

ELECTRICAL ENGINEERING

COURSES/CREDIT DISTRIBUTION OF ELECTRICAL ENGINEERING DEPARTMENT

I. Basic Science Courses (BSC)

Semester I					
Course code	Course name	L	T	P	Credits
CHN101	Applied Chemistry	3	0	3	4
Semester II					
Course code	Course name	L	T	P	Credits
MAN103	Probability & Statistics	3	1	0	4
PYN106	Electromagnetic Field Theory	3	1/2	2/2	4

II. Engineering Science Courses (ESC)

Semester II					
Course code	Course name	L	T	P	Credits
ESC205	Introduction to Electronics	3	1	0	4
Semester III					
Course code	Course name	L	T	P	Credits
ESC103	Introduction to Manufacturing	2	0	4	4
Semester IV					
ESC101	Engineering Drawing	3	0	2	4

III. Departmental Core Courses (DCC)

Course code	Course name	L	T	P	Credits
EEN101	Introduction to Electrical Engineering	2	0	0	2
EEN102	Networks And Systems	3	0	2	4
EEN103	Electrical Measurements and Instrumentation	3	0	2	4
EEN201	Mechatronics	3	0	2	4
EEN202	Electrical Power Systems	3	0	2	4
EEN203	Electrical Machines – I	3	0	2	4
EEN204	Analog and Digital Electronics	3	0	2	4
EEN205	Technical Communication	0	0	3	2
EEN206	Engineering Analysis and Design	2	1	2	4
EEN207	Power Electronics	3	0	2	4
EEN208	Microprocessors and Interfacing	3	0	2	4
EEN209	Electrical Machines – II	3	0	2	4
EEN210	Control Systems	3	0	2	4
EEN301	Computer Aided Power System Analysis	3	0	2	4
EEN302	Switchgear and Protection	3	0	2	4
EEN303	Electric Drives	3	1	2	5
EEN304	CAD of Power Apparatus and Systems	3	0	2	4
EEN305	High Voltage Engineering	3	0	-	3

IV. Departmental Elective courses (DEC)

Group-I (Any One)

Course code	Course name	L	T	P	Credits
EEN401	Restructured and Deregulated Power Systems	3	1	0	4
EEN402	Smart Grid Technologies	3	1	0	4
EEN403	Solar Energy Engineering	3	1/2	2/2	4
EEN404	Biomedical Engineering	3	1/2	2/2	4

Group-2 (Any Two)

Course code	Course name	L	T	P	Credits
EEN411	Neural Networks and Fuzzy Systems	3	1	0	4
EEN412	Advanced Control Systems	3	1	0	4
EEN413	Power System Operation and Control	3	1	0	4

EEN414	Utilization of Electrical Energy and Illumination Engineering	3	1	0	4
EEN415	Electrical System Instrumentation and Process Control	3	1	0	4
EEN416	Renewable Energy Systems	3	1	0	4
EEN417	Digital Signal Processing	3	1	0	4

V. Open Elective

Course code	Course name	L	T	P	Credits
EEN461	Advanced Control Systems	3	1	0	4
EEN462	Utilization of Electrical Energy and Illumination Engineering	3	1	0	4
EEN463	Neural Networks & Fuzzy Systems	3	1	0	4

VI. Departmental Honors Courses (DHC)

Course code	Course name	L	T	P	Credits
EEN421	EHV AC & HVDC Transmission Systems	3	1	0	4
EEN422	Advanced Power Electronics	3	1	0	4
EEN423	Fast Transients in Power Systems	3	1	0	4
EEN424	Advanced Design Techniques in Control Systems	3	1	0	4
EEN425	Static Reactive Power Control & FACTS	3	1	0	4

VII. Minor Specialization Courses (MSC)

Course code	Course name	L	T	P	Credits
EEN431	Electrical Machines	3	1	0	4
EEN432	Power Generation, Transmission and Utilization	3	1	0	4
EEN416	Renewable Energy Systems	3	1	0	4
EEN207	Power Electronics	3	0	2	4
EEN103	Electrical Measurements and Instrumentation	3	0	2	4

TEACHING SCHEME FOR B.E. ELECTRICAL ENGINEERING**First Year****Semester-I**

Course Code	Subject	Credits	Category
MAN101	Mathematics - I	4	BSC
EEN101	Introduction to Electrical Engineering	2	DCC
CSN104/105	Computer Programming (Basic/Advanced)	4	ESC
PYN106	Electromagnetic Theory	4	BSC
HSS102/103	Communication Skills (Basic/Advance)	2	HSSC
GSC101	Introduction to Environmental Science	3	GSC
	Total	19	

SEMESTER-II

Course Code	Subject	Credits	Category
MAN103	Probability & Statistics	4	BSC
HSS101	Ethics and Self Awareness	2	HSSC
	General Chemistry	4	BSC
ESC 205	Introduction to Electronics	4	ESC
EEN102	Networks and Systems	4	DCC
EEN103	Electrical Measurements and Instrumentation	4	DCC
	Total	22	

