



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

Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

Phone No. +91 8645 - 350 200; www.klef.ac.in; www.klef.edu.in; www.kluniversity.in

Admin Off: 29-36-38, Museum Road, Governorpet, Vijayawada - 520 002. Ph: +91 - 866 - 3500122, 2576129

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Y24 REGULATION B.TECH-EEE

SL NO	CATEGORY	CODE	COURSE TITLE	SHORT NAME	L	T	P	S	Cr	CH	PRE REQUISITE
1	AUC	23UC0008	INDIAN CONSTITUTION	IC	2	0	0	0	0	2	NIL
2	AUC	24UC0009	ECOLOGY AND ENVIRONMENT	E&E	2	0	0	0	0	2	NIL
3	AUC	24UC0017	INDIAN ANCIENT KNOWLEDGE SYSTEMS : VEDIC MATHEMATICS	IAKS-VM	2	0	0	0	0	2	NIL
4	AUC	24UC0032	INSIGHTS TO SUSTAINABLE DEVELOPMENT GOALS	SDG	2	0	0	0	0	2	NIL
No. of Courses and Credits					8	0	0	0	0	8.00	
5	BRIDGE	24UC0018	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	24UC1102	LANGUAGE SKILLS FOR ENGINEERS	LSE	0	0	4	0	2	4	NIL
7	HAS	24UC1204	COMMUNICATION SKILLS FOR ENGINEERS	CSE	0	0	4	0	2	4	NIL
10	HAS	24UC1203	DESIGN THINKING FOR INNOVATION	DTI	2	0	2	0	3	4	NIL
11	HAS	24FLXXXX	FOREIGN LANGUAGE ELECTIVE	FLE	3	0	0	0	3	3	NIL
12	HAS	23UC0026	HUMAN VALUES , GENDER EQUALITY AND PROFESSIONAL ETHICS	HGP	2	0	0	0	2	2	NIL
13	HAS	24MBXXXX	MANAGEMENT ELECTIVE	MGE	3	0	0	0	3	3	NIL
14	HAS	22UC0021	SOCIAL IMMERSIVE LEARNING-1	SIL-1	0	0	0	4	1	4	NIL
15	HAS	24UC0022	SOCIAL IMMERSIVE LEARNING-2	SIL-2	0	0	2	0	1	2	NIL
No. of Courses and Credits					10	0	12	4	17	26.00	
16	BSC	23MT2003	MATHEMATICAL MODELLING & NUMERICAL METHODS	DMS	2	2	0	0	4	4	NIL
17	BSC	23MT1001	LINEAR ALGEBRA AND CALCULUS FOR ENGINEERS	LCE	2	2	0	0	4	4	NIL
18	BSC	24MT2008	COMPLEX ANALYSIS AND TRANSFORM TECHNIQUES	CATT	2	2	0	0	4	4	NIL
19	BSC	24EE2103	ELECTRO MAGNETIC FIELDS & ENGINEERING MATERIALS	EMFEM	3	1	0	0	4	4	NIL
20	BSC	24CY1001	ENGINEERING CHEMISTRY	ECY	3	0	2	0	4	5	NIL
No. of Courses and Credits					12	7	2	0	20	21.00	
21	ESC	24SC1203	DATA STRUCTURES	DST	3	0	2	4	5	9	CTS
22	ESC	23SC1101	COMPUTATIONAL THINKING FOR STRUCT	CTSD	3	0	2	4	5	9	NIL
23	ESC	23ME1103	DESIGN TOOLS WORKSHOP	DTW	0	0	4	0	2	4	DTI
24	ESC	23EC1202	DIGITAL DESIGN AND COMPUTER ARCHI	DDCA	3	0	2	0	4	5	NIL
25	ESC	23EC1203	BASIC ELECTRICAL AND ELECTRONIC CIRCUITS	BEEC	2	0	0	0	2	2	NIL
26	ESC	24EC1101	FUNDAMENTALS OF IOT AND SENSORS	FIS	2	0	4	0	4	6	NIL
27	ESC	24SC2006	OBJECT ORIENTED PROGRAMMING	OOP	3	0	2	2	4.5	7	NIL
No. of Courses and Credits					16	0	16	10	26.5	42.00	
29	PCC	24AD2001	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	AIML	3	0	2	0	4	5	NIL
30	PCC	24EC2104	ANALOG ELECTRONIC CIRCUIT DESIGN	AECD	3	0	2	2	4.5	7	DDCA
31	PCC	24EC2106	PROCESSORS AND CONTROLLERS	PAC	3	0	2	0	4	5	DDCA
32	PCC	24EE2101	ELECTRICAL CIRCUITS	ELC	3	0	2	0	4	5	BEEC
33	PCC	24EE2102	ELECTRICAL MACHINES	ELM	3	0	2	0	4	5	BEEC
34	PCC	24EE2204	ELECTRICAL POWER GENERATION , TRANSMISSION AND DISTRIBUTION	EPGTD	3	1	0	0	4	4	BEEC
35	PCC	24EE2205	POWER ELECTRONICS	PET	3	0	2	0	4	5	ELC
36	PCC	24EE3106	POWER SYSTEM ANALYSIS AND STABILITY	PSAS	3	1	0	0	4	4	EPGTD
37	PCC	24EE3208	POWER SYSTEM PROTECTION AND CONTROL	PSPC	3	0	2	2	4.5	7	EPGTD
38	FCC	24EE3207	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	AITEE	3	0	2	0	4	5	EPGTD
No. of Courses and credits					30	2	16	4	41	52.00	

