O. P. JINDAL UNIVERSITY
O. P. Jindal Knowledge Park, Punjipathra, Raigarh-496109

O. P. Jindal University

Raigarh–Chhattisgarh

Scheme and Syllabus
of
B.Tech

School of Engineering
Session- 2025-29

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PROGRAM OUTCOMES (POS): At graduation, students will be able to: (From AY: 24-25)

(refer next page for WK1 – WK9 (Knowledge and Attitude Profile)

PO-1	**Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
PO-2	**Problem Analysis**: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
PO-3	**Design/Development of Solutions**: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
PO-4	**Conduct Investigations**

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Knowledge and Attitude Profile (WK)

WK1: A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.

WK2: Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.

WK3: A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.

WK4: Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.

WK5: Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.

WK6: Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.

WK7: Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.

WK8: Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

WK9: Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

PROGRAM SPECIFIC OUTCOMES - At graduation, students will be able to provide:

PSO1: Applying Mechanical Engineering to Global Challenges

Develop an attitude to meet global challenges and apply the knowledge of mechanical engineering to solve problems related to thermal, design, manufacturing, and interdisciplinary fields.

PSO2: Technology-Driven Solutions for Industry & Society

Demonstrate knowledge and skill for solving social, real industrial problems using modern software and hardware tools.

PSO3: Utilizing Mechanical Engineering for Emerging Technologies

Utilizing the knowledge of Mechanical Engineering to work effectively in cutting edge technologies such as Robotics, Artificial Intelligence, Mechatronics, and Automation.

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Curriculum and Credit Framework for Undergraduate Programme (CCFUP)									
Semester	MAJOR		MINOR	AEC	SEC	Internship/ Apprentice-ship/Project/ Community outreach	VAC	MDC	Total Credits
	DSC	DSE							
I	16			2	2		2		22
II	13			2	2		2	3	22

** Students on exit shall be Awarded Undergraduate Certificate (in the Field of Study/ Discipline) after securing the requisite 44 credits in Semesters I and II and complete one vocational course of 4 credits during the summer*

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AEC: Ability Enhancement Course **SEC: Skill Enhancement Course**

VAC: Value addition Course **MDC: Multidisciplinary Course**

Level of courses: There will be 5 level of courses on the basis of learning outcome and difficulty levels distributed across semesters in ascending order.

Level-1 (0-99), Level-2 (100-199), Level-3 (200-299), Level-4 (300-399), Level-5 (400-499) courses shall be pre-requisite, introductory, intermediate, higher level, and advanced courses respectively.

DEGREE	MAJOR		MINOR	AEC	SEC	INTERNSHIP/ PROJECT	VAC	MDC	TOTAL CREDIT
	CORE	ELECTIVE							
Honors	106	12	24	8	9	8	6	9	182
Honors with Research	94	12	24	8	9	20	6	9	182

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Course Structure for B. Tech Program (1st & 2nd Semester)-2025-29 batch

(School of Engineering, Common to all departments)

Year	FIRST SEMESTER (NHEQF Level: 4.5)											
	Sem	Course Code	Course Category	Name of the Course	Hours per week			Scheme of Examination and Marks				Credits : L+ T+ (P/2)
					L	T	P	PRE		ESE	Total	
								MID	TA			
First Year	I st	MAT24-B-MJ111	MAJOR	Engineering Mathematics-I	3	0	0	15	15	70	100	3
		PHY24-B-MJ111	MAJOR	Applied Physics	2	0	0	7.5	7.5	35	50	2
		EE24-B-MJ101	MAJOR	Basic Electrical and Electronics	3	0	0	15	15	70	100	3
		ME24-B-MJ101	MAJOR	Engineering Graphics	2	0	2	15	15	70	100	3
		MME24-B-MJ101	MAJOR	Introduction to Engineering Materials	3	0	0	15	15	70	100	3
			AEC	Choose from the Pool	2	0	0	7.5	7.5	35	50	2
			SEC	Choose from the Pool	2	0	0	7.5	7.5	35	50	2
					0	0	4	-	15	35	50	
			VAC	Choose from the Pool	2	0	0	7.5	7.5	35	50	2
		EE24-B-MJ102	MAJOR	Basic Electrical and Electronics Lab	0	0	2	-	15	35	50	1
		ME24-B-MJ102	MAJOR	Innovation and Skill Development	0	0	2	-	15	35	50	1
												22

