



Koneru Lakshmaiah Education Foundation

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

Approved by AICTE ISO 21001:2018 Certified

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Y25 REGULATION B.TECH EEE

SL	CAT	CODE	COURSE TITLE	SHORT NAME	L	T	P	S	Cr	CH	PRE REQUISITE
1	AUC	25UC0008	INDIAN CONSTITUTION	IC	2	0	0	0	0	2	NIL
2	AUC	25UC0009	ECOLOGY AND ENVIRONMENT	E&E	2	0	0	0	0	2	NIL
3	AUC	25UC0017	INDIAN ANCIENT KNOWLEDGE SYSTEMS : VEDIC MATHEMATICS	IACS-VM	2	0	0	0	0	2	NIL
4	AUC	25UC0032	INSIGHTS TO SUSTAINABLE DEVELOPMENT GOALS	SDG	2	0	0	0	0	2	NIL
No. of Courses and Credits					11	0	0	0	0	8.00	
5	BRIDGE	25UC0018	FUNDAMENTALS OF MATHEMATICS (BIPC)	FOM	3	0	0	0	0	3	NIL
	BRIDGE		FUNDAMENTALS OF BIOLOGY	FOB	3	0	0	0	0	3	NIL
No. of Courses and Credits					6	0	0	0	0		
6	HAS	25UC1102	LANGUAGE SKILLS FOR ENGINEERS	LSE	0	0	4	0	2	4	NIL
7	HAS	25UC1204	COMMUNICATION SKILLS FOR ENGINEERS	CSE	0	0	4	0	2	4	NIL
8	HAS	25UC1203	DESIGN THINKING FOR INNOVATION	DTI	0	0	4	0	2	4	NIL
9	HAS	25FLXXXX	FOREIGN LANGUAGE ELECTIVE	FLE	3	0	0	0	3	3	NIL
10	HAS	25UC0026	HUMAN VALUES , GENDER EQUALITY AND PROFESSIONAL ETHICS	HGP	2	0	0	0	2	2	NIL
11	HAS	25MBXXXX	MANAGEMENT ELECTIVE	MGE	3	0	0	0	3	3	NIL
12	HAS	25UC0021	SOCIAL IMMERSIVE LEARNING-1	SIL-1	0	0	2	0	1	2	NIL
13	HAS	25UC0022	SOCIAL IMMERSIVE LEARNING-2	SIL-2	0	0	2	0	1	2	NIL
No. of Courses and Credits					0	0	4	0	16	24.00	
14	BSC	25MT1002	DISCRETE MATHEMATICS	DMS	2	2	0	0	4	4	NIL
15	BSC	25MT1001	LINEAR ALGEBRA AND CALCULUS FOR ENGINEERS	LCE	2	2	0	0	4	4	NIL
16	BSC	25MT2008	COMPLEX ANALYSIS AND TRANSFORM TECHNIQUES	CATT	2	2	0	0	4	4	NIL
17	BSC	25EE2103	ELECTRO MAGNETIC FIELDS & ENGINEERING MATERIALS	EMFEM	3	1	0	0	4	4	NIL
18	BSC	25CY1001	ENGINEERIN CHEMISTRY	ECY	3	0	2	0	4	5	NIL
No. of Courses and Credits					12	7	2	0	20	21.00	
19	ESC	25SC1101	PROBLEM SOLVING TECHNIQUES THROUGH C	PST-C	3	0	2	4	5	9	NIL
20	ESC	25SC2007	PYTHON PROGRAMMING	PP	2	0	2	0	3	4	PST-C
21	ESC	25SC1203	DATA STRUCTURES	DST	3	0	2	4	5	9	PST-C
22	ESC	25ME1103	DESIGN TOOLS WORKSHOP	DTW	0	0	4	0	2	4	DTI
23	ESC	25EC1102	DIGITAL SYSTEM DESIGN	DSD	3	0	2	0	4	5	NIL
24	ESC	25EC1101	BASIC ELECTRICAL AND ELECTRONIC CIRCUITS	BEEC	3	0	2	0	4	5	NIL
25	ESC	25EC1203	FUNDAMENTALS OF IOT AND SENSORS	FIS	2	0	2	0	3	4	NIL
26	ESC	25SC2006	OBJECT ORIENTED PROGRAMMING	OOP	3	0	2	2	4.5	7	NIL
No. of Courses and Credits					19	0	18	10	30.5	47.00	
27	PCC	25EC1204	COMPUTER ORGANIZATION AND ARCHITECTURE	COA	3	0	0	0	3	3	NIL
28	PCC	25AD2001	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	AIML	3	0	2	0	4	5	NIL
29	PCC	25EC2107	ANALOG ELECTRONIC CIRCUIT DESIGN	AECD	3	0	2	2	4.5	7	NIL
30	PCC	25EC2106	PROCESSORS AND CONTROLLERS	PAC	3	0	2	0	4	5	NIL
31	PCC	25EE2101	ELECTRICAL CIRCUITS	ELC	3	0	2	0	4	5	BEEC
32	PCC	25EE2102	ELECTRICAL MACHINES	ELM	3	0	2	0	4	5	BEEC
33	PCC	25EE2204	ELECTRICAL POWER GENERATION , TRANSMISSION AND DISTRIBUTION	EPGTD	3	1	0	0	4	4	BEEC
34	PCC	25EE2205	POWER ELECTRONICS	PET	3	0	2	0	4	5	ELC
35	PCC	25EE3106	POWER SYSTEM ANALYSIS AND STABILITY	PSAS	3	1	0	0	4	4	EPGTD
36	PCC	25EE3208	POWER SYSTEM PROTECTION AND CONTROL	PSPC	3	0	2	2	4.5	7	EPGTD
37	PCC	25EE3207	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	AITEE	3	0	2	0	4	5	EPGTD
No. of Courses and Credits					30	2	16	4	44	55.00	

