

Department of
Electrical Engineering

Course Structure for:

B. Tech in Electrical Engineering
Effective from 2012-13



Indian School of Mines
Dhanbad-826004
Jharkhand, India

Course Structure
Core Course Structure (I & II Semester)
(Effective from 2012-2013 Academic Session)

Sl. No.	Course No.	Course offering Dept.	Name of The Course	L	T	P	Cr. Hrs.
THEORY							
1.	AMC11101	AM	Mathematics-I (only for 1 st Sem only)	3	1	0	7
2.	AMC12101	AM	Mathematics-II (only for 2 nd Sem only)	3	1	0	7
3.	APC11101/ ACC11101	AP/AC	Physics (Group-I)/Chemistry (Group-II)	3	0	0	6
4.	MMC11101/ MMC12101	ME & MME	Engineering Graphics (Group-I) / Manufacturing Process (Group-II)	1	4	0	6
5. a	EEC11101/ 12101	EE	Electrical Technology (Group-I)	3	1	0	7
5. b	ECE11101/ 12101	ECE	Electronics Engineering (Group-II)	3	0	0	6
6. a	MMC11103/ 12103	ME & MME	Engineering Mechanics (Group-I)	3	1	0	7
6. b	CSE11301/ 12301	CSE	Computer Programming (S) (Group-II)	3	0	0	6
7	(GLD/CMD1 1301/ DMS/AP11 301	AGL & ESE/ DMS & AP	Earth System Science (S) [AGL 2-0-0 & ESE 1-0-0] (Group-I)/ Disaster Management [DMS 2-0-0] & Energy Resources [AP 1-0-0] (S) (Group-II)	3	0	0	6
8.	HSC12305/ HSC11103	HSS	Value Education, Human Rights and Legislative Procedure (S) (Group-I)/ English for Science & Technology (Group-II)	3	0	0	6
9.		DSW	Co-Curricular Activities (Only for 2 nd Sem only)	0	0	0	(3)
PRACTICAL							
10.	APC11201/ 12201 ACC11201/ 12201	AP/AC	Physics Practical (Group-I) / Chemistry Practical (Group-II)	0	0	3/2	1.5
11.	EEC11201/ 12101 ECE11201/ 12101	EE/ECE	Electrical Technology Practical (Group-I)/Electronics Engineering Practical (Group-II)	0	0	3/2	1.5
12.	CSE12301	CSE	Computer Programming Practical (S) (Group-II)	0	0	2	2
Total for 1st Semester (For Group-I)				19	7	3	48
Total for 1st Semester (For Group-II)				19	5	5	48
Total for 2nd Semester (For Group-II)				19	7	3	48+(3)
Total for 2nd Semester (For Group-I)				19	5	5	48+(3)

**Core Course Structure (III to VIII Semester)
(Effective from 2012-2013 Academic Session)**

III - SEMESTER

Sl. No.	Course No.	Name of the course	L	T	P	Cr. Hrs.
THEORY						
1.	EEC 13111	Circuit Theory	3	1	0	7
2.	EEC 13112	Analog Electronics	3	1	0	7
3.	EEC 13113	Signals and Systems	3	1	0	7
4.	CSR13101	Data Structures	3	0	0	6
5.	AMR13101	Methods of Applied Mathematics	3	1	0	7
PRACTICAL/SESSIONAL/SEMINER						
6.	EEC13311	Field Theory (S)	4	0	0	8
7.	EEC13211	Circuit Theory Practical	0	0	3/2	1.5
8.	EEC13212	Analog Electronics Practical	0	0	3/2	1.5
9.	EEC13411	Project & Seminar	0	0	2	2
		Total	19	4	5	47

IV – SEMESTER

Sl. No.	Course No.	Name of the course	L	T	P	Cr. Hrs.
THEORY						
1.	EEC	Electrical Measurements	4	0	0	8
2.	EEC141	Electrical Machines I	3	1	0	7
3.	EEC1411	Digital Electronics	3	1	0	7
4.	AMR1410	Numerical and Statistical Methods	3	1	0	7
5.	MMR1410	Mechanical Engineering II	3	1	0	7
PRACTICAL/SEMINER						
6.	EEC	Electrical Measurements Practical	0	0	3/2	1.5
7.	EEC1421	Electrical Machines I Practical	0	0	3/2	1.5
8.	EEC1421	Digital Electronics Practical	0	0	3/2	1.5
9.	EEC1451	Composite Viva-Voce	0	0	0	4
10.	SWC1470	Co-Curricular Activity	0	0	0	(3)
11.	EEC1441	Project & Seminar	0	0	2	2
		Total	16	4	6	46.5 +(3)

