

SR UNIVERSITY
Department of Electrical and Electronics Engineering
R25 Course Structure

I SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25EEE312ES101	Foundations of Electrical and Electronics Engineering	3	1	2	4.5
2	25MAT310BS107	Calculus and Differential Equations	3	1	0	3.5
3	25SCI312BS103	Applied Physics for Electrical and Electronics Engineering	3	1	2	4.5
4	25MAT310BS109	Probability and Statistics	3	1	0	3.5
5	25HUM300HS102	Ancient Knowledge and Constitution of India	3	0	0	3
Total			15	4	4	19
II SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25MAT310BS108	Linear Algebra and Numerical Methods	3	1	0	3.5
2	25SCI202BS106	Computational Chemistry and Biology	2	0	2	3
3	25ECE104ES102	Smart Product Design	1	0	4	3
4	25EEE300PC101	Electrical Power Generation	3	0	0	3
5	25EEE300PC102	Electrical Power Distribution and Utilization	3	0	0	3
6	25HUM204HS101	Life Skills: Entrepreneurship, Language, Communication and Personality	2	0	4	4
7	25HUM002AU401	Hobbies, Co-Curricular and Extra-Curricular Elective	0	0	2	1
Total			14	1	12	20.5
III SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25CAI214ES210	Problem Solving Using Python	2	1	4	4.5
3	25EEE312PC201	Electrical Circuits & Modeling	3	1	2	4.5
4	25EEE312PC202	DC Machines and Transformer	3	1	2	4.5
5	25EEE402PC203	Electrical Power Transmission	4	0	2	5
6	25EEE302PC204	Analog and Digital Electronics	3	0	2	4
Total			15	3	12	22.5
IV SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25EEE300PC205	Power System Protection	3	0	0	3
2	25EEE402PC206	Power Electronics	4	0	2	5
3	25EEE312PC207	AC Rotating Machines	3	1	2	4.5
	25EEE300PC208	Signals, Systems, and Transforms	3	0	0	3
4	25EEE302ES201	AI for Electrical Engineering	3	0	2	4
5		Specialization Core - I	3	0	2	4
Total			19	1	8	23.5
V SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25EEE312PC301	Power System Analysis	3	1	2	4.5
2	25EEE202PC302	Power Semiconductor Drives	2	0	2	3
3	25EEE402PC303	Control Systems Engineering	4	0	2	5

4		Specialization Core - II	3	0	2	4
5	25HUM104HS201	Critical Thinking and Interpersonal Skills	1	0	4	3
6	25EEE002PR401	Undergraduate Research in Electrical and Electronics Engineering	0	0	2	1
7	25CIV200HS301	Sustainability and Ethical Innovation	2	0	0	2
Total			15	1	14	22.5
VI SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25EEE302PC304	Power System Operation and Control	3	0	2	4
2	25EEE402PC305	Microprocessors and Microcontrollers	4	0	2	5
3	25HUM006HS202	Quantitative Aptitude and Logical Reasoning	0	0	6	3
4		Specialization Elective - I	2	0	2	3
5		Specialization Elective - II	2	0	2	3
6		Program Elective - I	3	0	2	4
Total			14	0	16	22
VII SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25EEE010PR402	Capstone Project	0	0	10	5
2		Program Elective - II	3	0	0	3
3		Program Elective - III	3	0	0	3
4		Program Elective - IV	2	0	2	3
5		Open Elective - I	2	0	2	3
6		Open Elective - II	2	0	2	3
Total			12	0	16	20
Or						
1	25EEE040PR403	Industrial Project/R&D Project/Industry Internship/Start-up/Externship	0	0	40	20
Total			0	0	40	20
VIII SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25EEE040PR404	Major Project/Industrial Project/R&D Project/ Industry Internship/Start-up/Externship	0	0	40	20
Total			0	0	40	20
Total Credits			170			
Program Electives						
S.No.	Course Code	Course	L	R	P	C
Program Elective - I						
1	25EEE302PE401	FACTS Devices	3	0	2	4
2	25EEE302PE402	PLC Programming and Applications	3	0	2	4
Program Elective - II						
1	25EEE300PE403	Power Markets and Trading	3	0	0	3
2	25EEE300PE404	Smart Electrical Measurements	3	0	0	3
Program Elective - III						
1	25EEE300PE405	SCADA Systems	3	0	0	3
2	25EEE300PE406	Advanced Machines	3	0	0	3
3	25EEE300PE407	High Voltage DC Transmission Systems	3	0	0	3