SL	CAT	CODE	COURSE TITLE	SHORT NAME	L	T	P	S	Cr	CH	PRE REQUISITE
38	FCC-1	25EE2222F	INDUSTRIAL APPLICATIONS OF ELECTRICAL MACHINES	IAEM	2	0	2	0	3	4	ELM
38	FCC-1	25EE2223F	UTILIZATION OF ELECTRICAL ENGINEERING	UEE	3	0	0	0	3	3	BEEC
39	FCC-2	25EE2225F	POWER QUALITY	PQ	3	0	0	0	3	3	BEEC
39	FCC-2	25EE2231F	CONTROL SYSTEMS	CSE	2	0	2	0	3	4	NIL
No. of Courses and Credits					10	0	4	0	6	14.00	62
40	PEC	PEC-1	PROFESSIONAL ELECTIVE-1	PEC-1	3	0	2	0	4	5	RELEVANT COURSE
41	PEC	PEC-2	PROFESSIONAL ELECTIVE-2	PEC-2	3	0	0	0	3	3	RELEVANT COURSE
42	PEC	PEC-3	PROFESSIONAL ELECTIVE-3	PEC-3	3	0	0	2	3.5	5	RELEVANT COURSE
43	PEC	PEC-4	PROFESSIONAL ELECTIVE-4	PEC-4	3	0	0	0	3	3	RELEVANT COURSE
44	PEC	PEC-5	PROFESSIONAL ELECTIVE-5	PEC-5	3	0	0	0	3	3	RELEVANT COURSE
No. of Courses and Credits					15	0	2	2	16.5	19.00	
45	SDC	25SDEE01	VISUALIZATION AND MODELING OF CIRCUITS	VMC	1	0	0	4	2	3	NIL
46	SDC	25SDEE02	EMBEDDED SYSTEM DESIGN WITH ARM	ESDA	1	0	0	4	2	3	NIL
47	SDC	25SDEE03	IOT INTERFACE DESIGN	IID	1	0	0	4	2	3	NIL
48	SDC	25SDEEXXX	SKILL DEVELOPMENT PROJECT-4 (SPECIALIZATION)	SDC-4	1	0	0	4	2	3	NIL
No. of Courses and Credits					4	0	0	16	8	12.00	
49	PRI	25IE2040	SOCIAL INTERNSHIP	SIP	0	0	0	4	0	0	NIL
50	PRI	25IE3041	TECHNICAL INTERNSHIP	TIP	0	0	0	4	0	0	NIL
51	PRI	25IE4053	ENGINEERING CAPSTONE PROJECT-1	ECP-1	0	0	8	16	8	8	RELEVANT COURSE
52	PRI	25IE4054	ENGINEERING CAPSTONE PROJECT-2	ECP-2	0	0	8	16	8	8	RELEVANT COURSE
No. of Courses and Credits					0	0	16	40	16	16.00	
53	OEC	OEC-1	OPEN ELECTIVE-1	OEC-1	3	0	0	0	3	3	NIL
54	OEC	OEC-2	OPEN ELECTIVE-2	OEC-2	3	0	0	0	3	3	NIL
55	OEC	OEC-3	OPEN ELECTIVE-3	OEC-3	3	0	0	0	3	3	NIL
No. of Courses and Credits					9	0	0	0	9	9.00	
56	VAC	VAC-1	VALUE ADDED COURSE-1	VAC-1	0	0	0	2	0	2	NIL
57	VAC	VAC-2	VALUE ADDED COURSE-2	VAC-2	0	0	0	2	0	2	NIL
58	VAC	VAC-3	VALUE ADDED COURSE-3	VAC-3	0	0	0	2	0	2	NIL
59	VAC	VAC-4	SPORTS/YOGA CERTIFICATION	VAC-4	0	0	0	2	0	2	NIL
No. of Courses and Credits					0	0	0	8	0	8	
TOTAL CREDITS									166.00		

