Course Scheme for Graduate Programme

in

Electrical Engineering

Department of Electrical & Instrumentation Engineering
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Scheme
of
Electrical Engineering

B.E. (ELECTRICAL ENGINEERING)

Semester-I Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
		Total	**12**	**3**	**10**	**25**	**20**

Semester-II (A) Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	1	1
11	MCCH-401	Environmental studies	3	0	0	3	0
		Total	**13**	**3**	**14**	**29**	**20**

Semester-II (B) Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1.	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks				80	1 (S/US)
2	TIPN-422	Technical Competency					1(S/US)

Semester-III Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3
2	PCEE-511	Electrical Circuit Analysis and Synthesis	3	1	0	4	4
3	PCEE-512	Electronic Devices and Circuits	3	1	0	4	4
4	PCEE-513	Electrical Machines – I (Transformers and DC Machines)	3	1	0	4	4
5	BSBL-501	Biology for Engineers	2	0	0	2	2
6	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1
7	PCEE-514	Electrical Machines - I Laboratory	0	0	2	2	1
8	PCEE-515	Electrical Circuits Laboratory	0	0	2	2	1
		Total	**14**	**3**	**6**	**23**	**20**

Semester-IV (A) Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	ESME-501	Engineering Mechanics	3	1	0	4	4
2	PCEE-521	Digital Electronics	3	0	0	3	3
3	PCEE-522	Electrical Machines – II (Asynchronous and Synchronous machines)	3	1	0	4	4
4	PCEE-523	Signals and Systems	3	1	0	4	4
5	HSMC-501	Principles of Management	3	0	0	3	3
6	PCEE-524	Analog and Digital Electronics Laboratory	0	0	2	2	1
7	PCEE-525	Electrical Machines – II Laboratory	0	0	2	2	1
8	MCMH-501	Indian Constitutions	3	0	0	3	0
		Total	**18**	**3**	**4**	**25**	**20**

Semester-IV (B) Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	TPID-521	Industrial Training 02 weeks				80	1 (S/US)
2	EAA-522+	Fractional credit course and Academic Activity + GROUP A/B/C					1 (S/US)

Semester-V Group A

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEE-611	Electrical Power System – I (Generation, transmission and distribution)	3	0	0	3	3
2	PCEE-612	Control Systems	3	1	0	4	4

3	OEEE-611	Open Elective-1	3	0	0	3	3
4	OEEE-612	Open Elective-2	3	0	0	3	3
5	PEEE-611	Professional Elective-1	3	0	0	3	3
6	HSMC-601	Technical Communication	2	0	0	2	2
7	PCEE-613	Control Systems Laboratory	0	0	2	2	1
8	HSMC-602	Technical Communication Lab	0	0	2	2	1
		Total	**17**	**1**	**4**	**22**	**20**

Semester-V B

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	EAA-611+	Fractional credit course and Academic Activity + GROUP A/B/C					1 (S/US)

Semester-VI A

S. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEE-621	Power Electronics and Drives	3	0	0	3	3
2	PCEE-622	Electrical Power System – II (Analysis and Protection)	3	1	0	4	4
3	OEEE-621	Open Elective-3	3	0	0	3	3
4	OEEE-622	Open Elective-4	3	0	0	3	3
5	PEEE-621	Professional Elective-2	3	0	0	3	3
6	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
7	PCEE-623	Power System Laboratory	0	0	2	2	1
		Total	**18**	**1**	**2**	**21**	**20**

Semester-VI B

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	TPID-621	Industrial Training 04 weeks				160	2 (S/US)
2	EAA-622+	Fractional credit course and Academic Activity + GROUP A/B/C					1 (S/US)

Semester-VII

S. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEE-711	Microprocessors and Microcontrollers	3	1	0	4	4
2	PCEE-712	Electrical and Electronic Measurements	3	1	0	4	4
3	PEEE-711	Professional Elective-3	3	0	0	3	3
4	PEEE-712	Professional Elective-4	3	0	0	3	3
5	OEEE-711	Open Elective-5	3	0	0	3	3
6	PCEE-713	Microprocessors and Microcontrollers	0	0	2	2	1

		Laboratory					
7	PREE-711	Project Stage I and Seminar	0	0	4	4	2
		Total	**15**	**2**	**6**	**23**	**20**