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Course Structure for B. Tech Program (1st & 2nd Semester)-2025-29 batch

(School of Engineering, Common to all departments)

Year	SECOND SEMESTER (NHEQF Level: 4.5)											
	SEM	Course Code	Course Category	Name of the Course	Hours per week			Scheme of Examination and Marks				Credits: L+ T+ (P/2)
					L	T	P	PRE		ESE	Total	
								MID	TA			
First Year	IInd	MAT24-B-MJ112	MAJOR	Engineering Mathematics-II	3	0	0	15	15	70	100	3
		CHE24-B-MJ111	MAJOR	Applied Chemistry	2	0	0	7.5	7.5	35	50	2
		ME24-B-MJ103	MAJOR	Fundamentals of Mechanics	3	0	0	15	15	70	100	3
		CSE24-B-MJ101	MAJOR	Python Programming	3	0	0	15	15	70	100	3
			AEC	Choose from the pool	2	0	0	7.5	7.5	35	50	2
			SEC	Choose from the pool	2	0	0	7.5	7.5	35	50	2
					0	0	4	-	15	35		
			VAC	Choose from the pool	2	0	0	7.5	7.5	35	50	2
			MDC	Choose from the pool	3	0	0	15	15	70	100	3
		ME24-B-MJ104	MAJOR	Mechanics Lab	0	0	2	-	15	35	50	1
		CHE24-B-MJ112	MAJOR	Applied Science Lab	0	0	2	-	15	35	50	1
												22

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Exit option to qualify for Undergraduate Certificate (after completion of 1st year)

1. An exit option is available for students those who have earned the total 44 credits at the End of Second Semester.
2. Student who wants to avail the exit option after first year have to earn additional 4 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 1st Year.
4. After fulfillment as mentioned in 1 to 3 above, Students can earn U.G Certificate and same will be issued by the University.

List of Exit Courses (Choose Any *TWO* Skill-based Courses)

S. N.	Courses Code	Name of the Courses	L	T	P	Credit	Scheme of Examination and Marks			
							PRE		ESE	Total
							MID	TA		
1	CE24-B-EC101	Computer-Aided Drawing with AutoCAD	0	0	4	2	-	15	35	50
2	CSE24-B-EC101	Basic Computer Skills	0	0	4	2	-	15	35	50
3	CSE24-B-EC102	Computer Hardware Skills	0	0	4	2	-	15	35	50
4	EE24-B-EC101	Electrical Wiring & Testing	0	0	4	2	-	15	35	50
5	ME24-B-EC101	Advanced Mechanical Workshop	0	0	4	2	-	15	35	50

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Program:	B. Tech.	**Semester:**	After 1st Year
Name of the Course:	Advanced Mechanical Workshop	**Course Code:**	ME24-B-EC101
Credits:	2	**No of Hours:**	4 hrs. / week
Max Marks:	50		

Course Descriptions:

This course provides hands-on training and practical exposure to basic manufacturing processes and advanced mechanical workshop practices essential for mechanical and production engineering students. The course is designed to familiarize students with the operation of hand tools, machines, and manufacturing techniques used in fitting, carpentry, welding, foundry, and machining shops. Students will perform a series of structured practical tasks to understand the material properties, working principles, and safety procedures of various fabrication and machining processes. The course aims to build foundational technical skills and promote confidence in handling real-world engineering problems related to fabrication, assembly, and component production.

Course Outcomes:

After Completion of the course, Students will be able to:

CO Number	Course Outcome
CO1	Create wooden components and joints (like mortise and tenon) and develop simple wooden products using carpentry tools.
CO2	Create wooden components and joints (like mortise and tenon) and develop simple wooden products using carpentry tools.
CO3	Perform basic welding operations including butt-joint, lap-joint, and fabrication of components using arc welding and spot-welding techniques.
CO4	Apply the foundry process by preparing molds using patterns and casting non-ferrous metals and complex shapes.
CO5	Operate basic machine tools like lathe, shaper, and milling machines to produce parts with eccentric, dovetail, and pocketing operations.

