ADHIYAMAAN COLLEGE OF ENGINEERING

[An Autonomous Institution Affiliated to Anna University,Chennai]
[Accredited by NAAC]
Dr.M.G.RNAGAR,HOSUR,KRISHNAGIRI(DT)–635130,TAMILNADU,INDIA
REGULATION 2025
CHOICE BASED CREDIT SYSTEM

M.E - POWER SYSTEMS ENGINEERING

VISION

The Department of Electrical and Electronics Engineering is focused to produce competent Electrical Engineers by imparting effective teaching learning process to meet the rapidly changing technical scenario.

MISSION

- To produce exemplary Electrical Engineers with sound knowledge on fundamentals.
- To inculcate the students with innovative technical skills, entrepreneurial expertise and research capabilities.
- To promote leadership qualities and ethical attitude.

The Programme defines Programme Educational Objectives, Programme Outcomes and Programme Specific Outcomes as follows:

I. PROGRAMME EDUCATIONAL OBJECTIVES [PEOs]

PEO1: To enrich the analytical and technical proficiency to remain competitive enough in the field of power systems engineering.

PEO2: To prepare the students for successful career in the various domains of the power systems.

PEO3: To inculcate research attitude and lifelong learning abilities.

II. PROGRAMME OUTCOMES[POs]

The Engineering Post graduates will have

PO1: An ability to independently carry out research/investigation and Development work to solve practical problems.

PO2: An ability to write and present a substantial technical report/document.

PO3: Anabilitytodemonstrateadegreeofmasteryoverthe areas perthe specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

III. PROGRAM SPECIFIC OUTCOMES [PSOs]

The Engineering Post graduates will be able to

PSO1: Apply the logical, analytical and technical skills to design, model and build the projects and appliances for societal needs.

PSO2: Demonstrate proficiency in the planning, operation and control of Energy sector.

PSO3: Apply research-based knowledge and ethical values for the power Systems profession.

Correlation of PEOs with Pos and PSOs

Program Educational Objectives (PEOs)	Program Outcomes (POs)			ProgramSpecific Outcomes(PSOs)		
	PO1	**PO2**	**PO3**	**PSO1**	**PSO2**	**PSO3**
PEOI	3	2	3	3	3	2
PEOII	3	2	3	3	3	3
PEOIII	3	2	3	2	3	3

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CHOICE BASED CREDIT SYSTEM
M.E- POWER SYSTEMS ENGINEERING
CURRICULA AND SYLLABI FOR SEMESTERS I TO IV

CURRICULUMFORSEMESTER–I

S. NO	COURSE CODE	COURSETITLE	CAT E-GOR Y	PERIODS PERWEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	125PST01	Applied Mathematics For Power System Engineers	FC	3	1	0	4	4
2.	125PST02	Computer Aided Power System Analysis	PC	3	1	0	4	4
3.	125PST03	Advanced Power System Operation and Control	PC	3	0	0	3	3
4.	125PST04	System Theory	PC	3	0	0	3	3
5.	125PSI05	Analysis and Design of Power Converters	PC	3	0	2	4	4
6.	125PST06	Research Methodology And IPR	RMC	3	0	0	3	3
7	125PSAXX	Auditcourse-I	AC	3	0	0	3	0
PRACTICALS								
8.	125PSP07	Power System Laboratory -I	PC	0	0	2	2	1
9.	125PSP08	Technical Seminar	EEC	0	0	2	2	1
			TOTAL	**21**	**2**	**6**	**28**	**23**

CURRICULUM FOR SEMESTER-II

S. NO	COURSE CODE	COURSETITLE	CATE-GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	225PST01	Advanced Power System Dynamics	PC	3	1	0	4	4
2.	225PST02	Advanced Power System Protection	PC	3	0	0	3	3
3.	225PST03	Restructured Power System	PC	3	0	0	3	3
4.	225PSEXX	Professional Elective-I	PE	3	0	0	3	3
5.	225PSEXX	Professional Elective-II	PE	3	0	0	3	3
6.	225XXOXX	Open Elective	OE	3	0	0	3	3
7.	225PSAXX	Audit Course-II	AC	3	0	0	3	0
PRACTICALS								
8.	225PSP07	Power System Simulation Laboratory–II	PC	0	0	2	2	1
9.	225PSP08	Internship	EEC	0	0	4	4	2
			TOTAL	**21**	**1**	**6**	**28**	**22**

