POORNIMA
COLLEGE OF ENGINEERING
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Curriculum Delivery Plan (CDP) (2023-24)

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POORNIMA
COLLEGE OF ENGINEERING

Department of Electrical Engineering

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

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)
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1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of Continuous Internal Assessment (CIA)

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

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

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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. (Electrical Engineering)

2.2.1 Vision of Department

To be a model of excellence in Professional Education and Research by creating electrical engineers who are prepared for lifelong engagement in the rapidly changing fields and technologies with the ability to work in team.

2.2.2 Mission of Department

- To provide a dynamic environment of technical education wherein students learn in collaboration with others to develop knowledge of basic and engineering sciences.
- To identify and strengthen current thrust areas based upon informed perception of global societal issues in the electrical and allied branches.
- To develop human potential with intellectual capability who can become a good professional, researcher and lifelong learner.

2.2.3 PEO of the Department

Program Educational Objectives (PEOs

- **PEO 1**: Graduates will have the ability to formulate, analyze and apply design process using the basic knowledge of engineering and sciences to solve complex electrical engineering problems.
- **PEO 2**: Graduates will exhibit quality of leadership, teamwork, time management, with a commitment towards addressing societal issues of equity, public and environmental safety using modern engineering tools.
- **PEO 3**: Graduates will possess dynamic communication and have successful transition into a broad range of multi-disciplinary career options in industry, government and research as lifelong learner.

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2.2.4 Program Specific Outcome (PSOs)

- PSO1: Graduate possesses the ability to apply fundamental knowledge of basic sciences, mathematics and computation to solve the problems in the field of electrical engineering for the benefit of society.
- PSO2: Graduate possesses the ability to professionally communicate and ethically solve complex electrical engineering problems using modern engineering tools.
- PSO3: Graduate possesses sound fundamental knowledge to be either employable or develop entrepreneurship in the emerging areas of renewable and green energy, electric and hybrid vehicles and smart grids and shall be susceptive to life- long learning.

2.3 Program Outcomes (PO)

Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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.
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.
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.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
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.
7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

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9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
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 give and receive clear instructions.
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 a team, to manage projects and in multidisciplinary environments.
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.

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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 Electrical 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.

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3.1.3 Department-Wise Composition

Session: 2023-24

S. No.	Category	Nominated by	Name of Members	Address
1	Chairman, DAB-CE	Chairman, IQAC	Dr. Mahesh M. Bundele (Principal & Director, PCE)	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
2	Member Secretary	Chairman, DAB-EE	Dr. Pravin Machhindra Sonwane Head, Department of Electrical Engineering	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
3	Faculty representative-1	Chairman, DAB-EE	Dr. Gaurav Jain Professor EE, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, DAB-EE	Dr. Pankaj Gakhar Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-3	Chairman, DAB-EE	Dr. Ekata Sharma Associate Prof, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-4	Chairman, DAB-EE	Dr. Hemant Kaushik, Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, DAB-EE	Dr. Vikas Kumar Sharma Associate Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, DAB-EE	Mr. Rachit Saxena Assistant Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
9	Special Invitee	Chairman, DAB-EE	Dr. Rekha Nair Dean First Year, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
10	Alumni Representative-1	Chairman, DAB-EE	Mr. Gourabh Gupta	REC, Banglore
11	Alumni Representative-2	Chairman, DAB-EE	Mr. Love Mishra	Sr. Engineer, Ultratech
12	Student Representative	Chairman, DAB-EE	Lalit Kumar Yadav	PCE20EE009, Student PCE
13	Industry Representative	Chairman, DAB-EE	Mr. Jagdish Prasad Meena	Executive Engineer, RVPNL, Jaipur
14	Parents Representative-1	Chairman, DAB-EE	Dr. ASEEM VERMA	Professor Dentist College
15	Parents Representative-2	Chairman, DAB-EE	Mr. RAMENDRA YADAV	Secretary, Piramal Group, Jhunjunu

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3.1.4 Meeting Frequency & Objectives

Meeting No.	Meeting Code	Meeting Month-Week	Meeting Objective
1.	DAB-1	11-Sept-2023	● PAC proposed the activities/task to fill gaps 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	20-Nov-2023	● Approval on the suggestions proposed in the last PAC Meeting. ● Updation of DAB drafts for being suggested in upcoming GC.
3	DAB-3	22-Jan-2024	● Draft preparation for DAC and CDP for upcoming semester after considering inputs from PAC. ● Review of Semester closure draft received from PAC.
4.	DAB-4	06-May-2024	● 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.

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3.2.3 Department-Wise Composition

Session: 2023-24

S. No.	Category	Nominated by	Name of Members	Address
1	Chairman, PAC-CE	Chairman, IQAC / Head of Institution	Dr. Pravin Machhindra Sonwane Head, Department of Electrical Engineering	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
2	Member Secretary	Chairman, PAC-EE	Dr. Pankaj Gakhar Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
3	Faculty representative-1	Chairman, PAC-EE	Dr. Gaurav Jain Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, PAC-EE	Dr. Hemant Kaushik, Assistant Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
5	Faculty representative-3	Chairman, PAC-EE	Mr. Rachit Saxena Assistant Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-4	Chairman, PAC-EE	Dr. Ekata Sharma Associate Prof, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, PAC-EE	Dr. Vikas Kumar Sharma Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, PAC-EE	Mr. Vineet Sharma Assistant Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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3.2.4 Meeting Frequency & Objectives

Meeting No.	Meeting Code	Meeting Month-Week	Meeting Objective
1.	PAC-1	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 ● Prepared regular report of program for all assessment, attainment & gaps
2.	PAC-2	October 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
3.	PAC-3	November First 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
4.	PAC-4	December First 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
5.	PAC-5	January Second 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
6.	PAC-6	March Last Week	● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps
7.	PAC-7	April 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
8.	PAC-8	May Second Week	● Feedback of last IQAC and suggestions for new semester to be implemented in CDP and DAC ● Elective proposals/CBCS

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4 List of Faculty Members & Technical Staff

Sr. No.	Faculty Name	Emp.ID	Designation	Email ID	Mobile No.
1	Dr. PRAVIN SONWANE	6380	PROFESSOR	pravin.sonwane@poornima.org	8805868462
2	Dr. GAURAV JAIN	6085	PROFESSOR	gaurav.jain@poornima.org	9602410960
3	Dr. HEMANT KAUSHIK	6878	PROFESSOR	hemant.kaushik@poornima.org	9950937390
4	Dr. PANKAJ GAKHAR	3820	ASSOCIATE PROFESSOR	pankaj.gakhar@poornima.org	7737764255
5	Dr. EKATA SHARMA	6377	ASSOCIATE PROFESSOR	ekata.sharma@poornima.org	9530025325
6	Dr. VIKAS KUMAR SHARMA	7399	ASSOCIATE PROFESSOR	vikas.sharma@poornima.org	9887352062
7	MR. VINEET SHARMA	7376	ASST PROFESSOR	vineet.sharma@poornima.org	8239873121
8	MR. RACHIT SAXENA	7469	ASST PROFESSOR	rachit.saxena@poornima.org	9828151962
9	Ms. SHEENA TAHIRA KHAN	7020	ASST PROFESSOR	khansheena70@gmail.com	8290616919
10	MR. ABHISHEK SINGH	5353	ASST PROFESSOR	abhishek.singh@poornima.edu.in	9557210581
11	Ms. RICHA CHAUDHARY	6931	ASST PROFESSOR	richa.chaudhary@poornima.org	8851096563
12	Mr. BHAVANESH SHARMA	7012	ASST PROFESSOR	bhavanesh.sharma@poornima.org	9772809472
13	MR. AJIT SINGH RAJAWAT (Study Leave)	6849	ASST PROFESSOR	ajit.rajawat@poornima.org	7737819353
14	MR. NEMI CHAND KOLI	1483	TECHNICAL OFFICER	nemichand@poornima.org	9887793801
15	MR. SITARAM GURJAR	2695	TECHNICAL ASSISTANT	sitaramgurjar@poornima.org	9602335554
16	MR. HANUMAN KHORAL	4216	TECHNICAL ASSISTANT	hanuman.kharol@poornima.org	9667100385

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5 Institute Academic Calendar

JULY 2023

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

AUGUST 2023

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

SEPTEMBER 2023

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

OCTOBER 2023

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

NOVEMBER 2023

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

DECEMBER 2023

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

POORNIMA
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ACADEMIC CALENDAR 2023-24*#

ODD SEMESTER

JULY 2023

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

AUGUST 2023

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

Monday 15	Celebration of Independence Day.

SEPTEMBER 2023

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

OCTOBER 2023

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

NOVEMBER 2023

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

DECEMBER 2023

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

JANUARY 2023

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

HOLIDAYS IN ODD SEMESTER

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

*Subject to revision as per RTU notifications

#For all Engineering Faculty and Students of PCE

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6. Department Activity Calendar

Poornima College of Engineering, Jaipur					
Calendar for Electrical Engineering: Odd Semester Session 2023-24					
(A) Academic Processes					
S. No.	**Activity/ Process**	**B.Tech. I Sem**	**B.Tech. III Sem**	**B.Tech. V Sem**	**B.Tech. VII Sem**
1	Date of Registration & start of regular classes for students	Wednesday 06-Sept-2023	Monday 11-Sept-2023	Monday 11-Sept-2023	Monday 11-Sept-2023
2	Orientation programme	06-Sept-2023 to 08-Sept-2023	11-Sept-2023 to 13- Sept-2023	11-Sept-2023 to 13- Sept-2023	11-Sept-2023 to 13- Sept-2023
3	Date of submission of question papers by faculty to secrecy for 1st Mid-term	11-Oct-2023	11-Oct-2023	11-Oct-2023	11-Oct-2023
4	I Mid Term Theory & Practical Exam	2-Nov-2023 to 8-Nov-2023	16-Oct-2023 to 21-Oct-2023	16-Oct-2023 to 21-Oct-2023	11-Oct-2023 to 13-Oct-2023
5	Showing evaluated answer books of 1st Mid-term exam to students	28-Oct-2023	28-Oct-2023	28-Oct-2023	18-Oct-2023
6	Last date of submission of Evaluated Answer Books and Mark of First Mid-term Theory & Practical exam to Exam and Secrecy Cell respectively	30-Oct-2023	30-Oct-2023	30-Oct-2023	20-Oct-2023
7	Date of submission of question papers by faculty members to secrecy for 2nd Mid-term	27- Nov-2023	24- Nov-2023	24- Nov-2023	17- Nov-2023
8	Revision classes	18-Dec-23 to 23-Dec-2023	04-Dec-2023 to 09-Dec-2023	04-Dec-2023 to 09-Dec-2023	20-Nov-2023 to 26-Nov-2023
9	Last Teaching Day	23-Dec-2023	05-Dec-2023	05-Dec-2023	30-Nov-2023
10	2nd Mid-term theory & Practical Exams	18-Dec-2023 to 23-Dec-2023	28-Nov-2023 to 5-Dec-2023	28-Nov-2023 to 5-Dec-2023	28-Nov-2023 to 05-Dec-2023
11	End Term Practical Exams	As per RTU	As per RTU	As per RTU	As per RTU
(B) Event and Activities					
12	Engineer's Day Celebration	Friday, 15-September-2023			
13	Workshop on Latex	Wednesday, 20-September-2023			
14	LinkedIn - Building a better Linked In profile for increased visibility.	Monday, 25-Sept-2023			
15	Industrial Automation session	Wednesday, 4-October-2023			
16	Alumni Session	Thursday, 12-October-2023			
(C) Holidays					
17	Independence Day Celebration	Monday, 14 August 2023 and Celebration on Tuesday, 15 August 2023			
18	Rakshabandhan	Wednesday, 30 August 2023			
19	Krishna Janmashtami	Thursday, 7 September 2023 to Saturday, 9 September 2023			
20	Vijayadashami aka Dussehra	Tuesday, 24 October 2023			
21	Diwali	Friday, 10 November 2023 to Tuesday, 14 November 2023			
22	Gurunanak Jayanti	Saturday, 25 November 2023 & Monday, 27 November 2023			
23	Christmas	Saturday, 23 December 2023 & Monday, 25 December 2023			
25	New Year	Monday, 1 January 2024 & Tuesday, 2 January 2024			

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7. Teaching Scheme

7.1 RTU Teaching Scheme

Teaching and Examination Scheme

2nd Year: Electrical Engineering
III Semester: B.Tech.

SN	Category	Course Code	Course Title	Hours			Marks			Cr
				L	T	P	IA	ETE	Total	
1	BSC	3EE2-01	Advance Mathematics	3	0	0	30	120	**150**	**3**
2	HSMC	3EE1-02/ 3EE1-03	Technical Communication / Managerial Economics and Financial Accounting	2	0	0	20	80	**100**	**2**
3	ESC	3EE3-04	Power generation Process	2	0	0	20	80	**100**	**2**
4	PCC	3EE4-05	Electrical Circuit Analysis	3	0	0	30	120	**150**	**3**
5		3EE4-06	Analog Electronics	3	0	0	30	120	**150**	**3**
6		3EE4-07	Electrical Machine - I	3	0	0	30	120	**150**	**3**
7		3EE4-08	Electromagnetic Field	2	0	0	20	80	**100**	**2**
8		3EE4-21	Analog Electronics Lab	0	0	2	30	20	**50**	**1**
9		3EE4-22	Electrical Machine-I Lab	0	0	4	60	40	**100**	**2**
10		3EE4-23	Electrical circuit design Lab	0	0	4	60	40	**100**	**2**
11	Training Exam	3EE7-30	Training Seminar	0	0	2			**50**	**1**
12	SODECA	3EE8-00	Social Outreach, Discipline & Extra Curricular Activities						**25**	**0.5**
			Total						**1225**	**24.5**

L = Lecture, **T** = Tutorial, **P** = Practical, **IA**=Internal Assessment,

ETE=End Term Exam, **Cr**=Credits

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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

SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
THEORY											
1	ESC	5EE3-01	Electrical Materials	2	0	0	2	20	80	**100**	**2**
2	PCC/ PEC	5EE4-02	Power System - I	3	0	0	3	30	120	**150**	**3**
3		5EE4-03	Control System	3	0	0	3	30	120	**150**	**3**
4		5EE4-04	Microprocessor	3	0	0	3	30	120	**150**	**3**
5		5EE4-05	Electrical Machine Design	3	0	0	3	30	120	**150**	**3**
6		Professional Elective I (any one)		2	0	0	2	20	80	**100**	**2**
		5EE5-11	Restructured Power System.								
		5EE5-12	Electromagnetic Wave.								
		5EE5-13	Digital Control System.								
		Sub Total		**16**	**0**	**0**		**160**	**640**	**800**	**16**
PRACTICAL & SESSIONAL											
7	PCC	5EE4-21	Power System - I Lab	0	0	2	2	30	20	**50**	**1**
8		5EE4-22	Control System Lab	0	0	2	2	30	20	**50**	**1**
9		5EE4-23	Microprocessor Lab	0	0	2	2	30	20	**50**	**1**
10		5EE4-24	System Programming Lab	0	0	2	2	30	20	**50**	**1**
11	PSIT	5EE7-30	Industrial Training	0	0	1		75	50	**125**	**2.5**
12	SODECA	5EE8-00	Social Outreach, Discipline & Extra Curricular Activities						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. (Electrical Engineering)

Teaching & Examination Scheme
B. Tech.: Electrical Engineering
4th Year - VII Semester

SN	Course Type	Course		Hours per Week			Marks				Cr
		Code	Name	L	T	P	Exm Hrs	IA	ETE	Total	
1	PEC	7EE5-11	Wind and Solar Energy Systems.	3	0	0	3	30	120	**150**	**3**
2		7EE5-12	Power Quality and FACTS								
3		7EE5-13	Control System Design.								
4	OE		Open Elective-I	3	0	0	3	30	120	**150**	**3**
			SUB TOTAL	**6**	**0**	**0**		**60**	**240**	**300**	**6**
PRACTICAL & SESSIONAL											
5	PCC	7EE4-21	Embedded Systems Lab	0	0	4	2	60	40	**100**	**2**
6	PCC	7EE4-22	Advance control system lab	0	0	4	2	60	40	**100**	**2**
7	PSIT	7EE7-30	Industrial Training	1	0	0		75	50	**125**	**2.5**
8		7EE7-40	Seminar	2	0	0		60	40	**100**	**2**
9	SODE-CA	7EE8-00	Social Outreach, Discipline & Extra Curricular Activities	0	0	0		0	25	**25**	**0.5**
			SUB TOTAL	**3**	**0**	**8**		**255**	**195**	**450**	**6**
			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

Year	Sem	Students	Teaching				Course Name	Subject Code	No. of Sec	No. of Batch	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										
2	3	18	3	0	0	3	Advance Mathematics	3EE2-01	1	1	F	3	0	0	3	Maths
2	3	18	2	0	0	2	Technical Communication	3EE1-02	1	1	F	2	0	0	2	English
2	3	18	2	0	0	2	Power Generation Processes	3EE3-04	1	1	F	2	0	0	2	EE
2	3	18	3	0	0	3	Electrical Circuit Analysis	3EE4-05	1	1	F	3	0	0	3	EE
2	3	18	3	0	0	3	Analog Electronics	3EE4-06	1	1	F	3	0	0	3	EE
2	3	18	3	0	0	3	Electrical Machine-I	3EE4-07	1	1	F	3	0	0	3	EE
2	3	18	2	0	0	2	Electromagnetic Fields	3EE4-08	1	1	F	2	0	0	2	EE
2	3	18	0	0	2	1	Analog Electronics Lab	3EE4-21	1	1	F	0	0	2	2	EE
2	3	18	0	0	4	2	Electrical Machines-I Lab	3EE4-22	1	1	F	0	0	4	4	EE
2	3	18	0	0	4	2	Electrical Circuit Design Lab	3EE4-23	1	1	F	0	0	4	4	EE
2	3	18	0	0	2	1	Industrial Training	3EE7-30	1	1	F	0	0	2	2	EE
2	3	18	0	0	1		NSP		1	1	F	0	0	2	2	EE
3	5	27	2	0	0	2	Electrical Materials	5EE3-01	1	2	F	3	0	0	3	EE
3	5	27	3	0	0	3	Power System - I	5EE4-02	1	2	F	3	0	0	2	EE
3	5	27	3	0	0	3	Control System	5EE4-03	1	2	F	3	0	0	2	EE
3	5	27	3	0	0	3	Microprocessor	5EE4-04	1	2	F	3	0	0	3	EE
3	5	27	3	0	0	3	Electrical Machine Design	5EE4-05	1	2	F	3	0	0	3	EE
3	5	27	2	0	0	2	Restructured Power System.	5EE5-11	1	2	F	3	0	0	3	EE
3	5	27	0	0	2	2	Power System - I Lab	5EE4-21	1	2	F	0	0	2	4	EE
3	5	27	0	0	2	2	Control System Lab	5EE4-22	1	2	F	0	0	2	4	EE
3	5	27	0	0	2	2	Microprocessor Lab	5EE4-23	1	2	F	0	0	2	4	EE
3	5	27	0	0	2	2	System Programming Lab	5EE4-24	1	2	F	0	0	2	4	EE
3	5	27	0	0	1	1	Industrial Training	5EE7-30	1	2	F	0	0	2	4	EE
3	5	27	0	0	1		NSP		1	2	F	0	0	2	2	EE
															38	

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4	7	12	3	0	0	3	Professional Elective-2	7EE5-11/13	1	1	F	3	0	0	3	EE
4	7	12	3	0	0	3	Open Elective-I	7EE6.60.1/2	1	1	F	3	0	0	3	EE
4	7	12	0	0	4	2	Embedded Systems Lab	7EE4-21	1	1	H	0	0	4	4	EE
4	7	12	0	0	4	2	Advance control system lab	7EE4-22	1	1	H	0	0	4	4	EE
4	7	12	1	0	0	2.5	Industrial Training	7EE7-30	1	1	F	1	0	0	2	EE
4	7	12	2	0	0	2	Seminar	7EE7-40	1	1	F	2	0	0	2	EE
4	7	12	0	0	3		Project-1		1	1	F	0	0	3	3	EE
															21	

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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 MATLAB	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

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 Electrical Engineering

Load Sheet of Session 2023-24 (odd Semester)

