

BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
NEWCOURSE STRUCTURE - To be effective from academic session 2018- 19
Based on CBCS & OBE model
Recommended scheme of study for M.Tech Programmes(Power System)

SEMESTER / Session of Study (Recommended)	Course Level	Category of course	Course Code	Courses	Mode of delivery & credits L-Lecture; T-Tutorial;P- Practicals			Total Credits C- Credits
					L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	C
FIRST / Monsoon	THEORY							
	Fifth	Programme Core (PC)	EE501	Advanced Digital Signal Processing	3	0	0	3
			EE503	Modern Control Theory	3	0	0	3
			EE509	Advanced Power System Analysis	3	0	0	3
	Fifth	Programme Elective (PE)		Programme Elective -I	3	0	0	3
		Open Elective (OE)		Open Elective-I	3	0	0	3
	LABORATORIES							
	Fifth	Programme Core (PC)	EE502	Advanced Digital Signal Processing Laboratory	0	0	4	2
			EE508	Control and Power Electronics Laboratory	0	0	4	2
	TOTAL							
19								
SECOND/ Spring	THEORY							
	Fifth	Programme Core (PC)	EE567	Smart Grid Technology	3	0	0	3
			EE565	Power System Operation and Control	3	0	0	3
			EE563	Advanced Power System Protection	3	0	0	3
	Fifth	Programme Elective (PE)		Programme Elective -II	3	0	0	3
		Open Elective (OE)		Open Elective-II	3	0	0	3
	LABORATORIES							
	Fifth	Programme Core (PC)	EE562	Power System Simulation Lab.	0	0	4	2
			EE564	Advanced Power System Laboratory	0	0	4	2
	TOTAL							
19								
TOTAL FOR FIFTH LEVEL								
38								
THIRD / Monsoon	THEORY							
	Sixth	Programme Core (PC)	EE600	Thesis Part - I				8
			EE605	Micro- grid Operation and Control	3	0	0	3
	Sixth	Programme Elective (PE)		Programme Elective -III	3	0	0	3
		LABORATORIES						
	Sixth	Programme Core (PC)	EE606	Smart Grid Laboratory	0	0	4	2
TOTAL								
16								
FOURTH/ Spring	Sixth	Programme Core (PC)	EE650	Thesis Part - II				16
			TOTAL					
16								
TOTAL FOR SIXTH LEVEL								
32								
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)								
70								

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List Of Program Electives for M.Tech in Electrical Engineering (Power Electronics)

Level	Course Code	Courses	Prerequisites courses with code	Mode of delivery & credits <i>L-Lecture; T-Tutorial;P-Practicals</i>			Total Credits <i>C- Credits</i>
				L <i>(Periods/ week)</i>	T <i>(Periods/ week)</i>	P <i>(Periods/week)</i>	C
Programme Elective - I							
5	EE511	Optimization in Engineering Design		3	0	0	3
	EE531	EHV AC Power Transmission		3	0	0	3
	EE533	Modern Power System Planning		3	0	0	3
	EE535	HVDC and FACTS					
	EE537	Substation Design and Automation					
	EE539	Power System Dynamics		3	0	0	3
Programme Elective - II							
5	EE591	Power System Deregulation		3	0	0	3
	EE583	Renewable Sources of Electrical Energy & Grid Integration		3	0	0	3
	EE573	Embedded System and Applications		3	0	0	3
	EE593	High Voltage Engineering					
	EE577	Control of Electric Drives					
	EE571	Soft Computing Techniques in Electrical Engineering					
	EE553	Non- Linear Control Systems		3	0	0	3
Programme Elective - III							
6	EE631	Power System Reliability Evaluation		3	0	0	3
	EE633	Power Quality		3	0	0	3
	EE635	Wide Area Monitoring System		3	0	0	3

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LIST OF OPEN ELECTIVES (PG)

Level of Study	Course Code	Courses	Pre-requisites	Mode of delivery & credits <i>L-Lecture; T-Tutorial;P-Practicals</i>			Total Credits <i>C- Credits</i>
				L <i>(Periods/ week)</i>	T <i>(Periods/ week)</i>	P <i>(Periods/ week)</i>	C
5	EE585	Hybrid Electric Vehicle	NIL	3	0	0	3
	EE587	Electromechanical Energy Conversion	NIL	3	0	0	3
	EE589	Power Semiconductor Devices	NIL	3	0	0	3
	EE595	Smart Grid	NIL	3	0	0	3
	EE597	Reliability Engineering	NIL	3	0	0	3
6	EE601	Process Measurement and Control	NIL	3	0	0	3