

COURSE STRUCTURE- 2019 PATTERN
SECOND YEAR B. TECH. ELECTRICAL ENGINEERING

SEMESTER-I

Course			Teaching Scheme Hours/week				Evaluation Scheme-Marks						
Cat.	Code	Title	L	T	P	Credits	Theory			OR	PR	TW	Total
							ISE	ESE	CA				
PROJ	EE201	First Year Internship	-	-	-	2	-	-	-	50	-	-	50
BSC	BS202	Vector Calculus and Differential Equations	3	1	-	4	30	50	20	-	-	-	100
PCC	EE203	Material Science	3	-	-	3	30	50	20	-	-	-	100
PCC	EE204	Electrical Measurements and Instrumentation	4	-	-	4	30	50	20	-	-	-	100
PCC	EE205	Analog and Digital Electronics	3	-	-	3	30	50	20	-	-	-	100
HSMC	HS206	Universal Human Values & Ethics	3	-	-	3	30	50	20	-	-	-	100
LC	EE207	Material Science Laboratory	-	-	2	1	-	-	-	-	50	25	75
LC	EE208	Electrical Measurements and Instrumentation Laboratory	-	-	2	1	-	-	-	-	50	25	75
LC	EE209	Analog and Digital Electronics Laboratory	-	-	2	1	-	-	-	-	50	25	75
MLC	MC210	Mandatory Course-III	2	-	-	Non Credit	-	-	-	-	-	-	-
Total			18	1	6	22	150	250	100	50	150	75	775

MC210	Mandatory Course-III	Constitution of India – Basic features and fundamental principles
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List of Abbreviations

Abbreviation	Full Form	Abbreviation	Full Form
BSC	Basic Science Course	MC	Mandatory Course
ESC	Engineering Science Course	PCC	Professional Core Course
HSMC	Humanities/Social Sciences/Management Course	PEC	Professional Elective Course
IP	Induction Program	OEC	Open Elective Course
L	Lecture	LC	Laboratory Course
T	Tutorial	CA	Continuous Assessment
P	Practical	OR	End Semester Oral Examination
ISE	In-Semester Evaluation	PR	End Semester Practical Examination
ESE	End-Semester Evaluation	TW	Continuous Term Work Evaluation
Cat	Category	PROJ	Project

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SEMESTER-II

Course			Teaching Scheme Hours/week				Evaluation Scheme-Marks						
Cat.	Code	Title	L	T	P	Credits	Theory			OR	PR	TW	Total
							ISE	ESE	CA				
PCC	EE211	Numerical Methods and Computer Programming	3	1	-	4	30	50	20	-	-	-	100
PCC	EE212	Network Analysis	3	1	-	4	30	50	20	-	-	-	100
PCC	EE213	Electrical Machines I	4	-	-	4	30	50	20	-	-	-	100
PCC	EE214	Power System I	3	-	-	3	30	50	20	-	-	-	100
LC	EE215	Numerical Methods and Computer Programming Laboratory	-	-	2	1	-	-	-	-	50	25	75
LC	EE216	Network Analysis Laboratory	-	-	2	1	-	-	-	-	-	25	25
LC	EE217	Electrical Machines I Laboratory	-	-	2	1	-	-	-	-	50	25	75
LC	EE218	Power System I Laboratory	-	-	2	1	-	-	-	50	-	-	50
PROJ	EE219	Seminar	-	-	2	1	-	-	-	50	-	-	50
PROJ	EE220	Mini Project / Choice based Subject	-	-	4	2	-	-	-	-	-	50	50
MLC	MC221	Mandatory Course-IV	2	-	-	Non Credit	-	-	-	-	-	-	-
Total			15	2	14	22	120	200	80	100	100	125	725

MC221	Mandatory Course-IV	Innovation - Project based – Sc., Tech, Social, Design & Innovation
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List of Abbreviations

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HSMC	Humanities/Social Sciences/Management Course	PEC	Professional Elective Course
IP	Induction Program	OEC	Open Elective Course
L	Lecture	LC	Laboratory Course
T	Tutorial	CA	Continuous Assessment
P	Practical	OR	End Semester Oral Examination
ISE	In-Semester Evaluation	PR	End Semester Practical Examination
ESE	End-Semester Evaluation	TW	Continuous Term Work Evaluation
Cat	Category	PROJ	Project

Total Credits: 44
Total Marks: 1500

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SEMESTER- V

Course			Teaching Scheme Hours/week				Evaluation Scheme-Marks						
Cat.	Code	Title	L	T	P	Credits	Theory			OR	PR	TW	Total
							ISE	ESE	CA				
PROJ	EE301	Professional Internship-II	-	-	-	2	-	-	-	50	-	-	50
PCC	EE302	Microcontrollers And Applications	3	-	-	3	30	50	20	-	-	-	100
PCC	EE303	Electrical Machines II	3	-	-	3	30	50	20	-	-	-	100
PCC	EE304	Power System II	3	-	-	3	30	50	20	-	-	-	100
PCC	EE305	Power Electronics	3	-	-	3	30	50	20	-	-	-	100
PEC	EE306	Professional Elective-I	3	-	-	3	30	50	20	-	-	-	100
LC	EE307	Microcontrollers And Applications Laboratory	-	-	2	1	-	-	-	-	25	-	25
LC	EE308	Electrical Machines II Laboratory	-	-	2	1	-	-	-	-	25	-	25
LC	EE309	Power System II Laboratory	-	-	2	1	-	-	-	25	-	-	25
LC	EE310	Power Electronics Laboratory	-	-	2	1	-	-	-	-	25	-	25
PROJ	EE311	Skill based Credit Course	1	-	-	1	-	-	-	-	-	50	50
MLC	MC312	Mandatory Learning Course-V	1	-	-	Non Credit	-	-	-	-	-	-	-
Total			17	-	8	22	150	250	100	75	75	50	700

