



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2024-25

Electrical Engineering

GROUP 2: SEMESTER I

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1	BSC	24EE101T	Applied Physics	2	-	-	2	10	10	30	50	1.5
2	BSC	24EE101P	Applied Physics Lab	-	-	2	1	-	25	25	50	-
3	BSC	24EE102T	Linear Algebra and Calculus	3	1	-	4	20	20	60	100	3
4	PCC	24EE103T	Basic Electrical Engineering	3	1	-	4	20	20	20	100	3
5	PCC	24EE103P	Basic Electrical Engineering Lab	-	-	2	1	-	25	25	50	-
6	ESC	24EE104T	Engineering Graphics	3	-	-	3	20	20	60	100	3
7	ESC	24EE104P	Engineering Graphics Lab	-	-	2	1	-	25	25	50	-
8	AEC	24EE105P	Business Communication Skills I Lab	-	-	2	1	-	25	25	50	-
9	ESC	24EE106T	Design Thinking	2	-	-	2	10	10	30	50	1.5
10	SEC	24EE141P	Career Development I	-	-	2	1	-	50	-	50	-
11	CC	24EE107T	Co-curricular Courses - I	2	-	-	2	-	50	-	50	-
Total				15	2	10	22	80	280	300	700	12

		August 2024	NEP 2.0	Applicable for 2024-25
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**SEMESTER III**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	23EE301T	Network Analysis	3	1	-	4	30	70	100
2.	PCC	23EE302T	Electrical Measurement and Instrumentation	3	-	-	3	30	70	100
3.	PCC	23EE302P	Electrical Measurement and Instrumentation Lab	-	-	2	1	25	25	50
4.	PCC	23EE303T	Electronics Devices and Circuits	3	1	-	4	30	70	100
5.	PCC	23EE303P	Electronics Devices and Circuits Lab	-	-	2	1	25	25	50
6.	PCC	23EE304T	Renewable Energy Sources	3	-	-	3	30	70	100
7.	PCC	23EE304P	Renewable Energy Sources Lab	-	-	2	1	25	25	50
8.	SEC	23EE305P	Career Development III	-	-	2	1	50	-	50
9.	VEC	23ES301T	Value Education Course - I	2	-	-	2	15	35	50
10.	ELC	23EE306P	Micro Project I*	-	-	2	1	50	-	50
Total				14	2	10	21	310	390	700
11	MDM	23EE331M	MDM-I Basic Electrical Machines	2	-	-	2	15	35	50
				16	2	10	23	325	425	750

* Field Project or Community engagement project in the major discipline

		July 2024	1.0	Applicable for 2024-25
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**SEMESTER IV**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	23EE401T	Elements of Electromagnetics	2	1	-	3	30	70	100
2.	PCC	23EE402T	Electrical Power System	2	1	-	3	30	70	100
3.	PCC	23EE403T	Electrical Machines	3	-	-	3	30	70	100
4.	PCC	23EE403P	Electrical Machines-Lab	-	-	2	1	25	25	50
5.	PCC	23EE404T	Programming in Electrical Engineering	3	-	-	3	30	70	100
6.	PCC	23EE404P	Programming in Electrical Engineering Lab	-	-	2	1	25	25	50
7.	VSC	23EE405P	Technical Skill Development - I	-	-	4	2	50	-	50
8.	SEC	23EE406P	Career Development - IV	-	-	2	1	50	-	50
9.	OE	23EE461O	Open Elective - I	2	-	-	2	15	35	50
10.	VEC	23ES401T	Value Education Course II	2	-	-	2	15	35	50
11.	ELC	23EE407P	Micro Project II*	-	-	2	1	50	-	50
Total				16	2	8	22	350	400	750
12	MDM	23EE431M	Multidisciplinary Minor-II	3	-	-	3	30	70	100
				19	2	8	25	380	470	850

* Field Project or Community engagement project in the major discipline

Open Elective - I	
23EE461O (i)	OE-Power Plant Engineering
23EE461O(ii)	PLC & SCADA Systems

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**V Semester**

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	22EE501T	Power Electronics	4	1	-	5	30	70	100
2	22EE501P	Power Electronics Lab	-	-	2	1	25	25	50
3	22EE502P	Electrical Engineering Drawing Lab	-	-	2	1	25	25	50
4	22EE503T	Electrical Machine Design	4	1	-	5	30	70	100
5	22EE561O	Open Elective - I	3	-	-	3	30	70	100
7	22EE504P	Technical Skill Development-II	-	-	2	1	50	-	50
6	22EE505T	Professional Elective - I	4	-	-	4	30	70	100
8	22AS502T	English for Engineers	2	-	-	2	15	35	50
9	22H104	Foundational Humanities Elective	2	-	-	0	Audit		
10	22EE506P	Career Development-III *	2	-	-	0	Audit		
Total			21	2	6	22	235	365	600