Specialisation requirement: Students must acquire a minimum of 18 credits from flexi core-1 and four professional electives conditioned all courses shall be from same specialization.

Honors requirement: Students must acquire a minimum of 20 credits from additional advanced courses apart from three regular courses.

PROFESSIONAL ELECTIVES

Specialization: **AI & AUTONOMOUS SYSTEMS**

CAT	Course	Course Title	Short Name	L	T	P	S	Cr	CH	PRE-REQUISITE
SDP-4	25SDEE06	EVT HARDWARE PROTOTYPING		1	0	0	4	2	5	
PEC-1	25AAS3102	AI AND CONTROLS FOR AUTONOMOUS FUTURE TRANSPORT	ACAFT	3	0	2	0	4	5	ELM/ EAS/PC
PEC-2	25AAS3205	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	AVEDA	3	0	0	0	3	3	ELM/ EAS/PC
PEC-3	25AAS3309	AUTONOMOUS ELECTRIC MOBILITY – SYSTEMS AND APPLICATIONS	AEMSA	3	0	0	2	3.5	5	ELM/ EAS/PC
PEC-4	25AAS3410	CYBERSECURITY IN AUTONOMOUS VEHICLE	CSAV	3	0	0	0	3	3	ELM/ EAS/PC
PEC-5	25AAS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	AIDAV	3	0	0	0	3	3	ELM/ EAS/PC

SL	CAT	CODE	COURSE TITLE	SHORT NAME	L	T	P	S	Cr	CH	PRE REQUISITE
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Specialization: E-MOBILITY ENGINEERING

CAT	Course	Course Title	Short Nam	L	T	P	S	Cr	CH	PRE-REQUISITE
SDP-4	25SDEE06	EVT HARDWARE PROTOTYPING	EHP	1	0	0	4	2	5	
PEC-1	25EME3101	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	PTDEV	3	0	2	0	4	5	ELM
PEC-2	25EME3202	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	CPTEV	3	0	0	0	3	3	ELM
PEC-2	25EME32XX	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	AVAE	3	0	0	0	3	3	ELM
PEC-3	25EME3304	CHARGING STATIONS FOR ELECTRIC VEHICLES	CSEV	3	0	0	2	3.5	5	ELM
PEC-4	25EME3406	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	BSAEV	3	0	0	0	3	3	ELM
PEC-5	25EME3507	AI AND IOT FOR ELECTRIC VEHICLE	AIEV	3	0	0	0	3	3	ELM
PEC-5	25EME3508	EV SYSTEM AND WIRING DESIGN	ESWS	3	0	0	0	3	3	ELM