V - SEMESTER

Sl. No.	Course No.	Name of the course	L	T	P	Cr. Hrs.
THEORY						
1.	EEC 15111	Electrical Machines II	3	1	0	7
2.	EEC 15112	Control Systems I	3	1	0	7
3.	EEC15114	Microprocessors and Microcontrollers	3	0	0	6
4.	EEC15115	Digital Signal Processing	3	0	0	6
5.	EEC15116	Power Systems I	3	0	0	6
PRACTICAL/SEMINER						
6.	EEC 15311	Electrical Machines and Power System	3	0	0	6
7.	EEC 15211	Electrical Machines II Practical	0	0	3/2	1.5
8.	EEC 15212	Control Systems I Practical	0	0	3/2	1.5
9.	EEC 15213	Power Systems I Practical	0	0	3/2	1.5
10.	EEC 15214	Microprocessors and Microcontrollers	0	0	3/2	1.5
11.	EEC 15411	Project & Seminar	0	0	4	4
		Total	18	2	10	48

VI - SEMESTER

Sl. No.	Course No.	Name of the course	L	T	P	Cr. Hrs.
THEORY						
1.	EEC 16111	Power Electronics	3	1	0	7
2.	EEC16113	Instrumentation and Process Control	4	0	0	8
3.	EEC16114	Control Systems II	3	1	0	7
4.	EEC16115	Power Systems II	3	1	0	7
5.	CSR1 6101	Computer Networks	3	0	0	6
PRACTICAL/SEMINER						
6.	EEC16211	Power Electronics Practical	0	0	3/2	1.5
7.	EEC16212	Power Systems II Practical	0	0	3/2	1.5
8.	EEC16213	Instrumentation and Process Control Practical	0	0	3/2	1.5
9.	EEC16214	Control Systems II Practical	0	0	3/2	1.5
10.	EEC16511	Composite Viva-Voce	0	0	0	4
11.	EEC16411	Project & Seminar	0	0	4	4
		Total	16	3	10	49

VII - SEMESTER

Sl. No	Course No.	Name of the course	L	T	P	Cr. Hr.
THEORY						
1.	EEC17111	Electrical Drives	3	1	0	7
2.	EEC17113	Switchgear and Protection	3	1	0	7
3.	MSC17152	Industrial Engineering and Management	3	0	0	6
4,5.		Electives (Any Two)				
(i)	EEE 17111	Advanced Power Electronics				
(ii)	EEE 17112	Electrical Engineering Material				
(iii)	EEE 17113	Mine Electrical Technology				
(iv)	EEE 17114	Communication Engineering				
(v)	EEE 17116	Illumination and Utility Services				
(vi)	EEE 17117	Power Plant Instrumentation and Control				
(vii)	EEE 17118	Systems Modelling and Simulation				
(viii)	EEE171 19	Soft Computing Techniques				
(ix)	EEE 17120	Filter Design and Synthesis				
(x)	EEE 17121	Bio-medical Instrumentation				
(xi)	EEE 17122	Robotics				
(xii)	EEE 17123	Reactive Power and Voltage Control				
(xiii)	CSE 17113	Information and Coding Theory				
			2 x (4 - 0 - 0)			16
PRACTICAL/SEMINER						
6.	EEC 17012	Vocational Training/In-house Training	0	0	0	5
7.	EEC 17211	Electrical Drives Practical	0	0	3/2	1.5
8.	EEC 17212	Switchgear and Protection Practical	0	0	3/2	1.5
9.	EEC 17411	Project and Seminar	0	0	6	6
		Total	17	2	9	50

VIII - SEMESTER

Sl.No	Course No	Name of the course	L	T	P	Cr.Hr
THEORY						
1.	EEC 18112	Industrial Automation and Control	4	0	0	8
2.	EEC 18114	Special Purpose Electric Machines and Drives	3	1	0	7
3.	EEC 18115	EHV AC & DC Transmission	4	0	0	8
Electives (Any Two)						
4, 5.						
(i)	EEE 18122	Static Relays				
(ii)	EEE 18123	Opto Electronics				
(iii)	EEE 18124	Digital Instrumentation				
(iv)	EEE 18127	Power System Dynamics and Control				
(v)	EEE 18128	High Voltage Engineering				
(vi)	EEE 18129	Optimal Control				
(vii)	EEE 18130	Pattern Recognition				
(viii)	EEE 18131	Mine Instrumentation				
(ix)	EEE 18132	Utilization of Electrical Power				
(x)	EEE 18133	Electrical Energy Systems				
PRACTICAL/SEMINAR						
6.	EEC 18411	Project and Seminar	0	0	6	6
7.	EEC 18511	Composite Viva-Voce	0	0	0	4
		Total	19	1	6	49