Sr. No.	Faculty Name	Subject(s)	Subject Code	Section	L	T	P	Load Per Week	Total Load
1	Dr. PRAVIN MACHHINDRA SONWANE	Power Quality and FACTS	7EE5-12	A	3	0	0	3	6
		Project-1		A	0	0	3	3	
2	Dr. GAURAV JAIN	Electromagnetic Field	3EE4-08	A	2	0	0	2	10
		NSP V Sem	5EENSP	A	0	0	2	4	
		SP Lab	5EE4-24	A	0	0	2	4	
3	DR. PANKAJ GAKHAR	Electrical Machine - I	3EE4-07	A	3	0	0	3	10
		Wind and Solar Energy Systems	7EE5-11	A	3	0	0	3	
		Electrical Machine-I Lab	3EE4-22	A	0	0	4	4	
4	DR. HEMANT KAUSHIK	Power System - I	5EE4-02	A	3	0	0	3	11
		Power generation Process	3EE3-04	A	2	0	0	2	
		Power System - I Lab	5EE4-21	A	0	0	2	4	
		Seminar	7EE7-40	A	0	0	2	2	
5	Dr. EKATA SHARMA	Analog Electronics	3EE4-06	A	3	0	0	3	10
		Microprocessor	5EE4-04	A	3	0	0	3	
		Advanced Control System Lab	7EE4-22	A	0	0	4	4	
6	DR. VIKAS KUMAR SHARMA	Restructured Power System	5EE5-11	A	3	0	0	3	10
		Electrical Circuit Analysis	3EE4-05	A	3	0	0	3	
		Analog Electronics Lab	3EE4-21	A	0	0	2	2	
		Industrial Training	7EE7-30	A3	2	0	0	2	
7	MR. VINEET SHARMA	Control System	5EE4-03	A	3	0	0	3	10
		Control System Lab	5EE4-22	A	0	0	2	4	
		Electrical Machines and Drives	7EE6-60.1	A	3	0	0	3	
8	MR. RACHIT SAXENA	Electrical Machine Design	5EE4-05	A	3	0	0	3	11
		Electrical Circuit design Lab	3EE4-23	A	0	0	3	3	
		Electrical Materials	5EE3-01	A	3	0	0	3	
		NSP	3EENSP	A	0	0	2	2	
9	Ms. SHEENA T KHAN	Power generation Process	7EE6-60.2	A	3	0	0	3	8
		Embedded System Lab	7EE4-21	A	0	0	3	3	
		Industrial Training	3EE7-30	A	0	0	2	2	
10	MR.ABHISHEK SINGH	1st Year							
11	Ms. RICHA CHOUDHARY	1st Year							
12	MR. BHAVANESH	1st Year							
13	DR. SHUCHI DAVE	Advance Mathematics	3EE2-01	A	3	0	0	3	3
14	Dr. SHALINI SHAH	Technical Communication	3EE1-02	A	2	0	0	2	2
15	Mr. Mayank Sharma	Microprocessor Lab	5EE4-23	A	0	0	2	4	8
		Industrial Training	5EE7-30	A	0	0	2	4	
15	Mr AJIT SINGH RAJAWAT	Study Leave							

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10 Time Table

10.1 Orientation Time Table

Poornima College of Engineering						
Department of Electrical Engineering						
Time Table for Orientation Program (ODD Semester, 2023-24)						
II Year						
Day/Time	**9:00 AM 10:00 AM**	**10:00 AM - 11:00 AM**	**11:00 AM - 12:00 PM**	**12:00 PM- 12:30 PM**	**12:30 PM 01:30 PM**	**01:30 PM 02:30 PM**
Monday 11-Sept-23	Tutor Interaction (Mr. Vineet Sharma)	NAACNBA Philosophy (Mr. Mayank Sharma)	Electrical Machine-I Overview (Dr. Pankaj Gakhar)	LUNCH	Electromagnetic Field overview (Dr. Gaurav Jain)	Analog Electronics overview (Dr. Ekata Sharma)
Tuesday 12-Sept-23	HOD Interaction (Dr. Pravin Sonwane)	Research Paper Writing (Mr. Mayank Sharma)	Power Generation Process Overview (Dr. Hemant Kaushik)		Industrial Training Placement overview (Dr. Gaurav Jain)	Electrical Circuit Analysis overview (Dr. Vikas Sharma)
Wednesday 13-Sept-23	Technical Communication overview (Dr. Shalini Shah)	Project overview (Dr. Gaurav Jain)	Electrical Machine -I Lab Overview (Dr. Pankaj Gakhar)		Director Interaction (Dr. Mahesh Bundele)	AE & ECD Lab overview (Dr. Vikas Kumar Sharma)

Poornima College of Engineering						
Department of Electrical Engineering						
Time Table for Orientation Program (ODD Semester, 2023-24)						
III Year						
Day/Time	9:00 AM 10:00 AM	10:00 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM- 12:30 PM	12:30 PM 01:30 PM	01:30 PM 02:30 PM
Monday 11-Sept-23	HOD Interaction (Dr. Pravin Sonwane)	NSP (Dr. Gaurav Jain)	Electrical Materials overview (Dr. Gaurav Jain)	LUNCH	Power System-1 overview (Dr Hemant Kaushik)	System programming Lab Overview (Dr. Gaurav Jain)
Tuesday 12-Sept-23	Control System overview (Mr. Vineet Sharma)	Research Paper Writing (Mr. Mayank Sharma)	Restructured Power System overview (Dr. Vikas Kumar Sharma)		Director Interaction (Dr. Mahesh Bundele)	Tutor Interaction (Mr. Rachit Saxena)
Wednesday 13-Sept-23	Industrial Training (Dr. Pravin Sonwane)	Electrical Machine Design overview (Mr. Vineet Sharma)	Microprocessor overview (Mr. Rachit Saxena)		Placement (Dr. Pankaj Gakhar)	NAAC/NBA Philosophy (Mr. Mayank Sharma)

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Poornima College of Engineering						
Department of Electrical Engineering						
Time Table for Orientation Program (ODD Semester, 2023-24)						
IV Year						
Day/Time	**9:00 AM 10:00 AM**	**10:00 AM - 11:00 AM**	**11:00 AM - 12:00 PM**	**12:00 PM- 12:30 PM**	**12:30 PM 01:30 PM**	**01:30 PM 02:30 PM**
Monday 11-Sept-23	Tutor Interaction (Dr Pankaj Gakhar)	HOD Interaction (Dr. Pravin Sonwane)	Internship and placement (Mr. Vineet Sharma)	LUNCH	Wind & Solar Energy (Mr. Vineet Sharma)	
Tuesday 12-Sept-23	Subject Overview-ES Lab (Dr. Vikas Kumar Sharma)	Project (Dr. Gaurav Jain)	NAAC/NBA Philosophy (Mr. Mayank Sharma)		Power Quality and FACTS (Dr. Pravin Sonwane)	
Wednesday 13-Sept-23	Add-On/Skill Development Courses (Dr. Pravin Sonwane)	MOOC (Dr. Gaurav Jain)	Subject Overview-ES Lab (Sheena T Khan)		Subject Overview-Open Elective (Dr. Gaurav Jain/Mr. Vineet Sharma)	

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10.2 Academic Time Table

Poornima College of Engineering

Department of Electrical Engineering

Time Table(VII Sem. Sec. A / IVYr) Loaction:1309A & 1309B (wef:-11.09.2023)

Day/Time	8:00-9:00	9:00-10:00	10:00-11:00	11:00-11:50	11:50-12:50	12:50-1:50	1:50-2:50
Monday	O.E.	P.E. (PQ&F) PMS P.E. (WSES) PKG	7EE7-30,ITPS(A1),VKS	LUNCH	7EE4-22,ACS Lab(A1),ES,1301A		
Tuesday	O.E.	P.E. (PQ&F) PMS P.E. (WSES) PKG	7EE7-30,ITPS(A1),VKS		7EE4-21,ES Lab(A1),SK,1301		
Wednesday	O.E.	P.E. (PQ&F) PMS P.E. (WSES) PKG	7EE7-30,ITPS(A1),VKS		7EE7-40,SEMINAR (HK)/ PROJECT-1,PMS		
Thursday							
Friday							
Saturday							

Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
7EE5-12	PQ AND FACTS	Dr. Pravin Sonwane	PMS	7EE4-21	Embedded System Lab	Ms. Sheena T Khan	SK
7CE6-60.1	Composite Material			7EE4-22	Advanced Control System Lab	Dr. Ekata Sharma	ES
7CE6-60.2	Fire and Safety			7EE7-30	Industrial Training	Dr. Vikas Kumar Sharma	VKS
7CS6-60.1	Big Data Analytics			7EE7-40	Seminar	Dr. Hemant Kaushik	HK
7CS6-60.2	IPR, Copyright			7EEPR	Project-I	Dr. Pravin Sonwane	PMS
7EC6-60.1	Industrial and Bio						
7EC6-60.2	Robotics						
7ME6-60.1	Operation Research						
7EE6-60.1	PGS	Ms. Sheena T Khan	SK				
7EE6-60.2	AED	Mr. Vineet Sharma	VS				

Time Table Co-ordinator
Dr. Gaurav Jain

Tutor
Dr. Pankaj Gakhar

HOD(EE)
Dr. Pravin Sonwane

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Poornima College of Engineering

Department of Electrical Engineering

Time Table(V Sem. Sec. A / IIIYr) Loaction:1305 (wef:-11.09.2023) (Odd weeks)

Day/Time	8:00-9:00	9:00-10:00	10:00-11:00	11:00-11:50	11:50-12:50	12:50-1:50	1:50-2:50
Monday	RPS, 5EE5-11, VKS	PS1, 5EE4-02, HK	EM, 5EE3-01, RS	LUNCH	EMD, 5EE4-05, RS	SP LAB, 5EE4-24, GJ, A1, 1301B CS LAB, 5EE4-22, VS, A2, 1301B	
Tuesday	RPS, 5EE5-11, VKS	PS1, 5EE4-02, HK	EM, 5EE3-01, RS		MP, 5EE4-04,ES	EMD, 5EE4-05, RS	PS1, 5EE4-02, HK
Wednesday	RPS, 5EE5-11, VKS	PS1, 5EE4-02, HK	EM, 5EE3-01, RS		CS,5EE4-03, VS	MP LAB, 5EE4-23, MS, A1, 1301 SP LAB, 5EE4-24, GJ, A2, 1301B	
Thursday	MP, 5EE4-04,ES	EMD, 5EE4-05, RS	CS,5EE4-03, VS		CS,5EE4-03, VS	PS-I LAB,5EE4-21, HK, A1, WL08 MP LAB, 5EE4-23, MS, A2, 1301	
Friday	MP, 5EE4-04,ES	ITPS , 5EE7-30, MS, A1, CT-05 PS-I LAB,5EE4-21, HK, A2, WL08			CS,5EE4-03, VS	CS LAB, 5EE4-22, VS, A1, 1301B ITPS , 5EE7-30, MS, A2, CT-05	
Saturday	CRT Classes				NSP, 5EENSP, GJ		Lib./Faculty Discussion

Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
5EE3-01	Electrical Materials	Dr. Gaurav Jain	GJ	5EE4-21	Power System-I Lab	Dr. Hemant Kaushik	HK
5EE4-02	Power System-I	Dr. Hemant Kaushik	HK	5EE4-22	Control System Lab	Mr. Vineet Sharma	VS
5EE4-03	Control System	Mr. Vineet Sharma	VS	5EE4-23	Microprocessor Lab	Mr. Mayank Sharma	MS
5EE4-04	Microprocessor	Dr. Ekata Sharma	ES	5EE4-24	System programming Lab	Dr. Gaurav Jain	GJ
5EE4-05	Electrical Machine Design	Mr. Rachit Saxena	RS	5EE7-30	Industrial Training/Project & Seminar	Mr. Mayank Sharma	MS
5EE5-11	Restructured Power System	Dr. Vikas Kumar Sharma	VKS	5EENSP	NSP	Dr. Gaurav Jain	GJ

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Poornima College of Engineering

Department of Electrical Engineering

Time Table(V Sem. Sec. A / IIIYr) Loaction:1305 (wef:-11.09.2023) (Even weeks)

Day/Time	8:00-9:00	9:00-10:00	10:00-11:00	11:00-11:50	11:50-12:50	12:50-1:50	1:50-2:50
Monday	RPS, 5EE5-11, VKS	PS1, 5EE4-02, HK	EM, 5EE3-01, RS	LUNCH	EMD, 5EE4-05, RS	SP LAB, 5EE4-24, GJ, A1, 1301B CS LAB, 5EE4-22, VS, A2, 1301B	
Tuesday	RPS, 5EE5-11, VKS	PS1, 5EE4-02, HK	EM, 5EE3-01, RS		MP, 5EE4-04,ES	EMD, 5EE4-05, RS	PS1, 5EE4-02, HK
Wednesday	RPS, 5EE5-11, VKS	PS1, 5EE4-02, HK	EM, 5EE3-01, RS		CS,5EE4-03, VS	MP LAB, 5EE4-23, MS, A1, 1301 SP LAB, 5EE4-24, GJ, A2, 1301B	
Thursday	MP, 5EE4-04,ES	EMD, 5EE4-05, RS	CS,5EE4-03, VS		CS,5EE4-03, VS	PS-I LAB,5EE4-21, HK, A1, WL08 MP LAB, 5EE4-23, MS, A2, 1301	
Friday	MP, 5EE4-04,ES	ITPS , 5EE7-30, MS, A1, CT-05 PS-I LAB,5EE4-21, HK, A2, WL08			CS,5EE4-03, VS	CS LAB, 5EE4-22, VS, A1, 1301B ITPS , 5EE7-30, MS, A2, CT-05	

Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
5EE3-01	Electrical Materials	Dr. Gaurav Jain	GJ	5EE4-21	Power System-I Lab	Dr. Hemant Kaushik	HK
5EE4-02	Power System-I	Dr. Hemant Kaushik	HK	5EE4-22	Control System Lab	Mr. Vineet Sharma	VS
5EE4-03	Control System	Mr. Vineet Sharma	VS	5EE4-23	Microprocessor Lab	Mr. Mayank Sharma	MS
5EE4-04	Microprocessor	Dr. Ekata Sharma	ES	5EE4-24	System programming Lab	Dr. Gaurav Jain	GJ
5EE4-05	Electrical Machine Design	Mr. Rachit Saxena	RS	5EE7-30	Industrial Training/Project & Seminar	Mr. Mayank Sharma	MS
5EE5-11	Restructured Power System	Dr. Vikas Kumar Sharma	VKS	5EENSP	NSP	Dr. Gaurav Jain	GJ

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Poornima College of Engineering

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Time Table(III Sem. Sec. A / IIYr) Loaction:1304 (wef:-11.09.2023) (Odd Weeks)

Day/Time	8:00-9:00	9:00-10:00	10:00-11:00	11:00-11:50	11:50-12:50	12:50-1:50	1:50-2:50
Monday	AE,3EE4-01,ES	ECA,3EE4-05, VKS	EM-I,3EE4-07,PKG	LUNCH	AM,3EE4-01,SD	TC (3EE1-02) SS	PGP,3EE3-04,HK
Tuesday	PGP,3EE3-04,HK	ECA,3EE4-05,VKS	AE,3EE4-01,ES		AM,3EE4-01,SD	EM, 3EE4-22, A1, AT08, PKG,1307	
Wednesday	AE,3EE4-01,ES	ECA,3EE4-05,VKS	EMFT, 3EE4-08,GJ		AM,3EE4-01,SD	EM, 3EE4-22, A1, AT08, PKG,1307	
Thursday	EM-I,3EE4-07,PKG	ITPS , 3EE7-30, SK, A1, CT-06			EMFT, 3EE4-08,GJ	ECD, 3EE4-23, A1, AT12, RS,1301A	
Friday	EM-I,3EE4-07,PKG	3EE4-21, A1,AT02, VKS,1302			TC (3EE1-02) SS	ECD, 3EE4-23, A1, AT12, RS,1301A	
Saturday	CRT				NSP, RS		Lib/Faculty Discussion

Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
3EE1-02	Technical Communication	Dr. Shalini Shah	SS	3EE4-21	Analog Electronics Lab	Dr. Vikas Kumar Sharma	MS
3EE2-01	Advanced Mathematics	Dr. Shuchi Dave	SD	3EE4-22	Electrical Machine -I Lab	Dr. Pankaj Gakhar	PKG
3EE3-04	Power Generation Process	Dr. Hemant Kaushik	AS	3EE4-23	Electrical Circuit Design Lab	Mr. Rachit Saxena	RS
3EE4-05	Electrical Circuit Analysis	Dr. Vikas Kumar Sharma	RC	3EE7-30	Industrial Training	Ms. Sheena Khan	AS
3EE4-06	Analog Electronics	Dr. Ekata Sharma	MS	3EENSP	NSP	Mr. Rachit Saxena	RS
3EE4-07	Electrical Machine-I	Dr. Pankaj Gakhar	PKG				
3EE4-08	Electromagnetic Field	Dr. Gaurav Jain	GJ				

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Poornima College of Engineering

Department of Electrical Engineering

Time Table(III Sem. Sec. A / IIYr) Loaction:1304 (wef:-11.09.2023) (Even Weeks)

Day/Time	8:00-9:00	9:00-10:00	10:00-11:00	11:00-11:50	11:50-12:50	12:50-1:50	1:50-2:50
Monday	AE,3EE4-01,ES	ECA,3EE4-05, VKS	EM-I,3EE4-07,PKG	LUNCH	AM,3EE4-01,SD	TC (3EE1-02) SS	PGP,3EE3-04,HK
Tuesday	PGP,3EE3-04,HK	ECA,3EE4-05,VKS	AE,3EE4-01,ES		AM,3EE4-01,SD	EM, 3EE4-22, A1, AT08, PKG,1307	
Wednesday	AE,3EE4-01,ES	ECA,3EE4-05,VKS	EMFT, 3EE4-08,GJ		AM,3EE4-01,SD	EM, 3EE4-22, A1, AT08, PKG,1307	
Thursday	EM-I,3EE4-07,PKG	ITPS , 3EE7-30, SK, A1, CT-06			EMFT, 3EE4-08,GJ	ECD, 3EE4-23, A1, AT12, RS,1301A	
Friday	EM-I,3EE4-07,PKG	3EE4-21, A1,AT02, VKS,1302			TC (3EE1-02) SS	ECD, 3EE4-23, A1, AT12, RS,1301A	

Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
3EE1-02	Technical Communication	Dr. Shalini Shah	SS	3EE4-21	Analog Electronics Lab	Dr. Vikas Kumar Sharma	MS
3EE2-01	Advanced Mathematics	Dr. Shuchi Dave	SD	3EE4-22	Electrical Machine -I Lab	Dr. Pankaj Gakhar	PKG
3EE3-04	Power Generation Process	Dr. Hemant Kaushik	AS	3EE4-23	Electrical Circuit Design Lab	Mr. Rachit Saxena	RS
3EE4-05	Electrical Circuit Analysis	Dr. Vikas Kumar Sharma	RC	3EE7-30	Industrial Training	Ms. Sheena Khan	AS
3EE4-06	Analog Electronics	Dr. Ekata Sharma	MS	3EENSP	NSP	Mr. Rachit Saxena	RS
3EE4-07	Electrical Machine-I	Dr. Pankaj Gakhar	PKG				
3EE4-08	Electromagnetic Field	Dr. Gaurav Jain	GJ				

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11 Course Outcome Attainment Process:

11.1 Course Outcome Attainment Process

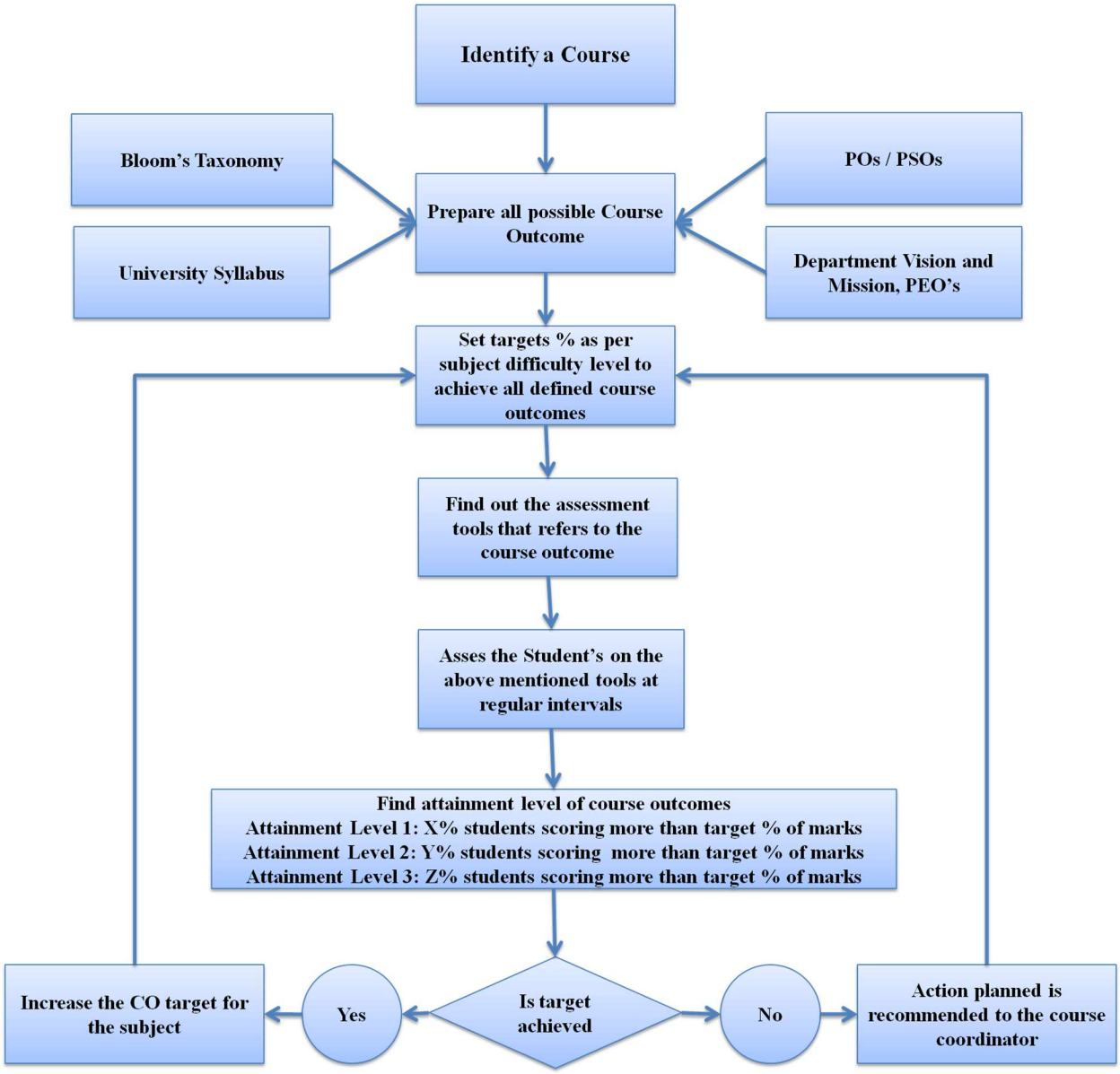

Figure. Course Outcome Attainment Process

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11.2 List of CO & CO mapping with PO

Poornima College of Engineering, Jaipur

Department of Electrical Engineering

CO-PO & CO-PSO Mapping (2022-23)

S.No	Course Code	Course Name	CO No	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	**3EE2-01**	Advance Mathematics	CO 1	**Explain** the numerical methods, Laplace transform, Fourier transform, Z-transform and complex variables. **[Apply]**	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 2	**Apply** numerical methods to find unknown values with help of known values, roots of polynomial and transcendental equations and Solution of ordinary differential equation. **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 3	**Identify** numerical differentiation and integration whenever and wherever routine methods are not applicable. **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 4	**Inspect** 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. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 5	**Evaluate** a variety of numerical problems & complex contour integrals and solve them by using appropriate technology, and Compare the viability of different approaches to directly, by the fundamental theorem and numerical solution of problems.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
					1.67	3.00	-	-	-	-	-	-	-	-	-	-	1.40	-	-
2	3EE1-02	Technical Communication	CO 1	**Understand** the characteristics of technical writing and the importance of purpose, audience, and genre for written communication in technical fields. (**Understand**)	-	-	-	-	-	3	-	-	3	3	-	3	-	3	-
			CO 2	Planning, drafting, revising, editing, and critiquing technical and professional documents through	-	-	-	-	-	3	-	-	2	3	-	3	-	2	1

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				individual and collaborative writing. (Recall)															
			CO 3	Create clear, concise technical documents that effectively use style and grammar and information structure in ways that create meaning with the reader. (Create)	-	-	-	-	-		-	-	2	3	-	3	-	2	1
			CO 4	Researching, analyzing, synthesizing, and applying information to create technical reports. (**Examine**)	-	-	-	-	-	3	-	-	3	3	-	3	-	-	2
					-	-	-	-	-	3.00	-	-	2.50	3.00	-	3.00	-	2.33	1.33
3	**3EE3-04**	Power generation Process	CO 1	**Prepare** an assessment of the environmental impact of conventional and non-conventional sources of electricity generation. **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 2	**Infer** the types of load curves, factors used in generation, and methods for improving power factor. **[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Assess** different real-time tariff issues in electrical engineering. **[Evaluate]**	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-
			CO 4	**Categorize** power plant economics for conventional and nonconventional plants under different conditions.**[Create]**	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
					2.00	2.00	2.00	2.00	-	-	-	-	-	-	-	-	1.67	1.00	-
4	**3EE4-05**	Electrical Circuit Analysis	CO 1	**Practice** the fundamental concepts in circuit theory followed by an analytical understanding of transient and steady state stability concepts alongwith the transformations from time domain to frequency domain. [**Apply**]	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 2	**Select** the fundamental concepts, theorems, transforms for computing the values of system parameters, stability states, and current & voltage values in a particular branch or node. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Assess** the circuit and phasor diagrams, network interconnections, steady state stabilities, and gain or phase margins. **[Evaluate]**	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-
			CO 4	**Design** theoratically converter/electronic circuits based on rated value of current, voltage and loads. [**Create**]	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-

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					2.00	3.00	2.00	2.00	-	-	-	-	-	-	-	-	1.50	1.50	-
5	**3EE4-06**	Analog Electronics	CO 1	**Relate** the concept and working of analog circuits comprising diodes, BJT's, MOSFET's and Op-amps **[Apply]**.	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Demonstrate** the characteristic and output response of analog circuits comprising diodes, BJT's, MOSFET's and Op-amps. **[APPLY]**	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			CO 3	**Compare** the relationship between input and output response of analog circuits comprising diodes, BJT's, MOSFET's and Op-amps. **[ANALYZE]**	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
			CO 4	**Select** the appropriate switching, amplifying, voltage regulation, filtering, controller and comparator circuit comprising diode, BJT, MOSFET and Op-amps. **[EVALUATE]**	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
			CO 5	**Design** switching, amplifying, voltage regulation, filtering, controller and comparator circuits comprising diode, BJT, MOSFET and Op-amps. **[CREATE]**	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-
					2.50	2.00	2.00	2.00	-	-	-	-	-	-	-	-	2.50	2.00	2.00
6	**3EE4-07**	Electrical Machine - I	CO 1	**Illustrate** basic principles and laws pertaining to the magnetic circuits of DC machines and Transformers **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			CO 2	**Infer** the control practices and characteristics of DC Machines and Transformers. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	-	2	-
			CO 3	**Check** the equivalent circuit of dc machines and transformers. **[Evaluate]**	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2
			CO 4	**Summarize** the performance, types of connections and testing of DC machines and Transformers under different loading conditions. **[Create]**	-	-	-	3	-	-	-	-	-	-	-	-	-	3	-
					2.00	3.00	2.00	3.00	-	-	-	-	-	-	-	-	3.00	2.50	2.00
7	**3EE4-08**		CO 1	**Demonstrate** the laws and theorems of electric field, magnetic field and time varying fields. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	2	1	-

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		Electromagnetic Field	CO 2	**Debate** the Charge distribution, boundary conditions, Laplace, Poisson and Maxwell's equations in search of a solution. **[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	2	1	-
			CO 3	**Investigate** the behaviour of dielectric and conductive material in electromagnetic fields by using electric or magnetic motive force conditions. **[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	2	1	1
			CO 4	**Estimate** the capacitance, inductance, mutual inductance, electronic wave, electric field intensity, electric flux density, magnetic flux density and Plane wave conditions for real time problem. **[Evaluate]**	-	-	2	-	-	-	-	-	-	-	-	-	2	1	-
					3.00	2.00	2.00	-	-	-	-	-	-	-	-	-	2.00	1.00	1.00
8	**3EE4-21**	Analog Electronics Lab	CO 1	**Analyze** the possible causes of discrepancies between experimental observations and theoretical results in amplifier, regulator and oscillator circuits. **[ANALYZE]**.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Measure** the output response of various amplifier, regulator and oscillator circuits on a circuit design software tool. **[MANIPULATION]**	-	-	-	-	2	-	-	-	-	-	-	-	-	3	-
			CO 3	**Contribute** efficiently in a team so as to achieve the desired response of amplifier, regulator and oscillator circuits. **[RESPONDING]**	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-
			CO 4	**Demonstrate** the solution to a problem on amplifier, regulator and oscillator circuits. **[PRECISION]**	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-
					-	3.00	-	-	2.00	-	-	-	2.00	2.00	-	-	2.00	2.50	-
9	**3EE4-22**	Electrical Machine-I Lab	CO 1	**Apply** the principles of Electrical Machines through laboratory experimental work	2	-	-	-	-	-	-	-	-	-	-	3	3	-	-
			CO 2	**Prepare** reports based on performed experiments with effective demonstration of diagrams and characteristics /graph	-	-	-	-	-	-	-	-	3	-	-	3	-	2	-
			CO 3	**Perform** the experimental work on dc machines and transformers on virtual lab	-	-	-	-	3	-	-	-	-	-	-	-	2	-	-
			CO 4	**Demonstrate** the starting & speed control of DC motors	-	-	-	-	-	2	-	-	2	-	-	-	2	-	-

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			CO 5	**Perform** various tests, find efficiency & voltage regulation of electrical machines	-	-	-	-	-	3	-	-	-	-	-	-	2	-	-
					2.00	-	-	-	3.00	2.50	-	-	2.50	-	-	3.00	2.25	2.00	-
10	**3EE4-23**	Electrical circuit design Lab	CO 1	**Analyze** the possible causes of discrepancies between experimental observations and theoretical results in analog circuits consisting of semiconductor devices and sensors. **[ANALYZE]**.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Measure** the output response of analog circuits consisting of semiconductor devices and sensors on a circuit design software tool. **[MANIPULATION]**	-	-	-	-	2	-	-	-	-	-	-	-	-	3	-
			CO 3	**Contribute** efficiently in a team so as to achieve the desired response of analog circuits consisting of semiconductor devices and sensors. **[RESPONDING]**	-	-	-	-	-	-	-	-	2	-	-	-	-	3	-
			CO 4	**Demonstrate** the solution to a problem of analog circuits consisting of semiconductor devices and sensors. **[PRECISION]**	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-
					-	3.00	-	-	2.00	-	-	-	2.00	2.00	-	-	2.00	3.00	-
11	**3EE7-30**	Industrial Training	CO 1	**Discover** the basics of electrical power plants and manufacturing companies.**[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Examine** an organization's or industry's working practices and management style.**[Analyse]**	-	-	-	-	-	2	2	-	-	-	-	-	-	-	2
			CO 3	**Identify** and analyze real-life problems in the chosen industry for his internship or project,If any**[Analyze]**	-	-	-	-	2	-	-	-	2	-	-	1	-	1	1
			CO 4	**Enhance** their ability to communicate and gain confidence through presentations.**[Evaluate]**	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-
			CO 5	**Develop** a report on industrial learning and training inside the factory.**[Create]**	-	-	-	-	-	-	-	2	2	1	1	1	-	2	1
					2.00	-	-	-	2.00	2.00	2.00	2.00	2.00	1.50	1.00	1.00	2.00	1.67	1.33
Semester III Overall PO					2.15	2.63	2.00	2.25	2.25	2.50	2.00	2.00	2.20	2.13	1.00	2.33	2.0	1.95	1.53

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12	**5EE3-01**	Electrical Materials	CO 1	**Explain** the laws and concept of electrical properties, magnetic properties, semiconductors materials and superconductivity along with conductivity of metals.**[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 2	**Examine** materials science in electrical domain of different industries.**[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	2	1	-
			CO 3	**Discriminate** the bonding structure, Carrier density and characteristics of various electrical materials.**[Evaluate]**	-	3	-	-	-	-	-	-	-	-	-	-	2	1	-
			CO 4	**Relate** internal field, thermal conduction, electron scattering and energy gaps in electrical materials science.**[Create]**	-	-	3	-	-	-	-	-	-	-	-	-	2	1	-
					2.00	2.50	3.00	-	-	-	-	-	-	-	-	-	1.75	1.00	-
13	**5EE4-02**	Power System - I	CO 1	**Express** the overall framework of the power system while taking various faults and their mitigation measures into account.**[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Illustrate** various electrical characteristics of transmission lines in transient, sub-transient, and steady state stability modes. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Interpret** the integration of distributed generation with grid while taking into account the protection system in real-time projects. **[Design]**	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-
			CO 4	**Examine** electrical machines parameters & insulation requirements under different stability modes**. [Evaluate]**	-	-	-	3	-	-	-	-	-	-	-	-	2	1	-
					3.00	3.00	2.00	3.00	-	-	-	-	-	-	-	-	2.00	1.00	-
14	**5EE4-03**	Control System	CO 1	**Apply** the fundamentals of linear and nonlinear control systems for mathematical representation.	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Differenciate** the time and frequency response of Linear Time Invarient systems. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Assess** the state space variables in classical control system.**[Evaluate]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 4	**Design** various controllers using different stability condition and specifications.	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-

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					3.00	3.00	2.00	-	-	-	-	-	-	-	-	-	2.00	1.00	-
15	**5EE4-04**	Microprocessor	CO 1	**Explain** the fundamental concepts of 8051 architecture, programming instructions, and 8051 interfacing schemes. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Relate** the programming knowledge for external devices interfacing and serial communication**[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	1	2	-
			CO 3	**Judge** the complex 8051 real world interfacing problems with focus on application specific outputs **[Evaluate]**	-	2	-	-	-	-	-	-	-	-	-	-	2	1	-
			CO 4	**Develope** 8051 programs for controlling external/interfacing devices for solving a particular task/problem **[Design]**	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
					3.00	2.00	2.00	-	-	-	-	-	-	-	-	-	1.75	1.50	-
16	**5EE4-05**	Electrical Machine Design	CO 1	**Interpret** the characteristics of engineering materials used for electrical machine designing. **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Infer** the performance characteristics of electrical Machines with the specified constraints .**[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	-	2	-
			CO 3	**Relate** electrical machine models in computer aided design software.**[Create]**	-	-	3	-	-	-	-	-	-	-	-	-	-	2	-
			CO 4	**Interpret** the design of windings & core of electrical machines.**[Evaluate]**	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-
					2.00	3.00	3.00	2.00	-	-	-	-	-	-	-	-	2.00	1.67	-
17	**5EE5-11**	Restructured Power System.	CO 1	**Discover** the restructuring process, reasons and objectives of deregulation, market & pricing models, and congestion management**.[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Categorize** electricity market models, congestion management methods, ancillary services,and transmission pricing.**[Anlyze]**	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Compare** methods of congestion management, market models & pricing schemes to **identify** the best options.**[Evaluate]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 4	**Prepare** theoratically a restructured model of existing power system by taking into account network	-	-	2	-	-	-	-	-	-	-	-	-	-	2	1

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				congestion, best pricing model, and ancillary services.**[Create]**															
					2.00	2.50	2.00	-	-	-	-	-	-	-	-	-	2.00	2.00	1.00
18	**5EE4-21**	Power System - I Lab	CO 1	**Illustrate** the basic layouts of hydro, thermal, nuclear and gas power plants.**[Apply]**	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Distinguish** the parameters of the feeders, distributors, and EHV transmission lines. **[Analyze]**	-	-	-	-	2	-	-	-	-	-	-	-	-	2	-
			CO 3	**Evaluate** the dielectric strength of transformer oil, insulating materials & insulators.	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1
			CO 4	**Create** a probability tool to forecast load for short, medium, and long term planning.	-	-	-	-	3	-	-	-	-	-	-	-	-	2	-
					-	3.00	-	-	2.50	-	-	-	-	-	-	2.00	2.00	2.00	1.00
19	**5EE4-22**	Control System Lab	CO 1	**Analyze** the output response of a given system for different test signals.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Design** the 1st order and 2nd order circuits for transient response analysis.	-	-	-	-	-	-	-	-	2	-	-	-	2	-	-
			CO 3	**Identify** the frequency response of various compensating networks.**[Analyze]**	-	-	-	-	-	-	-	-	-	3	-	-	2	-	-
			CO 4	**Investigate** the various approches for controller parameter tuning.**[Evaluate]**	-	-	-	-	-	-	-	-	3	-	-	-	-	2	-
			CO 5	**Device** the stability of control system using Bode plots **[Create**].	-	-	-	-	-	-	-	-	-	-	3	-	2	-	-
					-	3.00	-	-	-	-	-	-	2.50	3.00	3.00	-	2.00	2.00	-
20	**5EE4-23**	Microprocessor Lab	CO 1	**Demonstrate** the functions, operations, memory structure and hardware units of 8085 microprocessor kit. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Examine** different waveforms using 8253 / 8254 programmable timer. **[Analyze]**	-	-	-	-	-	-	-	-	3	-	-	-	-	2	-
			CO 3	**Build and demonstrate** assembly level programs for transferring data to specified output ports in serial and parallel fashion. **[Evaluate]**	-	-	-	-	-	-	-	-	-	-	3	-	-	2	-

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			CO 4	**Fabricate** 8 bit LED/LCD interface to 8085 microprocessor kit using 8155 and 8255. **[Manipulation]**	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-
			CO 5	**Develop** programs to perform addition, subtraction, division, block transfer, searching, sorting, etc using assembly language.**[Create]**	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-
					3.00	-	3.00	-	-	-	-	-	3.00	-	2.50	-	2.00	1.67	-
21	**5EE4-24**	System Programming Lab	CO 1	**Apply** the basic of MATLAB features and syntaxes in mathematical Programming.	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Solve** various basic electrical and electronic problems in MATLAB environment **[Analyze]**	-	-	-	-	2	-	-	-	-	-	-	-	-	2	-
			CO 3	**Execute** the single phase induction machine Torque- speed characteristics and transformer test in MATLAB Simulink.	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-
			CO 4	**Design** Single Phase Full Wave Diode Bridge Rectifier With LC Filter in MATLAB Simulink.	-	-	-	-	-	-	-	-	-	3	-	-	-	2	-
			CO 5	**Evalute** the importance of MATLAB in research by simulation work	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1
					3.00	-	-	-	2.00	-	-	-	-	3.00	2.00	2.00	2.00	1.67	1.00
22	**5EE7-30**	Industrial Training	CO 1	**Selecting** preferred training according to your subject area in the coming year**[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Identify** industrial practices and disciplines with the help of industry professionals.**[Analyze]**	-	-	-	-	-	-	-	3	-	-	-	2	-	-	2
			CO 3	**Examine** advanced tools and techniques used in the industrial processing.**[Evaluate]**	-	-	-	-	3	2	-	-	-	-	-	-	-	1	1
			CO 4	**Develop** awareness about general workplace behavior and build interpersonal and team skills.**[Create]**	-	-	-	-	-	-	2	3	-	3	-	-	-	2	-
			CO 5	**Create** professional presentations and work reports.**[Precision]**	-	-	-	-	-	-	-	-	3	3	2	3	-	2	1
					3.00	-	-	-	3.00	2.00	2.00	3.00	3.00	3.00	2.00	2.50	2.00	1.67	1.33
Semester V Overall PO					2.67	2.75	2.43	2.50	2.50	2.00	2.00	3.00	2.83	3.00	2.38	2.17	1.95	1.56	1.08
23	**7EE4-12**	Power Quality	CO 1	**Demonstrate** compensated and uncompensated transmission line and	3												2	-	-