Specialization: GREEN ENERGY TECHNOLOGIES

CAT	Course	Course Title	Short Nam	L	T	P	S	Cr	CH	PRE-REQUISITE
SDP-4	25SDEE05	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	MSGEB	1	0	0	4	2	5	
PEC-1	25GET3101	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	SPMET	3	0	2	0	4	5	EPGTD OR EPE
PEC-2	25GET3202	WIND AND ENERGY STORAGE TECHNOLOGIES	WEST	3	0	0	0	3	3	EPGTD OR EPE
PEC-2	25GET3203	ENERGY ECONOMICS AND POLICY	EEP	3	0	0	0	3	3	EPGTD OR EPE
PEC-3	25GET3304	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	GIRES	3	0	0	2	3.5	5	EPGTD OR EPE
PEC-4	25GET3405	ENERGY MANAGEMENT AND GREEN BUILDINGS	EMGB	3	0	0	0	3	3	EPGTD OR EPE
PEC-4	25GET3406	HYDROGEN FUEL CELL TECHNOLOGY	HFCT	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	25GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	AIGEI	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	25GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	PERES	3	0	0	0	3	3	EPGTD OR EPE

Specialization: INDUSTRIAL AUTOMATION

CAT	Course	Course Title	Short Nam	L	T	P	S	Cr	CH	PRE-REQUISITE
SDP-4	25SDEE07	IA HARDWARE PROTOTYPING	IHP	1	0	0	4	2	5	
PEC-1	25ILA3101	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	IIOT	3	0	2	0	4	5	ELM
PEC-2	25ILA3202	INDUSTRIAL AUTOMATION AND ROBOTICS	IAR	3	0	0	0	3	3	ELM
PEC-2	25ILA3203	EDGE COMPUTING FOR INDUSTRY 4.0	ECI	3	0	0	0	3	3	ELM
PEC-3	25ILA3304	INDUSTRIAL DRIVES AND CONTROL	ID&C	3	0	0	2	3.5	5	ELM
PEC-4	25ILA3405	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	ICPCS	3	0	0	0	3	3	ELM
PEC-4	25ILA3406	DIGITAL MANUFACTURING AND DESIGN	DMD	3	0	0	0	3	3	ELM
PEC-5	25ILA3507	SMART SENSORS AND NETWORKING	SSSN	3	0	0	0	3	3	ELM
PEC-5	25ILA3508	PLC PROGRAMMING & CONTROL	PLCPC	3	0	0	0	3	3	ELM

Specialization: SMART GRID TECHNOLOGIES

CAT	Course	Course Title	Short Nam	L	T	P	S	Cr	CH	PRE-REQUISITE
SDP-4	25SDEE04	AI AND ML FOR SMART GRIDS	AMSG	1	0	0	4	2	5	
PEC-1	25SGT3101	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	DERSG	3	0	2	0	4	5	EPGTD OR EPE
PEC-2	25SGT3202	DISTRIBUTION SYSTEM PRACTICES	DSYP	3	0	0	0	3	3	EPGTD OR EPE
PEC-2	25SGT3203	MICROGRID DYNAMICS AND CONTROL	MDC	3	0	0	0	3	3	EPGTD OR EPE
PEC-3	25SGT3304	ENERGY MANAGEMENT SYSTEMS AND SCADA	EMS&SCADA	3	0	0	2	3.5	5	EPGTD OR EPE
PEC-4	25SGT3405	SMART GRID COMMUNICATION AND CYBERSECURITY	SGCCS	3	0	0	0	3	3	EPGTD OR EPE
PEC-4	25SGT3406	SMART METERS AND SMART CITIES	SMSC	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	25SGT3507	INTERNET OF THINGS AND SMART GRID ANALYTICS	IOT&SGA	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	25SGT3508	SMART GRID PROTECTION	SGP	3	0	0	0	3	3	EPGTD OR EPE

HONORS FLEXI COURSES

CAT	Course	Course Title	Short Nam	L	T	P	S	Cr	CH
HFC	25EC2211	EMBEDDED SYSTEMS DESIGN	ESD	3	0	2	0	4	5
HFC	25EC2211	VLSI DESIGN	VLSI	3	0	2	2	4.5	7
HFC	25EE01HF	DISTRIBUTED SYSTEM PLANNING AND AUTOMATION	DSPA	3	1	0	0	4	4
HFC	25EE02HF	ADVANCED ELECTRICAL DRIVES	CPD	3	0	2	0	4	5
HFC	25EE03HF	ADVANCED POWER ELECTRONICS	APEC	3	0	2	0	4	4
HFC	25EE04HF	CUSTOM POWER DEVICES	AED	3	1	0	0	4	4
HFC	25EE05HF	RESTRUCTURED POWER SYSTEMS	RPS	3	1	0	0	4	4
HFC	25EE06HF	PLC AND SCADA	PLCS	3	0	2	0	4	5