



# Koneru Lakshmaiah Education Foundation

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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## DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

### Y20 B.Tech EEE- category wise Credits

SI No	Course Category	Short Name	#courses	Minimum Credits	Contact Hours
1	Humanities & Social Sciences	HSS	12	10	32
2	Basic Sciences	BS	9	27	38
3	Engineering Sciences	ES	9	33.5	52
4	Professional Core	PC	8	33.5	47
5	Flexi Core	FC	2	8	9
6	Professional Electives	PE	5	15	15
7	Project Courses	PR	10	26	128
8	Open Electives	OE	5	14	14
Total			59	167	335

### CURRICULUM

SI No	Category	Course Code	Course Title	L	T	P	S	Cr	CH	Pre-requisite
1	HSS	20UC1101	INTEGRATED PROFESSIONAL ENGLISH	0	0	4	0	2	4	Nil
2	HSS	20UC1202	ENGLISH PROFICIENCY	0	0	4	0	2	4	Nil
3	HSS	20UC2103	PROFESSIONAL COMMUNICATION SKILLS	0	0	4	0	2	4	Nil
4	HSS	20UC2204	CORPORATE COMMUNICATION SKILLS	0	0	4	0	2	4	Nil
5	HSS	20UC3005	APTITUDE BUILDER	0	0	4	0	2	4	Nil
6	HSS	20UC0007	INDIAN HERITAGE AND CULTURE	2	0	0	0	0	2	Nil
7	HSS	20UC0008	INDIAN CONSTITUTION	2	0	0	0	0	2	Nil
8	HSS	20UC0009	ECOLOGY & ENVIRONMENT	2	0	0	0	0	2	Nil
9	HSS	20UC0010	UNIVERSAL HUMAN VALUES & PROFESSIONAL ETHICS	2	0	0	0	0	2	Nil
10	HSS	20UC0012	GENDER SENSITIZATION	2	0	0	0	0	2	Nil
11	HSS	UC0014	ACTIVITY BASED LEARNING	2	0	0	0	0	2	Nil
12	HSS	UC0015	SOCIAL WORK	2	0	0	0	0	2	Nil
13	BSC	20MT1101	MATHEMATICS FOR COMPUTING	2	2	0	2	4.5	6	Nil
14	BSC	19MT2102	MATHEMATICS FOR ENGINEERS	2	1	0	0	3	3	Nil
15	BSC	20EE2104	MATHEMATICAL TRANSFORMS FOR SIGNAL PROCESSING	2	1	0	0	3	3	Nil
16	BSC	20UC1102	DESIGN THINKING AND INNOVATION-I	1	0	0	4	2	5	Nil
17	BSC	20UC1203	DESIGN THINKING AND INNOVATION-II	1	0	0	4	2	5	Nil
18	BSC	19BT1001	BIOLOGY FOR ENGINEERS	2	0	0	0	2	2	Nil

