

Part II: Course Structure & Semester wise Credit Distribution

First Semester (First Year)

Mandatory Induction Program- 3 Weeks Duration

Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M101	Mathematics-I	3	1	0	4
2	BS	BS-CH101	Chemistry	3	0	0	3
3	ES	ES-EE101	Basic Electrical and Electronics Engineering	2	1	0	3
4	HM	HM-HU101	Communication Skill (JeevanKaushal-I)	2	0	0	2
5	HM	HM-HU102	Introduction to Indian Knowledge System (Indian Knowledge System-I)	2	0	0	2
Total Theory				12	2	0	14
Practical/ Sessional/ Audit Course							
1	BS	BS-CH191	Chemistry Laboratory	0	0	3	1.5
2	ES	ES-EE191	Basic Electrical and Electronics Engineering Laboratory	0	0	4	2
3	ES	ES-ME192	Workshop/Manufacturing Practices	0	0	4	2
4	HM	HM-HU191	Communication Skill Laboratory	0	0	2	1
Total Practical/ Sessional/ Audit Course				0	0	13	6.5
Total of First Semester				12	2	13	20.5

Second Semester (First Year)

Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M201	Mathematics-II	3	1	0	4
2	BS	BS-PH201	Physics	3	1	0	4
3	ES	ES-CS201	Programming for Problem Solving	3	0	0	3
4	HM	HM-HU203	Inculcation of Human Values andProfessional Ethics (MulyaPravah)	2	0	0	2
Total Theory				11	2	0	13
Practical/ Sessional/ Audit Course							
1	BS	BS-PH291	Physics Laboratory	0	0	3	1.5

Curriculum Structure for Undergraduate Degree (B.Tech.) in Electrical Engineering (w.e.f. AY:2025-26)

2	ES	ES-CS291	Programming for Problem Solving Laboratory	0	0	4	2
3	ES	ES-ME291	Engineering Graphics and Design	0	0	4	2
4	PW	PW-BS281	Ideation Laboratory	0	0	2	1
5	AU	AU271	NCC/NSS	2	0	0	0
<i>Total Practical/ Sessional/ Audit Course</i>				2	0	13	6.5
Total of Second Semester				13	2	13	19.5

Third Semester (Second Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	ES	ES-ME301	Engineering Mechanics	3	0	0	3
2	ES	ES-EE301	Electrical Engineering Materials	3	0	0	3
3	PC	PC-EE301	Network Analysis	3	1	0	4
4	PC	PC-EE302	Electromagnetic Fields Theory	3	0	0	3
5	PC	PC-EE303	Analog Electronics	3	0	0	3
6	PC	PC-EE304	Digital Electronics	3	0	0	3
Total Theory				18	1	0	19
Practical/ Sessional/ Audit Course							
1	PC	PC-EE391	Network Analysis Laboratory	0	0	2	1
2	PC	PC-EE393	Analog and Digital Electronics Laboratory	0	0	2	1
Total Practical/ Sessional/ Audit Course				0	0	4	2
Total of Third Semester				20	1	4	21

Fourth Semester (Second Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	HM	HM-HU401	Leadership and Management Skills(JeevanKaushal-III)	2	0	0	2
2	BS	BS-BIO401	Biology for Engineers	2	0	0	2
3	BS	BS-M401	Vedic Mathematics	2	0	0	2

			(Indian Knowledge System II)				
4	PC	PC-EE401	Electric Machine-I	3	1	0	4
5	PC	PC-EE402	Analog and Digital Communication	3	0	0	3
6	PC	PC-EE403	Measurements and Instrumentation	3	0	0	3
<i>Total Theory</i>				15	1	0	16
Practical/ Sessional/ Audit Course							
1	PC	PC-EE491	Electric Machine-I Laboratory	0	0	2	1
2	PC	PC-EE493	Measurements and Instrumentation Laboratory	0	0	2	1
3	ES	ES-CS491	Python Programming	0	0	2	1
4	PW	PW-EE481	Micro Project	0	0	4	2
5	AU	AU-BS471	Environmental Science	2	0	0	0
<i>Total Practical/ Sessional/ Audit Course</i>				2	0	10	5
Total of Fourth Semester				17	1	10	21