Experiments to be performed (Minimum Ten experiments)

Fitting Shop

1. Making a V- groove job using fitting tools.
2. Making a step cutting job using fitting tools.
3. Making a male-female joint using fitting tools.

Carpentry Shop

1. Making a two-piece pattern using carpentry tool.
2. Making a mortise and tenon joint using carpentry tools.
3. Making a laptop stand using carpentry tools (Combined job).

Welding Shop

1. Making a Butt-Joint using virtual welding 2.O.
2. Making a Lap-joint using spot welding.
3. Fabricating a steel chair using electric arc welding (Combined Job).

Foundry Shop

1. Preparing a mold using a two-piece pattern.
2. Casting of a non-ferrous metals using two-piece pattern.
3. Casting of a sculpture using metal pattern (Combined job).

Machine Shop

1. Preparing an eccentric job on a lathe machine.
2. Performing dovetail cutting operation on a shaper machine.
3. Performing circular pocketing operation on a milling machine.

List of Tools/Equipment/Machines Required:

1. Fitting tools.
2. Carpentry tools
3. Welding machines (MMAW/Virtual 2.0/Spot) and equipment.
4. Muffle furnace.
5. Lathe Machine.
6. Shaper Machine.
7. Milling Machine.

CO, PO, & PSO Correlation

CO Number	Program Outcome											PSOs		
	1	2	3	4	5	6	7	8	9	10	11	1	2	3
CO1	3	2	3	1	2	1	1	2	2	1	2	3	2	-
CO2	3	2	3	1	2	1	1	2	2	1	2	3	2	-
CO3	3	2	3	2	3	2	1	2	2	2	2	3	3	-
CO4	3	2	3	3	3	2	2	2	2	2	2	3	3	-
CO5	3	3	3	3	3	2	2	2	2	2	2	3	3	-

Note: 1: Low 2: Moderate 3: High

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Agenda Point No. 02:

To approve syllabus scheme of the 3rd Sem & 4th sem B. Tech Electrical Engineering (2024-2028)

Year	THIRD YEAR											
					Hours per week			Scheme of Examination and Marks				
								PRE				
	SEM	Course Code	Course Category	Name of the Course	L	T	P	Mid Sem	TA	End Sem	Total	Credits: L+ T+ (P/2)
Second Year	3rd	EE24-B-MJ201	MAJOR	Electric Circuits and Network Analysis	3	0	0	15	15	70	100	3
		EE24-B-MJ202	MAJOR	Electronic Devices and circuits	3	0	0	15	15	70	100	3
		EE24-B-MJ203	MAJOR	Electrical Machine-I	2	0	0	10	05	35	50	2
		EE24-B-MJ204	MAJOR	Engineering Mathematics-III	1	0	2	-	15	35	50	2
			MINOR	Choose from pool	4	0	0	15	15	70	100	4
			AEC	Choose from pool	2	0	0	10	05	35	50	2
			SEC	Choose from the pool	2	0	0	10	05	35	50	2
					0	0	4	-	15	35	50	2
			VAC	Choose from pool	2	0	0	10	05	35	50	2
			MDC	Choose from the pool	3	0	0	15	15	70	100	3
		EE24-B-MJ205	MAJOR	Electrical Machine-I LAB	0	0	2	-	15	35	50	1
												24

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FOURTH SEMESTER											
SEM	Course Code	Course Category	Name of the Course	Hours per week			Scheme of Examination and Marks				Credits : L+ T+ (P/2)
							PRE		End Sem	Total	
				L	T	P	Mid Sem	TA			
4th	EE24-B-MJ206	MAJOR	Power System – I	3	0	0	15	15	70	100	3
	EE24-B-MJ207	MAJOR	Electrical Measurement and Measuring Instruments	2	0	0	10	05	35	50	2
	EE24-B-MJ208	MAJOR	Electromagnetic Field Theory	3	0	0	15	15	70	100	3
	EE24-B-MJ209	MAJOR	CORE (IKS)*	4	0	0	15	15	70	100	4
		MINOR	Choose from pool	4	0	0	15	15	70	100	4
		AEC	Choose from the pool	2	0	0	10	05	35	50	2
		SEC	Choose from the pool	3	0	0	15	15	70	100	3
		MDC	Choose from the pool	3	0	0	15	15	70	100	3
	EE24-B-MJ2010	MAJOR	Electric Circuits and Network Analysis Lab	0	0	2	-	15	35	50	1
	EE24-B-MJ2011	MAJOR	Electronic Devices and Circuits Lab	0	0	2	-	15	35	50	1
											26

Exit option to qualify for Undergraduate Diploma: (after completion of 2nd year)

1. An Exit option is available for students those who have earned the total 94 credits at the end of Fourth Semester.
2. Student who wants to avail the exit option after second year have to earn additional 4 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 2nd Year.
4. After fulfilment as mentioned in 1 to 3 above, Students can earn U.G Diploma and same will be issued by the University.