19	BSC	20EE2101	ELECTRICAL CIRCUITS	2	0	0	2	2.5	4	Nil
20	BSC	19PH1006	MATERIALS & MEASUREMENTS (SCIENCE ELECTIVE-1)	3	0	2	0	4	5	Nil
21	BSC	19CY1101	ENGINEERING CHEMISTRY (SCIENCE ELECTIVE-2)	3	0	2	0	4	5	Nil
22	ESC	20SC1101	COMPUTATIONAL THINKING FOR DESIGN	3	0	2	6	5.5	11	Nil
23	ESC	20ME1103	DESIGN TOOLS WORKSHOP - I	0	0	4	0	2	4	20SC1101
24	ESC	20CS1202	DATA STRUCTURES AND ALGORITHMS	3	0	2	4	5	9	NIL
25	ESC	20SC1203	OBJECT ORIENTED PROGRAMMING	2	0	4	0	4	6	Nil
26	ESC	19SC1209	DESIGN TOOLS WORKSHOP - II	0	0	4	0	2	4	Nil
27	ESC	20EC1101	DIGITAL LOGIC & PROCESSORS	3	0	2	0	4	5	Nil
28	ESC	19EC1202	COMPUTER ORGANIZATION & ARCHITECTURE	2	0	0	0	2	2	Nil
29	ESC	20EE1201	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING	3	1	2	0	5	6	Nil
30	ESC	19EE3106	SENSORS & INTERNET OF THINGS	3	0	2	0	4	5	Nil
31	PCC	19EC2103	ANALOG ELECTRONICS CIRCUIT DESIGN	3	0	2	2	4.5	7	Nil
32	PCC	19EC2106	EMBEDDED CONTROLLERS	2	0	3	2	4	7	Nil
33	PCC	19EE2102	ELECTRICAL POWER ENGINEERING	3	1	0	0	4	4	Nil
34	PCC	19EE2103	ELECTRICAL MACHINES	3	0	2	0	4	5	Nil
35	PCC	19EE2201	INDUSTRIAL APPLICATIONS OF ELECTRICAL MACHINES	3	0	2	0	4	5	19EE2103
36	PCC	20EE2202	POWER ELECTRONICS	3	0	2	2	4.5	7	20EE2101
37	PCC	19EE2203	COMPUTER APPLICATIONS IN POWER SYSTEMS	3	0	2	0	4	5	19EE2102
38	PCC	20EE2204	CONTROL SYSTEMS	3	0	2	2	4.5	7	Nil
40	PEC	PE-1	PROFESSIONAL ELECTIVE - 1	3	0	0	0	3	3	-
41	PEC	PE-2	PROFESSIONAL ELECTIVE - 2	3	0	0	0	3	3	-
42	PEC	PE-3	PROFESSIONAL ELECTIVE - 3	3	0	0	0	3	3	-
43	PEC	PE-4	PROFESSIONAL ELECTIVE - 4	3	0	0	0	3	3	-
44	PEC	PE-5	PROFESSIONAL ELECTIVE - 5	3	0	0	0	3	3	-
45	FC	FC-1	FLEXI CORE -1	3	0	2	0	4	5	-
46	FC	FC-2	FLEXI CORE -2	3	1	0	0	4	4	Nil
46	OE	OE-1	OPEN ELECTIVE - 1	3	0	0	0	3	3	Nil
47	OE	OE-2	OPEN ELECTIVE - 2	3	0	0	0	3	3	Nil
48	OE	ME-1	MODELLING BUSINESS SYSTEMS	3	0	0	0	3	3	Nil
49	OE	OE-3	ENTREPRENEURSHIP ESSENTIALS	3	0	0	0	3	3	Nil
50	OE	FL	FOREIGN LANGUAGE ELECTIVE	2	0	0	0	2	2	Nil
51	PRI	20TS3101	TECHNICAL PROFICIENCY - 1	0	0	0	12	3	12	Nil
52	PRI	20TS3202	TECHNICAL PROFICIENCY - 2	0	0	0	12	3	12	Nil
53	PRI	20TS4103	TECHNICAL PROFICIENCY - 3	0	0	0	12	0	12	Nil
54	PRI	20TS4204	TECHNICAL PROFICIENCY - 4	0	0	0	12	0	12	Nil
55	PRI	20IE2050	SOCIAL INTERNSHIP	0	0	0	8	2	8	Nil
56	PRI	20IE3050	TECHNICAL INTERNSHIP	0	0	0	8	2	8	Nil
58	PRI	20IE3150	MID GRAD CAPSTONE PROJECT - I	0	0	0	8	2	8	Nil
59	PRI	20IE3250	MID GRAD CAPSTONE PROJECT - II	0	0	0	8	2	8	Nil
60	PRI	20IE4150	CAPSTONE PROJECT - I	0	0	0	24	6	24	Nil

