	30	120	**150**	**3**
4		SEC 4-04	Digital Signal Processing	3	0	0	3	30	120	**150**	**3**
5		SEC 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**
		SEC 5-11	Bio-Medical Electronics								
		SEC 5-12	Embedded Systems								
		SEC 5-13	Probability Theory & Stochastic Process								
		SEC 5-14	Satellite Communication								
		Sub Total		**16**	**0**	**0**		**160**	**640**	**800**	**16**
PRACTICAL & SESSIONAL											
7	PCC	SEC 4-21	RF Simulation Lab	0	0	3	2	45	30	**75**	**1.5**
8		SEC 4-22	Digital Signal Processing Lab	0	0	3	2	45	30	**75**	**1.5**
9		SEC 4-23	Microwave Lab	0	0	2	2	30	20	**50**	**1**
10	PSIT	SEC 7-30	Industrial Training	0	0	1		75	50	**125**	**2.5**
11	SODECA	SEC 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

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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*

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8 PCE Teaching Scheme

Poornima College of Engineering, Jaipur

Format for Teaching Scheme of Odd Semester 2022-23

Working Group	Year	Sem	Students	Deptt.	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	13	ECE	3	1	0	4	Electronics Devices	3EC4-07	1	1		3	1	0	4	EC	PCC
ECE	2	3	13	ECE	3	1	0	4	Network Theory	3EC4-06	1	1		3	1	0	4	EC	PCC
ECE	2	3	13	ECE	3	1	0	3	Digital System Design	3EC4-04	1	1		3	1	0	4	EC	PCC
ECE	2	3	13	ECE	3	1	0	3	Signal & Systems	3EC4-05	1	1		3	1	0	4	EC	PCC
ECE	2	3	13	ECE	3	0	0	3	Advanced Engineering Mathematics-I	3EC2-01	1	1		3	0	0	3	MATHS	BSC
ECE	2	3	13	ECE	2	0	0	2	Managerial Economics and Financial	3EC1-03	1	1		2	0	0	2	Humanities	HSMC
ECE	2	3	13	ECE	0	0	2	1	Signal Processing Lab	3EC4-23	1	1		0	0	2	2	EC	PCC
ECE	2	3	13	ECE	0	0	2	1	Computer Programming Lab-I	3EC3-24	1	1		0	0	2	2	CS	ESC
ECE	2	3	13	ECE	0	0	2	1	Electronics Devices Lab	3EC4-21	1	1		0	0	2	2	EC	PCC
ECE	2	3	13	ECE	0	0	2	1	Digital System Design Lab	3EC4-22	1	1		0	0	2	2	EC	PCC
ECE	2	3	13	ECE	0	0	1		Industrial training/Project & Seminar	3EC4-30	1	1		0	0	1	1	EC	PCC
ECE	3	5	76	ECE	3	0	0	2	Bio-Medical Electronics /Sat. comm.	5EC 5-11/ 5ECE5-14	2	3		6	0	0	6	EC	PCC
ECE	3	5	76	ECE	3	0	0	2	Computer Architecture	5EC3-01	1	3		3	0	0	3	CS	ESC
ECE	3	5	76	ECE	4	1	0	3	Electromagnetics Waves	5EC4-02	1	3		4	3	0	7	EC	PCC
ECE	3	5	76	ECE	3	1	0	3	Control system	5EC4-03	1	3		3	3	0	6	EC	PCC
ECE	3	5	76	ECE	3	1	0	3	Digital Signal Processing	5EC4-04	1	3		3	3	0	6	EC	PCC
ECE	3	5	76	ECE	3	1	0	3	Microwave Theory & Techniques	5EC4-05	1	3		3	3	0	6	EC	PCC
ECE	3	5	76	ECE	0	0	2	1.5	RF Simulation Lab	5EC4-21	1	3		0	0	6	6	EC	PCC
ECE	3	5	76	ECE	0	0	2	1.5	Digital Signal Processing Lab	5EC4-22	1	3		0	0	6	6	EC	PCC
ECE	3	5	76	ECE	0	0	2	1	Microwave Lab	5EC4-23	1	3		0	0	6	6	EC	PCC
ECE	3	5	76	ECE	0	0	1	2.5	Industrial training/Project & Seminar	5EC7-30	1	3		0	0	3	3	EC	PSIT
ECE	4	7	67	ECE	3	0	0	3	VLSI Design/ CMOS design	7EC5-11/ 7EC5-13	2	3		6	0	0	6	EC	PEC
ECE	4	7	67	ECE	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	Humanities/ EC	OE
ECE	4	7	67	ECE	0	0	4	2	VLSI Design Lab	7EC4-21	1	3		0	0	12	12	EC	PCC
ECE	4	7	67	ECE	0	0	2	1	Advance communication lab (MATLAB	7EC4-22	1	3		0	0	6	6	EC	PCC
ECE	4	7	67	ECE	0	0	2	1	Optical Communication Lab	7EC4-23	1	3		0	0	6	6	EC	PCC
ECE	4	7	67	ECE	1	0	0	2.5	Industrial Training	7EC7-30	1	3		1	0	0	1	EC	PSIT
ECE	4	7	67	ECE	0	0	2	2	Seminar	7EC7-40	1	3	H	0	0	6	6	EC	PSIT
ECE	4	7	67	ECE	0	0	3	NA	Project	7EC7-Project	1	3	T	0	0	9	9	EC	PSIT
ECE	4	7	67	ECE	0	0	0	0.5	Social Outreach, Discipline & Extra Curricular Activities	7EC8-00	1	3		0	0	0	0	SODECA	SODECA