Fifth Semester (Third Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M501	Basic of Indian Astronomy (Indian Knowledge System III)	2	0	0	2
2	PC	PC-EE501	Electric Machine-II	3	1	0	4
3	PC	PC-EE502	Power Transmission and Distribution	3	1	0	4
4	PC	PC-EE503	Control System	3	0	0	3
5	OE	OE-XXXXX	Open Elective-I	2	0	0	2
Total Theory				13	2	0	15
Practical/ Sessional/ Audit Course							
1	HM	HM-HU591	Professional Skills	1	0	2	2
2	PC	PC-EE591	Electric Machine-II Laboratory	0	0	2	1
3	PC	PC-EE592	Power Transmission and Distribution Laboratory	0	0	2	1
4	PC	PC-EE593	Control System Laboratory	0	0	2	1
5	OE	OE-XXXXX	Open Elective-I Laboratory	1	0	0	1
6	HM	HM-HU571	Aptitude Skill Development-I	1	0	0	1

<i>Total Practical/ Sessional/ Audit Course</i>	3	0	8	7
Total of Fifth Semester	16	2	8	22

Sixth Semester (Third Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE601	Power Electronics	3	1	0	4
2	PC	PC-EE602	Power System Protection and Analysis	3	1	0	4
3	PE	PE-EE601	Professional Elective-I	3	0	0	3
4	PE	PE-EE602	Professional Elective-II	3	0	0	3
5	OE	OE-XXXXX	Open Elective-II	2	0	0	2
Total Theory				14	2	0	16
Practical/ Sessional/ Audit Course							
1	PC	PC-EE691	Power Electronics Laboratory	0	0	2	1
2	PC	PC-EE692	Power System Protection and Analysis Laboratory	0	0	2	1
3	OE	OE-XXXXX	Open Elective-II Laboratory	0	0	2	1
4	PW	PW-EE681	Mini Project	0	0	4	2
5	HM	HM-HU671	Aptitude Skill Development-II	1	0	0	1
Total Practical/ Sessional/ Audit Course				1	0	10	6
Total of Sixth Semester				15	2	10	22

Seventh Semester (Fourth Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE701	Electric Drives	3	0	0	3
2	PE	PE-EE701	Professional Elective-III	3	0	0	3
3	PE	PE-EE702	Professional Elective-IV	3	0	0	3
4	OE	OE-XXXXX	Open Elective-III	2	0	0	2
5	OE	OE-XXXXX	Open Elective-IV	2	0	0	2
Total Theory				13	0	0	13
Practical/ Sessional/ Audit Course							
1	PC	PC-EE791	Electric Drives Laboratory	0	0	2	1

2	OE	OE-XXXXX	Open Elective-III Laboratory	0	0	2	1
3	OE	OE-XXXXX	Open Elective-IV Laboratory	0	0	2	1
4	PW	PW-EE781	Electrical System Design Laboratory-I	1	0	2	1
5	PW	PW-EE782	Project Stage-I	0	0	6	3
6	PW	PW-EE783	Summer Internship Evaluation	0	0	2	1
<i>Total Practical/ Sessional/ Audit Course</i>				1	0	16	8
Total of Seventh Semester				14	0	16	21

Eighth Semester (Fourth Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	HM	HM-HU 801	Universal Human Values-II (JeevanKaushal-IV)	2	0	0	2
2	BS	BS-M801	Introduction of Indian Astronomy (Indian Knowledge System IV)	2	0	0	2
3	PE	PE-EE801	Professional Elective-V	3	0	0	3
Total Theory				7	0	0	7
Practical/ Sessional/ Audit Course							
1	PW	PW-EE881	Electrical System Design Laboratory-II	0	0	2	1
2	PW	PW-EE882	Project stage-II	0	0	8	4
3	PW	PW-EE883	Comprehensive Viva Voce	0	0	0	1
Total Practical/ Sessional/ Audit Course				0	0	10	6
Total of Eighth Semester				7	0	10	13

Part III: Specializations and corresponding List of Elective Papers								
A. Specialization in Power System								
Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VI	PE-EE601A	Professional Elective-I	HVDC and EHVAC	3	0	0	3
2	VI	PE-EE602A	Professional Elective-II	Smart Grid Technology	3	0	0	3
3	VII	PE-EE701A	Professional Elective-III	A. Power System Operation & Control B. Computer Aided Power System Analysis	3	0	0	3
4	VII	PE-EE702A	Professional Elective-IV	A. Modeling and Simulation of Modern Power Systems B. Power Generation and Economics	3	0	0	3
5	VIII	PE-EE801A	Professional Elective-V	A. Power Quality and Deregulation B. Energy Management and Audit	3	0	0	3
Total Theory					15	0	0	15
Practical/ Sessional Course								
Total Practical/ Sessional Course					0	0	0	0
Total					15	0	0	15