EE306	Professional Elective-I	A.	Signals and Systems
		B.	Power Generation Technologies
MC312	Mandatory Learning Course-V	A.	Electrical Energy Conservation and Auditing -

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SEMESTER- VI

Course			Teaching Scheme Hours/week				Evaluation Scheme-Marks						
Cat.	Code	Title	L	T	P	Credits	Theory			OR	PR	TW	Total
							ISE	ESE	CA				
PCC	EE313	Feedback Control Systems	3	-	-	3	30	50	20	-	-	-	100
PCC	EE314	Power System Operation and Control	3	-	-	3	30	50	20	-	-	-	100
OE	EE315	Open Elective-I	4	-	-	4	30	50	20	-	-	-	100
PROJ	PR316	IPR & EDP	2	-	-	2	15	25	10	-	-	-	50
PROJ	PR317	IPR & EDP Lab	-	-	2	1	-	-	-	-	-	50	50
HSMC	HS318	Corporate Readiness	1	-	2	2	-	-	-	-	-	50	50
PEC	EE319	Professional Elective-II	2	-	-	2	30	50	20	-	-	-	100
LC	EE320	Feedback Control Systems Laboratory	-	-	2	1	-	-	-	-	50	-	50
LC	EE321	Power System Operation and Control Laboratory	-	-	2	1	-	-	-	50	-	-	50
LC	EE322	Professional Elective-II Laboratory	-	-	2	1	-	-	-	50	-	-	50
MLC	MC323	Mandatory Course-VI	1	-	-	Non Credit	-	-	-	-	-	-	-
Total			16	-	10	20	135	225	90	100	50	100	700

EE315	Open Elective-I	A. Renewable Energy Sources
EE319	Professional Elective-II	A. Electrical Machine Design
		B. Electrical Drives
		C. Smart Grid
EE322	Professional Elective-II Laboratory	A. Electrical Machine Design Laboratory
		B. Electrical Drives Laboratory
		C. Smart Grid Laboratory
MC323	Mandatory Course-VI	A. Installation & Maintenance of Electrical Appliances

COURSE STRUCTURE- 2019 PATTERN
FINAL YEAR B. TECH. ELECTRICAL ENGINEERING

SEMESTER- VII

Course			Teaching Scheme Hours/week				Evaluation Scheme-Marks						
Cat.	Code	Title	L	T	P	Credits	Theory			OR	PR	TW	Total
							ISE	ESE	CIA				
PROJ	EE401	Professional Internship	-	-	-	2	-	-	-	50	-	-	50
PCC	EE402	Switch Gear and Protection	3	-	-	3	30	50	20	-	-	-	100
PCC	EE403	Control System Design	3	-	-	3	30	50	20	-	-	-	100
PEC	EE404	Professional Elective- III	3	-	-	3	30	50	20	-	-	-	100
OEC	EE405	Open Elective-II	3	-	-	3	-	75	25	-	-	-	100
OEC	EE406	Open Elective-III	2	-	-	2	-	30	20	-	-	-	50
LC	EE407	Switch Gear and Protection Laboratory	-	-	2	1	-	-	-	-	50	-	50
LC	EE408	Control System Design Laboratory	-	-	2	1	-	-	-	50	-	-	50
PROJ	EE409	Project Stage I	-	-	4	2	-	-	-	50	-	-	50
MLC	MC410	Mandatory Learning Course-VII	1	-	-	No Credit	-	-	-	-	-	-	-
Total			15	-	8	20	90	255	105	150	50	00	650

EE404	Professional Elective- III	EE404A EE404B EE404C	Electric and Hybrid Vehicle HVDC Transmission Systems Digital Signal Processing
EE405	Open Elective-II	EE405A EE405B EE405C EE405D	Problem Solving Through Programming in C Introduction to Industry 4.0 and Industrial IOT Data Structure and Algorithm Using JAVA Real-Time Digital Signal Processing
EE406	Open Elective-III	EE406A EE406B EE406C	Introduction to BMS Real-Time Embedded Systems Concepts and Practices Introduction to Data Science in Python
MC410	Mandatory Learning Course-VII	MC410A	Circuit Simulation and PCB Design

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SEMESTER- VIII

Course			Teaching Scheme Hours/week				Evaluation Scheme-Marks						
Cat.	Code	Title	L	T	P	Credits	Theory			OR	PR	TW	Total
							ISE	ESE	CA				
PROJ	EE411	Power Quality and FACTs	3	-	-	3	30	50	20	-	-	-	100
PCC	EE412	High Voltage Engineering	3	-	-	3	30	50	20	-	-	-	100
PCC	EE413	EHV and UHV AC Transmission	3	-	-	3	30	50	20	-	-	-	100
PEC	EE414	Professional Elective-IV A. Intelligent Systems with AI and ML B. IOT Applications C.VLSI Circuits	3	-	-	3	30	50	20	-	-	-	100
LC	EE415	Power Quality and FACTs Laboratory	-	-	2	1	-	-	-	50	-	-	50
LC	EE416	High Voltage Engineering Laboratory	-	-	2	1	-	-	-	-	50	-	50
PROJ	EE417	Project Stage II	-	-	8	4	-	-	-	50	-	100	150
MLC	MC418	Mandatory Learning Course-VIII A. Industrial Technology and Management	1	-	-	Non Credit	-	-	-	-	-	-	Pass/Fail
Total			13	-	12	18	120	200	80	100	50	100	650