

R22 B.Tech Electrical and Electronics Engineering First Year Course Structure

I YEAR I SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	BS-1	Mathematics – I (Matrices and Calculus)	3	1	0	4
2	BS-2	Applied Physics	3	1	0	4
3	ES-1	Engineering Workshop	0	1	3	2.5
4	H&S-1	English for Skill Enhancement	2	0	0	2
5	ES-2	C Programming for Engineers	3	0	0	3
6	ES-3	Elements of Electrical and Electronics Engineering	0	0	2	1
7	BS Lab-1	Applied Physics Laboratory	0	0	3	1.5
8	H&S Lab-1	English Language and Communication Skills Laboratory	0	0	2	1
9	ES Lab-1	C Programming for Engineers Laboratory	0	0	2	1
10		Induction Programme				
		Total Credits	11	3	12	20

I YEAR II SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	BS-3	Mathematics – II(ODE & Vector Calculus)	3	1	0	4
2	BS-4	Engineering Chemistry	3	1	0	4
3	ES-4	Electrical Circuits	3	1	0	4
4	ES-5	Engineering Graphics and Modelling	1	0	4	3
5	ES Lab-2	Electrical Circuits Lab	0	0	2	1
6	BS Lab-2	Engineering Chemistry Laboratory	0	0	2	1
7	ES Lab-3	Python Programming Laboratory	0	2	2	3
		Total Credits	10	5	10	20

R22 B.Tech EEE SECOND YEAR COURSE STRUCTURE

II YEAR I SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	BS-5	Complex Analysis and Fourier Transforms	3	1	0	4
2	PC-1	Network Analysis	3	0	0	3
3	ES-6	Analog Electronic Circuits	3	0	0	3
4	PC-2	Electrical Machines-I	3	0	0	3
5	PC-3	Electro Magnetic Fields	3	0	0	3
6	PC Lab-1	Electrical Machines Laboratory-I	0	0	2	1
7	PC Lab-2	Networks Laboratory	0	0	2	1
8	PC Lab-3	Electrical Simulation tools Laboratory	0	0	2	1
9	HSMC-1	Professional Communication	2	0	0	1

		Total Credits	17	1	06	20
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II YEAR II SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	PC-4	Power System-I	3	0	0	3
2	PC-5	Measurements and Instrumentation	3	0	0	3
3	PC-6	Electrical Machines-II	3	0	0	3
4	ES-8	Digital Electronics	2	0	0	2
5	PC-7	Control Systems	3	0	0	3
6	ES Lab-4	Analog Electronic Circuits Laboratory	0	0	2	1
8	PC Lab-4	Measurements and Instrumentation Laboratory	0	0	2	1
9	PC Lab-5	Electrical Machines Laboratory-II	0	0	2	1
10	PW-1	Real-time Research Project/ Field Based Project	0	0	4	2
11	ES-9	Quantitative Methods and Logical Reasoning	2	0	0	1
		Total Credits	16	0	10	20

R22 B.Tech EEE THIRD YEAR COURSE STRUCTURE

III YEAR I SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	PC-8	Power Electronics	3	1	0	4
2	PC-9	Power System-II	3	1	0	4
3	PC-10	Microprocessors & Microcontrollers	3	0	0	3
4	PE-1	Professional Elective-I	3	0	0	3
5	OE-1	Open Elective-I	3	0	0	3
6	PC Lab-6	Microprocessors & Microcontrollers Laboratory	0	0	2	1
7	PC Lab-7	Control Systems Laboratory	0	0	2	1
8	H&S Lab-2	Advanced English Communication Skills Laboratory	0	0	2	1
9	MC-1	Environmental Science	2	0	0	0
		Total Credits	17	2	6	20

III YEAR II SEMESTER

S. No	Course Category	Course Title	L	T	P	Credits
1	H&S-2	Business Economics and Financial Analysis	3	0	0	3
2	PE-2	Professional Elective-II	3	0	0	3
3	PC-11	Power Semiconductor Drives	3	0	0	3
4	PC-12	Power System Protection	3	0	0	3
5	OE-2	Open Elective-II	3	0	0	3
6	PC Lab-8	Power Electronics Laboratory	0	0	2	1
7	PC Lab-9	Simulation of Power Converters Lab	0	0	2	1
8	PC Lab-10	Power System Laboratory	0	0	2	1
9	PW-2	Industry Oriented Mini Project/ Internship	0	0	4	2
10	MC-2	Gender Sensitization	2	0	0	0
		Total Credits	17	0	10	20

R22 B.Tech EEE FOURTH YEAR COURSE STRUCTURE
IV YEAR I SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	PC-13	Electric and Hybrid Vehicles	3	1	0	4
2	PC-14	Power System Operation and Control	3	0	0	3
3	PE-3	Professional Elective-III	3	0	0	3
4	OE-3	Open Elective-III	3	0	0	3
5	H&S-3	Essentials of Computer Networks	2	0	0	2
6	PC Lab-11	Simulation of Renewable Energy Systems Laboratory	0	0	4	2
8	PW-3	Project Stage – I	0	0	6	3
		Total Credits	14	1	10	20

IV YEAR II SEMESTER

S. No.	Course Category	Course Title	L	T	P	Credits
1	PC-15	Utilization of Electrical Energy	3	0	0	3
2	PC-16	Power Electronic Applications to Renewable Energy Systems	3	0	0	3
3	PE-4	Professional Elective-IV	3	0	0	3
4	PW-4	Project Stage – II including Seminar	0	0	22	9+2

		Total Credits	9	0	22	20
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Professional Elective - I

1	IoT Applications in Electrical Engineering
2	Electrical Energy Conservation and Auditing
3	Cyber-Physical Systems

Professional Elective - II

1	AI Techniques in Electrical Engineering
2	Modern Power Electronics
3	Wind and Solar Energy systems

Professional Elective-III

1	Power Quality & FACTS
2	Solar Power Batteries
3	Advanced Control of Electric Drives

Professional Elective-IV

1	Smart Grid Technologies
2	Machine Learning Applications to Electrical Engineering
3	Embedded Systems

Open Electives offered by EEE Department
Open Elective - I

1	Sustainable Energy
2	Power Applications of Electricity

Open Elective-II

1	Energy Conservation and Management
2	Industrial Electrical Systems

Open Elective-III

1	Electric Vehicles and Hybrid Vehicles
2	Energy Storage Systems