

**Gautam Buddha University**  
**School of Engineering**  
**Department of Electrical Engineering**

**Course structure of 2 Year M. Tech. Programme in Power Electronics and Drives(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-D1
2.	EE501	Power Electronics Devises & Magnetics	3-0-0	3	C-D1
3.	EE503	Modeling of Electrical Apparatus	3-0-0	3	C-D2
4.	EE505	DC Power Converters	3-0-0	3	C-D3
5.		Elective-I	3-0-0	3	EDSE-D1
6.		Open Elective	3-0-0	3	OE-D1
		PRACTICALS/PROJECT			
7.	EE513	Advance Power Electronic Lab	0-0-3	2	C-D4
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-D2
2.	EE502	Industrial Instrumentation and Automation	3-0-0	3	C-D5
3.	EE504	Electric Drive Systems	3-0-0	3	C-D6
4.	EE506	Digital Controllers Architecture and Interfacing	3-0-0	3	C-D7
5.		Specialized Elective- I	3-0-0	3	EDSE-D2
		PRACTICALS/PROJECT			
6.	EE598	Project	0-0-10	5	EDP-D1
7.	EE516	Advance Electric Drives Lab	0-0-3	2	C-D8
8.	GP	General Proficiency	-	NC	
		Total		23	
		Total Contact Hours	29		

15<sup>th</sup> BOS – July 19<sup>th</sup> 2019, Electrical Engineering Department, School of Engineering

SEMESTER-III					Course Type
S. No.	Subject Code	Courses	L-T-P	Credit	
		THEORY			
1.	EE601	Special Electromechanical Devices	3-0-0	3	C-D9
2.	EE603	HVDC & Custom Power Device	3-0-0	3	C-D10
3.		Specialized Elective-II	3-0-0	3	EDSE-D3
4.		Specialized Elective-III	3-0-0	3	EDSE-D4
		PRACTICALS/PROJECT			
5.	EE623	Power Converter and Simulation Lab	0-0-3	2	CD11
6.	EE699	Dissertation-I	6*-0-3	8	EDP-D2
7.	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-D3
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 Electronics and Drives)

#### Elective-I:

1. EE507: Advance AI and Soft Computing Techniques
2. EE509: Drive Systems and Optimization Techniques
3. EE511: Nonlinear Control System
4. EE589: Wavelet Methods in Engineering
5. EE543: Embedded System
6. EE665: Research Techniques and Methodology
7. M. Tech. (PS, I&C and RES)-I Sem. Elective

#### Specialized Elective-I

1. EE508: AC Power Converters
2. EE510: HVAC Transmission and Technology
3. EE512: Custom Power Devices and Technology
4. EE514: Control and Estimation of Electric Drive
5. Specialized Electives-I of M. Tech. (PS, I&C & RES)

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### Specialized Elective-II

1. EE605: Power Quality
2. EE607: Energy Storage System and Charging Control
3. EE609: Applications of Converters for Renewable Energy Systems
4. EE611: Smart Grid
5. Specialized Electives-II of M. Tech. (PS, I&C & RES)

### Specialized Elective III

6. EE613: Supervisory Control and Distribution Automation
7. EE615: Distribution Generation System and Design
8. EE617: Digital Signal Processing and its Applications
9. EE619: Robotics and Vehicular Power Electronics
10. EE621: Computer Aided Design of Electrical Apparatus
11. Specialized Electives-III of M. Tech. (PS, 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

Vsingh

Shabana

Apal

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