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8.1 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

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9 Department Load Allocation

Poornima College of Engineering, Jaipur
Department of Electronics & Communication Engineering
Load for Odd Semester 2022-23

S. NO.	FACULTY NAME	CODE	SUBJECT	L	T	P	LOAD
1	MR. RAJVEER MARWAL	3EC4-07	Electronics Devices	3	1	0	4
2	DR. SURENDRA HANS	3EC4-06	Network Theory	3	1	0	4
		Role of Access Network and types of network(Add on Cours		3	0	0	3
							7
3	Tarun Mishra	3EC4-04	Digital System Design	3	1	0	4
			Antenna Design (Add on Course)	3	0	0	3
							7
4	MS. GARIMA MATHUR	3EC4-05	Signal & Systems	3	1	0	4
							4
5	Amit Kumar jain	3EC3-24	Computer Programming Lab-I	0	0	2	2
		7EC7-Project	Project	0	0	2	2
							4
6	Dhiraj Vadhwani	3EC4-21	Electronics Devices Lab	0	0	2	2
							2
7	Manisha Kumawat	3EC4-22	Digital System Design Lab	0	0	2	2
		7EC4-22	Advance communication lab (MATLAB Simulation)	0	0	6	6
							8
8	Dr. NITESH MUDGAL	3EC4-30	Industrial training/Project & Seminar	0	0	1	1
		5EC4-04	Digital Signal Processing	3	1	0	4
		5EC7-30	Industrial training/Project & Seminar	0	0	1	1
							6

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9	Mr. SANDEEP GUPTA	5-11/5ECE5-1	Bio-Medical Electronics/Sat. comm.	3	0	0	3
		7EC7-40	Seminar	0	0	4	4
							3
10	Mr. SUPREET KUMAR SINGH	5-11/5ECE5-1	Bio-Medical Electronics/Sat. comm.	3	0	0	6
		7EC7-Project	Project	0	0	2	2
							8
11	SUSHIL JAIN	5EC3-01	Computer Architecture	3	0	0	3
		7EC5-13	CMOS design	3	0	0	3
							3
12	MS. JYOTSNA JOSHI	5EC4-02	Electromagnetics Waves	4	1	0	5
		5EC4-22	Digital Signal Processing Lab	0	0	2	2
		7EC5-11	VLSI Design	3	0	0	3
							10
13	DR. MEETU NAG	5EC4-03	Control system	3	1	0	4
		7EC6.2-60	Micro and Smart System Technology	3	0	0	3
		7EC7-40	Seminar	0	0	4	4
							11
14	Durgesh Kumar	5EC4-05	Microwave Theory & Techniques	3	1	0	4
		5EC4-21	RF Simulation Lab	0	0	2	2
			Optical Sensors (Add on Course)	3	0	0	3
							9
15	Dr. Payal Bansal	5EC4-23	Microwave Lab	0	0	2	6
		7EC6.1-14	Principle of Electronic Communication	3	0	0	3
		7EC7-30	Industrial Training	0	0	1	1
							10

16	MR. AJMEET SINGH	7EC4-21	VLSI Design Lab	0	0	6	6
							6
17	MR. AVINASH SHARMA	7EC4-23	Optical Communication Lab	0	0	6	6
							6
18	Mr. SANDEEP GUPTA	7EC7-40	Seminar	0	0	4	4
							4
19	Dr. ANILA DHINGRA	7EC7-Project	Project	0	0	4	4
							4
20	Mr. VIJENDRA KUMAR PATEL	7EC7-Project	Project	0	0	2	2
							2
21	MS. MONIKA SURANA	7EC7-Project	Project	0	0	3	3
							3

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10 Time Table

10.1 Orientation Time Table

POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR ODD SEM. SESSION 2022-2023