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		and Facts		**compare** the series and shunt compensation. **[Apply]**														
			CO 2	**Compair** the FACTs equipment's with their working principles and their applications in electrical systems. **[Analyze]**		2										2	-	-
			CO 3	**Differntiate** Power Quality Problems in Distribution Systems **[Analyze]**		3										2	-	-
			CO 4	**Illustrate** DSTATCOM & Dynamic Voltage Restorer **[Apply]**	3											2	1	-
					3.00	2.50	-	-	-	-	-	-	-	-	-	-	2.00	1.00	-
24	**7EE5-11**	Wind and Solar Energy Systems.	CO 1	**Use** the concept of wind and solar pv energy generation in energy applications **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			CO 2	**Categarize** the different topologies of wind and solar power generation **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
			CO 3	**Defend** hybrid and standalone solar and Wind energy systems. **[Evaluate]**	-	-	2	-	-	-	-	-	-	-	-	-	-	-	3
			CO 4	**Investigate** the different issues in intehration of wind and solar energy systems into the grid. **[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	-	-	3
					3.00	2.50	2.00	-	-	-	-	-	-	-	-	-	3.00	-	3.00
25	**7EE4-21**	Embedded Systems Lab	CO 1	**Explain** the fundamentals of embedded system and sensor integration. **[Understand]**	2		2							1			2	-	-
			CO 2	**Practice** the programming knowledge for controlling a real time process using hardware in loop system. **[Apply]**					3				2	2	3	3	-	2	1
			CO 3	**Investigate** the type of sensor required in a particular control process. **[Analyze]**					3				2	2	3	3	-	-	1
			CO 4	**Critisize** the processing time requirements for conversion of real time data into digital domain and vice versa. **[Analyze]**					3				2	3	3	3	-	-	1
			CO 5	**Check** the complex real world embedded system processes. **[Evaluate]**									3	2	3		-	2	-
					2.00	-	2.00	-	3.00	-	-	-	2.25	2.00	3.00	3.00	2.00	2.00	1.00

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26	**7EE4-22**	Advance control system lab	CO 1	**Demonstrate** the time response of a rotary and linear servo system using MATLAB. **[Apply]**	-	-	-	-	2	-	-	1	-	-		1	-	2	-
			CO 2	**Examine** how a DC and an AC servo motor's speed positioning control transfer function works. **[Evaluate]**	-	-	-	-	3	-	-	2	-	-	2		-	2	-
			CO 3	**Inspect** the frequency response analysis of small motion, linearized model of industrial robot using MATLAB.**[Analyze]**	-	-	-	-	2	-	-	3	-	-	3		-	2	1
			CO 4	**Assess** the P, PI, and PID Controllers for a variety of control system applications in MATLAB.**[Evaluate]**	-	-	-	-	3	-	-	3	-	-	3	2	-	2	-
			CO 5	**Arrange** an Arduino controller for practical systems for pendulums and inverted pendulums.**[Create]**	-	-	-	-	3	-	-	2	-	-	3	2	-	2	1
					-	-	-	-	2.60	-	-	2.20	-	-	2.75	1.67	-	2.00	1.00
27	**7EE7-30**	Industrial Training	CO 1	**Implement** classroom engineering knowledge in real-world industrial/laboratory situations**.[Apply]**	-	-	-	-	2	2	-	3	2	3	3	3	2	1	-
			CO 2	**Test** knowledge of advanced tools and techniques, as well as exposure to industry professional design approach.**[Analyze]**	-	-	-	-	3	2	-	3	3	3	3	3	-	2	-
			CO 3	**Organize** to the engineer's role and responsibilities, as well as the code of ethics.**[Apply]**	-	-	-	-	-	-	-	3	3	3	3	3	-	2	1
			CO 4	**Prepare** industry leading documents, reports, and presentations.**[Create]**	-	-	-	-	2	-	-	3	2	3	3	3	-	2	2
			CO 5	**Develop** interpersonal and teamwork skills, and **demonstrate** knowledge of acceptable workplace behaviour.**[Create]**	-	-	-	-	-	-		3	3	3	3	3	-	2	2
					-	-	-	-	2.33	2.00	-	3.00	2.60	3.00	3.00	3.00	2.00	1.80	1.67
28	**7EE7-40**	Seminar	CO 1	**Demonstrate** various reported engineering problem solutions from all corners of society.**[Apply]**	-	-	-	-	2	3	3	3	2	-	3	3	-	2	-
			CO 2	**Categorize** a good professional document with his concluding remarks.**[Analyze]**	-	-	-	-	1	3	3	3	2	3	3	3	-	2	-
			CO 3	**Argue** and judge his/her findings in the selected area.**[Evaluate]**	-	-	-	-	2	3	3	3	3	3	3	3	-	-	1
			CO 4	**Develop** communication skills and confidence level through presentation.**[Create]**	-	-	-	-	2	3	3	3	3	3	3	3	-	2	-

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					-	-	-	-	1.75	3.00	3.00	3.00	2.50	3.00	3.00	3.00	-	2.00	1.00
29	7EE8-00	Social Outreach, Discipline & Extra Curricular Activitie	CO 1	**Show** interest in an appropriate social activity for his/her knowledge enhancement in domain area. **[Apply]**	-	-	-	1	-	3	3	3	3	-	2	3	-	2	-
			CO 2	**Justify** to maintain discipline and decorum in all extracurricular activities **[Evaluate]**	-	-	-	-	-	3	3	3	3	-	2	3	-	2	2
			CO 3	**Summarize** his/her thrust area for internship. **[Create]**	-	-	-	-	-	3	3	3	3	2	2	3	-	2	1
			CO 4	**Prepare** and participate in events such as clean India, blood donation camp etc. **[Create]**	-	-	-	-	-	3	3	3	3	-	2	3	-	2	2
					-	-	-	1.00	-	3.00	3.00	3.00	3.00	2.00	2.00	3.00	-	2.00	1.67
30	**7EE6-60.2**	Power Generation Sources	CO 1	**Describe** the various renewable energy sources. **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	3	-	2	-
			CO 2	**Inspect** possible renewable energy sources. **[Analyze]**	-	2	-	-	-	-	-	-	-	2	-	3	-	-	3
			CO 3	**illustrate** the renewable energy sources. **[Apply]**	3	-	-	-	2	-	2	-	-	-	-	3	-	-	3
			CO 4	**Identify** the energy sources & **Propose** renewable energy sources as societal application. **[Create]**	-	-	-	2	-	-	-	-	-	2	-	3	-	-	3
					2.50	2.00	-	2.00	2.00	-	2.00	-	-	2.00	-	3.00	-	2.00	3.00
31	**7EE6.60.1**	Electrical Machine and Drives	CO 1	**Use** the concepts of constructional details and principle of rotating machines in electrical drives. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	**Identify** motor rating and specification for efficient conversion. **[Apply]**	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Investigate** the various control techniques for speed control on various electric drives . **[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 4	**Justify** the design knowledge for various closed loop control of electric drives **[Evaluate]**	-	-	2	-	-	-	-	-	-	-	-	-	2	1	-
					2.50	2.00	2.00	-	-	-	-	-	-	-	-	-	2.00	1.00	-
Semester VII Overall PO					**2.60**	**2.25**	**2.00**	**1.50**	**2.34**	**2.67**	**2.67**	**2.80**	**2.59**	**2.40**	**2.75**	**2.78**	**2.20**	**1.73**	**1.76**

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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 Assessment Stage 1: As per point no 13, up to 13.2.5**
10. **Document for CO Assessment Stage 2: As per point no 13, up to 13.2.5, with comparison to previous**
11. **Document for CO Assessment Stage 3: As per point no 13, up to 13.2.5, with comparison to previous**
12. **Document for CO Attainment through RTU Component: Previous RTU Result: point no. 13.3 upto 13.3.2**
13. **Document for PO attainment through RTU Component: Previous RTU Result: point no 13.4 upto 13.4.2**
14. **Document for Overall Attainment of PO through CO: As per point no 13.5**
15. **Document for last three years (Repeat process from 6-14 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**

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13 Outcome Based Process Implementation Guidelines for Faculty

Course CO-PO, Preparation, Assessment Formats

Academic Session: 2022-2023 **Class:** **Semester:**

Name of the Faculty:

Subject: **Subject Code:**

This document is meant as guidelines for implementing Outcome based education system as a part of 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**

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Lecture No.	Lect. No.	Topics, Problems, Applications	CO/LO	Target Date of Coverage	Actual Date of Coverage	Ref. Book/Journal with Page No.
1.	1	Introduction of Machine	CO1	12/07/2022	12/07/2022	T1 Page 11 - 16
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						

Example T1: 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 4 to 6) using Blooms Taxonomy. (In case of Lab Course define generic Lab Outcomes LO and refer CO as LO in this document).

i. **3EEA101.1(CO1)-**
ii. **3EEA101.2(CO2)-**
iii. **3EEA101.3(CO3)-**
iv. **3EEA101.4(CO4)-**
v. **3EEA101.5(CO5)-**

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7. **CO-PO-PSO Mapping: Mapping Levels: 1- Low, 2- Moderate, 3-Strong**
   First try to find out 2-3 PO those are 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 three 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.

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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 three 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.

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	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																

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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: 3EEA101.1

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CO1: 3EEA101.1: 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.

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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
3EEA101.1															
3EEA101.2															
3EEA101.3															
3EEA101.4															
3EEA101.5															
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
3EEA101.1															
3EEA101.2															
3EEA101.3															
3EEA101.4															
3EEA101.5															
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: 3EEA101: 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.

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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**
3EEA101															

Attainment of PO through CO (RTU) Component															
3EEA101	**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.

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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% Weightage 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 Attainment**
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= 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 3,2,1 above:

Attainment of Overall PO for Session 2022-2023															
CO	**PO**												**PSO**		
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
3CSA101															
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 3,2,1 above:

Attainment & Gap of Overall PO Session ----------															
3CSA101	**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 three 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

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14.2 Front Page of Course File

POORNIMA
COLLEGE OF ENGINEERING

TEACHING MANUAL

COURSE: _____

SEMESTER: _____

SUBJECT: _____

SUB. CODE: _____

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

_____

SESSION: 20___-___

NAME OF FACULTY: _____

DEPARTMENT: _____

CAMPUS: _____

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14.3 ABC Analysis Format

POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL ENGINEERING

ODD SEMESTER 2022-23

ABC Analysis

Course: B. Tech. **Class/Section: III SEM** **Date: 01.08.2021**
Name of Faculty: XYZ **Name of Subject: EMFT** **Subject Code: 3EE4-08**

Module	(Category A) Hard	(Category B) Medium	(Category C) Easy	Preparedness of "A" topics
MODULE 1: Review of Vector Calculus	Vector calculus differentiation, partial differentiation, integration, vector operator del, Gradient, divergence and curl; integral theorems of vectors.	Three orthogonal coordinate systems rectangular, cylindrical and spherical), Conversion of a vector from one coordinate system to another.	Vector algebra-addition, subtraction, components of vectors, scalar and vector multiplications, triple products	PPT and Notes
MODULE 2: Static Electric Field	Electric dipole, Electrostatic Energy and Energy density.	Gauss law and its applications. Absolute Electric potential, Potential difference, Calculation of potential differences for different configurations.	Coulomb's law, Electric field intensity, Electrical field due to point charges. Line, Surface and Volume charge distributions.	PPT and Notes
MODULE 3: Conductors, Dielectrics and Capacitance	Poisson's equation, Laplace's equation, Solution of Laplace and Poisson's equation, Application of Laplace's and Poisson's equations.	Boundary conditions of perfect dielectric materials. Permittivity of dielectric materials, Capacitance, Capacitance of a two wire line,	Current and current density, Ohms Law in Point form, Continuity of current,	SPL and PPT
MODULE 4: Static Magnetic Fields	Steady magnetic fields produced by current carrying conductors.	Magnetic flux and magnetic flux density, Scalar and Vector Magnetic potentials.	Biot-Savart Law, Ampere Law,	SPL
MODULE 5: Magnetic Forces, Materials and Inductance	Nature of magnetic materials, Magnetization and permeability, Magnetic boundary conditions,	Force on a moving charge, Force on a differential current element, Force between differential current elements,	Magnetic circuits, inductances and mutual inductances.	PPT
MODULE 6: Time Varying Fields and Maxwell's Equations	Motional Electromotive forces. Boundary Conditions.	Faraday's law for Electromagnetic induction, Displacement current,	Point form of Maxwell's equation, Integral form of Maxwell's equations,	PPT and Notes
MODULE 7: Electromagnetic Waves	Maxwell's equation in Phasor form, Wave equation in Phasor form, Plane waves in free space and in a homogenous material.	Wave equation for a conducting medium, Plane waves in lossy dielectrics, Propagation in good conductors, Skin effect. Poynting theorem.	Derivation of Wave Equation, Uniform Plane Waves,	SPL and PPT

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14.4 Blown-up Format

POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL ENGINEERING

Campus: PCE Course: B.Tech.-EE **Class/Section: 2nd year/ Sec-A** **Date: 15 Jul 2022**
Name of Faculty: XYZ **Name of Subject: EMFT** **Code: 3EE4-08**

COURSE PLAN –BLOWN UP

S.NO	SYLLABUS TOPIC AS PER UNIVERSITY	BLOWN UP TOPICS
0.	Zero Lecture	(1) Introduction of self. (2) Introduction of subject and its significance (3) Introduction of student
1.	**MODULE- 1** **Review of Vector Calculus**	
1.1	Vector Algebra	1.1.1 Scalar and vector quantities 1..1.2 Vector addition & subtraction 1.1.3 Position & distance vector 1.1.4 Vector Multiplication 1.1.5 Component of a vector 1.1.6 Triple products 1.1.7 Numericals
1.2	Coordinate system & Transformation	1.2.1 Cartesian coordinate system 1.2.1 Cylindrical coordinate system 1.2.3 Spherical coordinate system 1.2.4 Conversion of a vector from one coordinate system to another. 1.2.5 Numericals
1.3	Line, surface & volume integral & Differential	1.3.1 Differential elements for Cartesian coordinate system 1.3.2 Differential elements for Cylindrical coordinate system 1.3.3 Differential elements for Spherical coordinate system 1.3.4 Numericals
1.4	Del operator	1.4.1 Concept of del operator 1.4.2 Relation for Cartesian coordinate system

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14.5 Deployment Format

POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL ENGINEERING

Campus: PCE Course: B.Tech.-EE | **Class/Section: 2nd year/ Sec-A** | **Date: 15 Jul 2022**
Name of Faculty: XYZ | **Name of Subject: EMFT** | **Code: 3EE4-08**

COURSE PLAN (Deployment)

S.No.	TOPIC AS PER BLOWNUP SYLLABUS	LECT. NO.	Target Date of Coverage	ACTUAL DEL. DATE	CO/LO	Teaching Methods	REF. / TEXT BOOK WITH PAGE NO.
1	**ZERO LECTURE** • Introduction • Basic knowledge about subject • Syllabus, REF. / TEXT BOOKS • RTU Question Paper • Conclusion	L-0	14/07/2021	14/07/2021	CO1	PPT	
2	**UNIT-I** **MODULE- 1** **Review of Vector Calculus** Vector Algebra 1.1.1 Scalar and vector quantities 1..1.2 Vector addition & subtraction 1.1.3 Position & distance vector 1.1.4 Numericals	L-1	14/07/2021	14/07/2021	CO1	Chalk/ Board	PRINCIPLES OF ELECTROMAGNETICS by MATTHEW N.O. SADIKU
3	**Vector Algebra** 1.2.1 Vector Multiplication 1.2.2 Component of a vector 1.2.3 Triple products 1.2.4 Numericals	L-2	16/07/2021	16/07/2021	CO1	Chalk/ Board	PRINCIPLES OF ELECTROMAGNETICS by MATTHEW N.O. SADIKU
4	**Coordinate system** 1.3.1 Cartesian coordinate system 1.3.2 Cylindrical coordinate system 1.3.3 Spherical coordinate system 1.3.4 Numericals	L-3	18/07/2021	18/07/2021	CO1	Chalk/ Board	PRINCIPLES OF ELECTROMAGNETICS by MATTHEW N.O. SADIKU
5	**Coordinate System**						

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14.6 Zero Lecture Format

POORNIMA
COLLEGE OF ENGINEERING
ZERO LECTURE

Session: 20 - (Sem.)

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

Name of Faculty: ……

Zero Lecture

1). Name of Subject: …….. Code: ……

2). Self-Introduction:

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

3). Introduction of Students:

a*). Records of students in 12th*

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

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

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

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

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

6). Syllabus of Poornima Group of Colleges, Jaipur

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

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

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a). Recommended Text & Reference Books and Websites:

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

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

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

8). Syllabus Deployment: -

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

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

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

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

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

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

c). Lecture schedule per week

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

10). Examination Systems:

A. FOR ALL THEORY COURSES:-

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

B. FOR ALL PRACTICAL (LABORATORY) COURSES:-

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

11). Any other important point:

Place & Date: Name of Faculty with Designation

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14.7 Lecture Note Front page Format

POORNIMA
COLLEGE OF ENGINEERING

LECTURE NOTES

Campus: …… **Course:** …… **Class/Section:** …… **Date:** ……
Name of Faculty: …… **Name of Subject:** …… **Code:** ……
Date (Prep.): …… **Date (Del.):** ……**Unit No.:**……**Lect. No:** ……

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

IMPORTANT & RELEVANT QUESTIONS:

FEED BACK QUESTIONS (AFTER 20 MINUTES):

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

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

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14.7.1 Detailed Lecture Note Format-1

POORNIMA
COLLEGE OF ENGINEERING

DETAILED LECTURE NOTES

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

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14.7.2 Detailed Lecture Note Format-2

POORNIMA
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DETAILED LECTURE NOTES

PAGE NO. .....

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14.8 Assignment Format

POORNIMA
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL ENGINEERING

Assignment Sheet 1

Campus: Poornima College of Engg. **Class/Section: 2nd Year/ Section - A** **Date: 1 Sep 2022**
Course: B.Tech.
Name of Faculty: XYZ **Name of Subject: EMFT** **Code: 3EE4-08**

		CO	PO	PSO
Q.1	Evaluate the mathematical expression of the gradient of a Scalar?	1	2	1
Q.2	Write the mathematical expression of the Curl of a Vector?	2	2	2
Q.3	Define permittivity of dielectric material?	2	2	2
Q.4	Write Statement of Vector addition and Vector Subtraction?	1	3	1
Q.5	Define Statement of Poisson's equation and Laplace's equation?	2	2	1
Q.6	Drive the Mathematical expression of Circular Cylindrical Coordinates in detail?	1	1	1
Q.7	Express the following points in cylindrical and spherical coordinates using transformation technique? a) P (1,-4,-3) b) (3, 0, 5)	2	2	3
Q.8	State and Prove divergence theorem. (1) Draw the pattern of magnetic field in which the divergence zero and (2) Draw the pattern of electric field in which divergence non-zero	4	1	1
Q.9	Define Coulomb's law? Also explain the mathematical expression of the Volume charge distribution?	1	2	1
Q.10	Drive the Mathematical transformation between Cartesian to cylindrical Coordinates in detail?	2	1	1

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14.9 Tutorial Format

POORNIMA
COLLEGE OF ENGINEERING

TUTORIAL SHEET

TUTORIAL SHEET SHEET No.....

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

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

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

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

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

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14.10 Mid Term/ End Term Practical Question Paper Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

III B.TECH. (III Sem.) **SET- A**

FIRST MID TERM PRACTICAL EXAMINATION 2022-23

Code 3 EE4-23 Category: PCC Subject Name: MACHINE DESIGN PRACTICE-II

(BRANCH – ELECTRICAL ENGINEERING)

Max. Time: 60 Minutes **Max. Marks: 22 + 8 (Viva) = 30**

NOTE: - All questions are compulsory. Use of Design Data Book is allowed.

Q. No.	Question	Marks	LO	PO
Q.1				
Q.2				
Q.3				

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

III B.TECH. (III Sem.) **SET- B**

FIRST MID TERM PRACTICAL EXAMINATION 2022-23

Code 3 EE4-23 Category: PCC Subject Name: MACHINE DESIGN PRACTICE-II

(BRANCH – ELECTRICAL ENGINEERING)

Max. Time: 60 Minutes **Max. Marks: 22 + 8 (Viva) = 30**

NOTE: - All questions are compulsory. Use of Design Data Book is allowed.

