



**PERIYAR
MANIAMMAI**
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University)
Established Under Sec. 3 of UGC Act, 1956 • NAAC Accredited
think • innovate • transform

Criterion 1 – Curricular Aspects

Key Indicator	1.2	Academic Flexibility
Metric	1.2.2	Percentage of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented (Data for the latest completed academic year)

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING
STRUCTURE OF THE PROGRAM CLEARLY INDICATING
COURSES, CREDITS/ELECTIVES**

B.Tech. EEE Full Time**SEMESTER I**

Code No.	Course Title	L	T	P	C	TCH
XMA101	Calculus and Linear Algebra	3	1	0	4	4
XBE102	Electrical and Electronics Engineering Systems	3	1	0	4	4
XAC103	Applied Chemistry for Engineers	3	1	0	4	4
XEG104	Engineering Graphics and Design	1	0	2	3	5
XGS105	Speech Communication	0	1	2	3	5
XUM106	Constitution of India	0	0	0	0	3
XBE107	Electrical and Electronics Engineering Systems Laboratory	0	0	1	1	2
XAC108	Applied Chemistry for Engineers Laboratory	0	0	1	1	2
TOTAL		10	4	6	20	29

SEMESTER II

Code No.	Course Title	L	T	P	C	TCH
XMA201	Calculus, Ordinary Differential Equations and Complex Variable	3	1	0	4	4
XCP202	Programming for Problem Solving	3	0	0	3	3
XAP203	Applied Physics for Engineers	3	1	0	4	4
XGS204	Technical Communication	2	0	0	2	2
XWP205	Workshop Practices	1	0	2	3	5
XEM206	Engineering Mechanics	3	0	0	3	3
XCP207	Programming for Problem Solving Laboratory	0	0	1	1	2
XAP208	Applied Physics for Engineers Laboratory	0	0	1	1	2
TOTAL		15	2	4	21	25

SEMESTER III

Code No.	Course Title	L	T	P	C	TCH
XMA301	Transforms and Partial Differential Equations	3	0	0	3	3
XEE302	Electromagnetic Fields	3	0	1	4	5
XEE303	Digital Logic Circuits	3	0	0	3	3
XEE304	Electrical Circuit Analysis	3	1	0	4	4
XEE305	Electrical Machines - I	3	1	0	4	4
XUM306	Entrepreneurship Development	2	0	0	2	2
XEE307	Universal Human Values 2:Understanding Harmony and Gender	2	1	0	3	3
XEE308	Electrical Circuit Analysis Laboratory	0	0	1	1	2
XEE309	Electrical Machines - I Laboratory	0	0	1	1	2
XEE310	In-plant Training - I	-	-	-	1	-
TOTAL		19	4	2	26	27

SEMESTER IV

Code No.	Course Title	L	T	P	C	TCH
XMA401	Probability Distributions and Statistical Methods	3	0	0	3	3
XEE402	Analog Electronics	3	0	0	3	3
XEE403	Control Systems	3	1	0	4	4
XEE404	Electrical Machines - II	3	1	0	4	4
XUM405	Economics for Engineers	3	0	0	3	3
XUM406	Disaster Management	0	0	0	3	3
XEE407	Analog Electronics Laboratory	0	0	1	1	2
XEE408	Control Systems Laboratory	0	0	1	1	2
XEE409	Electrical Machines - II Laboratory	0	0	1	1	2
TOTAL		15	2	3	20	26

SEMESTER V

Code No.	Course Title	L	T	P	C	TCH
XEE501	Transmission and Distribution	3	0	0	3	3
XEE502	Power System Analysis	3	1	0	4	4
XEE503	Digital Electronics	3	0	0	3	3
XEE504	Measurements and Instrumentation	3	0	0	3	3
XEEE1*	Professional Elective - I	3	0	0	3	3
X**OE*	Open Elective – 1	3	0	0	3	3
XEE506	Digital Electronics Laboratory	0	0	1	1	2
XEE507	Measurements and Instrumentation Laboratory	0	0	1	1	2
XEE508	In - Plant Training – II	-	-	-	1	-
TOTAL		18	1	3	22	23

