

SEMESTER WISE COURSE STRUCTURE
AND
SUBJECT WISE COURSE CONTENT
FOR
BACHELOR OF ENGINEERING PROGRAMME
(3RD to 8th SEMESTER)
IN
ELECTRICAL ENGINEERING
APPLICABLE FOR BATCH 2010 AND ONWARDS

APPROVED BY BOARD OF STUDIES
On 26th of October, 2010 & 16-07-2012 for minor changes

APPROVED BY SENATE ON NOVEMBER 27, 2010
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RESOLUTION NO: 10/11 ON OCTOBER, 15 2012



NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR
HAZRATBAL, SRINAGAR, KASHMIR – 190 006

SEMESTER WISE COURSE STRUCTURE
AND
SUBJECT WISE COURSE CONTENT



3rd to 8th Semester
[BATCH 2010 ONWARDS]

Department of Electrical Engineering

ELECTRICAL ENGINEERING DEPARTMENT

SEMESTER WISE COURSE STRUCTURE

B. Tech. 3rd

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-301	Principles of Electrical Engineering	2	1		3		3
	ELE-301P	Principles of Electrical Engineering LAB	-	-	2		1	1
2	ECE-301	Network Analysis and Synthesis	3	1	0	4		4
3	ECE-302	Electronics-I	2	1		3		3
	ECE-302P	Electronics-I LAB	-	-	2		1	1
4	PHY-303	Electro Magnetic Fields & Waves	2	1	0	3		3
5	MET-302	Electrical Engineering Materials	2	1	0	3		3
6	MTH-305	Mathematics-III	2	1	0	3		3
7	MECH-ELE	Mechanical Engineering	3	1	0	4		4
Total Credits								25

SUBJECTS OFFERED BY THE DEPARTMENT OF ELECTRICAL ENGINEERING TO THE THIRD (3RD) SEMESTER STUDENTS OF SISTER DISCIPLINES.

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-301	Principles of Electrical Engineering (For ECE Department)	3	1		4		4
2	ELE-301P	Principles of Electrical Engineering LAB (For ECE Department)			2		1	1
3	ELE-302	Electrical Engineering Technology (For Civil Engineering Department)	2	1		3		3
4	ELE-302P	Electrical Engineering Technology LAB (For Civil Engineering Department)			2		1	1
5	ELE-303	Electrical Engineering Technology (For Chemical Engineering Department)	2	1		3		3
6	ELE-303P	Electrical Engineering Technology LAB (For Chemical Engineering Department)			2		1	1
7	ELE-304	Electrical Engineering Technology (For Metallurgical Engg. Department)	2	1		3		3
8	ELE-304P	Electrical Engineering Technology LAB (For Metallurgical Engg. Department)			2		1	1
9	ELE-305	Basic Electrical Engineering (For Computer Sciences and Engineering)	2	1		3		3
10	ELE-305P	Basic Electrical Engineering LAB (For Computer Sciences and Engg.)			2		1	1
11	ELE-306	Circuit Analysis (For Information Technology)	2	1		3		3
12	ELE-306P	Circuit Analysis LAB (For Information Technology)			2		1	1

L- Lecture T- Tutorial P- Practical TH- Theory

ELECTRICAL ENGINEERING DEPARTMENT

SEMESTER WISE COURSE STRUCTURE

B. Tech. 4th

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-401	Electric Machines-I	3	1	0	4	-	4
	ELE-401P	Electric Machines-I Lab.	0	0	2	-	1	1
2	ELE-402	Control Systems-I	2	1	0	3	-	3
3	ELE-403	Electrical Measurements and Measuring Instruments	2	1	0	3	-	3
	ELE-403P	Electrical Measurements and Measuring Instruments Lab	0	0	2	-	1	1
4	ELE-404	Non-Conventional Energy Sources	3	0	0	3	-	3
5	ECE-402	Electronics - II	2	1	0	3	-	3
	ECE-402P	Electronics – II Lab.	0	0	2	-	1	1
6	CIV-401	Hydraulics and Hydraulic Machines	2	1	0	3	-	3
7	MTH-402	Mathematics-IV	2	1	0	3	-	3
Total Credits								25

SUBJECTS OFFERED BY THE DEPARTMENT OF ELECTRICAL ENGINEERING TO THE FOURTH (4TH) SEMESTER STUDENTS OF SISTER DISCIPLINES.

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-405	Electrical Machines (For ECE Department)	2	1		3		3
2	ELE-406	Electrical Engineering Technology (For Mechanical Engineering Department)	2	1		3		3
3	ELE-406P	Electrical Engineering Technology Lab. (For Mechanical Engineering Department)	0	0	2		1	1
4	ELE-407	Control Systems (For ECE Department)	2	1		3		3
5	ELE-407P	Control Systems Lab. (For ECE Department)	0	0	2		1	1
6	ELE-408	Control Systems (For Information Technology)	2	1		3		3
7	ELE-408	Control Systems (For CSE)	2	1		3		3