PROFESSIONAL ELECTIVE–I

Sub.Code	CourseName	Category	L	T	P	C
225PSE01	Power System Economics and Control	PE	3	0	0	3
225PSE02	Electrical Transients in Power Systems	PE	3	0	0	3
225PSE03	Power System Optimization Techniques	PE	3	0	0	3
225PSE04	Computational Intelligence Techniques to Power Systems	PE	3	0	0	3
225PSE05	IoT for Smart Systems	PE	3	0	0	3
225PSE06	Renewable Energy and Grid Integration	PE	3	0	0	3

PROFESSIONAL ELECTIVE–II

Sub.Code	CourseName	Category	L	T	P	C
225PSE07	Applications of AI in Power Systems	PE	3	0	0	3
225PSE08	Energy Storage and Technologies	PE	3	0	0	3
225PSE09	Electromagnetic Interference and capability in System Design	PE	3	0	0	3
225PSE10	Power Electronics for Renewable Energy Systems	PE	3	0	0	3
225PSE11	Electrical Power Distribution System	PE	3	0	0	3
225PSE12	Machine Learning and Deep Learning in Power Systems	PE	3	0	0	3

CURRICULUM FOR SEMESTER–III

S. NO	COURSE CODE	COURSETITLE	CAT E-GOR Y	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	325PST01	Power System Planning and Reliability	PC	3	0	0	3	3
2.	325PSEXX	Professional Elective-III	PE	3	0	0	3	3
3.	325PSEXX	Professional Elective-IV	PE	3	0	0	3	3
PRACTICALS								
5.	325PSP01	ProjectWork(Phase– I)	EEC	0	0	12	12	6
			TOTAL	**9**	**0**	**12**	**21**	**15**

PROFESSIONAL ELECTIVE-III

Sub.Code	CourseName	Category	L	T	P	C
325PSE01	Wind and Solar Energy Systems	PE	3	0	0	3
325PSE02	Power Plant Instrumentation And Control	PE	3	0	0	3
325PSE03	Smart Grid Design and Analysis	PE	3	0	0	3
325PSE04	Insulation Technology and High Voltage Engineering	PE	3	0	0	3
325PSE05	Modern Power System Protection	PE	3	0	0	3
325PSE06	Python Programming for Machine Learning	PE	3	0	0	3

PROFESSIONALELECTIVE-IV

Sub.Code	CourseName	Category	L	T	P	C
325PSE07	Power System Instrumentation	PE	3	0	0	3
325PSE08	Industrial Power System Analysis and Design	PE	3	0	0	3
325PSE09	Computer Relaying and Wide Area Measurement Systems	PE	3	0	0	3
325PSE10	Application of DSP To Power System Protection	PE	3	0	0	3
325PSE11	Electric Vehicles and Power Management	PE	3	0	0	3
325PSE12	Power System Automation	PE	3	0	0	3

CURRICULUM FOR SEMESTER–IV

S. NO	COURSE CODE	COURSETITLE	CATE-GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
PRACTICALS								
1.	425PSP01	ProjectWork(Phase-II)	EEC	0	0	24	24	12
			TOTAL	**0**	**0**	**24**	**24**	**12**

AUDIT COURSES (AC)

SL.No.	Course Code	CourseTitle	Category	Periods/Week& Credits			Credits
				L	T	P	
1	X25PSA01	English for Research Paper Writing	AC	2	0	0	0
2	X25PSA02	Disaster Management	AC	2	0	0	0
3	X25PSA03	Constitution of India	AC	2	0	0	0
4	X25PSA04	Natramizh Ilakkiyam	AC	2	0	0	0

OPENELECTIVE(OE)

SL.No.	Course Code	CourseTitle	Category	Periods/Week& Credits			Credits
				L	T	P	
1	225PSO01	Network Routing Algorithms	OE	3	0	0	0
2	225PSO02	Cyber security	OE	3	0	0	0
3	225PSO03	Advanced radiation systems	OE	3	0	0	0
4	225PSO04	Advanced digital communication techniques	OE	3	0	0	0
5	225PSO05	Software requirement engineering	OE	3	0	0	0

ALLOCATION OF CREDITS

Semester	I	II	III	IV
Credits	23	22	15	12
Total	72			

Foundation Course(FC)							
SL. No.	Course Code	Course Title	Periods/Week& Credits				Preferred Semester
			L	T	P	C	
1.	125PST01	Applied Mathematics for Power System Engineers	3	1	0	4	1