SEMESTER VI

Code No.	Course Title	L	T	P	C	TCH
XEE601	Power Electronics	3	1	0	4	4
XEE602	Microprocessors and Microcontrollers	3	0	0	3	3
XEEE2*	Professional Elective - 2	3	0	0	3	3
X**OE*	Open Elective - 2	3	0	0	3	3
XGS605	Professional Skills	1	0	2	3	5
XUM606	Cyber Security	3	0	0	3	3
XEE M02	Minor Course – II	0	0	0	0	2
XEE601	Power Electronics Laboratory	0	0	1	1	2
XEE602	Microprocessors and Microcontrollers Laboratory	0	0	1	1	2
TOTAL		13	1	4	21	25

SEMESTER VII

Code No.	Course Title	L	T	P	C	TCH
XEE E4*	Professional Elective – 4	3	0	0	3	3
XEE E5*	Professional Elective – 5	3	0	0	3	3
XUM 703	Human Ethics, Values, Rights and Gender Equality	3	0	0	3	3
X** OE*	Open Elective – 3	3	0	0	3	3
X** OE*	Open Elective – 4	3	0	0	3	3
XEE 706	Project Phase – I	0	0	8	4	6
XEE 707	In-plant Training – III	-	-	4	2	-
XEE M03	Minor Course – III	0	0	0	0	2
TOTAL		15	0	12	21	23

SEMESTER VIII

Code No.	Course Title	L	T	P	C	TCH
XUM 801	Cyber Security	0	0	0	P/F	3
XEE E6*	Professional Elective – 6	3	0	0	3	3
X** OE*	Open Elective -5	3	0	0	3	3
XEE 804	Project Phase – II	0	0	12	6	16
TOTAL		6	0	12	12	25

LIST OF ELECTIVES

ELECTIVE GROUP – 1: (5th Sem)

Code No.	Course Title	L	T	P	C
E11	Protection and Switchgear	3	0	0	3
E12	Electrical Machine Design	3	0	0	3
E13	Embedded system	3	0	0	3
E14	Electrical Energy Conservation and Auditing	3	0	0	3

ELECTIVE GROUP – 2: (6th Sem)

Code No.	Course Title	L	T	P	C
E21	Signals and Systems	3	0	1	4
E22	Special Electrical Machines	3	0	0	3
E23	Electrical Power Quality	3	0	0	3
E24	Sustainable Energy Utilization	3	0	0	3

ELECTIVE GROUP – 4: (7th Sem)

Code No.	Course Title	L	T	P	C
E41	High Voltage Engineering	3	0	1	4
E42	Embedded System	3	0	0	3
E43	Power System Restructuring	3	0	0	3
E44	Line Commutated and Active Rectifiers	3	0	0	3

ELECTIVE GROUP – 5: (7th Sem)

Code No.	Course Title	L	T	P	C
E51	Electrical Drives	3	0	0	3
E52	Power System Dynamics and Control	3	0	0	3
E53	HVDC Transmission Systems	3	0	0	3
E54	Power Quality and FACTS	3	0	0	3

ELECTIVE GROUP - 6: (8th Sem)

Code No.	Course Title	L	T	P	C
E61	Electrical and Hybrid Vehicles	3	0	0	3
E62	Wind and Solar Systems	3	0	0	3
E63	Power System Protection	3	0	0	3
E64	Advanced Electric Drives	3	0	0	3

OPEN ELECTIVES:

Code No.	Course Title	L	T	P	C
OE1	Industrial Automation	3	0	0	3
OE2	Energy Management and Auditing	3	0	0	3
OE3	Renewable Energy Technology	3	0	0	3

B.Tech. EEE Part Time

CURRICULUM

REGULATION – 2021

(Applicable to the students admitted from the Academic year 2018-19 onwards)

SEMESTER I

Code No.	Course Title	L	T	P	C	TCH
PMA 101	Calculus and Linear Algebra	3	1	0	4	4
PAP 102	Applied Physics for Engineers	3	1	0	4	4
PAC 103	Chemistry	3	1	0	4	4
PEE 104	Electrical Circuit Analysis	3	1	0	4	4
PEE 105	Electrical Circuit Analysis Laboratory	0	0	1	1	2
Total		12	4	1	17	18

