



MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

STRUCTURE OF ELECTRICAL & ELECTRONICS ENGINEERING PROGRAM

S. No	Category	Suggested Breakup of credits (Total 160 credits)
1	Humanities and social sciences including management courses (HSMC)	10
2	Basic Sciences Courses (BSC)	26
3	Engineering sciences courses including workshop, drawing basics of electrical/mechanical/computer etc. (ESC)	21
4	Professional core courses (PCC)	62
5	Professional Electives courses relevant to chosen specialization/branch (PEC)	18
6	Open subjects- Electives from other technical and/or emerging subjects (OEC)	9
7	Project work, seminar and internship in industry or elsewhere (PROJ)	14
8	Mandatory Courses	-
	TOTAL	160



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B. TECH IN ELECTRICAL & ELECTRONICS ENGINEERING

COURSE STRUCTURE (R20)

Applicable From 2020-21 Admitted Batch

I YEAR - I SEMESTER

S. No.	Course Code	Course Title	Course Category	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2010001	ENGINEERING MATHEMATICS - I	BSC	3	1	0	4	4	30	70	100
2	2010008	ENGINEERING CHEMISTRY	BSC	3	1	0	4	4	30	70	100
3	2010009	COMMUNICATIVE ENGLISH	HSMC	2	0	0	2	2	30	70	100
4	2010501	PROGRAMMING FOR PROBLEM SOLVING	ESC	3	1	0	4	4	30	70	100
5	2010073	ENGINEERING CHEMISTRY LAB	BSC	0	0	3	3	1.5	30	70	100
6	2010074	COMMUNICATIVE ENGLISH LAB	HSMC	0	0	2	2	1	30	70	100
7	2010571	PROGRAMMING FOR PROBLEM SOLVING LAB	ESC	0	0	3	3	1.5	30	70	100
8	2010	INDUCTION PROGRAM	*MC	2	0	0	2	0	-	-	-
Total Credits				13	3	8	24	18	210	490	700

I YEAR - II SEMESTER

S. No.	Course Code	Course Title	Course Category	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2020002	ENGINEERING MATHEMATICS - II	BSC	3	1	0	4	4	30	70	100
2	2020006	APPLIED PHYSICS	BSC	3	1	0	4	4	30	70	100
3	2020201	BASIC ELECTRICAL ENGINEERING	PCC	3	0	0	3	3	30	70	100
4	2020372	ENGINEERING WORKSHOP	ESC	1	0	3	4	2.5	30	70	100
5	2020371	ENGINEERING DRAWING PRACTICE	ESC	1	0	4	5	3	30	70	100
6	2020071	APPLIED PHYSICS LAB	BSC	0	0	3	3	1.5	30	70	100
7	2020273	BASIC ELECTRICAL ENGINEERING WORKSHOP LAB	PCC	0	0	2	2	1	30	70	100
Total Credits				11	2	12	25	19	210	490	700

*MC – Satisfied/Unsatisfied

L - Lecture periods, T - Tutorial periods, P - Practical periods



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II YEAR - I SEMESTER

S. No.	Course Code	Course Title	Course Category	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2030003	LAPLACE TRANSFORMS SERIES SOLUTIONS AND COMPLEX VARIABLES	BSC	3	1	0	4	4	30	70	100
2	2030204	NETWORK ANALYSIS	PCC	3	0	0	3	3	30	70	100
3	2020205	ELECTRICAL MACHINES-I	PCC	3	1	0	4	4	30	70	100
4	2030402	ANALOG ELECTRONICS	PCC	3	0	0	3	3	30	70	100
5	2030502	DATA STRUCTURES	BSC	2	0	0	2	2	30	70	100
6	2030274	NETWORK ANALYSIS LAB	PCC	0	0	2	2	1	30	70	100
7	2030484	ANALOG ELECTRONICS LAB	PCC	0	0	2	2	1	30	70	100
8	2030572	DATA STRUCTURES LAB	BSC	0	0	2	2	1	30	70	100
9	2030321	ENVIRONMENTAL SCIENCE	*MC	2	0	0	2	0	-	-	-
Total Credits				16	2	9	27	19	240	560	800