Program Elective - IV						
1	25EEE202PE408	Foundations of IoT	2	0	2	3
2	25EEE202PE409	Sensors and Actuators	2	0	2	3
3	25EEE202PE410	Digital Systems for Signal Processing	2	0	2	3
Electric Vehicles Specialization Core Courses						
S.No.	Course Code	Course	L	R	P	C
1	25EEE302SC401	Electric Vehicle Systems and Components	3	0	2	4
2	25EEE302SC402	Powertrain for Electric Vehicles	3	0	2	4
Electric Vehicle Specialization Elective I						
1	25EEE202SE401	Hybrid Electric Vehicles	2	0	2	3
2	25EEE202SE402	EV Charging Infrastructure	2	0	2	3
Electric Vehicle Specialization Elective II						
1	25EEE202SE403	Battery Management Systems	2	0	2	3
2	25EEE300SE404	Autonomous Vehicle	3	0	0	3
Renewable Energy Specialization Core Courses						
S.No.	Course Code	Course	L	R	P	C
1	25EEE302SC403	Wind Energy Systems	3	0	2	4
2	25EEE302SC404	Solar Photovoltaic Engineering	3	0	2	4
Renewable Energy Specialization Elective I						
1	25EEE300SE405	Hydel Power Engineering	3	0	0	3
2	25EEE202SE406	Smart Grid Technologies	2	0	2	3
Renewable Energy Specialization Elective II						
1	25EEE202SE407	Cyber Physical Systems	2	0	2	3
2	25EEE202SE408	Power Electronics for Renewable Energy	2	0	2	3
Robotics and Automation Specialization						
Specialization Core						
1	25MEC302SC202	Robotics and Automation	3	0	2	4
2	25MEC302SC302	Robotic System Design	3	0	2	4
Specialization Elective - I (Robotics and Automation)						
1	25MEC300SE303	Sensors and Control for Robotics	3	0	0	3
2	25MEC300SE304	AI in Robotics	3	0	0	3
Specialization Elective - II (Robotics and Automation)						
1	25MEC300SE403	Robotics Operating System	3	0	0	3
2	25MEC300SE404	Machine Vision and Safety	3	0	0	3
Honors (I, II, III, IV)						
Semester - III						
1	25EEE400HN401	Power Quality	4	0	0	4
Semester - IV						
1	25EEE400HN402	Data Analytics and Cybersecurity for Energy Systems	4	0	0	4
Semester - V						
1	25EEE400HN403	Communication Systems	4	0	0	4
Semester - VI						
1	25EEE400HN404	Grid Integration of Renewable Energy Sources	4	0	0	4
Minors (I, II, III, IV)						
Semester - III						
1	25EEE400MN401	Electrical Power Generation Systems	4	0	0	4
Semester - IV						
1	25EEE400MN402	Electrical Transmission and Distribution Systems	4	0	0	4
Semester - V						
1	25EEE400MN403	Wind Power Generation Technologies	4	0	0	4
Semester - VI						
1	25EEE400MN404	Solar Photovoltaics	4	0	0	4