Q. No.	Question	Marks	LO	PO
Q.1				
Q.2				
Q.3				

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14.11 Mid Term Theory Question Paper Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

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

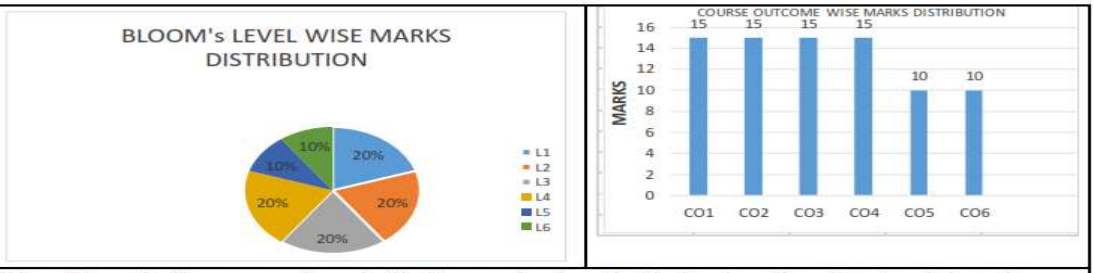
SECOND MID TERM EXAMINATION 2022-23
Code: 3EE4-08 Category: PCC Subject Name–EMF
(BRANCH – ELECTRICAL ENGINEERING)

Course Credit: ___
Max. Time: 2 hrs. Max. Marks: 60

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

Course Outcomes (CO):
At the end of the course the student should be able to:
CO1:
CO2:
CO3:
CO4:
CO5:
CO6:

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



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

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15 List of Important Links

List of Important Links		
Sr. No.	**Link**	**Particulars**
1	https://www.rtu.ac.in/index/	Rajasthan Technical University
2	http://www.pce.poornima.org	Institute Website
3	http://www.pce.poornima.org/Downloads.html	Format of Students & Employees
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://fossee.in/	FOSSEE (Free/Libre 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://ieeexplore.ieee.org/Xplore/home.jsp.You	IEEE 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 ELECTRICAL ENGINEERING

CURRICULUM DELIVERY PLAN

OUTLINE-EVEN SEM-2023-24

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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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. (Electrical Engineering)

2.2.1 Vision of Department

To be a model of excellence in Professional Education and Research by creating electrical engineers who are prepared for lifelong engagement in the rapidly changing fields and technologies with the ability to work in team.

2.2.2 Mission of Department

- To provide a dynamic environment of technical education wherein students learn in collaboration with others to develop knowledge of basic and engineering sciences.
- To identify and strengthen current thrust areas based upon informed perception of global societal issues in the electrical and allied branches.
- To develop human potential with intellectual capability who can become a good professional, researcher and lifelong learner.

2.2.3 PEO of the Department

Program Educational Objectives (PEOs)

- **PEO 1**: Graduates will have the ability to formulate, analyze and apply design process using the basic knowledge of engineering and sciences to solve complex electrical engineering problems.
- **PEO 2**: Graduates will exhibit quality of leadership, teamwork, time management, with a commitment towards addressing societal issues of equity, public and environmental safety using modern engineering tools.
- **PEO 3**: Graduates will possess dynamic communication and have successful transition into a broad range of multi-disciplinary career options in industry, government and research as lifelong learner.

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2.2.4 Program Specific Outcome (PSOs)

- PSO1: Graduate possesses the ability to apply fundamental knowledge of basic sciences, mathematics and computation to solve the problems in the field of electrical engineering for the benefit of society.
- PSO2: Graduate possesses the ability to professionally communicate and ethically solve complex electrical engineering problems using modern engineering tools.
- PSO3: Graduate possesses sound fundamental knowledge to be either employable or develop entrepreneurship in the emerging areas of renewable and green energy, electric and hybrid vehicles and smart grids and shall be susceptive to life- long learning.

2.3 Program Outcomes (PO)

Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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.
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.
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.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
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.
7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

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9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
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 give and receive clear instructions.
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 a team, to manage projects and in multidisciplinary environments.
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 Electrical 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.

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3.1.3 Department-Wise Composition

SESSION 2023-24

DEPARTMENT OF ELECTRICAL ENGINEERING

S. No.	Category	Nominated by	Name of Members	Address
1	Chairman, DAB-CE	Chairman, IQAC	Dr. Mahesh M. Bundele (Principal & Director)	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
2	Member Secretary	Chairman, DAB-EE	Dr. Pravin M. Sonwane Professor & Head	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
3	Faculty representative-1	Chairman, DAB-EE	Dr. Pankaj Gakhar Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
4	Faculty representative-2	Chairman, DAB-EE	Dr. Gaurav Jain Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
5	Faculty representative-3	Chairman, DAB-EE	Dr. Ekata Sharma Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
6	Faculty representative-4	Chairman, DAB-EE	Dr. Vikas K. Sharma Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
7	Faculty representative-5	Chairman, DAB-EE	Dr. Hemant Kaushik Assistant Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
8	Faculty representative-6	Chairman, DAB-EE	Mr. Rachit Saxena Assistant Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
9	Special Invitee	Chairman, DAB-EE	Dr. Rekha Nair Dean First Year	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura
10	Alumni Representative-1	Chairman, DAB-EE	Mr. Mayank Yadav CEO, Aero Phantom	S-13, City Park, Mansarovar, sector 7, Jaipur
11	Alumni Representative-2	Chairman, DAB-EE	Ms. Nidhi Bunkar Head, Aero Phantom	S-13, City Park, Mansarovar, sector 7, Jaipur
12	Student Representative	Chairman, DAB-EE	Mr. Priyanshu Sharma Student, EED, PCE	PCE21EE015, Student PCE
13	Industry Representative	Chairman, DAB-EE	Mr. Lokesh Gothwal Assistant Engineer	RVPNL, Jaipur
14	Parents Representative-1	Chairman, DAB-EE	Mr. Bishan Lal Sharma	Rtd. Government Teacher, Rajasthan
15	Parents Representative-1	Chairman, DAB-EE	Mr. Radhey Shyam Sharma	Director, Monu Plastics, Jaipur

3.1.4 Meeting Frequency & Objectives

Meeting No.	Meeting Code	Meeting Month-Week	Meeting Objective
1.	DAB-1	July Last 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

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2.	DAB-2	November First Week	● Approval / Suggestions of proposals from last PAC Meeting. ● Revision of DAB Drafts for being proposed in upcoming GC
3	DAB-3	January Second 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	● 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

Session: 2023-24

S. No.	Category	Nominated by	Name of Members	Address
1	Chairman, PAC-CE	Chairman, IQAC / Head of Institution	Dr. Pravin Machhindra Sonwane Head, Department of Electrical Engineering	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
2	Member Secretary	Chairman, PAC-EE	Dr. Pankaj Gakhar Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
3	Faculty representative-1	Chairman, PAC-EE	Dr. Gaurav Jain Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
4	Faculty representative-2	Chairman, PAC-EE	Dr. Hemant Kaushik, Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur

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5	Faculty representative-3	Chairman, PAC-EE	Mr. Rachit Saxena Assistant Professor, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
6	Faculty representative-4	Chairman, PAC-EE	Dr. Ekata Sharma Associate Prof, PCE	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
7	Faculty representative-5	Chairman, PAC-EE	Dr. Vikas Kumar Sharma Associate Professor	Poornima College of Engineering, ISI-6, RIICO Inst. Area, Sitapura, Jaipur
8	Faculty representative-6	Chairman, PAC-EE	Mr. Vineet Sharma Assistant Professor	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	October Second 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
4.	PAC-4	December First 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
5.	PAC-5	January Second 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
6.	PAC-6	March Last Week	● Execution of Academic, Extra and Co-Curricular activities ● Regular assessment of Academic, Extra and Co-Curricular activities ● Regular calculation of attainments ● Revision of Academics gaps ● Prepared regular report of program for all assessment, attainment & gaps
7.	PAC-7	April	● Execution of Academic, Extra and Co-Curricular activities

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		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 ● Draft preparation of Semester closure
8.	PAC-8	May Third 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. PRAVIN SONWANE	6380	PROFESSOR	pravin.sonwane@poornima.org	8805868462
2	Dr. GAURAV JAIN	6085	PROFESSOR	gaurav.jain@poornima.org	9602410960
3	Dr. HEMANT KAUSHIK	6878	PROFESSOR	hemant.kaushik@poornima.org	9950937390
4	Dr. PANKAJ GAKHAR	3820	ASSOCIATE PROFESSOR	pankaj.gakhar@poornima.org	7737764255
5	Dr. EKATA SHARMA	6377	ASSOCIATE PROFESSOR	ekata.sharma@poornima.org	9530025325
6	Dr. VIKAS KUMAR SHARMA	7399	ASSOCIATE PROFESSOR	vikas.sharma@poornima.org	9887352062
7	MR. VINEET SHARMA	7376	ASST PROFESSOR	vineet.sharma@poornima.org	8239873121
8	MR. RACHIT SAXENA	7469	ASST PROFESSOR	rachit.saxena@poornima.org	9828151962
9	Ms. SHEENA TAHIRA KHAN	7020	ASST PROFESSOR	khansheena70@gmail.com	8290616919
10	MR. ABHISHEK SINGH	5353	ASST PROFESSOR	abhishek.singh@poornima.edu.in	9557210581
11	Ms. RICHA CHAUDHARY	6931	ASST PROFESSOR	richa.chaudhary@poornima.org	8851096563
12	Mr. BHAVANESH SHARMA	7012	ASST PROFESSOR	bhavanesh.sharma@poornima.org	9772809472
13	MR. AJIT SINGH RAJAWAT (Study Leave)	6849	ASST PROFESSOR	ajit.rajawat@poornima.org	7737819353
14	MR. NEMI CHAND KOLI	1483	TECHNICAL OFFICER	nemichand@poornima.org	9887793801
15	MR. SITARAM GURJAR	2695	TECHNICAL ASSISTANT	sitaramgurjar@poornima.org	9602335554
16	MR. HANUMAN KHORAL	4216	TECHNICAL ASSISTANT	hanuman.kharol@poornima.org	9667100385

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5 Institute Academic Calendar

JANUARY 2024

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			

FEBRUARY 2024

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		

MARCH 2024

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

APRIL 2024

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				

MAY 2024

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	

JUNE 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30						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

JULY 2024

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 2023-24*#

EVEN SEMESTER

January 2024

Monday, 8	First Day, B. Tech. VIII Sem.
Thursday, 26	Republic Day Celebration

RTU THEORY EXAMINATION FOR III & V SEMESTER [ODD SEMESTER 2023-24]

February 2024

Monday, 19	First Day, B. Tech. IV & VI Sem.

RTU THEORY EXAMINATION FOR I SEMESTER [ODD SEMESTER 2023-24]

Monday, 26	First Day, B. Tech. II Sem.

March 2024

Monday, 04 to Wednesday, 06	First Mid Term Examination for B.Tech VIII Sem
Thursday, 14 to Saturday 16	Aarohan -2024
During Second/Third Week	Wise Activity

April 2024

Monday, 15 to Saturday, 20	First Mid Term Examination for B.Tech IV & VI Sem
Wednesday, 24	Last Teaching Day for B.Tech VIII Sem
Thursday, 25 to Saturday, 27	Second Mid-Term Examination for B.Tech VIII Sem
Monday, 29 to Wednesday 01 (May)	End-Term Practical Exams for B.Tech VIII Sem
Monday, 29 to Saturday, 04 (May)	First Mid Term Examination for B.Tech II Sem
	Farewell Function Batch 2020-24

May 2024

As Per RTU Schedule	End-Term Theory Exams for B.Tech VIII Sem
Saturday, 25 to Sunday, 26	Students' Council Meet

June 2024

Saturday, 8	Last Teaching Day for B.Tech IV & VI Sem
Monday, 10 to Saturday, 15	Second Mid-Term Examination for B.Tech IV & VI Sem
Monday, 17 to Wednesday 19	End-Term Practical Examination for B.Tech IV & VI Sem
As Per RTU Schedule	End-Term Theory Examination for B.Tech IV & VI Sem
Friday, 21	Last Teaching Day for B.Tech II Sem
Monday, 24 to Saturday, 29	Second Mid-Term Examination for B.Tech II Sem

July 2024

Monday, 01 to Wednesday 03	End-Term Practical Examination for B.Tech II Sem
As Per RTU Schedule	End-Term Theory Examination for B.Tech II Sem

HOLIDAYS IN EVEN SEMESTER

New Year	-	01 January, Monday - 02 January, Tuesday
Makar Sakranti	-	14 January, Sunday, 2024
Republic Day Celebration	-	26 January, Friday - 27 January, Saturday, 2024
Holi	-	23 March, Saturday - 26 March, Tuesday, 2024
Eid-ul-Fiter	-	11 April , Thursday - 13 April, Saturday, 2024
Ambedkar Jayanti	-	13 April, Saturday - 14 April, Sunday, 2024
Eid-al-Adha	-	15 June, Saturday - 17 June, Monday, 2024

*Subject to revision as per RTU notifications
#Annual Alumni Meet in December 28, 2024

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6 Department Activity Calendar

Poornima College of Engineering, Jaipur

Calendar for Electrical Engineering : Even Semester - Session 2023-24

(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	Monday, February 26, 2024	Monday, February 19, 2024	Monday, February 19, 2024	Monday, January 08, 2024
2	Orientation programme	Monday, February 26, 2024 to Wednesday, February 29, 2024	Monday, February 19, 2024 to Wednesday, February 21, 2024	Monday, February 19, 2024 to Wednesday, February 21, 2024	Monday, January 08, 2024 to Wednesday, January 11, 2024
3	Date of submission of question papers by faculty members to secrecy for 1st Mid-term	Monday, April 27, 2024	Monday, April 08, 2024	Monday, April 08, 2024	Monday, February 26, 2024
4	I Mid Term Theory & Practical Exam	Monday, April 29, 2024 to Saturday, May 04, 2024	Monday, April 15, 2024 to Saturday, April 20, 2024	Monday, April 15, 2024 to Saturday, April 20, 2024	Monday, March 04, 2024 to Wednesday, March 06, 2024
5	Showing evaluated answer books of 1st Mid-term exam to students in respective classes	Upto Monday, May 12, 2024	Upto Monday, April 29, 2024	Upto Monday, April 29, 2024	Upto Monday, March 18, 2024
6	Last date of submission of Evaluated Answer Books and Mark of First Mid-term Theory & Practical exam to Exam and Secrecy Cell respectively	Upto Saturday, May 18, 2024	Upto Saturday, May 04, 2024	Upto Saturday, May 04, 2024	Upto Saturday, March 23, 2024
7	Date of submission of question papers by faculty members to secrecy for 2nd Mid-term	Monday, June 12,2024	Monday, June 03, 2024	Monday, June 03, 2024	Monday, April 15, 2024
8	Revision classes	To be declared later according to RTU Exam Schedule			
9	Last Teaching Day	Friday, June 21, 2024	Saturday, June 08, 2024	Saturday, June 08, 2024	Wednesday, April 24, 2024
10	2nd Mid-term theory & Practical Exams	Monday, June 24, 2024 to Friday, June 29, 2024	Monday, June 10, 2024 to Saturday, June 15, 2024	Monday, June 10, 2024 to Saturday, June 15, 2024	Thursday, April 25, 2024 to Saturday, April 27, 2024
11	End-Term Practical Exams	Monday, July 01, 2024 to Wednesday, July 03, 2024	Monday, June 17, 2024 to Wednesday, June 19, 2024	Monday, June 17, 2024 to Wednesday, June 19, 2024	Monday, April, 29, 2024 to Wednesday, May 01, 2024
	(B) Events and Activities				
12	Visit and Display of Solar Cooker	Friday, March 15, 2024			
13	Demo and Explanation of Transmission line components	Friday, March 29, 2024			
14	Expert lecture on power System Deregulation	Friday, April 05, 2024			
15	Alumni session	Friday, April 26, 2024			
16	Add on Course	Friday, May 03 , 2024			
17	Industry Visit	Friday, May 24, 2024			
	(C) Holidays				
18	Makar Sankranti	Saturday, January 14, 2023			
19	Celebration of Republic Day	Friday, January 26 - Saturday, January 27, 2024			
20	Holi	Saturday, March 23 - Tuesday, March 26, 2024			
21	Eid-Ul-Fitr	Thursday, April 11 - Saturday, April 13, 2024			
22	Ambedkar Jayanti	Saturday, April 13 - Sunday, April 14, 2024			
23	Eid-al-Adha	Saturday, June 15, - Monday, June 17, 2024			
24	Summer Break	As per RTU Examination Schedule			

"स्वच्छ भारत.. सम्पन्न भारत.."

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7 Teaching Scheme

7.1 RTU Teaching Scheme

Teaching and Examination Scheme
2nd Year: Electrical Engineering
IV Semester: B.Tech.

SN	Category	Course Code	Course Title	Hours			Marks			Cr
				L	T	P	IA	ETE	Total	
1	BSC	4EE2-01	Biology	2	0	0	20	80	100	2
2	HSMC	4EE1-02/ 4EE1-03	Technical Communication / Managerial Economics and Financial Accounting	2	0	0	20	80	100	2
3	ESC	4EE3-04	Electronic Measurement & Instrumentation	2	0	0	20	80	100	2
4	PCC	4EE4-05	Electrical Machine - II	3	0	0	30	120	150	3
5		4EE4-06	Power Electronics	3	0	0	30	120	150	3
6		4EE4-07	Signals & Systems	3	0	0	30	120	150	3
7		4EE4-08	Digital Electronics	2	0	0	20	80	100	2
8		4EE4-21	Electrical Machine - II Lab	0	0	4	60	40	100	2
9		4EE4-22	Power Electronics Lab	0	0	4	60	40	100	2
10		4EE4-23	Digital Electronics Lab	0	0	2	30	20	50	1
11		4EE3-24	Measurement Lab	0	0	2	30	20	50	1
12	SODECA	4EE8-00	Social Outreach, Discipline & Extra Curricular Activities						25	0.5
			Total						1175	23.5

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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

SN	Category	Course Code	Course Title	Contact hrs/week L	T	P	Marks Exm Hrs	IA	ETE	Total	Cr
THEORY											
1	ESC	6EE3-01	Computer Architecture	2	0	0	2	30	70	100	2
2	PCC/ PEC	6EE4-02	Power System - II	3	0	0	3	30	70	100	3
3		6EE4-03	Power System Protection	3	0	0	3	30	70	100	3
4		6EE4-04	Electrical Energy Conversion and Auditing	3	0	0	3	30	70	100	3
5		6EE4-05	Electric Drives	3	0	0	3	30	70	100	3
6		Professional	Elective II (any one)	3	0	0	3	30	70	100	3
		6EE5-11	Power System Planning.								
		6EE5-12	Digital Signal Processing.								
		6EE5-13	Electrical and Hybrid Vehicles.								
			Sub Total	**17**	**0**	**0**	**17**				**17**
PRACTICAL & SESSIONAL											
7	PCC	6EE4-21	Power System - II Lab	0	0	4	3	60	40	100	2
8		6EE4-22	Electric Drives Lab	0	0	4	3	60	40	100	2
9		6EE4-23	Power System Protection Lab	0	0	2	2	60	40	100	1
10		6EE4-24	Modelling and simulation lab	0	0	2	2	60	40	100	1
11	SODECA	6EE8-00	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

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Scheme & Syllabus

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

Teaching & Examination Scheme
B. Tech. : Electrical Engineering
4th Year - VIII Semester

THEORY												
SN	Course Type	Course		Hours per Week			Marks				Cr
		Course Code	Course Name	L	T	P	Exm Hrs	IA	ETE	Total	
1	PEC	8EE4-11	HVDC Transmission System.	3	0	0	3	30	70	100	3
2		8EE4-12	Line Commutated and active rectifiers.								
3		8EE4-13	Advanced Electric Drives.								
4	OE		Open Elective-II	3	0	0	3	30	70	100	3
			SUB TOTAL	**6**	**0**	**0**		**60**	**140**	**200**	**6**
PRACTICAL & SESSIONAL											
5	PCC	8EE4-21	Energy Systems Lab	0	0	4	3	60	40	100	2
6	PSIT	8EE7-50	Project	3	0	0		60	40	100	7
7	SODECA	8EE8-00	SODECA	0	0	0			100	100	0.5
			SUB TOTAL	**3**	**0**	**4**		**120**	**180**	**300**	**9.5**
			TOTAL OF VIII SEMESTER	**9**	**0**	**4**		**180**	**320**	**500**	**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

