

B.Tech. (EEE) R20 Course Structure

Semester - I (First Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	BSC	Mathematice-I	3	0	0	3
2	BSC	Applied Chemistry	3	0	0	3
3	HSMC	Communicative English	3	0	0	3
4	ESC	Engineering Graphics & Design	1	0	4	3
5	ESC	Computational Thinking and Programming	3	0	0	3
6	HSMC	English Communication Skills Lab	0	0	3	1.5
7	BSC	Applied Chemistry Lab	0	0	3	1.5
8	ESC	Computational Thinking and Programming Lab	0	0	3	1.5
Total Credits						19.5

Semester - II (First Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	BSC	Mathematics - II	3	0	0	3
2	BSC	Applied Physics	3	0	0	3
3	ESC	Computer Programming	3	0	0	3
4	ESC	Electrical Circuit Analysis - I	3	0	0	3
5	ESC	Elements of Civil and Mechanical Engineering	3	0	0	3
6	ESC	Computer Programming Lab	0	0	3	1.5
7	BSC	Applied Physics Lab	0	0	3	1.5
8	ESC	Workshop (Electrical & IT)	0	0	3	1.5
	MC - I	Constitution of India	2	0	0	0
Total Credits						19.5

Semester - III (Second Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	BSC	Mathematics - III	3	0	0	3
2	PCC	Electrical Circuit Analysis - II	3	0	0	3
3	PCC	Electromagnetic Fields	3	0	0	3
4	PCC	Electronics Devices & Circuits	3	0	0	3
5	PCC	Electrical Machines -I	3	0	0	3
6	PCC	Electrical Machines –I Lab	0	0	3	1.5
7	PCC	Electronics Devices & Circuits Lab	0	0	3	1.5
8	PCC	Electrical Circuit Analysis Lab	0	0	3	1.5
9	SC - I	Skill oriented course* Design of Electrical Circuits using Engineering Software Tools	0	0	4	2
10	MC - II	Environmental Science	2	0	0	0
Total Credits						21.5

Semester - IV (Second Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	ESC	Digital Logic Design	3	0	0	3
2	BSC/PCC	Mathematics - IV	3	0	0	3
3	PCC	Control Systems	3	0	0	3
4	PCC	Electrical Machines - II	3	0	0	3
5	HSMC	Universal Human Values 2: Understanding Harmony	3	0	0	3
6	ESC	Data Structures Lab	0	0	3	1.5
7	PCC	Control Systems Lab	0	0	3	1.5
8	PCC	Electrical Machines – II Lab	0	0	3	1.5
9	SC - II	Skill oriented course* IoT Applications of Electrical Engineering	0	0	4	2
10	MC - III	Critical Reading and Creative Writing	2	0	0	0
Total Credits						21.5
Internship 2 Months (Mandatory) during summer vacation						
Minors/ Honors Course			4	0	0	4

Semester - V (Third Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	PCC	Electrical Power Generation & Transmission	3	0	0	3
2	PCC	Electrical Measurements & Instrumentation	3	0	0	3
3	PCC	Power Electronics	3	0	0	3
4	OEC - I	Open Elective-I (CSE) Open Electives offered by other departments	2	0	2	3
5	PEC - I	Pulse and Digital Circuits Energy Audit, Conservation and Management Modern Control Theory	3	0	0	3
6	PCC	Electrical Measurements Lab	0	0	3	1.5
7	PCC	Power Electronics Lab	0	0	3	1.5
8	SC	Skill advanced course/ soft skill course* : Advanced English Communication Skills Lab	0	0	4	2
9	MC - IV	Intellectual Property Rights and Patents	2	0	0	0
Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester)			0	0	0	1.5
Total Credits						21.5
Minors Course*			4	0	0	4
Honors Course*			4	0	0	4