L- Lecture T- Tutorial P- Practical TH- Theory

ELECTRICAL ENGINEERING DEPARTMENT**SEMESTER WISE COURSE STRUCTURE****B. Tech. 5th**

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-501	Power Systems - I	3	1	0	4	-	4
2	ELE-502	Electric Machines-II	3	1	0	4	-	4
3	ELE-502P	Electric Machines-II Lab.	0	0	2	-	1	1
4	ELE-503	Control System-II	2	1	0	3	-	3
5	ELE-503P	Control System & VI Lab.	0	0	2	-	1	1
6	ELE-504	Computer Aided Simulation of Electrical Systems	0	0	3	2	-	2
7	ECE-508	Communication Systems	2	1	0	3	-	3
8	ECE-509	Digital Electronics & Logic Design	2	1	0	3	-	3
9	ECE-510P	Digital Electronics & Logic Design	0	0	2	-	1	1
10	MTH-503	Mathematics-V	2	1	0	3	-	3
Total credits								25

L- Lecture T- Tutorial P- Practical TH- Theory

ELECTRICAL ENGINEERING DEPARTMENT

SEMESTER WISE COURSE STRUCTURE

B. Tech. 6th

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-601	Power Systems-II	3	1	0	4	-	4
2	ELE-601P	Power Systems-II LAB	0	0	2	-	1	1
3	ELE-602	Power Electronics	3	1	0	4	-	4
4	ELE-602P	Power Electronics LAB	0	0	2	-	1	1
5	ELE-603	Computer Aided Design of Electric Machines	3	1	0	4	-	4
6	ELE-603P	Computer Aided Design of Electric Machines LAB	0	0	2	-	1	1
7	ELE-604	Tour & Training	0	0	0	2	-	2
8	ELE-605	Digital Signal Processing	3	1	0	4	-	4
9	ELE-606	Microprocessors	2	1	0	3	-	3
10	ELE-606P	Microprocessors LAB	0	0	2	-	1	1
Total Credits								25

SUBJECTS OFFERED BY THE DEPARTMENT OF ELECTRICAL ENGINEERING TO THE FIFTH (6th) SEMESTER STUDENTS OF SISTER DISCIPLINES.

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-607	Power Electronics (For ECE Department)	2	1		3		3
2	ELE-607P	Power Electronics Lab. (For ECE Department)	0	0	2		1	1

L- Lecture T- Tutorial P- Practical TH- Theory

ELECTRICAL ENGINEERING DEPARTMENT**SEMESTER WISE COURSE STRUCTURE****B. Tech. 7th**

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-701	Power System Protection	2	1		3		3
2	ELE-701 P	Power System Protection LAB.			2		1	1
3	ELE-702	Advanced Power Electronics	3	1	0	4		4
4	HSS-701	General Management & Economics	3	1	0	4		4
5	ECE-708	Electronic Measurements & Instrumentation	2	1		3		3
6	ECE-709P	Electronic Measurements & Instrumentation LAB			2		1	1
7	ELE-1-16/ MTH-705	Elective-I	3	0	0	3		3
8	ELE-1-16/ MTH-705	Elective-II	2	1	0	3		3
9	ELE-704P	Project Preliminary Work/ Seminar	0	0	3		3	3
Total credits								25

SUBJECTS OFFERED BY THE DEPARTMENT OF ELECTRICAL ENGINEERING TO THE FIFTH (7th) SEMESTER STUDENTS OF SISTER DISCIPLINES.

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-703	Electrical Power Systems (For ECE Department)	2	1		3		3
2	ELE-703P	Electrical Power Systems Lab. (For ECE Department)	0	0	2		1	1

L- Lecture T- Tutorial P- Practical TH- Theory

ELECTRICAL ENGINEERING DEPARTMENT**SEMESTER WISE COURSE STRUCTURE****B. Tech. 8th**

S. No.	Course No.	TITLE / Subjects	ENGAGEMENT			C R E D I T S		
			L	T	P	TH	P	Total
1	ELE-801	Power Systems-III	2	1	0	3		03
2	ELE-1-16	Elective-III	2	1	0	3		03
3	ELE-17-19	Elective-IV	2	1	0	3		03
4		Elective-IV LAB	0	0	2	0	1	01
5	ELE-802	Project	0	0	18	12		12
6	ELE-803	Power Station Practice	2	1	0	3		03
Total Credits								25

L- Lecture

T- Tutorial

P- Practical

TH- Theory

Electives for 7th & 8th Semesters (Electrical)

BATCH 2010 ONWARDS

Electives –I, II, III

3 Credits each

1.	Stand Alone Power System	ELE-1/E
2.	Distribution System Automation	ELE-2/E
3.	Industrial Process Instrumentation & Telemetry	ELE-3/E
4.	Selected Topics in Advanced Control	ELE-4/E
5.	Mechatronics	ELE-5/E
6.	Advanced Power Systems Control	ELE-6/E
7.	Power Systems Transients	ELE-7/E
8.	Restructuring of Power Systems	ELE-8/E
9.	System Planning & Load Forecasting	ELE-9/E
10.	EHV AC & DC Transmission	ELE-10/E
11.	Maintenance & Design of Electrical Sub Stations	ELE-11/E
12.	Fuzzy Logic & Neural Networks	ELE-12/E
13.	Flexible AC Transmission Systems	ELE-13/E
14.	Power System Reliability	ELE-14/E
15.	Utilization & Traction	ELE-15/E
16.	Power System Optimization (Pre-requisite MTH-705)	ELE-16/E
17.	Optimization Techniques	MTH-705

Elective –IV

4 Credits each

1.	Microcontroller & their Applications + LAB	ELE-17/E
2.	High Voltage Engineering + LAB	ELE-18/E
3.	Electric Drives + LAB	ELE-19/E