SEMESTER II

Code No.	Course Title	L	T	P	C	TCH
PMA 201	Calculus, Ordinary Differential Equations and Complex Variable	3	1	0	4	4
PAP 202	Analog Electronics	3	1	0	4	4
PAC 203	Electromagnetic Fields	3	1	0	4	4
PEE 204	Electrical Machines – I	3	1	0	4	4
PEE 205	Electrical Machines – I Laboratory	0	0	1	1	2
Total		12	4	1	17	18

SEMESTER III

Code No.	Course Title	L	T	P	C	TCH
PEE 301	Transmission and Distribution	3	1	0	4	4
PEE 302	Entrepreneurship Development	3	0	0	3	3
PEE 303	Digital Electronics	3	1	0	4	4
PEE 304	Electrical Machines-II	3	1	0	4	4
PEE 305	Electrical Machines-II Laboratory	0	0	1	1	2
Total		12	3	1	16	17

SEMESTER IV

Code No.	Course Title	L	T	P	C	TCH
PEE 401	Microprocessors and Microcontrollers	3	0	0	3	3
PEE 402	Economics for Engineers	3	0	0	3	3
PEE E1*	Professional Elective-1	3	0	0	3	3
PEE 404	Control Systems	3	1	0	4	4
PEE 405	Microprocessors and Control systems Laboratory	0	0	1	1	2
		12	1	1	14	15

SEMESTER V

Code No.	Course Title	L	T	P	C	TCH
PEE 501	Power Systems Analysis	3	1	0	3	4
PEE 502	Environmental Studies	3	0	0	3	3
PEE E2*	Professional Elective-2	3	0	0	3	3
PEE504	Power Electronics	3	1	0	4	4
PEE505	Power Electronics Laboratory	0	0	1	1	2
		12	2	1	15	16

SEMESTER VI

Code No.	Course Title	L	T	P	C	TCH
PEE601	Power Systems Operation and Control	3	1	0	4	4
PEE602	Disaster Management	3	0	0	3	3
PEEE3*	Professional Elective-3	3	0	0	3	3
PEE 604	Measurements and Instrumentation	3	1	0	4	4
PEE 605	Measurements and Instrumentation Laboratory	0	0	1	1	2
		12	2	1	15	16

SEMESTER VII

Code No.	Course Title	L	T	P	C	TCH
PEE E4*	Professional Elective-4	3	0	0	3	3
PEE E5*	Professional Elective-5	3	0	0	3	3
PEE E6*	Professional Elective-6	3	0	0	3	3
PEE 704	Main Project	0	0	16	12	16
		9	0	16	21	25

OVER ALL CREDITS = 105 CREDITS

ELECTIVE GROUP -1 :(4th Sem)

Code No.	Course Title	L	T	P	C	TCH
E11	Solid State Drives	3	0	0	3	3
E12	Digital Logic Circuits	3	0	0	3	3
E13	Pollution Performance of Power Apparatus and Systems	3	0	0	3	3
E14	Electrical Power Quality	3	0	0	3	3

ELECTIVE GROUP - 2 :(5th Sem)

Code No.	Course Title	L	T	P	C	TCH
E21	Protection and Switchgear	3	0	0	3	3
E22	Electrical Machine Design	3	0	0	3	3
E23	Wind and solar Systems	3	0	0	3	3
E24	Electrical Energy Conservation and Auditing	3	0	0	3	3

ELECTIVE GROUP - 3 :(6th Sem)

Code No.	Course Title	L	T	P	C	TCH
E31	Wind Energy Conservation Systems	3	0	0	3	3
E32	Smart Grids	3	0	0	3	3
E33	Bio-Medical Instrumentation	3	0	0	3	3
E34	Power Quality and FA	3	0	0	3	3

ELECTIVE GROUP - 4 :(7th Sem)