Semester - VI (Third Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	PCC	Electric Drives	3	1	0	3
2	PCC	Power Systems Analysis	3	0	0	3
3	PCC	Microprocessors & Microcontrollers	3	0	0	3
4	PEC - II	Electrical Distribution Systems Renewable Energy Systems High Voltage Engineering	3	0	0	3
5	OEC - II	Open Elective-II Open Electives offered by other departments	3	0	0	3
6	PCC	Microprocessors & Microcontrollers Lab	0	0	3	1.5
7	PCC	Power Systems Lab	0	0	3	1.5
8	PCC	Electrical Simulation Lab	0	0	3	1.5
	SC	Skill advanced course/ soft skill course* : Machine Learning using Python	0	0	4	2
	MC	Research Methodology	2	0	0	0
Total Credits						21.5
Industrial/Research Internship (Mandatory) 2Months during summer vacation						
Minors/ Honors Course			4	0	0	4

Semester - VII (Fourth Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	PEC - III	HVDC Transmission Digital Control Systems Electric Vehicles	3	0	0	3
2	PEC - IV	Power Systems Operation & Control Utilization of Electrical Energy Smart Grid	3	0	0	3
3	PEC - V	Switch Gear & Protection Power Quality and FACTS Special Electrical Machines	3	0	0	3
4	OEC - III	Open Elective-III Open Electives offered by other departments	3	0	0	3
5	OEC - IV	Open Elective-IV Open Electives offered by other departments	3	0	0	3
6	HSSEC	Managerial Economics & Management Science (MEMS) Fundamentals of Entrepreneurship Business Environment	3	0	0	3
	SC	Skill advanced course/ soft skill course* PCB Design using software tools	0	0	4	2
Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester)			0	0	0	3
Total Credits						23
Minors/ Honors Course			4	0	0	4

Semester - VIII (Fourth Year)

S.No	Category/ Course Code	Course Title	Hours Per week			Credits
			L	T	P	C
1	Major Project/Proj	Project work	0	0	0	12
Total Credits						12

L Lecture T Tutorials P Practical

Student can complete Project Work @ Industries/Higher Learning Institutions/APSSDC

Open Electives offered by EEE Department for Other Branches (Except EEE Branch)

Open Elective-I:

1. Fundamentals of Power Generation & Transmission
2. Non-Conventional Energy Sources

Open Elective-II:

1. Programmable Logic Controllers And Applications
2. Power Electronic Convertors

Open Elective-III:

1. Battery Management Systems and Charging Stations
2. Electric & Hybrid Vehicles

Open Elective-IV:

- 1 Fundamentals of utilization of Electrical Energy
2. Concepts of Smart Grid

***Minor Engineering Courses offered by EEE Department for Other Branches*
(Except EEE Branch)**

II B.Tech II Semester:

1. Network Analysis
2. Concepts of Electrical Measurements

III B.Tech I Semester:

1. D.C. Machines & Transformers
2. Fundamentals of Control Systems

III B.Tech II Semester:

1. A.C. Machines
2. Concepts of Power Systems

IV B.Tech I Semester:

1. Energy Auditing, Conservation and Management
2. Fundamentals of Power Electronics

COURSES OFFERED FOR HONORS DEGREE

Note:

1. The subjects opted for Honors should be advanced type which are not covered in regular curriculum
2. Students have to acquire 16 credits with minimum one subject from each pool.
3. Concerned BoS can add or delete the subjects as per the decision of the board.
4. Prerequisites to be defined by the board for each course.
5. Compulsory MOOC/NPTEL Courses for 04 credits (02 courses@ 2 credits each)

POOL-1	Pre-Requisites
1. Advanced Semiconductor Devices	Electronic Devices & Circuits
2. Solar Photovoltaic (PV)Technologies	Applied physics
3. Introduction to Battery Management Systems	Applied physics & Applied Chemistry
POOL-2	Pre-Requisites
1. Non-Linear Control Systems	Control Systems
2. Process dynamics and control	Control systems
3. Advanced Electric Machines	Electrical Machines
POOL-3	Pre-Requisites
1. Machine Modelling and Analysis	Electrical Machines
2. Advanced Power Electronic Convertors	Power Electronics
3. SCADA and Energy Management Systems	Electrical Distribution systems
POOL-4	Pre-Requisites
1. Grid Integration of renewable energy systems	Renewable energy systems
2. Advanced Electric Drives	Electric Drives
3. Power system reliability	Electrical Distribution systems