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List of Exit Courses (Choose Any *TWO* Skill-based Course)

Course Code	Course Name	L	T	P	Credit
EE24-B-EC201	Smart Electrical Circuit Design and Analysis	0	0	4	2
EE24-B-EC202	Mini Project	0	0	4	2
EE24-B-EC203	Industrial Training	0	0	4	2
EE24-B-EC204	Introduction to Electrical Machine Design	0	0	4	2

B. Tech in Electrical Engineering (V - Semester)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P) /2
								PRE		ESE	Total Marks	
					L	T	P	Mid Sem	TA			
1	SOE–B–EE-23-501	EE	CC	Power Electronics	3	0	0	30	20	50	100	3
2	SOE–B–EE-23-502	EE	CC	Power System-II	3	0	0	30	20	50	100	3
3	SOE–B–EE-23-503	EE	CC	Electrical Machine-II	3	0	0	30	20	50	100	3
4	SOE–B–EE-23-504	EE	CC	Control System	3	0	0	30	20	50	100	3
5	SOE–B–EE-23-505	EE	CC	Linear Integrated Circuits	3	0	0	30	20	50	100	3
6	SOE–B–EE-23-506	EE	CC	Electrical Machine-II lab	2	0	0	15	10	25	50	1
7	SOE-B–EE-23-507	EE	CC	Power Electronics Lab	0	0	2	–	30	20	50	1
8	SOE–B–EE-23-508	EE	CC	Linear Integrated Circuits Lab	0	0	2	–	30	20	50	1
9	SOE–B–EE-23-509	EE	CC	Control System Lab	0	0	2	–	30	20	50	1
10	SOE–B–EE-23-510	EE	SEC	Electric Vehicles	0	0	2	-	30	20	50	2
				TOTAL	**17**	**0**	**08**	**165**	**230**	**355**	**750**	**21**

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B. Tech in Electrical Engineering (VI - Semester)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P)/2
								PRE		ESE	Total Marks	
					L	T	P	Mid Sem	TA			
1	SOE–B–EE-23-601	EE	CC	Electric Drives	3	0	0	30	20	50	100	3
2	SOE–B–EE-23-602	EE	CC	Digital Signal Processing	3	0	0	30	20	50	100	3
3	SOE–B–EE-23-603	EE	CC	Microprocessor and Microcontroller	3	0	0	30	20	50	100	3
4	SOE–B–EE-23-604	EE	CC	Renewable Energy Sources and Systems	3	0	0	30	20	50	100	3
5	SOE–B–EE-23-605	EE	CC	Specialization Subject II	3	0	0	30	20	50	100	3
6	SOE–B–EE-23-606	EE	CC	Professional Elective I	2	0	0	15	10	25	50	2
7	SOE–B–EE-23-607	EE	CC	Electric Drives Lab	0	0	2	–	30	20	50	1
8	SOE–B–EE-23-608	EE	SEC	Product Development Lab	0	0	2	-	30	20	50	1
9	SOE–B–EE-23-609	EE	CC	Microprocessor and Microcontroller Lab	0	0	2	–	30	20	50	1
10	SOE–B–EE-23-610	EE	CC	Fundamentals of IOT Lab	0	0	2	-	30	20	50	1
				TOTAL	**17**	**0**	**08**	**165**	**230**	**355**	**750**	**21**