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- II Year **Tutor- Dr. Nitesh Mudgal**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY	Tutor Interaction Dr. Nitesh Mudgal	Placement Interaction Ms. Jyotsna Joshi	Skill Enhancement Dr. Surendra Hans			
TUESDAY	NPTEL Guidelines Ms. Manisha Kumawat	Internship Interaction Dr.Payal Bansal	HOD Interaction Dr.Garima Mathur	LUNCH		
WEDNESDAY	Matlab Session Ms.Jyotsna Joshi	Project Guidelines Mr. Durgesh Kumar				

POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR ODD SEM. SESSION 2022-2023

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Class:- III Year **Tutor- Ms. Jyotsna Joshi**

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY	Tutor Interaction	HOD Interaction Dr.Garima Mathur	Internship Interaction			
TUESDAY	NPTELGuidelines Dr.Payal Bansal	Add-on Course Preparation Mr. Durgesh Kumar	Skill Enhancement Ms. Jyotsna Joshi	LUNCH		
WEDNESDAY	Placement Interaction Mr. Durgesh Kumar	Project Guidelines Dr.Payal Bansal	Matlab Session Ms. Jyotsna Joshi			

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POORNIMA COLLEGE OF ENGINEERING

ORIENTATION TIME TABLE FOR ODD SEM. SESSION 2022-2023

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

IV Year Tutor-Dr. Payal Bansal

DAY/TIME	09:00-10:00	10:00-11:00	11:00-12:00	12:00-12:30	12:30-1:30	1:30-2:30
MONDAY	Tutor Interaction	HOD Interaction	Internship Interaction	LUNCH	VLSI Lab Dr.Payal Bansal	
TUESDAY	Skill Enhancement Ms. Jyotsna Joshi	Project Guidelines Dr.Payal Bansal	Seminar Interaction			
WEDNESDAY	NPTEL Guidelines Dr.Payal Bansal	Add-on Course Preparation Dr. Nitesh Mudgal	Placement Interaction Ms. Jyotsna Joshi		VLSI Lab Dr. Surendra Hans	

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10.2 Academic Time Table

POORNIMA COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
VIIth Sem

Class Location: CT-03
WEF: 16.08.2022
Tutor Name: Dr. Meetu Nag

	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 - 13:50	6 13:50 - 14:50	7 15:00 - 16:00
Mo	Group 1 7EC6.1-14 PEC Payal Bansal Group 2 7EC6.2-60 MSST CT-05 Meetu Nag	EC 1 CT-05 7EC7-40 Seminar Meetu Nag EC 2 7EC7-40 Seminar Sandeep Gupta EC 3 CT-23 7EC7-40 Seminar Anila Dhingra		LUNCH	Group 1 7EC5-11 VLSI Design Jyotsna Joshi Group 2 7EC5-13 CMOS Design CT-05 Sushil Jain	EC 1 CT-18 7EC4-23 OC Lab SUPREET KUMAR SINGH EC 2 7EC4-21 VLSI Design Lab CT-20 Ajmeet Singh EC 3 AT-02 7EC4-22 Advance Comm lab Manisha Kumawat		Add on Course Tarun Mishra
Tu	Group 1 7EC6.1-14 PEC Payal Bansal Group 2 7EC6.2-60 MSST CT-05 Meetu Nag	EC 1 CT-20 7EC4-21 VLSI Design Lab Ajmeet Singh EC 2 AT-20B 7EC4-22 Advance Comm lab Manisha Kumawat EC 3 CT-18 7EC4-23 OC Lab SUPREET KUMAR SINGH			Group 1 7EC5-11 VLSI Design Jyotsna Joshi Group 2 7EC5-13 CMOS Design CT-04 Sushil Jain	EC 1 AT-02 7EC4-22 Advance Comm lab Manisha Kumawat EC 2 7EC4-23 OC Lab CT-18 SUPREET KUMAR SINGH EC 3 CT-20 7EC4-21 VLSI Design Lab Ajmeet Singh		Add on Course Tarun Mishra
We	Group 1 7EC6.1-14 PEC Payal Bansal Group 2 7EC6.2-60 MSST CT-05 Meetu Nag	Group 1 7EC5-11 VLSI Design Jyotsna Joshi Group 2 7EC5-13 CMOS Design CT-05 Sushil Jain	7EC7-30 Industrial Training Payal Bansal		EC 1 AT-02 7EC Project Amit Kumar Jain / Anila Dhingra EC 2 7EC Project Vijendra Kumar Patel / SUPREET KUMAR SINGH EC 3 CT-17 7EC Project Monika Surana / Rajveer Marwal			Add on Course Tarun Mishra
Th								
Fr								
Sa								