61	PRI	20IE4250 / 20IE4050 / 20IE4051	CAPSTONE PROJECT - II/ PRACTICE SCHOOL/ INTERNSHIP	0	0	0	24	6	24	Nil
								Total Credits	167	

**PROFESSIONAL ELECTIVES**

	Course Code	Course Title	L	T	P	S	Cr	CH	Pre-requisite	Specialization
PE-1	19EE3131	DISTRIBUTION SYSTEM PRACTICES	3	0	0	0	3	3	19EE2102	Smart Grid Technologies
PE-2	19EE3132	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	3	0	0	0	3	3	Nil	
PE-3	20EE3133	ENERGY MANAGEMENT SYSTEMS AND SCADA	3	0	0	0	3	3	Nil	
PE-4	20EE3231	SMART GRID COMMUNICATION AND CYBERSECURITY	3	0	0	0	3	3	Nil	
PE-5	20EE3232	INTERNET OF THINGS AND SMART GRID ANALYTICS	3	0	0	0	3	3	Nil	
PE-1	19EE3121	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	3	0	0	0	3	3	Nil	Green Energy Technologies
PE-2	19EE3122	WIND AND ENERGY STORAGE TECHNOLOGIES	3	0	0	0	3	3	Nil	
PE-3	20EE3123	ENERGY MANAGEMENT AND GREEN BUILDINGS	3	0	0	0	3	3	Nil	
PE-4	20EE3221	AI AND IOT FOR GREEN ENERGY INTEGRATION	3	0	0	0	3	3	Nil	
PE-5	20EE3222	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	3	0	0	0	3	3	Nil	
PE-1	19EE3141	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	3	0	0	0	3	3	Nil	Electric Vehicle Technology
PE-2	19EE3142	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	3	0	0	0	3	3	Nil	
PE-3	20EE3143	CHARGING STATIONS FOR ELECTRIC VEHICLES	3	0	0	0	3	3	20EE2202	
PE-4	20EE3241	AI AND IOT FOR ELECTRIC VEHICLE	3	0	0	0	3	3	Nil	
PE-5	20EE3242	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	3	0	0	0	3	3	Nil	
PE-1	19EE3111	INDUSTRIAL AUTOMATION AND ROBOTICS	3	0	0	0	3	3	Nil	Industrial Automation
PE-2	19EE3112	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	3	0	0	0	3	3	Nil	
PE-3	20EE3113	INDUSTRIAL DRIVES AND CONTROL	3	0	0	0	3	3	Nil	
PE-4	20EE3211	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	3	0	0	0	3	3	Nil	
PE-5	20EE3212	SMART SENSORS AND SENSOR NETWORKING	3	0	0	0	3	3	Nil	

**Flexi Core Courses**

FC-1	19EE3101	AI TECHNIQUES IN ELECTRICAL ENGINEERING	3	1	0	0	4	4	NIL
FC-1	20EE3104	POWER QUALITY	3	1	0	0	4	4	NIL
FC-1	20EE3105	UTILIZATION OF ELECTRICAL ENERGY	3	1	0	0	4	4	NIL
FC-2	19EE3102	ELECTRIC DRIVES	3	1	0	0	4	4	20EE2202
FC-2	19EE3103	RESTRUCTURED POWER SYSTEMS	3	1	0	0	4	4	NIL

**OPEN ELECTIVES**

OE-1	OEEE0013	RENEWABLE ENERGY RESOURCES	3	0	0	0	3	0	NIL	
OE-2	OEEE0014	ENERGY ESTIMATION AND AUDIT	3	0	0	0	3	0	NIL	
<b>FOREGIN LANGUAGE</b>										
	20FL3058M	JAPANESE LANGUAGE	2	0	0	0	2	2	Nil	
	20FL3062M	SPANISH LANGUAGE	2	0	0	0	2	2	Nil	
	20FL3054	FRENCH LANGUAGE	2	0	0	0	2	2	Nil	

20FL3055	GERMAN LANGUAGE	2	0	0	0	2	2	Nil
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