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B. Tech in Electrical Engineering (VII - Semester)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P)/2
								PRE		ESE	Total Marks	
					L	T	P	Mid Sem	TA			
1	SOE-B-EE-701	EE	CC	Power System Protection & Switchgear	3	0	0	30	20	50	100	3
2	SOE-B-EE-702	EE	CC	Soft Computing	3	0	0	30	20	50	100	3
3	SOE-B-EE703	EE	CC	Soft Computing Lab	0	0	2	-	15	10	25	2
5	SOE-B-EE705	EE	Internship	Industry Internship	0	0	20	-	125	125	250	10
6	HUM-B-SOE701	HUM	SEC	Professional Development-I	0	0	2	-	15	10	25	1
7	SOE-B-EE707	EE	SEC	Skill Development Course from Moocs#	0	0	4	-	30	20	50	2
TOTAL					06	0	30	60	240	275	575	**21**

*Internship will be of 10-12 weeks duration (June to August)

Course duration should be a minimum of 15 hrs. The Department will prepare a list of courses available on Coursera/NPTEL. After completing the course, if the student submits the completion certificate, he will be allotted 100% TA; otherwise, the department will conduct a viva for the TA.

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B. Tech in Electrical Engineering (VIII - Semester)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P)/2
								PRE		ESE	Total Marks	
					L	T	P	Mid Sem	TA			
1	SOE-B-EE801	EE	CC	High Voltage Engineering	3	0	0	30	20	50	100	3
2	SOE-B-EE802	EE	CC	FACTs	3	0	0	30	20	50	100	3
3	SOE-B-EE803	EE	CC	Professional Elective–II (Annexure–II)	3	0	0	30	20	50	100	3
4	SOE-B-EE804	EE	CC	High Voltage Lab	0	0	2	0	15	10	25	1
5	HUM-B-SOE801	EE	CC	Professional Development-II	0	0	2	0	15	10	25	1
6	SOE-B-EE806	EE	Project	Major Project	0	0	20	0	150	100	250	10
TOTAL					9	0	24	90	240	270	600	**21**

*Internship will be of 10-12 weeks' duration (June to August)

Course duration should be a minimum of 15 hrs. The Department will prepare a list of courses available on Coursera/NPTEL. After completing the course, if the student submits the completion certificate, he will be allotted 100% TA; otherwise, the department will conduct a viva for the TA.

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Agenda Point No. 03:

To approve syllabus scheme of the 5th Sem & 6th sem. Diploma Electrical Engineering (2023-2026)

Diploma in Electrical Engineering (V- Semester)

S.N	Subject Code	Board of Study	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P) /2
							PRE		ESE	Total Marks	
				L	T	P	Mid Sem	TA			
1	SOE-D-23-EE501	EE	Power Electronics	3	0	0	30	20	50	100	3
2	SOE-D-23-EE502	EE	Control System	3	0	0	30	20	50	100	3
3	SOE-D-23-EE503	EE	Utilization of Electrical Power	3	0	0	30	20	50	100	3
4	SOE-D-23-EE504	EE	Electric Traction	3	0	0	30	20	50	100	3
5	SOE-D-23-EE505	EE	Power Electronics Lab	0	0	4	-	30	20	50	2
6	SOE-D-23-EE506	EE	Control System Lab	0	0	4	-	30	20	50	2
7	SOE-D-23-EE507	EE	Industrial Training*	0	0	16	-	125	125	250	8
8	HUM-D-SOE501	HUM	Professional Development-I	0	0	2	-	30	20	50	1

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To approve syllabus scheme of the 2nd sem. Diploma Electrical Engineering (2025-2028)

Scheme of Teaching for Diploma in Electrical Engineering

Semester-II

(L: Lecture T: Tutorial P: Practical)

S.No.	Subject Code	BoS	SUBJECT	Periods per week			Scheme of Examination and Marks				Credits L+(T+P)/2
				L	T	P	PRE**		ESE*	Total Marks	
							Mid Sem.	TA			
1	SOE-D-SS201	SOS	Mathematics-II(T)	3	0	0	15	15	70	100	3
2	HUM25-D-201	HUM	Communication English-II	2	0	0	7.5	7.5	35	50	2
3	ME25-D-201	ME	Engineering Mechanics	3	0	0	15	15	70	100	3
4	SOE25-D-EE201	EE	Electrical Engineering Materials	3	0	0	15	15	70	100	3
5	SOE25-D-EE202	EE	Elements of Electrical Engineering	3	0	0	15	15	70	100	3
6	SOE25-D-EE203	EE	Electrical [redacted]	[redacted]							

Agenda Wise Resolutions:

Resolutions for Agenda 1.
To approve syllabus scheme and curriculum scheme of the 1st and 2nd Year M. Tech Electrical Engineering. (2025-2027) as per National Education Policy (NEP).