39	FCC	24EE2222F	INDUSTRIAL APPLICATIONS OF ELECTRICAL MACHINES	IAEM	2	0	2	0	3	4	ELM
40	FCC	24EE2230F	CONTROL SYSTEMS	CSE	2	0	2	0	3	4	NIL
No. of Courses and credits					4	0	4	0	6	8.00	
41	PEC	PEC-1	PROFESSIONAL ELECTIVE-1	PEC-1	3	0	2	0	4	5	RELEVANT COURSE
42	PEC	PEC-2	PROFESSIONAL ELECTIVE-2	PEC-2	3	0	0	0	3	3	RELEVANT COURSE
43	PEC	PEC-3	PROFESSIONAL ELECTIVE-3	PEC-3	3	0	0	2	3.5	5	RELEVANT COURSE
44	PEC	PEC-4	PROFESSIONAL ELECTIVE-4	PEC-4	3	0	0	0	3	3	RELEVANT COURSE
45	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	
46	SDC	24SDEE01	VISUALIZATION AND MODELING OF CIRCUITS	VMC	1	0	0	4	2	5	NIL
47	SDC	24SDEE02	EMBEDDED SYSTEM DESIGN WITH ARM	ESDA	1	0	0	4	2	5	NIL
48	SDC	24SDEE03	IOT INTERFACE DESIGN	IID	1	0	0	4	2	5	NIL
49	SDC	24SDEE04	SKILL DEVELOPMENT PROJECT-4 (SPECIALIZATION)	SDC-4	1	0	0	4	2	5	NIL
No. of Courses and credits					4	0	0	16	8	20.00	
50	PRI	24IE2040	SOCIAL INTERNSHIP	SIP	0	0	0	4	0	0	NIL
51	PRI	24IE3041	TECHNICAL INTERNSHIP	TIP	0	0	0	4	0	0	NIL
52	PRI	24IE4053	ENGINEERING CAPSTONE PROJECT-1	ECP-1	0	0	8	16	8	12	RELEVANT COURSE
53	PRI	24IE4054	ENGINEERING CAPSTONE PROJECT-2	ECP-2	0	0	8	16	8	12	RELEVANT COURSE
54	PRI	24IE4042	INTERNSHIP	IIP	0	0	8	16	8	12	
55	PRI	24IE4051	INTERNSHIP-1	IIP-1	0	0	8	16	8	12	
56	PRI	24IE4052	INTERNSHIP-2	IIP-2	0	0	8	16	8	12	
No. of Courses and credits					0	0	16	40	16	24.00	
55	OEC	OEC-1	OPEN ELECTIVE-1	OEC-1	3	0	0	0	3	3	NIL
56	OEC	OEC-2	OPEN ELECTIVE-2	OEC-2	3	0	0	0	3	3	NIL
57	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	
58	VAC	VAC-1	VALUE ADDED COURSE-1	VAC-1	0	0	0	2	0	2	NIL
59	VAC	VAC-2	VALUE ADDED COURSE-2	VAC-2	0	0	0	2	0	2	NIL
60	VAC	VAC-3	VALUE ADDED COURSE-3	VAC-3	0	0	0	2	0	2	NIL
61	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									160.00		