Hobbies, Co-Curricular and Extra-Curricular (HCE) Electives						
S.No.	Course Code	Course	L	R	P	C
1	25HUM002AU401	Community Engagement and Social Responsibility through	0	0	2	1
2	25HUM002AU402	Leadership and Collaboration through Student Clubs	0	0	2	1
3	25HUM002AU403	Physical Education and Sports for Holistic Development	0	0	2	1
4	25HUM002AU404	Experiential Learning through Internships	0	0	2	1
5	25HUM002AU405	Skill Enrichment and Creativity through Hobby Activities	0	0	2	1
6	25HUM002AU406	Visual Storytelling and Documentation through	0	0	2	1
7	25HUM002AU407	Skill Acceleration and Applied Learning through Boot	0	0	2	1
8	25HUM002AU408	Indian Classical Music	0	0	2	1
9	25HUM002AU409	Classical and Folk Dance Traditions of India	0	0	2	1
10	25HUM002AU410	Traditional Indian Culinary Practices	0	0	2	1
In Special Cases Open Electives, Program Electives, Specialization Electives may be considered						
Minor Courses offered by NEST						
S.No.	Course Code	Course	L	R	P	C
1	25BUS400MN401	Startup Garage	4	0	0	4
2	25BUS400MN402	Startup Launch and Business Operation	4	0	0	4
3	25BUS400MN403	Digital Marketing Strategy	4	0	0	4
4	25BUS400MN404	Growth Hacking	4	0	0	4
Open Electives						
S.No.	Course Code	Course	L	R	P	C
1	25CAI202OE401	Fundamentals of Database Management Systems	2	0	2	3
2	25CAI202OE402	Fundamentals of Data Structures	2	0	2	3
3	25CAI202OE403	Analysis and Design of Algorithms	2	0	2	3
4	25ECE300OE404	Principles of Communication	3	0	0	3
5	25ECE300OE405	Sensors and Transducers	3	0	0	3
6	25ECE300OE406	Design for Social Impact	3	0	0	3
7	25EEE300OE407	Introduction to Electric Vehicle Technologies	3	0	0	3
8	25EEE202OE408	Introduction to PLC Programming	2	0	2	3
9	25MEC300OE409	Operations Research	3	0	0	3
10	25MEC300OE410	3D Printing	3	0	0	3
11	25MEC300OE411	Renewable Energy Resources	3	0	0	3
12	25MEC104OE412	Workshop Practices	1	0	4	3
13	25CIV300OE413	Disaster Management	3	0	0	3
14	25CIV300OE414	Pollution and Control Engineering	3	0	0	3
15	25CIV300OE415	Smart Cities	3	0	0	3
16	25BUS300OE416	Digital Marketing	3	0	0	3
17	25BUS300OE417	Startup Launch and Ecosystems	3	0	0	3
18	25BUS300OE418	Finance for Engineers	3	0	0	3
19	25SCI202OE419	Space Physics	2	0	2	3
20	25SCI202OE420	Nanomaterials and Technology	2	0	2	3
21	25SCI202OE421	AI for Drug Discovery	2	0	2	3
22	25MAT300OE422	Integral Transforms and Partial Differential Equations	3	0	0	3
23	25MAT300OE423	Optimization Techniques	3	0	0	3
24	25HUM202OE424	LSRW Language Skills	2	0	2	3
25	25HUM300OE425	Learning How to Learn	3	0	0	3
26	25HUM300OE426	German for Professionals	3	0	0	3
27	25HUM300OE427	Japanese Language and Culture	3	0	0	3
28	25HUM300OE428	Spanish for Global Work Place	3	0	0	3
29	25NCC300OE429	NCC Foundation course	3	0	0	3
30	25NCC300OE430	NCC Basic course	3	0	0	3
31	25NCC300OE431	NCC Advanced Course	3	0	0	3

CSE
ECE
EEE
ME
CE
SoB
Basic Science
Math
English
N
C
C

32	25AGR202OE432	Food Safety and Quality Management from Farm to Fork	2	0	2	3	A G R I
33	25AGR300OE433	Socio-Economic Transformations in Indian Agriculture	3	0	0	3	
34	25AGR300OE434	Smart Farming Technologies for Doubling the Farmer	3	0	0	3	
35	25AGR300OE435	Sky Farming and Urban Horticulture Systems	3	0	0	3	
Flexible Courses for Open Electives and Professional Electives							
S.No.	Course Code	Course	L	R	P	C	
1	25HUM202CR401	Industry Certification	2	0	2	3	
2	25HUM300CR402	Professional Skill Development	3	0	0	3	
3	25HUM300CR403	Self-Paced Learning	3	0	0	3	
In Special Cases Open Electives may be considered as Program Electives							
In Special Cases Program Electives may be considered as Open Electives							
In Special Cases Program Electives may be considered as Specialization Electives							
In Special Cases Specialization Electives may be considered as Program Electives							
In Special Cases Specialization Electives may be considered as Open Electives							
In Special Cases Open Electives may be considered as Specialization Electives							
In Special Cases Open Electives may be considered as LHS Electives							
In Special Cases LHS Electives may be considered as Open Electives							

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