* Career Development (Interpersonal Skills and Aptitude)

22EE561O	Open Elective - I	22H104	Foundational Humanities Elective
22EE561O (i)	OE-I MATLAB Programming	22H104	Development of Societies
22EE561O (ii)	OE-I PLC & SCADA Systems	22H104	Philosophy

22EE505T	Professional Elective - I
22EE505T (i)	PE-I Advanced Power System
22EE505T (ii)	PE-I Linear Electronic Circuits
22EE505T (iii)	PE-I Signals & Systems
22EE505T (iv)	PE-I Electrical Machines-II
22EE505T (v)	PE-I Electric Vehicle Architecture
22EE505T (vi)	PE-I PLC & Industrial Automation

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VI-Semester

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	22EE601T	High Voltage Engineering	2	1	-	3	30	70	100
2	22EE601P	High Voltage Engineering Lab	-	-	2	1	25	25	50
3	22EE602T	Control System Engineering	3	1	-	4	30	70	100
4	22EE602P	Control System Engineering Lab	-	-	2	1	25	25	50
5	22EE603T	Professional Elective - II	4	-	-	4	30	70	100
6	22AS501T	Economics and Management	3	-	-	3	30	70	100
7	22EE661O	Open Elective-II	3	-	-	3	30	70	100
8	22EE604P	Project - I	-	-	2	1	50	-	100
9	22EE605P	Electrical Engineering Workshop	-	-	2	1	50	-	50
10	22EE606T	Career Development-IV*	2	-	-	0	Audit		
11	22EE607P	Capstone Course-I **	-	-	2	1	50		50
Total			17	2	10	22	350	400	750

** Capstone Course – I (Comprehensive knowledge gained in <Branch Name >)

	Open Elective - II		Professional Elective-II
22EE661O (i)	Monitoring & Testing of Electrical Machines	22EE603T(i)	Micro-controller Application in Electrical Engineering
22EE661O (ii)	Utilization of Electrical Energy	22ET603T(ii)	Computer Applications in Power System
		22EE603T(iii)	Electric Vehicle Drives
		22ET603T(iv)	Vehicle Dynamics
		22ET603T(v)	Utilization of Electrical Energy
		22ET603T(vi)	Monitoring & Testing of Electrical Machines

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VII Semester

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	21EE701T	Switchgear and Protection	3	-	-	3	30	70	100
2	21EE701P	Switchgear and Protection Lab	-	-	2	1	25	25	50
3	21EE702P	Power System Simulation Lab	-	-	2	1	25	25	50
4	21EE703T	Electrical Installation Design	4	-	-	4	30	70	100
5	21EE704T	Professional Elective - IV	3	-	-	3	30	70	100
6	21EE761O	Open Elective - III	3	-	-	3	30	70	100
7	21EE705P	Project - II	-	-	6	3	75	75	150
8	21EE706P	Summer / Winter Internship *	-	-	-	2	50	-	50
9	21EE707P	Capstone Course-II **	-	-	2	1	50	-	50
			13	0	12	21	345	405	750

** Capstone Course – II (Comprehensive knowledge gained in <Electrical Engineering >)

21EE761O	Open Elective - III	21EE704T	Professional Elective-IV
21EE761O (i)	OE-III Power Plant Engineering	21EE704T(i)	PE-IV Power Semiconductor based Drives
21EE761O (ii)	OE-III Power Electronics	21EE704T(ii)	PE-IV Flexible AC Transmission Systems
		21EE704T(iii)	PE-IV Advanced Control System
		21EE704T(iv)	PE-IV Energy Management and Audit
		21EE704T(v)	PE-IV Electrical Distribution System
		21EE704T(vi)	PE-IV HVDC Transmission system

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**VIII Semester****Option A**

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Assessment	Total
1	21EE801P	Project based on one semester internship in Industry/Research Institute/ National Laboratories/ Incubation Center	-	-	-	12	200	200	400
Total			-	-	-	12	200	200	400

*End Semester Examination will consist of an evaluation of Seminar and Project Report

Option B

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Assessment	Total
1	21EE802P	Institutional Internship	-	-	-	6	100	100	200
2	21EE803P	Project - III	-	-	-	6	100	100	200
Total			-	-	-	12	200	200	400

Option B is available to students only after the recommendation of the concerned Head of the department. The project and internship should contribute towards the career development plan of the students.

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