B. Specialization in Control and Automation								
Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VI	PE-EE601B	Professional Elective-I	Digital Control	3	0	0	3

2	VI	PE-EE602B	Professional Elective-II	Advanced Control System	3	0	0	3
3	VII	PE-EE701B	Professional Elective-III	Control System Design	3	0	0	3
4	VII	PE-EE702B	Professional Elective-IV	A. Industrial Automation and Control B. Optimal Control Theory & Applications	3	0	0	3
5	VIII	PE-EE801B	Professional Elective-V	A. Robotic Systems and Applications B. Adaptive Control	3	0	0	3
<i>Total Theory</i>					15	0	0	15
Practical/ Sessional Course								
<i>Total Practical/ Sessional Course</i>					0	0	0	0
Total					15	0	0	15

C. Specialization in Sustainable Energy Engineering

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VI	PE-EE601C	Professional Elective-I	Renewable Energy I	3	0	0	3
2	VI	PE-EE602C	Professional Elective-II	Renewable Energy II	3	0	0	3
3	VII	PE-EE701C	Professional Elective-III	Grid Integration of Renewable Energy	3	0	0	3
4	VII	PE-EE702C	Professional Elective-IV	Electric and Hybrid Vehicle	3	0	0	3
5	VIII	PE-EE801C	Professional Elective-V	IoT Applications in Renewable Energy Systems	3	0	0	3
Total Theory					15	0	0	15
Practical/ Sessional Course								
Total Practical/ Sessional Course					0	0	0	0
Total					15	0	0	15

Part IV: List of Open Elective Papers								
Open Elective Papers offered by EE department								
Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VII	OE-EE 701A	Open Elective-I	Renewable Energy	3	0	0	3
2	VII	OE-EE 701B		Control System	3	0	0	3
3	VII	OE-EE 701C		Automation and Control Engineering	3	0	0	3
4	VIII	OE-EE 801A	Open Elective-II	Power Electronics	2	0	0	2
5	VIII	OE-EE 801B		Renewable Energy	3	0	0	3
6	VIII	OE-EE 801C		Electric Vehicle	3	0	0	3
7	VIII	OE-EE 801D		Robotics and Automation	3	0	0	3
Total Theory					23	0	0	23
Practical/ Sessional Course								
1	VII	OE-EE 791A	Open Elective-II Laboratory	Power Electronics Laboratory	0	0	2	1
Total Practical/ Sessional Course					0	0	2	1
Total					23	0	2	24

Part V: Curriculum Structure for Minor Degree

A. Minor Degree in Power Engineering

Sl. No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	III	MN-EE301A	Thermal Power Generation	3	0	0	3
2	IV	MN-EE401A	Hydro Power Generation	3	0	0	3
3	V	MN-EE501A	Nuclear Power Generation	3	0	0	3
4	VI	MN-EE601A	Thermal Power Plant Systems	3	0	0	3
5	VII	MN-EE701A	Advance Power Cycles	3	0	0	3
6	VIII	MN-EE801A	Electric Power Automation and Utilization	3	0	0	3
Total Theory				18	0	0	18
Practical/ Sessional Course							
1	VIII	MN-EE881A	Project	0	0	4	2
Total Practical/ Sessional Course				0	0	4	2
Total				18	0	4	20

B. Minor Degree in High Voltage Engineering

Sl. No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	III	MN-EE301B	Fundamental of High Voltage Engineering	3	0	0	3
2	IV	MN-EE401B	Extra High Voltage Power Transmission	3	0	0	3
3	V	MN-EE501B	Physics of Dielectrics	3	0	0	3
4	VI	MN-EE601B	Condition monitoring of High Voltage Equipment	3	0	0	3
5	VII	MN-EE701B	High Voltage Testing Techniques	3	0	0	3
6	VIII	MN-EE801B	High Voltage Power Transformers and Circuit Breakers	3	0	0	3
Total Theory				18	0	0	18
Practical/ Sessional Course							
1	VIII	MN-EE881	Project	0	0	4	2
Total Practical/ Sessional Course				0	0	4	2
Total				18	0	0	20