Resolutions for Agenda 2.
To approve syllabus scheme of the 3rd Sem & 4th sem. B. Tech Electrical Engineering (2024-2028 Batch as per NEP), syllabus & scheme of 5th Sem & 6th sem. BTech Electrical Engineering (2023-2027), syllabus & scheme of 7th Sem & 8th sem. BTech Electrical Engineering (2022-2026).

Resolution for Agenda Point No. 03:
It is resolved to approve syllabus and scheme of the 5th Sem & 6th sem. Diploma Electrical Engineering (2023-2026), approve syllabus and scheme of the 2nd sem. Diploma Electrical Engineering (2023-2026), approve syllabus of Basic Electrical Engineering for 2nd sem. Diploma Mechanical Engineering (2023-2026).

Other discussions:

1. The comments received from the industry Representative, Mr. B K Singh, Chief Executive Officer (CEO), MSP Steel & Power Ltd Raigarh (C.G) has considered with mutual acceptance of all other members. The same have been considered by the BOS and incorporated for improvement of the scheme and curriculum. As per his suggestion E-Waste Management incorporated in the second semester of M.Tech.

2. The comments received from the External expert from academics, Dr. K B Mohanty, Professor, Electrical Engineering Department, NIT, Rourkela has considered by the BOS. The same have been considered by the BOS and incorporated for improvement of the scheme and curriculum.

3. The above scheme shall be applicable to the batch of B. Tech Electrical Engineering students admitted in the academic year 2023-24 and onward batches.

4. Further, the external expert of BoS have acknowledge the effort made by the faculty members of Department of Electrical Engineering, School of Engineering, OPJU and stated their views as implementation of NEP 2020' and credit transfer from NPTEL Courses.

The meeting was concluded with appreciation and thanks to the External member for sparing their valuable times for BoS meeting.

BIRENDRA KUMAR SINGH

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List of Exit Courses (Choose Any *TWO* Skill-based Course)

Course Code	Course Name	L	T	P	Credit
EE24-B-EC201	Smart Electrical Circuit Design and Analysis	0	0	4	2
EE24-B-EC202	Mini Project	0	0	4	2
EE24-B-EC203	Industrial Training	0	0	4	2
EE24-B-EC204	Introduction to Electrical Machine Design	0	0	4	2

B. Tech in Electrical Engineering (V – Semester, 2023-2027 Batch)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P) /2
					L	T	P	PRE		ESE	Total Marks	
								Mid Sem	TA			
1	SOE–B–EE-23-	EE	CC	Power	3	0	0	30	20	50	100	3

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B. Tech in Electrical Engineering (VI - Semester, 2023-2027 Batch)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P)/2
								PRE		ESE	Total Marks	
					L	T	P	Mid Sem	TA			
1	SOE–B–EE-23-601	EE	CC	Electric Drives	3	0	0	30	20	50	100	3
2	SOE–B–EE-23-602	EE	CC	Digital Signal Processing	3	0	0	30	20	50	100	3
3	SOE–B–EE-23-603	EE	CC	Microprocessor and Microcontroller	3	0	0	30	20	50	100	3
4	SOE–B–EE-23-604	EE	CC	Renewable Energy Sources and Systems	3	0	0	30	20	50	100	3
5	SOE–B–EE-23-605	EE	CC	Specialization Subject II	3	0	0	30	20	50	100	3
6	SOE–B–EE-23-606	EE	CC	Professional Elective I	2	0	0	15	10	25	50	2
7	SOE–B–EE-23-607	EE	CC	Electric Drives Lab	0	0	2	0	30	20	50	1
8	SOE–B–EE-23-608	EE	SEC	Product Development Lab	0	0	2	0	30	20	50	1
9	SOE–B–EE-23-609	EE	CC	Microprocessor and Microcontroller Lab	0	0	2	0	30	20	50	1
10	SOE–B–EE-23-610	EE	CC	Fundamentals of IOT Lab	0	0	2	0	30	20	50	1
				TOTAL	**17**	**0**	**08**	**165**	**230**	**355**	**750**	**21**

