

Gautam Buddha University
School of Engineering
Department of Electrical Engineering

Course structure of 2 Year M. Tech. Programme in Power Systems (2019-21)

SEMESTER-I					Course Type
S. No.	Subject Code	Courses	L-T-P	Credit	
		THEORY			
1.	MA406/ MA507/ MA402	Operation Research/Optimization Techniques/Modelling & Simulation	3-1-0	4	EGE-P1
2.	EE571	Power System Analysis and Control	3-0-0	3	C-P1
3.	EE573	Power System Transients	3-0-0	3	C-P2
4.	EE775	Renewable Energy Sources	3-0-0	3	C-P3
5.		Elective-I	3-0-0	3	EDSE-P1
6.		Open Elective	3-0-0	3	OE-P1
		PRACTICALS/PROJECT			
7.	EE591	Power System Lab	0-0-3	2	C-P4
8.	EE597	Seminar	0-0-3	2	SEC1
9.	GP	General Proficiency	-	NC	
		Total		23	
		Total Contact Hours	25		

Open Elective: Course offered from other school

SEMESTER-II					Course Type
S. No.	Subject Code	Courses	L-T-P	Credit	
		THEORY			
1.	MA406/MA507 /MA402	Operation Research/Optimization Techniques/Modelling & Simulation	3-1-0	4	EGE-P2
2.	EE572	Advance Power System Protection	3-0-0	3	C-P5
3.	EE574	Power System Planning and Reliability	3-0-0	3	C-P6
4.	EE876	Power System Design	3-0-0	3	C-P7
5.		Specialized Elective- I	3-0-0	3	EDSE-P2
6.		PRACTICALS/PROJECT			
	EE598	Project	0-0-10	5	EDP-P1
7.	EE588	Power System Simulation Lab	0-0-3	2	C-P8
8.	GP	General Proficiency	-	NC	
		Total		23	
		Total Contact Hours	29		






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SEMESTER-III					Course Type
S. No.	Subject Code	Courses	L-T-P	Credit	
		THEORY			
1.	EE671	Power System Dynamics & Control	3-0-0	3	C-P9
2.	EE673	HVDC and FACTS	3-1-0	4	C-P10
3.		Specialized Elective-II	3-0-0	3	EDSE-P3
4.		Specialized Elective-III	3-0-0	3	EDSE-P4
5.		PRACTICALS/PROJECT			
6.	EE697	Distribution Network Lab	0-0-2	1	CP11
7.	EE699	Dissertation-I	6*-0-3	8	EDP-P2
8.	GP	General Proficiency	-	NC	
		Total	-	22	
		Total Contact Hours	24		

*This will not be a usual lecture session, but this is one to one interaction of each student with the concerned faculty member

SEMESTER-IV					Course Type
S. No.	Subject Code	Courses	L-T-P	Credit	
		PRACTICALS/PROJECT			
1.	EE698	Dissertation-II	-	22	EDP-P3
2.	GP	General Proficiency	-	NC	
		Total	-	22	
		Total Contact Hours	22		

Grand Total Credits = 90

Open Elective: Course offered from other school

List of Electives for M. Tech. (Power System)

Elective-I:

1. EE577: Reliability Analysis & Prediction
2. EE579: Failure Data Organization & Analysis
3. EE581: Restructured Power System
4. EE583: Power Conditioning
5. EE585: Power Converters & Applications
6. EE587: Project Engineering & Management
7. EE589: Wavelet Methods in Engineering
8. EE771: Modelling and Planning of Energy Systems
9. EE773: Computer Methods in Power Systems
10. EE777: Power System Quality
11. EE779: Micro-Grids Systems
12. EE781: Electric Power Generation System
13. EE621: Computer Aided Design of Electrical Apparatus
14. M. Tech. (PED, I&C and RES)-I Sem, Elective

Specialized Elective-I

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Specialized Elective-I

1. EE578: Computer Aided Design of Electrical Machines
2. EE580: Reliability Centered Maintenance
3. EE582: Power Sector Economics and Management
4. EE584: EHVAC Transmission
5. EE586: Modeling and Analysis of Electrical Machines
6. EE772: Machine Learning and Data Analytics in Power Systems
7. EE774: Artificial Intelligence Techniques
8. EE776: Cyber Security in Power Systems
9. EE778: Electric Vehicle Charging Substation
10. EE782: Power System Optimization
11. Specialized Electives-I of M. Tech. (PED, I&C and RES)

Specialized Elective-II

1. EE675: Computer Applications to Power System Analysis
2. EE677: Control and Operation of Active Distribution Network
3. EE679: Power Quality Analysis and Mitigation
4. EE681: Soft Computing Techniques
5. EE683: Distributed Generation and Microgrids
6. EE871: Special Topics in Power Systems
7. EE873: Sustainable Energy Sources
8. EE784: AI techniques in Power System
9. Specialized Electives-II of M. Tech. (PED, I&C & RES)

Specialized Elective III

1. EE685: SCADA and Phasor Measurement Unit
2. EE687: Optimal Control Theory and Power System Applications
3. EE689: Demand Side Management
4. EE691: Power System Optimization
5. EE693: Optimization Techniques for Electrical Engineering
6. EE695: Distribution System Analysis & Control
7. EE879: Power Substation Engineering
8. EE877: Electric Power Vehicle
9. EE875: Distribution System Analysis
10. Specialized Electives-III of M. Tech. (PED, I&C & RES)

Nomenclature:

1. AEC: Ability Enhancement Courses
 - AEC-C: Ability Enhancement Courses Compulsory
 - SEC: Skill Enhancement Courses
2. CC: Core Courses
3. Elective Courses
 - E-DSE: Discipline Specific Elective
 - E-GE: Generic Elective
 - E-DP: Dissertation and Project