DEPARTMENT OF ELECTRICAL ENGINEERING

EVEN SEMESTER SESSION 2023-24

Format for Teaching Scheme of Even Semester 2023-24

Working Group	Year	Sem	No. of Students	Teaching Scheme				Course Name	Subject Code	Load Per Week	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											
EE	2	4	18	2	0	0	2	Biology	4EE2-01	2	1	1	F	2	0	0	2	Biology
EE	2	4	18	2	0	0	2	Managerial Economics and Financial Accounting	4EE1-03	2	1	1	F	2	0	0	2	Humanities
EE	2	4	18	3	0	0	2	Electronic Measurement & Instrumentation	4EE3-04	3	1	1	F	3	0	0	3	EE
EE	2	4	18	4	0	0	3	Electrical Machine - II	4EE4-05	4	1	1	F	4	0	0	4	EE
EE	2	4	18	4	0	0	3	Power Electronics	4EE4-06	4	1	1	F	4	0	0	4	EE
EE	2	4	18	4	0	0	3	Signals & Systems	4EE4-07	4	1	1	F	4	0	0	4	ECE
EE	2	4	18	3	0	0	2	Digital Electronics	4EE4-08	3	1	1	F	3	0	0	3	EE
EE	2	4	18	0	0	2	2	Electrical Machine - II Lab	4EE4-21	2	1	1	T	0	0	2	2	EE
EE	2	4	18	0	0	2	2	Power Electronics Lab	4EE4-22	2	1	1	T	0	0	2	2	EE
EE	2	4	18	0	0	2	1	Digital Electronics Lab	4EE4-23	2	1	1	T	0	0	2	2	EE
EE	2	4	18	0	0	2	1	Measurement Lab	4EE3-24	2	1	1	T	0	0	2	2	EE
EE	2	4	18	1	0	0	NA	Non Syllabus Project	4NSPEE	1	1	1	F	1	0	0	1	EE
								Total Load									31	
EE	3	6	27	4	0	0	2	Computer Architecture	6EE3-01	4	1	1	F	4	0	0	4	EE
EE	3	6	27	4	0	0	3	Power System - II	6EE4-02	4	1	1	F	4	0	0	4	EE
EE	3	6	27	4	0	0	3	Power System Protection	6EE4-03	4	1	1	F	4	0	0	4	EE
EE	3	6	27	3	0	0	3	Electrical Energy Conversion and Auditing	6EE4-04	3	1	1	F	3	0	0	3	EE
EE	3	6	27	4	0	0	3	Electric Drives	6EE4-05	4	1	1	F	4	0	0	4	EE
EE	3	6	27	3	0	0	3	Power System Planning (Elective-1)	6EE5-11	3	1	1	F	3	0	0	3	EE
EE	3	6	27	3	0	0	3	Electrical and Hybrid Vehicles (Elective-1)	6EE5-13	3	1	1	F	3	0	0	3	EE
EE	3	6	27	0	0	2	2	Power System - II Lab	6EE4-21	2	1	2	T	0	0	4	4	EE
EE	3	6	27	0	0	2	2	Electric Drives Lab	6EE4-22	2	1	2	T	0	0	4	4	EE
EE	3	6	27	0	0	2	1	Power System Protection Lab	6EE4-23	2	1	2	T	0	0	4	4	EE
EE	3	6	27	0	0	2	1	Modelling and simulation lab	6EE4-24	2	1	2	T	0	0	4	4	EE
EE	3	6	27	1	0	0	NA	NSP	6NSPEE	1	1	1	H	1	0	0	1	EE
								Total Load									42	
EE	4	8	13	3	0	0	3	HVDC Transmission System (Elective-2)	8EE4-11	3	1	1	F	3	0	0	3	EE
EE	4	8	13	3	0	0	3	Advanced Electric Drives (Elective-2)	8EE4-13	3	1	1	F	3	0	0	3	EE
EE	4	8	13	3	0	0	3	Open Elective-II (Soft Computing)		3	1	1	F	3	0	0	3	EE
EE	4	8	13	3	0	0	3	Open Elective-II (EADM)		3	1	1	F	3	0	0	3	EE
EE	4	8	13	0	0	4	2	Energy System Lab	8EE4-21	4	1	1	T	0	0	4	4	EE
EE	4	8	13	0	0	8	7	Project	8EE7-50	8	1	1	T	0	0	8	8	EE
								Total Load									24	

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8.1 Marking Scheme

MARKING SCHEME FOR PRACTICAL EXAM, EVEN SEM., 2023-24,		EXAM & SECRECY CELL, PCE							
		I & II Mid Term Exam			Atten & Performance.	End Term Exam			Max.
Code	SUBJECT	Exp.	Viva	Total	Total	Exp.	Viva	Total	Marks
2FY2-21	Engineering Chemistry Lab	30	10	40	40	30	10	40	100
2FY2-20	Engineering Physics Lab	30	10	40	40	30	10	40	100
2FY1-23	Human Values Activities and Sports	30	10	40	40	30	10	40	100
2FY1-22	Language Lab	30	10	40	40	30	10	40	100
2FY3-25	Manufacturing Practices Workshop	30	10	40	40	30	10	40	100
2FY3-24	Computer Programming Lab	30	10	40	40	30	10	40	100
2FY3-27	Basic Civil Engineering Lab	30	10	40	40	30	10	40	100
2FY3-26	Basic Electrical Engineering Lab	30	10	40	40	30	10	40	100
2FY3-29	Computer Aided Machine Drawing	30	10	40	40	30	10	40	100
4AID4-21	Microprocessor & Interfaces Lab	30	10	40	40	30	10	40	100
4AID4-22	Database Management System Lab	30	10	40	40	30	10	40	100
4AID4-23	Network Programming Lab	30	10	40	40	30	10	40	100
4AID4-24	Linux Shell Programming Lab	30	10	40	40	30	10	40	100
4AID4-25	Java Lab	30	10	40	40	30	10	40	100
4CAI4-21	Microprocessor & Interfaces Lab	30	10	40	40	30	10	40	100
4CAI4-22	Database Management System Lab	30	10	40	40	30	10	40	100
4CAI4-23	Network Programming Lab	30	10	40	40	30	10	40	100
4CAI4-24	Linux Shell Programming Lab	30	10	40	40	30	10	40	100
4CAI4-25	Java Lab	30	10	40	40	30	10	40	100
4CSR4-21	Microprocessor & Interfaces Lab	30	10	40	40	30	10	40	100
4CSR4-22	Database Management System Lab	30	10	40	40	30	10	40	100
4CSR4-23	Network Programming Lab	30	10	40	40	30	10	40	100
4CSR4-24	Linux Shell Programming Lab	30	10	40	40	30	10	40	100
4CSR4-25	Java Lab	30	10	40	40	30	10	40	100
4CCS4-21	Microprocessor & Interfaces Lab	30	10	40	40	30	10	40	100
4CCS4-22	Database Management System Lab	30	10	40	40	30	10	40	100
4CCS4-23	Network Programming Lab	30	10	40	40	30	10	40	100
4CCS4-24	Linux Shell Programming Lab	30	10	40	40	30	10	40	100
4CCS4-25	Java Lab	30	10	40	40	30	10	40	100
4CE4-21	Material Testing Lab	30	10	40	40	30	10	40	100
4CE4-22	Hydraulics Engineering Lab	30	10	40	40	30	10	40	100
4CE4-23	Building Drawing	30	10	40	40	30	10	40	100
4CE4-24	Advanced Surveying Lab	30	10	40	40	30	10	40	100
4CE4-25	Concrete Lab	30	10	40	40	30	10	40	100
4CS4-21	Microprocessor & Interfaces Lab	30	10	40	40	30	10	40	100
4CS4-22	Database Management System Lab	30	10	40	40	30	10	40	100
4CS4-23	Network Programming Lab	30	10	40	40	30	10	40	100
4CS4-24	Linux Shell Programming Lab	30	10	40	40	30	10	40	100
4CS4-25	Java Lab	30	10	40	40	30	10	40	100
4EC4-21	Analog and Digital Communication Lab	30	10	40	40	30	10	40	100
4EC4-22	Analog Circuits Lab	30	10	40	40	30	10	40	100
4EC4-23	Microcontrollers Lab	30	10	40	40	30	10	40	100
4EC4-24	Electronics Measurement & Instrumentation Lab	30	10	40	40	30	10	40	100
4EE4-21	Electrical Machine - II Lab	30	10	40	40	30	10	40	100
4EE4-22	Power Electronics Lab	30	10	40	40	30	10	40	100
4EE4-23	Digital Electronics Lab	30	10	40	40	30	10	40	100
4EE3-24	Measurement Lab	30	10	40	40	30	10	40	100
4IT4-21	Linux Shell Programming Lab	30	10	40	40	30	10	40	100
4IT4-22	Database Management System Lab	30	10	40	40	30	10	40	100
4IT4-23	Network Programming Lab	30	10	40	40	30	10	40	100
4IT4-24	Java Lab	30	10	40	40	30	10	40	100
4IT4-25	Web Technology Lab	30	10	40	40	30	10	40	100
4ME3-21	Digital Electronics lab	30	10	40	40	30	10	40	100
4ME4-22	Fluid Mechanics lab	30	10	40	40	30	10	40	100
4ME4-23	Production practice lab	30	10	40	40	30	10	40	100
4ME4-24	Theory of machines Lab	30	10	40	40	30	10	40	100
6CE4-21	Environmental Engineering Design and Lab	30	10	40	40	30	10	40	100
6CE4-22	Steel Structure Design	30	10	40	40	30	10	40	100
6CE4-23	Quantity Surveying and Valuation	30	10	40	40	30	10	40	100
6CE4-24	Water and Earth Retaining Structures Design	30	10	40	40	30	10	40	100
6CE4-25	Foundation Design	30	10	40	40	30	10	40	100
6CS4-21	Digital Image Processing Lab	30	10	40	40	30	10	40	100
6CS4-22	Machine Learning Lab	30	10	40	40	30	10	40	100
6CS4-23	Python Lab	30	10	40	40	30	10	40	100
6CS4-24	Mobile Application Development Lab	30	10	40	40	30	10	40	100
6EC 4-21	Computer Network Lab	30	10	40	40	30	10	40	100
6EC 4-22	Antenna and wave propagation Lab	30	10	40	40	30	10	40	100
6EC 4-23	Electronics Design Lab	30	10	40	40	30	10	40	100
6EC 4-24	Power Electronics Lab	30	10	40	40	30	10	40	100
6EE4-21	Power System - II Lab	30	10	40	40	30	10	40	100
6EE4-22	Electric Drives Lab	30	10	40	40	30	10	40	100
6EE4-23	Power System Protection Lab	30	10	40	40	30	10	40	100
6EE4-24	Modelling and simulation lab	30	10	40	40	30	10	40	100
6IT4-21	Digital Image Processing Lab	30	10	40	40	30	10	40	100
6IT4-22	Machine Learning Lab	30	10	40	40	30	10	40	100
6IT4-23	Python Lab	30	10	40	40	30	10	40	100
6IT4-24	Mobile Application Development Lab	30	10	40	40	30	10	40	100
6ME4-21	CIMS Lab	30	10	40	40	30	10	40	100
6ME4-22	Vibration Lab	30	10	40	40	30	10	40	100
6ME4-23	Machine Design Practice II	30	10	40	40	30	10	40	100
6ME4-24	Thermal Engineering Lab I	30	10	40	40	30	10	40	100
8CE4-21	Project Planning & Construction Management	30	10	40	40	30	10	40	100
8CE4-22	Pavement Design	30	10	40	40	30	10	40	100
8CE7-50	Project	30	10	40	40	30	10	40	100
8CS4-21	Big Data Analytics Lab	30	10	40	40	30	10	40	100
8CS4-22	Software Testing and Validation Lab	30	10	40	40	30	10	40	100
8CS7-50	Project	30	10	40	40	30	10	40	100
8EC4-21	Internet of Things (IOT) Lab	30	10	40	40	30	10	40	100
8EC4-22	Skill Development Lab	30	10	40	40	30	10	40	100
8EC7-50	Project	30	10	40	40	30	10	40	100
8EE4-21	Energy Systems Lab	30	10	40	40	30	10	40	100
8EE7-50	Project	30	10	40	40	30	10	40	100
8IT4-21	Internet of Things Lab	30	10	40	40	30	10	40	100
8IT4-22	Software Testing and Validation Lab	30	10	40	40	30	10	40	100
8IT7-50	Project	60	20	80	80	60	20	80	200
8ME4-21	Industrial Engineering Lab	30	10	40	40	30	10	40	100
8ME4-22	Metrology Lab	30	10	40	40	30	10	40	100
8ME7-50	Project *#	30	10	40	40	30	10	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+A1:I22								
DEPARTMENT OF ELECTRICAL ENGINEERING								
FACULTY WISE SUBJECT ALLOCATION SESSION 2023-24 (EVEN Sem)								
S.No	**FACULTY NAME**	**SEC**	**CODE**	**SUBJECT**	**L**	**T**	**P**	**LOAD**
1	Dr. Pravin Sonwane	II-A	4EE4-06	Power Electronics	4			10
		III-A	6EE4-02	Power System - II	4			
		IV-A	8EE7-50	Project			2	
2	Dr. Ekata Sharma	III-A	6EE4-03	Power System Protection	4			8
		III-A	6EE4-23	Power System Protection Lab			4	
3	Dr. Gaurav Jain	IV-A	8EE4-11	HVDC Transmission System (Elective-2)	3			16
		IV-A	6EE4-04	Electrical Energy Conversion and Auditing	3			
		IV-A	8EE7-50	Project			6	
		IV-A	8EE6.60.1	Open Elective-II (EADM)	3			
		II-A	4NSPEE	Non Syllabus Project			1	
4	Dr. Vikas Sharma	III-A	6EE4-22	Electric Drives Lab			4	16
		III-A	6EE4-05	Electric Drives	4			
		III-A	6EE4-21	Power System - II Lab			4	
		IV-A	8EE4-21	Energy System Lab			4	
5	Mr. Vineet Sharma	III-A	6EE5-13	Electrical and Hybrid Vehicles (Elective-1)	3			14
		III-A	6EE4-24	Modelling and simulation lab			4	
		III-A	8EE6.60.2	Open Elective-II (Soft Computing)	3			
		II-A	4EE4-07	Signals & Systems	4			
6	Mr. Rachit Saxena	II-A	4EE3-04	Electronic Measurement & Instrumentation	3			14
		II-A	4EE3-24	Measurement Lab			2	
		III-A	6EE3-01	Computer Architecture	4			
		II-A	4EE4-22	Power Electronics Lab			2	
		III-A	ECE	MP LAB			2	
		III-A	6NSPEE	Non Syllabus Project			1	
7	Dr. Hemant Kaushik		ME	Digital Electronics	3			17
			ME	Digital Electronics Lab			2	
			CS	Microcontroller	6			
			IT	Microcontroller			6	
8	Dr. Pankaj Gakhar	II-A	4EE4-05	Electrical Machine - II	4			7
		II-A	4EE4-21	Electrical Machine - II Lab			3	
9	Mr. Mayank Sharma	II-A	4EE4-08	Digital Electronics	3			5
		II-A	4EE4-23	Digital Electronics Lab			2	
10	Dr. Meena Tekriwal	II-A	4EE2-01	Biology	2			2
11	Dr. Kalpana Sharma	II-A	4EE1-03	MEFA	2			2

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10 Time Table

10.1 Orientation Time Table

Poornima College of Engineering
Department of Electrical Enginering
Time Table for Orientation Program (EVEN Semester, 2023-24)
II Year

Day/Time	8:30 AM - 9:30 AM	9:30 AM - 10:30 AM	10:30 AM - 11:30 AM	12:00 PM - 12:30 PM	12:20 PM - 01:20 PM	01:20 PM - 02:20 PM	2:20 PM - 03:20 PM
Monday 20/09/2021	Tutor Interaction (Mr. Vineet Sharma)	NAAC/NBA Philosophy (Mr. Mayank Sharma)	Electrical Machine-II Overview (Dr. Pankaj Gakhar)	LUNCH	Electrical Measurement overview (Mr. Rachit Saxena)		Analog Electronics overview (Mr. Mayank Sharma)
Tuesday 21/09/2021	HOD Interaction (Dr. Pravin Sonwane)	Research Paper Writing (Mr. Mayank Sharma)	Power Electronics Overview (Dr. Pravin Sonwane)		Digital Electronics Lab Overview (Mr. Mayank Sharma)		Electrical Circuit Analysis overview (Mr. Mayank Sharma)
Wednesday 22/09/2021	Biology overview (Dr. Meena Takriwal)	Electrical Machine -II Lab Overview (Dr. Pankaj Gakhar)	Project overview (Dr. Gaurav Jain)		Director Interaction (Dr. Mahesh Bundele)	EM & PE Lab overview (Mr. Rachit Saxena)	

Poornima College of Engineering
Department of Electrical Enginering
Time Table for Orientation Program (EVEN Semester, 2023-24)
III Year

Day/Time	8:30 AM - 9:30 AM	9:30 AM - 10:30 AM	10:30 AM - 11:30 AM	12:00 PM - 12:30 PM	12:20 PM - 01:20 PM	01:20 PM - 02:20 PM	2:20 PM - 03:20 PM
Monday 20/09/2021	HOD Interaction (Dr. Pravin Sonwane)	NSP (Dr. Gaurav Jain)	EECA overview (Dr. Gaurav Jain)	LUNCH	Power System-II overview (Dr. Jyoti Shukla)	Electric Drive Lab Overview (Dr. Vikas Sharma)	
Tuesday 21/09/2021	Power System Planning overview (Dr. Ekata Kaushik)	Research Paper Writing (Mr. Mayank Sharma)	Computer architecture overview (Dr. Praveen Sonwane)		Director Interaction (Dr. Mahesh Bundele)	Tutor Interaction (Mr. Rachit Saxena)	
Wednesday 22/09/2021	Power System-II Lab (Dr. Pravin Sonwane)	NAAC/NBA Philosophy (Mr. Mayank Sharma)	Electric Drive overview (Dr. Vikas Sharma)		Placement (Dr. Pankaj Gakhar)	Modulation and Simulation lab overview (Mr. Vineet Sharma)	

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POORNIMA COLLEGE OF ENGINEERING
Department of Electrical Enginering
Time Table for Orientation Program (EVEN Semester, 2023-24)
IV Year

Day/Time	8:30 AM - 9:30 AM	9:30 AM - 10:30 AM	10:30 AM - 11:30 AM	12:00 PM - 12:30 PM	12:20 PM - 01:20 PM	01:20 PM - 02:20 PM	2:20 PM - 03:20 PM
Monday, 08/01/2024	Tutor Interaction (Dr. Vikas Kumar Sharma)	HOD Interaction (Dr. Pravin Sonwane)	MOOC (Dr. Gaurav Jain)	LUNCH	Subject Overview-Advanced Electric Drive (Mr. Rachit Saxena)		Placement Overview (Dr. Vikas Kumar Sharma)
Tuesday, 09/01/2024	Project (Dr. Gaurav Jain)	NAAC/NBA Philosophy (Mr. Mayank Sharma)	Subject Overview-HVDC Transmission System (Dr. Pravin		Lab Overview-ES Lab (Dr. Vikas Kumar Sharma)		Director Interaction (Dr. Mahesh Bundele)
Wednesday, 10/01/2024	Add-On/Skill Development Courses (Dr. Pravin Sonwane)		Subject Overview-Open Elective I (Dr. Gaurav Jain)		Subject Overview-Open Elective II (Mr. Vineet Sharma)		Project (Dr. Gaurav Jain)

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10.2 Academic Time Table

Poornima College of Engineering

Department of Electrical Enginering

Time Table(IV Sem. Sec. A / IIYr)(18) Loaction:1303 (wef:-19.02.2024)

Day/Time	8:30-9:30	9:30-10:30	10:30-11:30	11:30-12:20	12.20-13.20	13.20-14.20	14.20-15.20
Monday	4EE4-05, EM II (PKG)	4EE4-08, DE (MS)	4EE4-06, PE (PMS)	LUNCH	4EE4-07, S&S (VS)	4EE3-04, EMI (RS)	4EE4-06, PE (PMS)
Tuesday	CRT Class (2105)				4EE1-03, MEFA (KS)	4EE3-04, EMI (RS)	4EE4-07, S&S (VS)
Wednesday	4EE4-05, EM II (PKG)	4EE4-08, DE (MS)	4EE4-08, DE (MS)		4EE1-03, MEFA (KS)	4EE4-22,PE Lab,1309,(A1),RS	
Thursday	4EE4-21,EM II Lab,1307,(A1),PKG				4EE4-05, EM II (PKG)	4EE4-06, PE (PMS)	4EE2-01, Bio (MT)
Friday	4EE4-07, S&S (VS)	4EE3-23, DE Lab,1302,(A1),MS			4EE3-24,Meas. Lab,1312,(A1),RS		4EE2-01, Bio (MT)
Saturday	4EE4-05, EM II (PKG)	4EE4-08, DE (MS)	4EE4-07, S&S (VS)		4EE3-04, EMI (RS)	4EE4-06, PE (PMS)	4EENSP, GJ