Code No.	Course Title	L	T	P	C	TCH
E41	Power Plant Engineering	3	0	0	3	3
E42	Embedded System	3	0	0	3	3
E43	Eco Power Generation	3	0	0	3	3

ELECTIVE GROUP - 5 :(7th Sem)

Code No.	Course Title	L	T	P	C	TCH
E51	Electrical Drives	3	0	0	3	3
E52	Power System Dynamics and Control	3	0	0	3	3
E53	Line Commutated and Active Rectifiers	3	0	0	3	3

ELECTIVE GROUP - 6 :(7th Sem)

Code No.	Course Title	L	T	P	C	TCH
E61	HVDC Transmission Systems	3	0	0	3	3
E62	Wind and Solar Energy Systems	3	0	0	3	3
E63	Electrical Energy Conservation and Auditing	3	0	0	3	3

M.Tech. PED Full Time

CURRICULUM

REGULATION – 2022

(Applicable to the students admitted from the Academic year 2022-23 onwards)

SEMESTER I

Code No.	Course Title	L	T	P	C	HRS
YPE101	Analysis of Electrical Machines	3	1	0	4	4
YPE102	Analysis of Power Converters	3	1	0	4	4
YPE103	Modeling and Design of SMPS	3	0	0	3	3
YPEE1*	Elective - I	3	0	0	3	3
YPEE2*	Elective - II	3	0	0	3	3
YEGOE1	English for Research Paper Writing	2	0	0	0	2
YRM107	Research Methodology and IPR	2	0	0	2	2
YPE108	Design and Simulation of Power Electronic Circuits Laboratory	0	0	1	1	2
YPE109	Modeling of Electrical Machines Laboratory	0	0	1	1	2
Total		19	0	2	21	25

SEMESTER II

Code No.	Course Title	L	T	P	C	HRS
YPE201	Analysis of Electrical Drives	3	1	0	4	4
YPE202	Special Electrical Machines	3	0	0	3	3
YPE203	Electric Vehicles and Power Management	3	0	0	3	3
YPEE3*	Elective - III	3	0	0	3	3
YPEE4*	Elective - IV	3	0	0	3	3
YPE206	Power Electronics and Drives Laboratory	0	0	1	1	2
YPE207	Mini Project	0	0	2	2	4
YPSOE1	Constitution of India	2	0	0	0	2
Total		17	1	3	19	24

SEMESTER III

Code No.	Course Title	L	T	P	C	HRS
YPE E5*	Elective - V	3	0	0	3	3
Y** OE*	Open Elective	3	0	0	3	3
YPE 303	Project Work - I	0	0	10	10	20
Total		6	0	10	16	26

SEMESTER IV

Code No.	Course Title	L	T	P	C	HRS
YPE 401	Project Work - II	0	0	16	16	32
Total		0	0	16	16	32

Code No.	Course Title	L	T	P	C
Elective – I					
E11	Power Semiconductor Devices	3	0	0	3
E12	Soft Computing Techniques	3	0	0	3
E13	System Theory	3	0	0	3
E14	IoT for Smart Systems	3	0	0	3
Elective – II					
E21	Power Electronics for Renewable Energy Systems	3	0	0	3
E22	Modern Rectifiers and Resonant Converters	3	0	0	3
E23	Advanced Power Converters	3	0	0	3
E24	Battery Management Systems	3	0	0	3
Elective – III					
E31	Energy Storage Technologies	3	0	0	3
E32	Power Quality	3	0	0	3
E33	Machine Learning	3	0	0	3
E34	Electrical Energy Conservation and Management	3	0	0	3
Elective – IV					
E41	Optimization Techniques	3	0	0	3
E42	Smart Grid	3	0	0	3
E43	HVDC and FACTS	3	0	0	3
E44	Renewable Energy Technology	3	0	0	3
Elective – V					
E51	Distributed Generation and Micro Grid	3	0	0	3
E52	Power Electronics for Wind and Solar Energy Systems	3	0	0	3
E53	Grid Integration of Renewable Energy Sources	3	0	0	3
E54	Digital control in Power Electronics	3	0	0	3