II YEAR – II SEMESTER

S. No.	Course Code	Course Title	Course Category	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2040206	ELECTRO MAGNETIC FIELDS	PCC	3	1	0	4	4	30	70	100
2	2040207	ELECTRICAL MACHINES-II	PCC	3	0	0	3	3	30	70	100
3	2040407	DIGITAL ELECTRONICS & IC APPLICATIONS	PCC	3	0	0	3	3	30	70	100
4	2040412	SIGNALS & SYSTEMS	PCC	3	0	0	3	3	30	70	100
5	2040509	JAVA PROGRAMMING	ESC	2	0	0	2	2	30	70	100
6	2040275	ELECTRICAL MACHINES-I LAB	PCC	0	0	2	2	1	30	70	100
7	2040485	DIGITAL ELECTRONICS & IC APPLICATIONS LAB	PCC	0	0	2	2	1	30	70	100
8	2040484	SIGNALS & SYSTEMS LAB	PCC	0	0	2	2	1	30	70	100
9	2040570	JAVA PROGRAMMING LAB	ESC	0	0	2	2	1	30	70	100
10	204MC03	NCC/NSS	*MC	2	0	0	2	0	-	-	-
Total Credits				16	1	10	27	19	270	630	900



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III YEAR – I SEMESTER

S. No.	Course Code	Course Title	Course Category	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2050208	POWER SYSTEMS-I	PCC	3	0	0	3	3	30	70	100
2	2050209	CONTROL SYSTEMS	PCC	3	0	0	3	3	30	70	100
3	2050403	MICROPROCESSORS AND MICROCONTROLLERS	ESC	3	0	0	3	3	30	70	100
4	2050010	BUSINESS ECONOMICS AND FINANCIAL ANALYSIS	HSMC	3	0	0	3	3	30	70	100
5	2050505	PYTHON PROGRAMMING	ESC	2	0	0	2	2	30	70	100
6	2050XXX	OPEN ELECTIVE-I	OEC	3	0	0	3	3	30	70	100
7	2050276	ELECTRICAL MACHINES-II LAB	PCC	0	0	2	2	1	30	70	100
8	2050472	MICROPROCESSORS AND MICROCONTROLLERS LAB	ESC	0	0	2	2	1	30	70	100
9	2050575	PYTHON PROGRAMMING LAB	ESC	0	0	2	2	1	30	70	100
10	-----	INTERNSHIP*	PROJ	0	0	2	2	1	30	70	100
Total Credits				17	0	8	25	21	300	700	1000

III YEAR – II SEMESTER

S. No.	Course Code	Course Title	Course Category	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2060210	POWER SYSTEMS-II	PCC	3	0	0	3	3	30	70	100
2	2060211	ELECTRICAL MEASUREMENTS & INSTRUMENTATION	PCC	3	0	0	3	3	30	70	100
3	2060212	POWER ELECTRONICS	PCC	3	0	0	3	3	30	70	100
4	2060011	FUNDAMENTALS OF MANAGEMENT	HSMC	3	0	0	3	3	30	70	100
5	2060XXX	OPEN ELECTIVE-II	OEC	3	0	0	3	3	30	70	100
6	2060XXX	PROFESSIONAL ELECTIVE-I	PEC	3	0	0	3	3	30	70	100
7	2060277	CONTROL SYSTEMS LAB	PCC	0	0	2	2	1	30	70	100
8	2060278	ELECTRICAL SYSTEMS SIMULATION LAB	PCC	0	0	2	2	1	30	70	100
9	2060075	ADVANCED ENGLISH LANGUAGE AND COMMUNICATION SKILLS LAB	HSMC	0	0	2	2	1	30	70	100
10	2060XXX	APPLICATIONS OF AI LAB	*MC	0	0	3	3	0	-	-	-
Total Credits				18	0	9	27	21	270	630	900