Second Year**Semester I**

Course Code	Subject	Credits	Category
ESC103	Introduction to Manufacturing	4	ESC
EEN 201	Mechatronics	4	DCC
EEN202	Electrical Power Systems	4	DCC
EEN203	Electrical Machines-I	4	DCC
EEN204	Analog and Digital Electronics	4	DCC
HSS201	Economics	3	HSSMEC
EEN205	Technical Communication	2	DCC
	Total	25	

Semester II

Course Code	Subject	Credits	Category
EEN206	Engineering Analysis and Design	4	DCC
ESC101	Engineering Drawing	4	ESC
EEN207	Power Electronics	4	DCC
EEN208	Microprocessors and Interfacing	4	DCC
EEN209	Electrical Machines –II	4	DCC
EEN210	Control Systems	4	DCC
EEN221	Educational Tour	Non Credit	DCC
	Total	25	

**Third Year
Semester I**

Course Code	Subject	Credits	Category
EEN301	Computer Aided Power System Analysis	4	DCC
EEN302	Switchgear and Protection	4	DCC
EEN303	Electric Drives	4	DCC
EEN309	High Voltage Engineering	4	DCC
EEN307	CAD of Electrical Machines	4	DCC
EEN321	Minor Project	4	DCC
	Total	24	

Semester II

Course Code	Subject	Credits	Category
EEN331	Summer Internship*	20	DCC
	Total	20	

*Internship Seminar presentations may be held a week before the date of Registration in Semester – I, Fourth Year.

**Fourth Year
Semester I**

Course Code	Subject	Credits	Category
	Open Elective	4	GSEC/MEC
	Departmental Elective Course –I	4	DEC
	Departmental Elective Course –II	4	DEC
EEN 441	Major Project	2*	DCC
EEN 421 EEN 419	Power Generation, Transmission and Distribution/ Advance HVDC Transmission Systems	4	MSC/ DHC
EEN 423 EEN 417	Electrical Machines / Advance Electric Drives	4	MSC/ DHC
	Total	14/22	

- Evaluation marks to be carried over to next semester.

Semester II

Course Code	Subject	Credits	Category
	Entrepreneurship and project Management	3	HSSMEC
	Departmental Elective Course –III	4	DEC
EEN 451	Major Project	6	DCC
EEN 204 EEN 410	Power Electronics/ Fast Transients in Power Systems	4	MSC/ DHC
EEN 104 EEN 412	Electrical Measurements and Instrumentation / Advanced Design Techniques in Control System	4	MSC/ DHC
EEN 416 EEN 414	Alternate Energy Systems / Static Reactive Power Control and FACTS	4	MSC/ DHC
	Total	13/25	

COURSES OFFERED BY APPLIED SCIENCE DEPARTMENT TO ALL DEPARTMENTS

I. Departmental Elective courses (DEC)

Group-I

Course code	Course name	L	T	P	Credits
CHN 401	Modern Instrumental Methods Of Chemical Analysis	3	1	0	4
PYN 401	Advanced Physics	3	1	0	4
PYN 402	Crystal Physics	3	1	0	4
PYN 403	Solid State Physics	3	1	0	4
MAN 401	Operation Research	3	1	0	4
MAN 402	Optimization Techniques	3	1	0	4

II. Minor Specialization Courses For 7th Semester

Course Code	Course Name	L	T	P	Credits
Humanities Section					
HSM 401	Principles of Management	2	2	0	4
HSM 402	Business Environment and Business Laws	2	2	0	4
HSM 431	Managing Innovation and Change	2	2	0	4
Chemistry Section					
CHN 431	Inorganic Chemistry	3	0	3	4
CHN 432	Organic Chemistry	3	0	3	4
Physics Section					
PYN 431	Quantum Mechanics	3	1	0	4
PYN 432	Statistical Physics	3	1	0	4
Mathematics Section					
MAN 431	Algebra	3	1	0	4
MAN 432	Number Theory	3	1	0	4

Minor Specialization Courses For 8th Semester

Course Code	Course Name	L	T	P	Credits
Humanities Section					
HSM 404	Financial Management	2	2	0	4
HSM 405	Marketing Management	2	2	0	4
HSM 406	Human Resource Management	2	2	0	4
HSM 432	Business Research	2	2	0	4
Chemistry Section					
CHN 433	Physical Chemistry / Analytical Chemistry	3	1	0	4
CHN 434	Environmental Chemistry	3	1	0	4
CHN 435	Recent Advances in Chemical Sciences	3	1	0	4
Physics Section					
PYN 433	Nuclear Physics	3	1	0	4
PYN 434	Experimental Nuclear Physics	3	1	0	4
PYN 435	X-Ray Crystallography	3	1	0	4
Mathematics Section					
MAN 433	Fourier Series and Integral Transforms	3	1	0	4
MAN 434	Calculus of Variations	3	1	0	4
MAN 435	Algebraic Coding Theory	3	1	0	4