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POORNIMA COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Vth Sem

Class Location: CT-04
WEF: 20.09.2022
Tutor Name:Ms. Jyotsna Joshi

	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 - 13:50	6 13:50 - 14:50	7 15:00 - 16:00
Mo	**5EC4-14 Sat. Comm.** Sandeep Gupta	**5EC4-02 EM Waves Tut.** Jyotsna Joshi	**5EC3-01 CA** Sushil Jain		**5EC4-04 DSP** Dr. Nitesh Mudgal	**5EC4-23 MW Lab** CT-19 Payal Bansal		**Add on Course** Durgesh Kumar
Tu	**5EC4-14 Sat. Comm.** Sandeep Gupta	**5EC4-05 MTT** Durgesh Kumar	**5EC4-04 DSP Tut.** Dr. Nitesh Mudgal		**5EC4-21 RF Simulation Lab** AT-20B Durgesh Kumar		**5EC4-02 EM Waves** Jyotsna Joshi	NSP
We	**5EC4-14 Sat. Comm.** Sandeep Gupta	**5EC4-03 CS** Meetu Nag	**5EC4-02 EM Waves** Jyotsna Joshi	LUNCH	**5EC4-05 MTT** Durgesh Kumar	**5EC3-01 CA** Sushil Jain	**5EC4-03 CS Tut.** Meetu Nag	**Add on Course** Durgesh Kumar
Th	**5EC4-02 EM Waves** Jyotsna Joshi	**5EC4-03 CS** Meetu Nag	**5EC4-04 DSP** Dr. Nitesh Mudgal		**5EC4-05 MTT Tut.** Durgesh Kumar	**5EC4-03 CS** Meetu Nag	**5EC3-01 CA** Sushil Jain	Activity
Fr	**5EC4-05 MTT** Durgesh Kumar	**5EC4-04 DSP** Dr. Nitesh Mudgal	**5EC4-02 EM Waves** Jyotsna Joshi		**5EC7-30 Industrial training** Dr. Nitesh Mudgal	**5EC4-22 DSP Lab** AT-20B Jyotsna Joshi		**Add on Course** Durgesh Kumar
Sa	**I3 Activity** Vijendra Kumar Patel	I3 Activity			I3 Activity			

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POORNIMA COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

IIIrd Sem

Class Location: CT-13
WEF: 16.08.2022
Tutor Name:Dr.Nitesh Mudgal

	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 - 13:50	6 13:50 - 14:50	7 15:00 - 16:00
Mo	**3EC4-05 S&S** Garima Mathur	**3EC2-01 AEM** Dr. Shuchi Dave	**3EC4-06 NT** Surendra Hans		**3EC1-03 MEFA** Kalpana Sharma	**3EC3-24 CP Lab - I** AT-20B Appoorva Bansal		**Add on Course** Surendra Hans
Tu	**3EC4-07 ED** Rajveer Marwal	**3EC4-06 NT** Surendra Hans	**3EC4-05 S&S** Garima Mathur		**3EC4-30 Industrial Training** Dr. Nitesh Mudgal	**3EC4-21 ED Lab** Dheeraj Vadhwani		NSP
We	**3EC1-03 MEFA** Kalpana Sharma	**3EC4-04 DSD** Tarun Mishra	**3EC4-07 ED** Rajveer Marwal	LUNCH	**3EC2-01 AEM** Dr. Shuchi Dave	**3EC4-04 DSD** Tarun Mishra	**3EC4-07 ED Tut.** Rajveer Marwal	**Add on Course** Surendra Hans
Th	**3EC4-04 DSD Tut.** Tarun Mishra	**3EC4-06 NT** Surendra Hans	**3EC4-05 S & S Tut.** Garima Mathur		**3EC4-07 ED** Rajveer Marwal	**3EC4-23 SP Lab** AT-20B Amit Kumar Jain		NSP
Fr	**3EC2-01 AEM** Dr. Shuchi Dave	**3EC4-05 S&S** Garima Mathur	**3EC4-04 DSD** Tarun Mishra		**3EC4-06 NT Tut.** Surendra Hans	**3EC4-22 DSD Lab** AT-01 Manisha Kumawat		**Add on Course** Surendra Hans
Sa	**I3 Activity** Dheeraj Vadhwani	I3 Activity			I3 Activity			

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11 Course Outcome Attainment Process:

11.1 Course Outcome Attainment Process

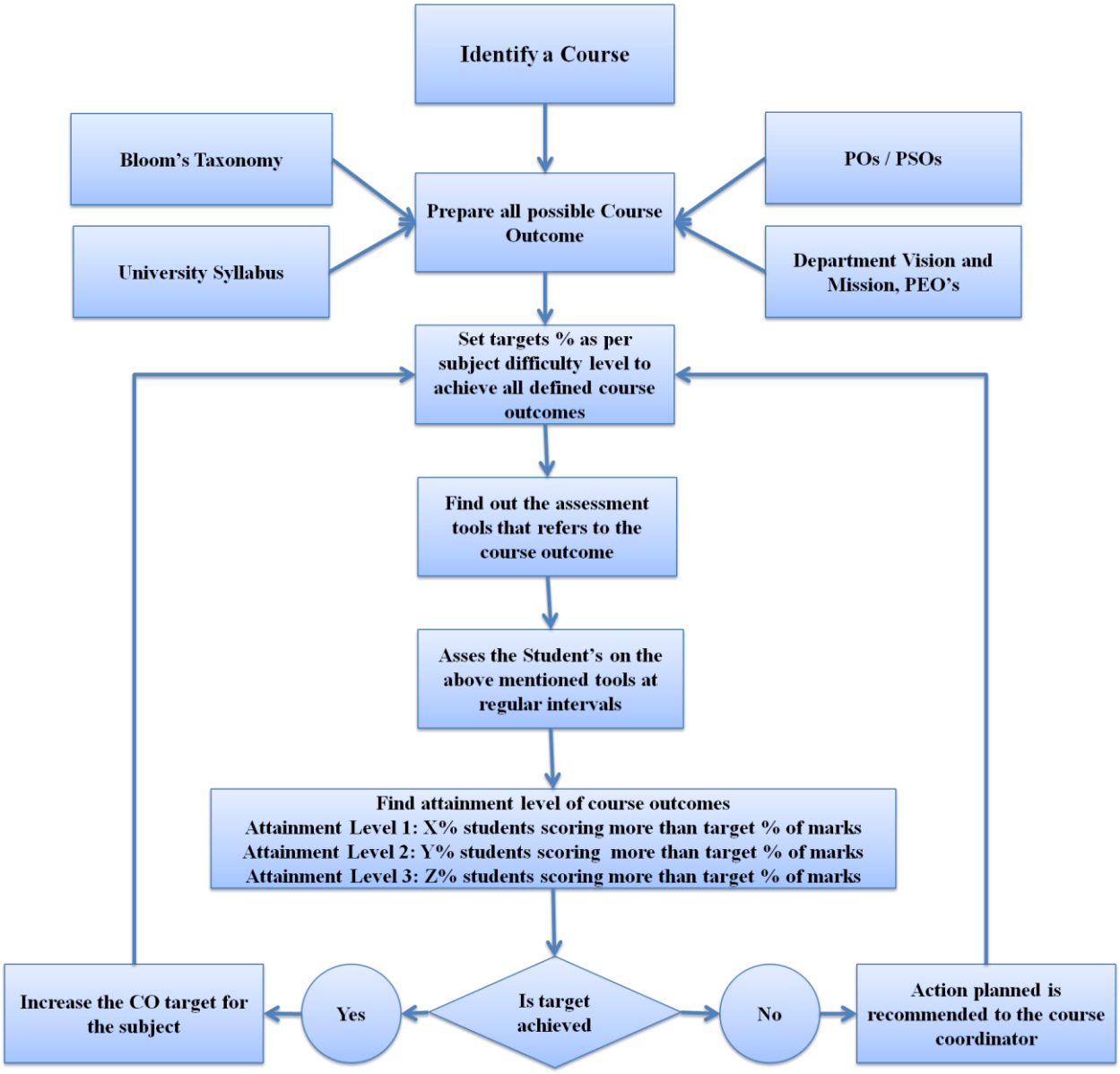

Figure. Course Outcome Attainment Process

11.2 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	PO1	PO2	PO3	PO4	PO5	PO 6	PO 7	P O 8	PO 9	PO 10	P 1
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						
		CO2	Apply the appropriate technology, and Compare the viability of different approaches to the numerical solution of problems.	3	3	2	2	3						
		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 transform domain formulation.	3	3	2	2	2						
		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	2	2.5						
3EC1-03	Managerial	CO1	CO1 – Discuss the concepts of economics like demand, supply,										3	