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Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
4EE2-01	Biology	Dr. Mina Tekriwal	MT	4EE4-21	Electrical Machine II Lab	Dr. Pankaj Gakhar	PKG
4EE1-03	Managerial Economics and Financial Accounting	Dr. Kalpana Sharma	KS	4EE4-22	Power Electronics Lab	Mr. Rachit Saxena	RS
4EE3-04	Electronic Measurement & Instrumentation	Mr. Rachit Saxena	RS	4EE4-23	Digital Electronics Lab	Mr. Mayank Sharma	MS
4EE4-05	Electrical Machine-II	Dr. Pankaj Gakhar	PKG	4EE3-24	Measurement Lab	Mr. Rachit Saxena	RS
4EE4-06	Power Electronics	Dr. Pravin Sonwane	PMS	4NSPEE	Non Syllabus Project	Dr. Gaurav Jain	GJ
4EE4-07	Signals & Systems	Mr. Vineet Sharma	VS				
4EE4-08	Digital Electronics	Mr. Mayank Sharma	MS				

Time Table Co-ordinator	Tutor	HOD(EE)
Dr. Gaurav Jain	Mr. Vineet Sharma	Dr. Pravin Sonwane

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Poornima College of Engineering

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Time Table(VI Sem. Sec. A / IIIYr)(27) Loaction:1304 (wef:-19.02.2024)

Day/Time	8:30-9:30	9:30-10:30	10:30-11:30	11:30-12:20	12.20-13.20	13.20-14.20	14.20-15.20
Monday	6EE4-03, PSP (ES)	6EE3-01,CA (RS)	6EE3-01,CA (RS)		6EE4-05,ED (VKS)	6EE4-21,PS II Lab,1301A,(A1),VKS 6EE4-24,M&S,1301B, Lab(A2),VS	
Tuesday	6EE4-03, PSP (ES)	6EE4-02, PS II (PMS)	6EE4-02, PS II (PMS)		6EE4-05,ED (VKS)	6EE5-13,EHV (VS)	6EE4-05,ED (VKS)
Wednesday	6EE4-23,PSP Lab,1310B,(A1),ES 6EE4-22,ED Lab,1309,(A2),VKS		6EE4-04,EECA (GJ)		CRT Class (2105)		
Thursday	6EE4-03, PSP (ES)	6EE4-02, PS II (PMS)	6EE5-13,EHV (VS)		6EENSP, RS	6EE4-04,EECA (GJ)	6EE5-13,EHV (VS)
Friday	6EE4-22,ED Lab,1309,(A1),VKS 6EE4-23,PSP Lab,1310B,(A2),ES		6EE3-01,CA (RS)		6EE4-21,PS II Lab,1301A,(A2),VKS 6EE4-24,M&S Lab,1301B,(A1),VS		6EE4-04,EECA (GJ)
Saturday	6EE4-03, PSP (ES)	6EE3-01,CA (RS)	6EE4-02, PS II (PMS)		6EE4-04,EECA (GJ)	6EE4-05,ED (VKS)	6EE5-13,EHV (VS)

LUNCH

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Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
6EE3-01	Computer Architecture	Mr. Rachit Saxena	RS	6EE4-21	Power System - II Lab	Dr. Vikas Kumar Sharma	VKS
6EE4-02	Power System - II	Dr.Pravin Sonwane	PMS	6EE4-22	Electric Drives Lab	Dr. Vikas Kumar Sharma	VKS
6EE4-03	Power System Protection	Dr. Ekata Kaushik	ES	6EE4-23	Power System Protection Lab	Dr. Ekata Kaushik	ES
6EE4-04	Electrical Energy Conversion and Auditing	Dr. Gaurav Jain	GJ	6EE4-24	Modelling and simulation lab	Mr. Vineet Sharma	VS
6EE4-05	Electric Drives	Dr. Vikas Kumar Sharma	VKS	6NSPEE	NSP	Mr. Rachit Saxena	RS
6EE5-13	Electrical and Hybrid Vehicles (Elective-2)	Mr. Vineet Sharma	VS				

Time Table Co-ordinator	Tutor	HOD(EE)
Dr. Gaurav Jain	Mr. Rachit Saxena	Dr. J[illegible]

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Poornima College of Engineering

Department of Electrical Enginering

Time Table(VIII Sem. Sec. A / IVYr)(12) Loaction:1309A & 1309B (wef:-07.01.2024)

Day/Time	8:30-9:30	9:30-10:30	10:30-11:30	11:30-12:20	12.20-13.20	13.20-14.20	14.20-15.20
Monday	O.E.	8EE4-21,ES Lab,1301A,(A1),VKS		LUNCH	HVDC Transmission System	8EE7-50,Project Lab(A1),GJ,1310 B	
Tuesday	O.E.	8EE7-50,Project Lab(A1),GJ,1310 B			HVDC Transmission System	8EE7-50,Project Lab(A1),GJ,1310 B	
Wednesday	O.E.	8EE4-21,ES Lab,1301A,(A1),VKS			HVDC Transmission System	8EE7-50,Project Lab(A1),PMS,1310 B	
Thursday							
Friday							
Saturday							

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Sub. Code	Subject Name	Name of Faculty	Abb.	Lab. Code	Lab Name	Name of Faculty	Abb.
8EE4-11	HVDC Transmission System	Dr. Gaurav Jain	GJ	8EE4-21	Energy System Lab	Dr. Vikas Kumar Sharma	VKS
8CE6-60.1	Composite Material	Mr. Ayush Meena	AM	8EE7-50	Project	Dr. Pravin Sonwane, Dr. Gaurav Jain	GJ, PMS
8CE6-60.2	Fire and Safety	Dr. Santanu Mallik	SM				
8CS6-60.2	IPR, Copyright	Ms.Chitra Thinger	CT				
8EC6-60.1	Industrial and Bio	Mr Durgesh Kumar	DK				
8EC6-60.2	Robotics	Dr Nitesh Mudgal	NM				
8ME6-60.1	Operation Research	Mr. Sanjay Kumawat	SK				
8EE6-60.1	Energy Audit	Dr. Gaurav Jain	GJ				
8EE6-60.2	Soft Computing	Mr. Vineet Sharma	VS				

Time Table Co-ordinator	Tutor	HOD(EE)
Dr. Gaurav Jain	Dr. Vikas Kumar Sharma	Dr. Pravin Sonwane

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11 Course Outcome Attainment Process:

11.1 Course Outcome Attainment Process

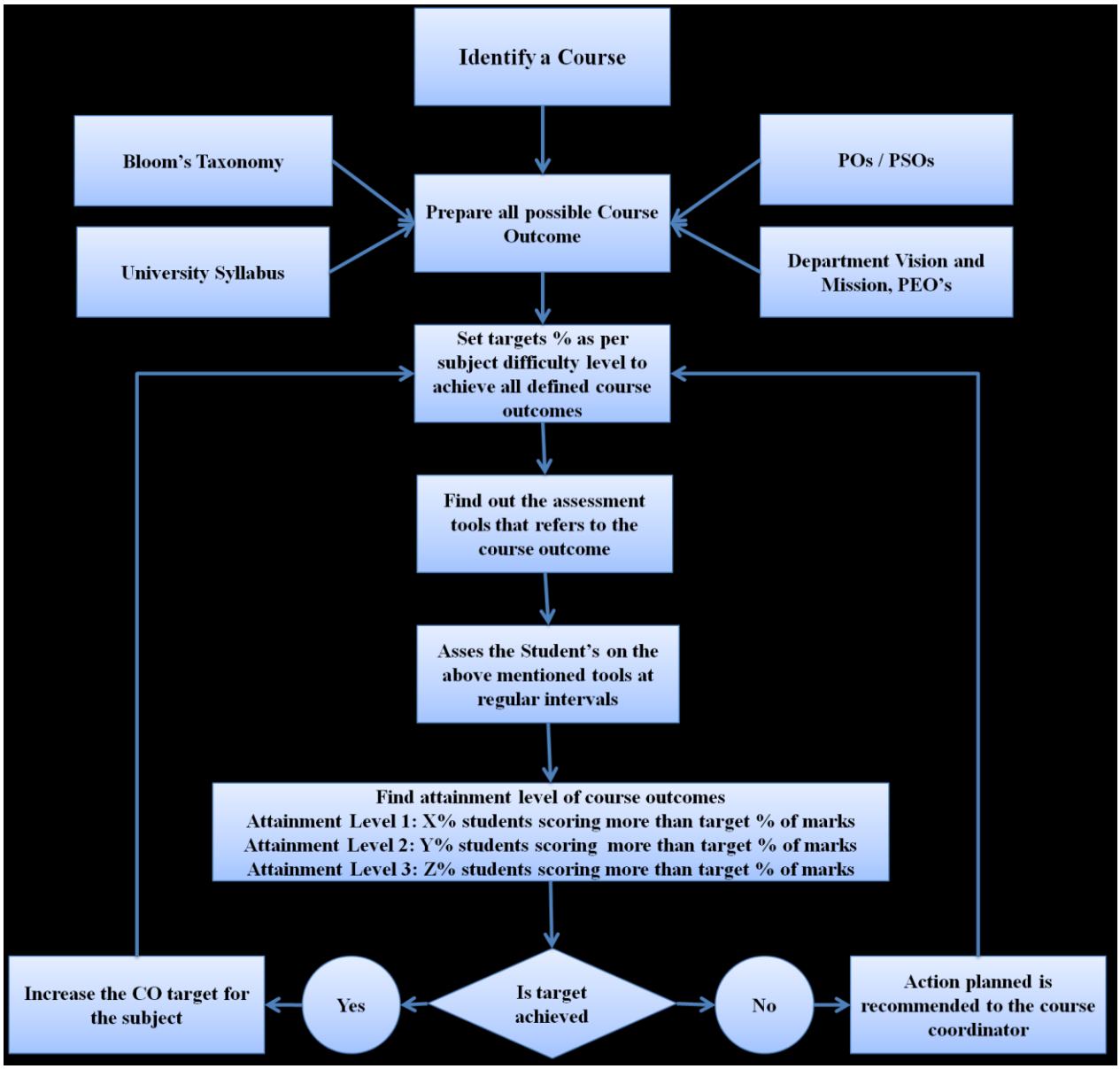

Figure. Course Outcome Attainment Process

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11.2 List of CO & CO mapping with PO

Poornima College of Engineering, Jaipur																		
Department of Electrical Engineering																		
CO-PO & CO-PSO Mapping (2023-24)																		
S.No	Course Code	Course Name	CO No	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	4EE2-01	Biology	CO 1	**Recall** the basic biological concepts and their engineering applications.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Understand** the biodesign principles to create novel devices and structures.	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	**Compare** biological, chemical, physical phenomenon and their role in sustainable engineering.	-	2	-	-	-	-	2	-	-	-	-	-	-	-	-
			CO 4	**Develop** the interdisciplinary vision of biological engineering.	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
2	4EE1-03	MEFA	CO 1	**Conceptual Mastery**: Students will demonstrate a comprehensive understanding of fundamental economic concepts and financial accounting principles with ethics, allowing them to analyze and interpret economic and financial data effectively.	3	-	-	-	-	-	-	2	-	-	-	-	1	-	-
			CO 2	**Application Proficiency**: Upon completion of the course, students will be able to apply economic theories to analyze and solve managerial problems specific to engineering projects, showcasing the practical application of economic principles in real-world scenarios.	-	3	-	-	-	-	-	-	-	2	-	-	-	-	-
			CO 3	**Decision Impact Assessment**: Students will be equipped to critically evaluate the impact of economic factors on	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-

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				managerial decision-making in the engineering and technology domain. They will analyze the implications of economic trends and policies on strategic decisions within an organizational context.															
			CO 4	**Strategic Resource Management**: Upon successful completion of the course, students will be capable of developing strategies for optimizing resource allocation and cost management in engineering projects. This involves synthesizing economic and financial principles to formulate effective managerial strategies for project success.	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
3	4EE3-04	Electronic Measurement & Instrumentation	CO 1	**Explain** the construction and operation of various measuring instrument.	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	Illustrate the measurement concepts in electrical power using poly-phase metering, CT and PT.	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Utilize** the different potentiometers with their applications	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Identify** different methods of measurement of various electrical parameters in green energy solution.	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 5	**Find** measuring values of given component by understanding AC bridges.	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
4	4EE4-05	Electrical Machine - II	CO 1	**Explain** the fundamental concepts, principles and analysis of AC rotating machines. [**Understsand**]	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			CO 2	**Analyze** performance of Induction & Synchronous machine in addition to revolving magnetic field theory. [**Analyze**]	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Design** of winding type required for production of revolving magnetic field. [**Synthesis**]	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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			CO 4	**Compare** characteristics of induction and synchronous machines to identify the best suitable solution for its problem. [**Analysis**]	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
5	4EE4-06	Power Electronics	CO 1	**Analyze** the power electronics devices like Diode, Thyristor, MOSFET and IGBT on the basis of their static and dynamic characteristics. **[Analysis]**	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Demonstrate** the single phase and three phase converters with various types of loading conditions. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Implement** the basic concepts of operation of dc-dc converters in steady state in continuous and discontinuous modes. [Apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Discuss** the operation and performance of inverters for the single phase and three phase for specilized applications.	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
6	4EE4-07	Signals & Systems	CO 1	**Explain** and characterize various continuous and discrete time signals.	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Develop** input-output relationship for LTI systems	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Apply** the Laplace, Fourier and Z- transform for analyze of continuous-time and discrete-time signals and systems.	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Use** the technique of sampling and observe the effects of under sampling	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
7	4EE4-08	Digital Electronics	CO 1	Apply fundamental of logic gates and Boolean algebra to solve complex engineering problems of various digital applications	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	Reduce Boolean expressions to design digital combinational circuits using appropriate minimization technique so as to propose a cost effective solution	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-

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			CO 3	Implement a sequential circuit using flip-flops as required by the application to solve specific complex engineering problems	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 4	Configure analog to digital convertors and digital to analog convertors	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 5	Design a sequential circuit representing a system which can count using programmable logic devices	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
8	4EE4-21	Electrical Machine - II Lab	CO 1	**Apply** the principles of Electrical Machines through laboratory experimental work.	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			CO 2	**Prepare** reports based on performed experiments with effective demonstration of diagrams and characteristics /graph	-	-	-	-	-	-	-	-	3	-	-	3	-	-	-
			CO 3	**Develop** the experimants on ac machines on virtual lab	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Demonstrate** the control practices of AC rotating machines	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 5	**Perform** various tests, find efficiency & voltage regulation of AC rotating machines	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
9	4EE4-22	Power Electronics Lab	CO 1	**Demonstrate** the performance, characteristics, ratings, and applications of power diodes, power transistors, thyristors, DIACs, TRIACs, IGBTs, MOSFETs, GTOs, MCTs, and SITs. [Apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Analyze** the I-V characteristics of MOSFET, IGBT and UJT.	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Interpret** the I-V characteristics of SCR, DIAC and TRIAC by using specilized software tool.	-	-	-	-	3	-	-	-	-	-	-	-	3	-	-
			CO 4	**Illustrate** the working of single phase half wave and full wave controlled rectifier design in a team.	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
10	4EE4-23	Digital Electronics Lab	CO 1	**Develop** the knowledge with proper understanding of number system and its application in digital	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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				electronics and compare different types of logic families **[Apply]**														
			CO 2	**Perform** experiments with analysis on adder, subtractor, multiplexer and demultiplexer to verify truth table. **[Analysis]**	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Design** and model the various sequential circuits using switching speed, through put/latency, gate count and area, energy dissipation and power by Individual and team.	-	-	-	-	3	-	-	-	2	-	-	-	-	-	-
			CO 4	**Use** of the memory devices in different types of digital circuits for real world application.	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-
11	4EE4-24	Measurement Lab	CO 1	**Discuss** the basics of measurement of electrical quantities using the C.R.O. (ii) Digital Storage C.R.O. [apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Describe** the working and applications of Meggar, Tong-tester, P.F. Meter and Phase Shifter.	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Measure** the errors in measuring instruments and calibrate them. [Evaluate]	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Examine** AC bridges for the measurement of inductance, capacitance and frequency.	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 5	**Perform** the calibration of single-phase energy meter by phantom loading and specilized technique in a team.	-	-	-	-	-	-	-	-	3	-	-	-	-	3	-
Semester IV Overall PO					**2.79**	**2.50**	**3.00**	**-**	**3.00**	**3.00**	**2.00**	**2.00**	**2.75**	**2.00**	**3.00**	**3.00**	**2.3**	**3.0**	**-**
12	6EE3-01	Computer Architecture	CO 1	**Describe** the architecture, memory & input-output organization of computers along with 16,32 bit microprocessor.**[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Infer** addressing modes, programming models, instruction level pipelining , and memory management units**.[Analyze]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Assess** multi bus organization, interrupt & interrupt	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-

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				controllers, and analyze real mode addressing, and dynamic scheduling**.[Evaluate]**															
			CO 4	**Relate** data types, micro instructions, memory types, interface circuits, and instruction sets for design point of view and it's applicability in smart energy solutions**[Design]**	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
13	6EE4-02	Power System - II	CO 1	**Manipulate** the power flow equations to analyse the voltage and frequency issues of system.**[Apply]**	3	3	-	-	-	-	-	-	-	-	-	-	-	2	-
			CO 2	**Examine** the system stability and contigency by observing the system voltage and frequency .**[Analyze]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Investigate** the power and demand side management in the prospect of optimum utilization of electrical energy by dynamic pricing strategy.**[Apply]**	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Summarize** different case studies on power system to assess system security using Simulation tools. **[Modern Tool]**	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-
14	6EE4-03	Power System Protection	CO 1	**Understand** the power system fundamentals and demonstarte fault analysis techniques, and applications of power system protection. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Indetify** and Examine the impact of power fluctuations on various parameters of power systems. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Design** & simulate digital modelling parameters of power system **[Design]**	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Investigate** the power system sampling and aliasing concerns.	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
15	6EE4-04	Electrical Energy Conversion and Auditing	CO 1	**Describe** the energy scenario, energy strategy, energy law's, energy security and maximization of energy efficiency. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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			CO 2	**Identify** energy conservation techniques and energy efficient technologies for developing electrical and industrial equipment.**[Analyze]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Evaluate** pricing, energy audit, energy management and energy balance of an industry or organization and it's understanding.	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Develop** methods of energy optimization, power factor improvement and fuel & energy substitution .	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	6EE4-05	Electric Drives	CO 1	**Explain** the in-depth concepts of DC and AC drives, scalar & vector control of ac motors, and multi-quadrant operation of drives. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Relate** the power electronics and roburst control system knowledge for the precise speed control of AC and DC motors. **[Analyze]**	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Estimate** the closed loop control structure of DC drives and vector control of AC drives.**[Design]**	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Evaluate** the application based accurate speed control techniques for AC and DC motors.	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
17	6EE5-11	Power System Planning.	CO 1	**Define** the basic structure of Indian power sector with organizing & monitoring bodies.**[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	2
			CO 2	**Select** the Reliability Planning Criteria for Generation, Transmission and Distribution**.[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
			CO 3	**Evaluate** the factors affecting load dispatch and modeling of Generation Sources.	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Estimate** the Objectives of Transmission Planning with Network Reconfiguration**.[Design]**	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	6EE5-13	Electrical and	CO 1	**Apply** the knowledge with proper understanding of	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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		Hybrid Vehicles.		different configurations of electric vehicles and its components, hybrid vehicle configuration , sizing of components and energy management.[Apply]															
			CO 2	**Analyze** the performance of electric and hybrid electric vehicle	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Design** the hybrid vehicle and battery electric vehicles with optimized energy management strategies.	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Investigate** the drive train topologies with modern tool usage in electric as well as hybrid electric vehicle for the purpose of self employment and entrepreneurship	-	-	-	3	2	-	-	-	-	-	-	-	-	-	3
19	6EE4-21	Power System - II Lab	CO 1	**Practice** different fault conditions in power system and synchronous machine using simulation tools.**[Apply]**	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-
			CO 2	**Execute** steady state power flow using Gauss-Seidel, Newton-Raphson and fast decoupled iterative methods for given system.**[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Assess** voltage security and overload security-using MATLAB.**[Evaluate]**	3	-	-	-	2	-	-	-	-	-	-	-	-	-	-
			CO 4	**Solve** economic load dispatch problem for given power system network.**[Precision]**	-	2	-	-	-	-	-	-	-	-	-	-	-	3	-
			CO 5	**Analysing** invidualy the transient stability analysis using MATLAB/ETAP Software.**[Design]**	-	-	-	-	3	-	-	-	2	-	-	-	-	-	-
20	6EE4-22	Electric Drives Lab	CO 1	**Explain** the connections of basic and advanced control schemes of AC and DC drives.**[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Select** the appropriate control technique for speed control of motors based upon the requirement of the application.**[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Evaluate** the strengths and limitations of theoratical models with the help of	-	2	-	-	-	-	-	-	2	-	-	-	-	-	-