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IV YEAR – I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2070213	SWITCHGEAR & PROTECTION	PCC	3	0	0	3	3	30	70	100
2	2070214	POWER SYSTEM OPERATION & CONTROL	PCC	3	0	0	3	3	30	70	100
3	2070215	POWER SEMICONDUCTOR DRIVES	PCC	3	0	0	3	3	30	70	100
4	2070XXX	PROFESSIONAL ELECTIVE-II	PEC	3	0	0	3	3	30	70	100
5	2070XXX	PROFESSIONAL ELECTIVE-III	PEC	3	0	0	3	3	30	70	100
6	2070XXX	OPEN ELECTIVE-III	OEC	3	0	0	3	3	30	70	100
7	2070279	POWER SYSTEMS LAB	PCC	0	0	2	2	1	30	70	100
8	2070280	ELECTRICAL MEASUREMENTS & INSTRUMENTATION LAB	PCC	0	0	2	2	1	30	70	100
9	2070281	POWER ELECTRONICS LAB	PCC	0	0	2	2	1	30	70	100
10	-----	INDUSTRY ORIENTED MINI PROJECT	PROJ	0	0	4	4	2	30	70	100
Total Credits				18	0	10	28	23	300	700	1000

IV YEAR – II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Total Contact Hour	Credits	Scheme of Examination Maximum Marks		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2080XXX	PROFESSIONAL ELECTIVE-IV	PEC	3	0	0	3	3	30	70	100
2	2080XXX	PROFESSIONAL ELECTIVE-V	PEC	3	0	0	3	3	30	70	100
3	2080XXX	PROFESSIONAL ELECTIVE-VI	PEC	3	0	0	3	3	30	70	100
4	-----	TECHNICAL SEMINAR	PROJ	0	0	2	2	1	30	70	100
5	-----	MAJOR PROJECT	PROJ	0	0	20	20	10	50	150	200
Total Credits				9	0	22	31	20	170	430	600



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ELECTIVES:

Course	Course Code	Subject Name
Professional Elective-I	2060216	RENEWABLE ENERGY SOURCES
	2060217	HIGH VOLTAGE ENGINEERING
	2060218	ADVANCED CONTROL SYSTEMS
	2060219	SPECIAL MACHINES
Professional Elective-II	2070220	ELECTRICAL DISTRIBUTION SYSTEMS
	2070221	DIGITAL CONTROL SYSTEMS
	2070419	VLSI DESIGN
	2070222	MODERN POWER ELECTRONICS
Professional Elective-III	2070418	DIGITAL SIGNAL PROCESSING
	2070223	CONTROL SYSTEM DESIGN
	2070224	FLEXIBLE AC TRANSMISSION SYSTEM
	2070225	UTILIZATION OF ELECTRICAL ENERGY
Professional Elective-IV	2080226	POWER QUALITY
	2080227	INDUSTRIAL ELECTRICAL SYSTEMS
	2080228	ELECTRICAL MACHINE DESIGN
	2080229	ELECTRICAL & HYBRID VEHICLES
Professional Elective-V	2080230	IOT WITH ELECTRICAL APPLICATIONS
	2080231	SMART GRID TECHNOLOGIES
	2080232	AI TECHNIQUES IN ELECTRICAL ENGINEERING
	2080233	HVDC TRANSMISSION SYSTEM
Professional Elective-VI	2080234	ADVANCED CONTROL OF ELECTRIC DRIVES
	2080235	ESTIMATION & COSTING OF ELECTRICAL SYSTEMS
	2080236	ML TECHNIQUES TO POWER SYSTEM SECURITY
	2080238	PROGRAMMABLE LOGIC CONTROLLERS