	Economics and Financial Accounting		market structure and financial management like balance sheet											
		CO2	Apply the economic functions and theories like: demand & supply functions, production & cost functions & pricing theories				2		1			2		
		CO3	Analyze the relationship between economic variables using the concept of elasticity, cash flow analysis, fund flow analysis and ratio analysis		3	2	3							
		CO4	Evaluate the real life problems of business organizations using capital budgeting techniques		3		3		3	2		2		
					3	2	2.667		1.667	2		2	3	
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					
		CO2	Apply logic formulation and optimization of combinational and Sequential circuits	2	3	2	3							
		CO3	Design and trade-offs in various digital electronic families with a view towards reduced power consumption and miniaturizations	3	2	2	1	1						
		CO4	Analysis of synchronous and asynchronous sequential circuits and Develop design capability in synchronous and asynchronous sequential circuits using VHDL	2	2	3	2	1						
		CO5		2.5	2.25	2	2	1	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	-		
		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	-		-	-	-	
		CO3	Analyze the signals and system using different transform domain techniques like CTFT, DTFT, Laplace and Z Transforms.	3	2	2	3		-	-	-	-		
		CO4	Investigate whether the system is stable, Linear, causal ,Time Invariant etc.	3	2	2	3	-		-	-	-	-	
		CO5	Design and implement zero order hold and first order hold interpolator	3	2	3	3	1			-	-	-	
				3	1.75	2.333333	2.75	2						

3EC4-06	Network Theory	CO1	Describe and explain various concept of mesh & node analysis, network theorems, frequency domain, time domain, Electric network, Fourier series, transform, port network & filters analysis.	3	3				2					
		CO2	Apply the knowledge of mesh & node analysis, network theorems, frequency domain, time domain, Electric network, port network & Transient behavior analysis.	3	3	3								
		CO3	Compare operation of electric network with reference to parameters & frequency domain, time domain Analysis.	3	3				3					
		CO4	Evaluate the different parameters of the A.C. & D.C. networks.	3	3		3	3	2					
				3	3	3	3	3	2.3 33					
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, solar cell and CMOS fabrication.	2	1	1	1						1	
		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					
		CO3	Analyze and identify the changes in the parameters like (current, voltage, power, energy, power dissipation, time and temperature).	2	3	1								
		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					
			-	2.25	1.75	1.75	1.5		2				1	

3EC4-21	Electronics Devices Lab	LO1	Understand the semiconductor devices and component like diode, BJT, JFET and MOSFET.	3										
		LO2	Explain the working principle of the semiconductors devices.	3										
		LO3	Design and analysis different-different component related to the practical on the bread board.	3	3									
		LO4	Evaluate the result and justify it by comparison to the ideal result.	3		3	3							
				3	3	3	3							
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						
		LO2	Design and develop sequential circuits.		3	3		3						
		LO3	Demonstrate the truth table of various expressions using logic gates.		3									
		LO4	Identify the various digital ICs and understand their operation.	2	3			3						
		LO5	Analyze, design and implement Flip-Flop.		3	3	3	3						
				2	3	3	3	3						
3EC4-23	Signal Processing Lab	LO1	Understand the basics features of MATLAB, fundamentals of signals and their different operations	3		1	-	3	-	-	-		-	
		LO2	Generate random signals and different continuous and discrete time signals	2	1	1	-	2	-	-	-		-	
		LO3	Develop simple algorithms for signal processing and test them using MATLAB.	2	2	3	1	3	-	-	-		-	
		LO4	Verify random sequences with arbitrary distributions, mean and variance	2	1	1		2	-	-	-		-	
		LO5	Design and conduct experiments interpret and analyze data and report results	2	1	2	2	3	-	-	-		-	
				2	1.25	1.75	1.5	2.5						
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	-	-	-	-	-	-	-	
				1.333	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	
		LO2	Interact with industrial personnel and follow engineering practices and discipline prescribed in industry.				2		3	3	2		3	
		LO3	Develop awareness about general workplace behavior and build interpersonal and team skills.				3	2			3		3	
		LO4	Prepare professional work reports and presentations.				3	2			3		3	
				3	1	1	2.75	2	3	2.5	2.75	3	3	
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									
		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 representation, I/O System organization	1	2							2		
		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						
		CO4	Design basic and intermediate RISC pipelines, including the instruction set, functional units and components of computers.	3	3	3								
				2	2.6667	3		2				2		
5EC4-02	Electromagnetic Wave	CO1	Explain basic concepts of transmission line, electromagnetic fields, waveguides and radiation parameter.	3										
		CO2	Solve specific problems related to transmission line , Maxwell's equation, uniform plane waves for different media interface	3	3									
		CO3	Analyze parameter of transmission line and time varying electromagnetic wave propagation in different media	2	3	3								

		CO4	Evaluate the nature of electromagnetic wave propagation in guided medium for specific applications			3	2							
				2.666	3	3	2							
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										
		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									
		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							
		CO4	Design appropriate compensator for a typical control application using time & frequency response.			3	3	3						
				2.666	3	3	3	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										
		CO2	Apply the knowledge of EM wave's transmission to implements the active and passive microwave network and also determine microwave parameters.		2									
		CO3	Analyze an impedance tuning network for efficient transmission of satellite and RADAR communication.		3	2	2							