Semester-VIII

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	PEEE-721	Professional Elective-5	3	0	0	3	3
2	PEEE-722	Professional Elective-6	3	0	0	3	3
3	PREE-721	Project Stage II	0	0	12	12	6
		Total	**6**	**0**	**12**	**18**	**12**

OR

Sr. No.	Subject Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry & Project Stage-II					6
3	PREE-721	Project Stage II	0	0	12	12	6
		Total	**6**	**0**	**12**	**18**	**12**

Total Credits: 160
List of Program Professional Elective Courses

PROFESSIONAL ELECTIVE-1 (PEEE-611)		
Sr. No.	Subject Code	Subject Name
1	PEEE-611A	Biomedical Instrumentation
2	PEEE-611B	Electromagnetic field theory
3	PEEE-611C	Electrical safety and Standards

PROFESSIONAL ELECTIVE-2 (PEEE-621)		
Sr. No.	Subject Code	Subject Name
1	PEEE-621A	Electrical Energy Conservation and Auditing
2	PEEE-621B	Non-Linear and Optimal Control
3	PEEE-621C	Telemetry and Data Acquisition

PROFESSIONAL ELECTIVE-3 (PEEE 711)		
Sr. No.	Subject Code	Subject Name
1	PEEE 711A	Wind and Solar Energy Systems
2	PEEE 711B	Computational Electromagnetic
3	PEEE 711C	Reliability Engineering

PROFESSIONAL ELECTIVE-4 (PEEE 712)		
Sr. No.	Subject Code	Subject Name
1	PEEE 712A	Soft Computing Techniques
2	PEEE 712B	Electrical and Hybrid vehicles
3	PEEE 712C	Virtual Instrumentation

PROFESSIONAL ELECTIVE-5 (PEEE 721)		
Sr. No.	Subject Code	Subject Name
1	PEEE 721A	Power quality and FACTs
2	PEEE 721B	Utilization of Electrical Energy
3	PEEE 721C	Robotics Engineering

PROFESSIONAL ELECTIVE-6 (PEEE 722)		
Sr. No.	Subject Code	Subject Name
1	PEEE 722A	Advanced Microprocessors and Microcontrollers
2	PEEE 722B	High Voltage Engineering
3	PEEE 722C	Modelling and Simulation

List of Open Elective Courses

OPEN ELECTIVE-1 (OEEE-611)		
Sr. No.	Subject Code	Subject Name
1	OEEE-611A	Electrical Circuits
2	OEEE-611B	Electrical Engineering Materials
3	OEEE-611C	Renewable Energy Sources
OPEN ELECTIVE-2 (OEEE-612)		
Sr. No.	Subject Code	Subject Name
1	OEEE-612A	Energy Conservation Practices
2	OEEE-612B	Energy Auditing and Management
3	OEEE-612C	Utilization of Electrical Energy
OPEN ELECTIVE-3 (OEEE 621)		
Sr. No.	Subject Code	Subject Name
1	OEEE 621A	Microprocessors and applications
2	OEEE 621B	Elements of Power System
3	OEEE 621C	Biomedical Instrumentation
OPEN ELECTIVE-4 (OEEE 622)		
Sr. No.	Subject Code	Subject Name
1	OEEE 622A	Control System
2	OEEE 622B	Microcontrollers and Applications
3	OEEE 622C	Electrical Safety and Standards
OPEN ELECTIVE-5 (OEEE 711)		
Sr. No.	Subject Code	Subject Name
1	OEEE 711A	Signals and Systems
2	OEEE 711B	Sensors and Transducers
3	OEEE 711C	Soft Computing Techniques

List of Mandatory Courses
1. **MCCH-401 Mandatory Course – 1:** Environmental studies
2. **MCMH-501 Mandatory Course – 2:** Indian Constitution

S.N.	Category	L	T	P	Hrs.	Credits	%age of total
	Credit Structure of Undergraduate Engineering Program						
1	Basic Science Courses	17	4	6	27	23	14
2	Engineering Sciences	12	3	20	35	25	15.6
3	Humanities Core Sciences	9	0	4	13	11	6.8
4	Program Core Courses	36	9	14	59	52	32.5
5	Program Elective	18	0	0	18	18	11.25
6	Open Elective	15	0	0	15	15	9.3
7	Project work, seminar and internship in Industry				336	16	10
8	Mandatory Courses	6			6		
	Total					160	100