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				comparison with practical model operation in a team.														
			CO 4	**Demonstrate** the safe operating range of an electric drive by applying the theoratical equations.	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-
			CO 5	**Relate** the accuracy of drive operation with the help of obtained real time values of set parameters.	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
21	6EE4-23	Power System Protection Lab	CO 1	**Apply** the knowledge and understand the operation of microprocessor based differential, distance, under/over voltage relays.[Apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Analyze** the various dynamic characteristics of digital relays for transmission line and transformer protection.[Analyze]	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Identify** the single phase and three phase power system faults by using appropriate techniques.	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
			CO 4	**Assemble** the microcontroller based directional DMT and IDMT type relays in over current conditions by individual and team	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
22	6EE4-24	Modelling and simulation lab	CO 1	**Grasp** the softwares that are required for modelling of machines and Power system for solving the problems of electrical engineering for life long learning of technology.**[Apply]**	3		-	-	-	-	-	-	-	-	-	3	-	-	-
			CO 2	**Analyze** the performance of electrical machines operating in cordination with reactive power compensation devices.[Analyze]		3	-	-	-	-	-	-		-	-	-	-	-	-
			CO 3	**Evaluate** the performance of FACTS controller as per power system application using modern tools. [Evaluate]		3	-	-	3	-	-	-	-	-	-	-	-	2	-
			CO 4	**Formulate** an efficient SMIB model implementing FACTS controller using MATLAB software.**[Apply]**	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-

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Semester VI Overall PO					**2.63**	**2.44**	**2.00**	**2.33**	**2.44**	**-**	**-**	**-**	**2.50**	**-**	**-**	**3.00**	**-**	**2.33**	**2.00**
23	8EE4-11	HVDC Transmission System.	CO 1	**Demonstrate** DC transmission topology along with components of HVDC system. [Apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Compair** VSCs for control of HVDC systems. [Analyze]	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Examine** the HVDC link control techniques for managing power flow, reactive power control and voltage regulation in LCC and VSC based HVDC systems.	2	3		-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	Recommend proper MTDC link. [Evaluate]	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
24	8EE4-13	Advanced Electric Drives	CO 1	**Use and apply** the knowledge of advanced controls in AC drives including digital signal processing based motion control. [Apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 2	**Analyze** the Transformations and reference frame theories on AC motors for implementing the vector control scheme. [Analyze]	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 3	**Identify** and Evaluate the need for field flux control and DSP based control in real world application of AC motor drives. [Evaluate]	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Investigate** the vector or field oriented control of ac drives to accommodate parameters variations for uncompromised speed control. [Evaluate]	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
25	8EE6-60.1	Energy Audit and Demand side Management	CO 1	**Show** the energy scenario, energy strategy, energy law's, energy security and energy conservation in India. [Apply]	3	-	-	-	-	-	-	-	-	-	-	-	-	-	2
			CO 2	**Organize** the Energy forecasting, Energy economics, Energy pricing and incentives, energy and its management, energy planning, and energy economics. energy auditing of motors, lighting system and building, by appropriate analysis methods	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-

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				through survey instrumentations. [Analyze]														
			CO 3	**Examine** the Electrical-Load Management and Demand side Management in transport, agriculture , household and commercial sectors. [Evaluate]	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Investigate** the pre or detail energy audit in lighting system, household and commercial buildings, agriculture, electric machinerye of an industry or organization. **[Investigate]**	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
26	8EE6-60.2	Soft Computing	CO 1	**Implement** the various soft computing approaches for finding the optimal solutions and hence finding solutions by modern tools for specilized electrical engineering problems. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	-	2	-
			CO 2	**Compair** the feasibility of applying a soft computing methodology for a particular problem and it's applicability to resolve the green energy or smart energy solutions. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	-	-	2
			CO 3	**Justify** soft computing technologies such as FL,NN,GA to optimize the design of complex systems. **[Evaluate]**	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Develop** and synthesize any hybrid case study of AI system in specified engineering applications. **[Analyze]**	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
27	8EE4-21	Energy Systems Lab	CO 1	**Demonstrate** solar panels at various levels, solar Charge controller, PWM, MPPT with boost converter, Shadowing effect and diode based solution in Solar PV System by using large area Sun Simulator. **[Apply]**	3	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO 2	**Categarize** Performance of Solar Flat Plate Thermal Collector Operation with Variation in Mass Flow Rate	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-

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				and Level of Radiation. **[Analyze]**															
			CO 3	**Compair** wind turbine generators with DC generators, DFIG, PMSG etc. **[Analyze]**	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO 4	**Write** different components of Micro Grid, micro-hydel pumped storage system and Fuel Cell and its operation in a team	3	-	-	-	-	-	-	-	2	-	-	-	-	-	-
			CO 5	**Design** and simulate hybrid wind-solar power generation along with Performance Assessment of Hybrid Power System by using Intelligent Controllers for on-grid and off-grid Hybrid Power Systems using modern tool. **[Create]**	-	-	-	-	2	-	-	-	-	-	-	-	-	3	-
28	8EE7-50	Project	CO 1	**Identify** suitable, sustainable and societal as well as industrial issues to **construct** project title	3	-	-	-	-	3	3	-	-	-	-	-	2	-	-
			CO 2	**Conduct** the litrature survey to analyze the methodology applicable to provided title considering finance management.	-	3	-	-	-	-	-	-	-	-	3	-	-	-	-
			CO 3	**Investigate** data required for **Design** aspects and use of modern **tool** if specified by the **group** of students.	-	-	3	3	3	-	-	-	3	-	-	-	-	2	-
			CO 4	**Follow the ethical practices** throughout project executions	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
			CO 5	**Prepare** technical report and **communicate** Project findings with presentation skills and confidence level.	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
			CO 6	**Infere** or provide concluding remarks of developed projects as life long learning and use of project outcomes in the field of smart energy solutions or green energy solutions if any.	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3
Semester VIII Overall PO					**2.64**	**2.50**	**2.00**	**3.00**	**2.50**	**3.00**	**3.00**	**3.00**	**2.50**	**3.00**	**3.00**	**3.00**	**1.50**	**2.33**	**2.33**

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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 Assessment Stage 1: As per point no 13, up to 13.2.5**
10. **Document for CO Assessment Stage 2: As per point no 13, up to 13.2.5, with comparison to previous**
11. **Document for CO Assessment Stage 3: As per point no 13, up to 13.2.5, with comparison to previous**
12. **Document for CO Attainment through RTU Component: Previous RTU Result: point no. 13.3 upto 13.3.2**
13. **Document for PO attainment through RTU Component: Previous RTU Result: point no. 13.4 upto 13.4.2**
14. **Document for Overall Attainment of PO through CO: As per point no 13.5**
15. **Document for last three years (Repeat process from 6-14 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**

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13 Outcome Based Process Implementation Guidelines for Faculty

Course CO-PO, Preparation, Assessment Formats

Academic Session: 2023-2024 **Class:** **Semester:**

Name of the Faculty:

Subject: **Subject Code:**

This document is meant as guidelines for implementing Outcome based education system as a part of 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**

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Lecture No.	Lect. No.	Topics, Problems, Applications	CO/LO	Target Date of Coverage	Actual Date of Coverage	Ref. Book/Journal with Page No.
1.	1	Introduction of Machine	CO1	09/01/2024	09/01/2024	T1 Page 11 - 16
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						

Example T1: 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 4 to 6) using Blooms Taxonomy. (In case of Lab Course define generic Lab Outcomes LO and refer CO as LO in this document).

i. **3EEA101.1(CO1)-**
ii. **3EEA101.2(CO2)-**
iii. **3EEA101.3(CO3)-**
iv. **3EEA101.4(CO4)-**
v. **3EEA101.5(CO5)-**

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7. **CO-PO-PSO Mapping: Mapping Levels: 1- Low, 2- Moderate, 3-Strong**
   First try to find out 2-3 PO those are 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 three 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.

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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 three 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.

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	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																

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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: 3EEA101.1

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CO1: 3EEA101.1: 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.

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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
3EEA101.1															
3EEA101.2															
3EEA101.3															
3EEA101.4															
3EEA101.5															
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
3EEA101.1															
3EEA101.2															
3EEA101.3															
3EEA101.4															
3EEA101.5															
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: 3EEA101: 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.

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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**
3EEA101															

Attainment of PO through CO (RTU) Component															
3EEA101	**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.

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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% Weightage 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 Attainment**
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= 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 3,2,1 above:

Attainment of Overall PO for Session 2023-2024															
CO	**PO**												**PSO**		
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
3EEA101															
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 3,2,1 above:

Attainment & Gap of Overall PO Session ----------															
3EEA101	**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 three 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

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14.2 Front Page of Course File

POORNIMA
COLLEGE OF ENGINEERING

TEACHING MANUAL

COURSE: _____

SEMESTER: _____

SUBJECT: _____

SUB. CODE: _____

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

_____

SESSION: 20___-___

NAME OF FACULTY: _____

DEPARTMENT: _____

CAMPUS: _____

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14.3 ABC Analysis Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

DEPARTMENT OF ELECTRICAL ENGINEERING

ABC Analysis

Course: B. Tech. **Class/Section: VI SEM** **Date: 19.2.2024**
Name of Faculty: DR. GAURAV JAIN **Name of Subject: EECA** **Subject Code: 6EE4-04**

Unit No.	CO	Category A	Category B	Category C
1	CO1	Energy pricing, energy sector reforms, energy security, energy conservation and its importance, restructuring of the energy supply sector, energy strategy for the future	Final energy consumption, energy needs of growing economy, long term energy scenario, Energy Conservation Act-2001 and its features.	Commercial and Non-commercial energy, primary energy resources, commercial energy production, air pollution, climate change, energy and environment
2	CO2	Maximum demand controllers, automatic power factor controllers, energy efficient motors, soft starters with energy saver, variable speed drives	Thermal Basics-fuels, thermal energy contents of fuel, temperature & pressure, heat capacity, sensible and latent heat, evaporation, condensation, steam, moist air and humidity	Electricity tariff, load management and maximum demand control, power factor improvement
3	CO3	Material and Energy balance: Facility as an energy system, methods for preparing process flow, material and energy balance diagrams.	Bench marking, energy performance, matching energy use to requirement, Maximizing system efficiencies, optimizing the input energy requirements, fuel & energy substitution, energy audit instruments.	Definition, energy audit, need, types of energy audit. Energy management (audit) approach understanding energy costs
4	CO4	Energy saving opportunities with energy efficient motors, selection and location of capacitors, performance assessment of PF capacitors, distribution and transformer losses	Electric motors: Types, losses in induction motors, motor efficiency, factors affecting motor performance, rewinding and motor replacement issues	Electrical system: Electricity billing, electrical load management and maximum demand control, power factor improvement and its benefit
5	CO5	Overview of grid code technical requirements. Fault ride-through for wind farms - real and reactive power regulation	voltage and frequency operating limits, solar PV and wind farm behavior during grid disturbances	Power quality issues. Power system interconnection experiences in the world. Hybrid and isolated operations of solar PV and wind systems.

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14.4 Blown-up Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

DEPARTMENT OF ELECTRICAL ENGINEERING

Campus: PCE Course: B.Tech.-EE Class/Section: 3rd year/ Sec-A Date: 19 Feb 2024
Name of Faculty: Dr. Gaurav Jain Name of Subject: EECA Code: 6EE4-04

COURSE PLAN –BLOWN UP

S. No.	Topic as per Syllabus	BLOWN UP TOPICS (Up to 10 TIMES SYLLABUS)
1.	**UNIT-I** **INTRODUCTION:** 1.1 Introduction	1.1.1 Introduction of Electrical Energy System 1.1.2 Scope of Energy Conservation 1.1.3 Overview of Auditing System
2.	**UNIT-II** **ENERGY SCENARIO:** 2.1 Commercial and Non-commercial energy, primary energy resources, commercial energy production	2.1.1 Introduction 2.1.2 Methods of Commercial and Non-commercial energy 2.1.3 Anvantage & Disadvantage of Commercial and Non-commercial energy 2.1.4 Types of Primary and Secondary energy sources 2.1.5 Introduction of Primary Energy source
	2.2 Energy needs of growing economy, long term energy scenario	2.2.1 Introduction of Energy Scenario 2.2.2 Energy factors for growing economy 2.2.3 Fundamental of long term energy system 2.2.4 General Mathematical Expression.
	2.3 Energy pricing, energy sector reforms, energy and environment, energy security, energy conservation and its importance	2.3.1 Define the Energy Pricing 2.3.2 Types of energy pricing 2.3.3 Effect of energy in the environment 2.3.4 Factor of Energy security 2.3.5 Introduction of energy conservation 2.3.6 Benefits of energy conservation
	2.4 Restructuring of the energy	2.4.1 Define Deregulation and Restructuring

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14.5 Deployment Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

DEPARTMENT OF ELECTRICAL ENGINEERING

Campus: Poornima College of Engg. Class/Section: 3rd Year/ Section - A Date: 19 Feb 2024
Course: B.Tech.
Name of Faculty: Dr. Gaurav Jain Name of Subject: EECA Code: 6EE4-04

COURSE PLAN (Deployment)

S.No.	TOPIC AS PER BLOWNUP SYLLABUS	LECT. NO.	PLANNED DATE	ACTUAL DEL. DATE	CO/LO	REF. / TEXT BOOK WITH PAGE NO.
1.	**ZERO LECTURE** • Introduction • Basic knowledge about subject • Syllabus, REF. / TEXT BOOKS • RTU Question Paper • Conclusion	L-0			CO1	
2	**UNIT-I** **INTRODUCTION** **Lecture Introduction** 1.1.4 Introduction of Electrical Energy System 1.1.5 Scope of Energy Conservation 1.1.6 Overview of Auditing System **Lecture Conclusion**	L-1			CO1	Clive beggs
3	**UNIT-II** **ENERGY SCENARIO:** **Lecture Introduction** 2.1.6 Introduction 2.1.7 Methods of Commercial and Non-commercial energy 2.1.8 Advantage & Disadvantage of Commercial and Non-commercial energy 2.1.9 Types of Primary and Secondary energy sources 2.1.10 Introduction of Primary Energy	L -2			CO1	Clive beggs

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14.6 Zero Lecture Format

POORNIMA
COLLEGE OF ENGINEERING

ZERO LECTURE

Session: 20 - (Sem.)

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

Name of Faculty: ……

Zero Lecture

1). Name of Subject: …… Code: ……

2). Self-Introduction:

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

3). Introduction of Students:

a*). Records of students in 12th*

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

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

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

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

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

6). Syllabus of Poornima Group of Colleges, Jaipur

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

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

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a). Recommended Text & Reference Books and Websites:

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

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

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

8). Syllabus Deployment: -

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

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

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

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

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

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

c). Lecture schedule per week

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

10). Examination Systems:

A. FOR ALL THEORY COURSES:-

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

B. FOR ALL PRACTICAL (LABORATORY) COURSES:-

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

11). Any other important point:

Place & Date:

Name of Faculty with Designation

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14.7 Lecture Note Front page Format

POORNIMA
COLLEGE OF ENGINEERING

LECTURE NOTES

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

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

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

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

IMPORTANT & RELEVANT QUESTIONS:

FEED BACK QUESTIONS (AFTER 20 MINUTES):

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

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

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14.7.1 Detailed Lecture Note Format-1

POORNIMA
COLLEGE OF ENGINEERING

DETAILED LECTURE NOTES

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

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14.7.2 Detailed Lecture Note Format-2

POORNIMA
COLLEGE OF ENGINEERING
DETAILED LECTURE NOTES

PAGE NO. .....

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14.8 Assignment Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

DEPARTMENT OF ELECTRICAL ENGINEERING

Campus: Poornima College of Engg. **Class/Section: 3rd Year/ Section - A** **Date: 19 Feb 2024**
Course: B.Tech.
Name of Faculty: Dr. Gaurav Jain **Name of Subject: EECA** **Code: 6EE4-04**

Assignment 2

1. Discuss one energy conversion activity with various losses occurring stage wise.
2. The reactive power is represented by
   (a) kVA (b) kW (c) kVAr (d) PF
3. A fluorescent tube light consumes 40 W for the tube and 10 W for choke. If the lamp operates for 8 hours a day for 300 days in a year, calculate the total energy cost per annum if the energy cost is Rs.3/- per kWh
4. Power factor is the ratio of
   (a) kW / kVA (b) kVA / kW (c) kVA / kVAr (d) kVAr / kV
5. Define the term load factor.
6. What do you understand by the term calorific value?
7. What are the three modes of heat transfer? Explain with examples?
8. Explain why steam is used commonly in industries?
9. If an electric heater consumes 4 kWh, what will be the equivalent kilocalories?
10. Why a cube of ice at 0^0C is more effective in cooling a drink than the same quantity of water at 0^0C?
11. 10 kg of steam at 100^0C with latent heat of vapourisation 2260 kJ is cooled to 50^0C. If the specific heat of water is 4200 J/kg^{0}C, find the quantity of heat given out.

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14.9 Tutorial Format

POORNIMA
COLLEGE OF ENGINEERING

TUTORIAL SHEET

TUTORIAL SHEET SHEET No.....

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

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

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

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

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

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14.10 Mid Term/ End Term Practical Question Paper Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

BRANCH –ELECTRICAL ENGINEERING Roll No. _____

SET

B TECH III YEAR VI Sem I MID TERM PRACTICAL EXAMINATION 2023-24

(SUBJECT –6EE4-04 ELECTRICAL ENERGY CONSERVATION & AUDITING)

Max. Time: 2 hrs. Max. Marks: 30+10=40

NOTE:- Attempt all three questions.

S.NO	LO	PO	Questions	Marks
Q.1.				
Q.2.				
Q.3.				

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

BRANCH –ELECTRICAL ENGINEERING Roll No. _____

SET

B TECH III YEAR VI Sem II MID TERM PRACTICAL EXAMINATION 2023-24

(SUBJECT –6EE4-04 ELECTRICAL ENERGY CONSERVATION & AUDITING)

Max. Time: 2 hrs. Max. Marks: 30+10=40

NOTE:- Attempt all three questions.

S.NO	LO	PO	Questions	Marks
Q.1.				
Q.2.				
Q.3.				

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14.11 Mid Term Theory Question Paper Format

POORNIMA COLLEGE OF ENGINEERING, JAIPUR

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

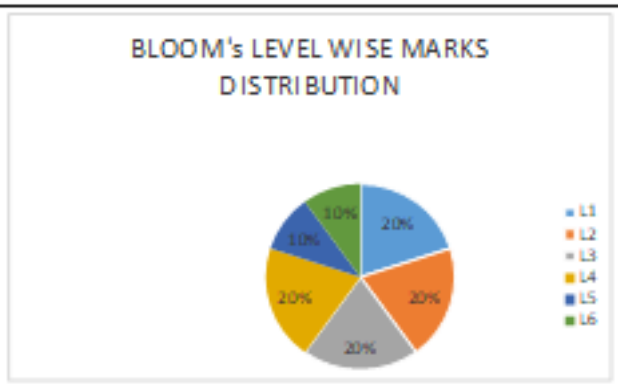
FIRST MID TERM EXAMINATION 2023-24
Code: 6EE4-04 Category: PCC Subject Name–EECA
(BRANCH – ELECTRICAL ENGINEERING)

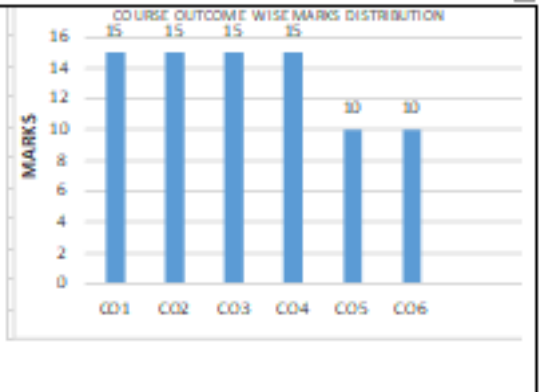
Course Credit: ___
Max. Time: 2 hrs. **Max. Marks: 60**

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

Course Outcomes (CO):
At the end of the course the student should be able to:
CO1:
CO2:

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





BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analyzing, 5 – Evaluating, 6 - Creating)

CO – Course Outcomes; PO – Program Outcomes

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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 & Employees
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://fossee.in/	FOSSEE (Free/Libre 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://ieeexplore.ieee.org/Xplore/home.jsp.You	IEEE 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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