		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	2.5	2.5	2.5	2	2	2				
5EC5-12	Satellite Communication	CO1	Understand the architecture of satellite systems as a means of high speed, high communication range system.	3	2		2							
		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							
		CO3	Analyze the multiple access schemes used in satellite communication.	3	2	2								
		CO4	Calculate numerical problems related to orbital motion and design of link budget for the given parameters and conditions	2	2	3	2							
		CO5		2.5	2.25	2.33	2.33							
5EC4-21	RF Simulation Lab	LO1	Describe basic microwave network theory and the use of scattering matrix.	2										
		LO2	Apply the application of microwave components in the design of useful systems such as radars, receivers, etc.		3				3					
		LO3	Demonstrate broad knowledge about RF basic concepts, RF amplifier and RF filter.		3	3	3	3						
		LO4	Designing of RF amplifier using microwave BJT and microwave FET		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					
5EC4-22	Digital Signal Processing Lab	LO1	Classify signals and apply different operations on signals	3										
		LO2	Analyze various properties of digital systems		2									
		LO3	Design Simulink model and GUI for analog and digital modulation techniques			2		3						
		LO4	Develop various DSP Algorithms using MATLAB Software package for different transformation			3	2	3						
		LO5	Design, analyze, and implement Analog & Digital filters using MATLAB programming			3	2	3						
					2	2.66	2	3						

5EC4-23	Microwav e Lab	LO1	Describe the basic concept of microwave components mechanism used in wire line communication.	3										
		LO2	Explain the different mode of microwave transmission used in different application as mobile, satellite.	2										
		LO3	Analyze the behavior of different type of microwave parameter based on its fundamental characteristics.		3	3	2							
		LO4	Evaluate & Design real time application based microwave waveguide for used in communication.		2	3	3	3	2					
				2.5	2.5	3	2.5	3	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	
		LO2	Interact with industrial personnel and follow engineering practices and discipline prescribed in industry.				2		3	3	2		3	
		LO3	Develop awareness about general workplace behavior and build interpersonal and team skills.				3	2			3		3	
		LO4	Prepare professional work reports and presentations.				3	2			3		3	
				3	1	1	2.75	2	3	2.5	2. 75	3	3	
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										
		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 up and pull down ratio, and noise margin)	3	3	3								
		CO3	Analyze and identify the problems in MOS and CMOS devices (like estimate of gate delay, transistor	2	3	3	3							

			sizing, power dissipation, over pressure and temperature).										
		CO4	Create the VHDL code for combinational and sequential components		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.										
				2.5	3	3	3						
7EC5-13	CMOS design	CO1	Describe the fabrication process and properties of MOS devices.	3	2	2	-	-	-	-	-	-	-
		CO2	Comprehend the need of hardware description language and its features.	2	3	3	2	1	-	-	-	-	-
		CO3	Analyze the impact of scaling on MOS circuits.	2	2	3	1		-	-	-	-	-
		CO4	Design combinational and sequential circuits using VHDL.	2	3		2	3		-	-	-	-
		CO5		2.25	2.5	2.66	1.667	2					
7EC7-21	VLSI Design Lab	CO1	Understand the physical design process of Digital Integrated Circuits	2	3								
		CO2	Describe procedure for designing of programmable circuits.	2	3								
		CO3	Demonstrate the ability to use various EDA tools for digital system design		3	3	3						
		CO4	Implement various combinational and sequential circuits using VHDL on FPGA		3	3			3				
		CO5	Implement schematic and layout of various digital CMOS logic circuits using EDA tools										
				2	3	3	3		3				
7EC4-22	Advance communication lab	CO1	Design and demonstrate the digital modulation techniques	3									
		CO2	Demonstrate and measure the wave propagation in microstrip antennas		2	2							
		CO3	Characteristics of microstrip devices and measurement of its parameters.	3		2	2						
		CO4	Model an optical communication system and study its characteristics.			2	2						
		CO5	Simulate the digital communication concepts and compute and display various parameters along with plots/figures.		2	2							