Professional Elective (PE)							
SL. No.	**Course Code**	**Course Title**	**Periods/Week & Credits**				**Preferred Semester**
			L	**T**	**P**	**C**	
1.	225PSE01	Power System Economics and Control	3	0	0	3	2
2.	225PSE02	Electrical Transients in Power Systems	3	0	0	3	2
3.	225PSE03	Power System Optimization Techniques	3	0	0	3	2
4.	225PSE04	Computational Intelligence Techniques to Power Systems	3	0	0	3	2
5.	225PSE05	IoT for Smart Systems	3	0	0	3	2
6.	225PSE06	Renewable Energy and Grid Integration	3	0	0	3	2
7.	225PSE07	Applications of AI in Power Systems	3	0	0	3	2
8.	225PSE08	Energy Storage and Technologies	3	0	0	3	2
9.	225PSE09	Electromagnetic Interference and capability in System Design	3	0	0	3	2
10.	225PSE10	Power Electronics for Renewable Energy Systems	3	0	0	3	2
11.	225PSE11	Electrical Power Distribution System	3	0	0	3	3
12.	225PSE12	Machine Learning and Deep Learning in Power Systems	3	0	0	3	3
13.	325PSE01	Wind and Solar Energy Systems	3	0	0	3	3
14.	325PSE02	Power Plant Instrumentation And Control	3	0	0	3	3
15.	325PSE03	Smart Grid Design and Analysis	3	0	0	3	3
16.	325PSE04	Insulation Technology and High Voltage Engineering	3	0	0	3	3
17.	325PSE05	Modern Power System Protection	3	0	0	3	3
18.	325PSE06	Python Programming for Machine Learning	3	0	0	3	3
19.	325PSE07	Power System Instrumentation	3	0	0	3	3
20.	325PSE08	Industrial Power System Analysis and Design	3	0	0	3	3
21.	325PSE09	Computer Relaying and Wide Area Measurement Systems	3	0	0	3	3
22.	325PSE10	Application of DSP To Power System Protection	3	0	0	3	3
23	325PSE11	Electric Vehicles and Power Management	3	0	0	3	3
24	325PSE12	Power System Automation	3	0	0	3	3

Professional Core Courses (PCC)							
SL. No.	**Course Code**	**Course Title**	**Periods/Week & Credits**				**Preferred Semester**
			L	**T**	**P**	**C**	
1.	125PST02	Computer Aided Power System Analysis	3	1	0	4	1
2.	125PST03	Advanced Power System Operation and Control	3	1	0	3	1
3.	125PST04	System Theory	3	0	0	3	1
4.	125PSI05	Analysis and Design of Power Converters	3	0	2	4	1
5.	125PSP07	Power System Laboratory-I	3	0	0	3	1
6.	225PST01	Advanced Power System Dynamics	3	0	0	4	2
7.	225PST02	Advanced Power System Protection	3	0	0	3	2
8.	225PST03	Restructured Power System	3	0	0	3	2
9.	225PSP07	Power System Simulation Laboratory - II	3	0	0	3	2
10.	325PST01	Power System Planning and Reliability	3	0	0	3	3

Research Methodology and IPR Courses (RMC)

SL. No.	**Course Code**	**Course Title**	**Periods/Week& Credits**				**Preferred Semester**
			L	**T**	**P**	**C**	
1.	125PST06	Research Methodology and IPR	3	0	0	3	1

Employability Enhancement Courses(EEC)

SL.No.	**Course Code**	**Course Title**	**Periods/Week& Credits**				**Preferred Semester**
			L	**T**	**P**	**C**	
1	225PSP08	Internship	0	0	4	4	2
2	325PSP01	ProjectWork (Phase–I)	0	0	12	6	3
3	425PSP01	ProjectWork(Phase-II)	0	0	24	12	4

SUMMARY						
Name of the Programme: M.E – Power Systems Engineering						
Sl No.	**SubjectArea**	**Credits Per Semester**				**Total Credits**
		I	**II**	**III**	**IV**	
1	**FC**	**4**				**4**
2	**RMC**	**3**				**3**
3	**PC**	**15**	**11**	**3**		**29**
4	**OE**		**3**			**3**
5	**PE**		**6**	**6**		**12**
6	**EEC**	**1**	**2**	**6**	**12**	**21**
7	**Non Credit/Audit Course**					
	Total	**23**	**22**	**15**	**12**	**72**