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B. Tech in Electrical Engineering (VII – Semester, 2022-2026 Batch)

S.No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P)/ 2
					L	T	P	PRE		ESE	Total Marks	
								Mid Sem	TA			
1	SOE-B-EE-701	EE	CC	Power System Protection & Switchgear	3	0	0	30	20	50	100	3
2	SOE-B-EE-702	EE	CC	Soft Computing	3	0	0	30	20	50	100	3
3	SOE-B-EE703	EE	CC	Soft Computing Lab	0	0	4	0	30	20	50	2
5	SOE-B-EE705	EE	Internship	Industry Internship	0	0	20	0	125	125	250	10
6	HUM-B-SOE701	HUM	SEC	Professional Development -I	0	0	2	0	15	10	25	1
7	SOE-B-EE707	EE	SEC	Skill Development Course from Moocs#	0	0	4	0	30	20	50	2
TOTAL					06	0	30	60	240	275	575	21

*Internship will be of 10-12 weeks duration (June to August)

Course duration should be a minimum of 15 hrs. The Department will prepare a list of courses available on Coursera/NPTEL. After completing the course, if the student submits the completion certificate, he will be allotted 100% TA; otherwise, the department will conduct a viva for the TA.

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B. Tech in Electrical Engineering (VIII – Semester, 2022-2026 Batch)

S. No.	Subject Code	Board of Study	Type of Course (NEP)	SUBJECT	Periods per week			Scheme of Exam. and Marks				Credit L+(T+P)/2
								PRE		ESE	Total Marks	
					L	T	P	Mid Sem	TA			
1	SOE-B-EE801	EE	CC	High Voltage Engineering	3	0	0	30	20	50	100	3
2	SOE-B-EE802	EE	CC	FACTs	3	0	0	30	20	50	100	3
3	SOE-B-EE803	EE	CC	Professional Elective–II (Annexure–II)	3	0	0	30	20	50	100	3
4	SOE-B-EE804	EE	CC	High Voltage Lab	0	0	2	0	15	10	25	1
5	HUM-B-SOE801	EE	CC	Professional Development-II	0	0	2	0	15	10	25	1
6	SOE-B-EE806	EE	Project	Major Project	0	0	20	0	150	100	250	10
TOTAL					9	0	24	90	240	270	600	**21**

*Internship will be of 10-12 weeks' duration (June to August)

Course duration should be a minimum of 15 hrs. The Department will prepare a list of courses available on Coursera/NPTEL. After completing the course, if the student submits the completion certificate, he will be allotted 100% TA; otherwise, the department will conduct a viva for the TA.

OP J INDAL UNIVERSITY

RAIGARH (CG)

DEPARTMENT OF ELECTRICAL ENGINEERING

BOARD OF STUDIES DOCUMENT

22nd April, 2025

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OPJU

Minutes of the Meeting

Department of Electrical Engineering

Minutes of meeting of Board of Studies in Electrical Engineering Department, held on 22nd April, 2025 at 2 PM through the Google meet (online) scheduled at O.P. Jindal University, Raigarh.

Following members were present:

1. Dr. R.S. Tare, Vice Dean, Electrical Engineering Department (Chairperson, Vice Dean)
2. Dr. Sushree Diptimayee Swain, Associate Professor, HoD, EED, OPJU (Member)
3. Dr. K B Mohanty, Professor, EED, NIT, Rourkela (Academic Expert).
4. Mr. B K Singh, Chief Executive Officer (CEO), MSP Steel & Power Ltd Raigarh (C.G) (Industry Expert).
5. Dr. Deepak Singh, Associate Professor (SG), EED, OPJU (Member).
6. Dr. Sandeep Biswal, Associate Professor, EED, OPJU (Member).

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Agenda for the Board of Studies Meeting in the Department of Electrical Engineering, OPJU Raigarh.

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Semester II

S.	Subject Code	Subject	Periods per Week	Scheme of Examination	Total	Credit
				Theory /		

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Semester III

S. No.	Subject Code	Subject	Periods per Week			Scheme of Examination Theory / Practical			Total Marks	Credit L+(T+P)/2
			L	T	P	MID	TA	ESE		
	EE25-M-	Industrial								