				3	2	2	2						
7EC4-23	Optical Communication Lab	CO1	Describe the principles of optical sources and power launching-coupling methods.	3	3	2	2	-	--	-	-	-	-
		CO2	Compare the characteristics of fiber optic receivers	3	3	3	2	3					
		CO3	Design a fiber optic link based on budgets	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					
		CO5		3	3	2.75	2.5	3					
7EC7-30	Industrial Training	LO1	Monitor and understand industry processes.	3	1	1	3		3	2	3	3	3
		LO2	Demonstrate various industrial equipment.				2		3	3	2		3
		LO3	Develop his/her report writing skill.				3	2			3		3
		LO4	Enhance their communication skills and confidence level through presentation.				3	2			3		3
		LO5		3	1	1	2.75	2	3	2.5	2.75	3	3
7EC7-40	Practical Training Seminar	LO1	identify engineering professional real time industrial or societal problem to select his/her seminar topic	3	1	2	3		3	3	3	3	
		LO2	Investigate various reported solution of engineering problems throughout the corner of society.	3	3	2	3	3				3	
		LO3	argue and judge his/her findings in the selected area				2	3			3	3	3
		LO4	prepare a good professional document with his concluding remarks					3			3		3
		LO5	Enhance their communication skills and confidence level through presentation.										
				3	3	2	2.5	3			3	3	3
7EE6-60.1	Electrical Machines and Drives	CO1	Understand the constructional details and principle of operation of rotating electrical machines	3	-	-	3	3	-	-	-	-	-
		CO2	Acquire knowledge about the working principle and various aspects of electric drives.	3	-	-	2	3	-	-	-	-	-
		CO3	To study and analyze the various control techniques for speed control on various electric drives.	2	-	-	3	3	-	-	-	-	-

		CO4	Develop design knowledge on how to design the speed control and current control loops of an electric drive	3	-	-	3	2	-	-	-	-	-	
				1.50	1.75	1.00	-	1.00	1.00	1.50	-	-	-	
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	-	-	-	-	
7CE6-60.1	Environmental Impact Analysis (EIA)	CO1	Define terms used in Environmental impact assessment, quality standards for environmental Components	2	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	-	-	-	
		CO3	Organize an environmental impact assessment for a proposed project/activity	1	2	1	-	1	1	2	-	-	-	
		CO4	Analyze different methodologies and impacts related to EIA	1	3	1	-	1	1	2	-	-	-	
				-	3.00	3.00	3.00	-	-	-	-	-	-	
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	-	-	-	-	
		CO5	Investigate natural and manmade disasters	-	2	2	1	2	1	-	-	-	-	
				-	2.00	-	-	3.00	2.0	-	-	-	-	

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	-	-	-	-	-	-	-	-
		CO2	Analyze the components of a quality management system and the role of the quality management system.	-	-	3	-	-	-	-	-	-	-
		CO3	Apply quality management to improve computer based systems.	-	-	-	3	-	-	-	-	-	-
		CO4	Design Various components of quality system to avoid failures and rectification.	-	-	3	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-
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	-	-	-	-
		CO2	Analyze different cyber offences & attacks and Determine How a Criminals plan the cyber Attacks.	-	2	-	-	-	-	-	-	-	-
		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	-	-
				-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-
				3.00	3.00	3.00	3.00	-	-	-	-	-	-
7ME6-60.2	Quality Management	7ME6-60.2.1	Describe the basic concept of Quality Management	1	-	-	-	-	-	-	-	-	-
		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	-	-	-	-	-	-	-	-	-
		7ME6-	Illustrate the concept of Quality Assurance, Acceptance sampling	3	-	-	-	-	-	-	-	-	-

		60.2.3	and study quality systems like ISO9000, ISO 14000 and Six Sigma											
		7ME6-60.2.4	Identify engineering problems, concept of reliability and Taguchi Method of Design of experiments	-	2	-	-	-	-	-	-	-	-	
				2.00	2.00	-	-	-	-	-	-	-	-	

12 Course File Sample

Outcome Based Process Implementation Guidelines for Faculty

12.1 Labelling your course file

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

12.2 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

13 Outcome Based Process Implementation Guidelines for Faculty

Course CO-PO, Preparation, Assessment Formats

Academic Session: 2021-2022 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.

Dr. Mahesh Bundele
B.E., M.E., Ph.D.
Director
Poornima College of Engineering
181-B, RIICO Institutional Area
Sitapura, JAIPUR

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	Overall CO (-----)	% 0f Marks	Weightage X--/100 B	Overall CO (-----)	% 0f Marks	Weightage 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= 2=	% of Students Attained Level
No. of Students attained level 1= 1=	% of Students Attained Level
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).

14 File Formats

14.1 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

14.2 Front Page of Course File

14.3 ABC Analysis Format

14.4 Blown-up Format

14.5 Deployment Format

14.6 Zero Lecture Format

14.7 Lecture Note Front page Format

14.7.1 Detailed Lecture Note Format-1

14.7.2 Detailed Lecture Note Format-2

14.8 Assignment Format

14.9 Tutorial Format

14.10 Mid Term/ End Term Practical Question Paper Format

14.11 Mid Term Theory Question Paper Format

13. 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		

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