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 Code	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	24AAS3102	AI AND CONTROLS FOR AUTONOMOUS FUTURE TRANSPORT	ACAFT	3	0	2	0	4	5	ELM/ EAS/PC
PEC-2	24AAS3205	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	AVEDA	3	0	0	0	3	3	ELM/ EAS/PC
PEC-3	24AAS3309	AUTONOMOUS ELECTRIC MOBILITY – SYSTEMS AND APPLICATIONS	AEMSA	3	0	0	2	3.5	5	ELM/ EAS/PC
PEC-4	24AAS3410	CYBERSECURITY IN AUTONOMOUS VEHICLE	CSAV	3	0	0	0	3	3	ELM/ EAS/PC
PEC-5	24AAS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	AIDAV	3	0	0	0	3	3	ELM/ EAS/PC

Specialization **E-MOBILITY ENGINEERING**

CAT	Course Code	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	24EME3101	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	PTDEV	3	0	2	0	4	5	ELM OR ET
PEC-2	24EME3202	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	CPTEV	3	0	0	0	3	3	ELM OR ET
PEC-2	24EME32XX	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	AVAE	3	0	0	0	3	3	ELM OR ET
PEC-3	24EME3304	CHARGING STATIONS FOR ELECTRIC VEHICLES	CSEV	3	0	0	2	3.5	5	ELM OR ET
PEC-4	24EME3406	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	BSAEV	3	0	0	0	3	3	ELM OR ET
PEC-5	24EME3507	AI AND IOT FOR ELECTRIC VEHICLE	AIEV	3	0	0	0	3	3	ELM OR ET
PEC-5	24EME3508	EV SYSTEM AND WIRING DESIGN	ESWS	3	0	0	0	3	3	ELM OR ET

Specialization **GREEN ENERGY TECHNOLOGIES**

CAT	Course Code	Course Title	Short Name	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	24GET3101	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	SPMET	3	0	2	0	4	5	EPGTD OR EPE
PEC-2	24GET3202	WIND AND ENERGY STORAGE TECHNOLOGIES	WEST	3	0	0	0	3	3	EPGTD OR EPE
PEC-2	24GET3203	ENERGY ECONOMICS AND POLICY	EEP	3	0	0	0	3	3	EPGTD OR EPE
PEC-3	24GET3304	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	GIRES	3	0	0	2	3.5	5	EPGTD OR EPE
PEC-4	24GET3405	ENERGY MANAGEMENT AND GREEN BUILDINGS	EMGB	3	0	0	0	3	3	EPGTD OR EPE
PEC-4	24GET3406	HYDROGEN FUEL CELL TECHNOLOGY	HFCT	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	24GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	AIGEI	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	24GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	PERES	3	0	0	0	3	3	ELM OR ET

Specialization **INDUSTRIAL AUTOMATION**

CAT	Course Code	Course Title	Short Name	L	T	P	S	Cr	CH	PRE-REQUISITE
SDP-4	25SDEE07	IA HARDWARE PROTOTYPING	IHP	1	0	0	4	2	5	
PEC-1	24ILA3101	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	IIOT	3	0	2	0	4	5	ELM OR ET
PEC-2	24ILA3202	INDUSTRIAL AUTOMATION AND ROBOTICS	IAR	3	0	0	0	3	3	ELM OR ET
PEC-2	24ILA3203	EDGE COMPUTING FOR INDUSTRY 4.0	ECI	3	0	0	0	3	3	ELM OR ET
PEC-3	24ILA3304	INDUSTRIAL DRIVES AND CONTROL	ID&C	3	0	0	2	3.5	5	ELM OR ET
PEC-4	24ILA3405	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	ICPCS	3	0	0	0	3	3	ELM OR ET
PEC-4	24ILA3406	DIGITAL MANUFACTURING AND DESIGN	DMD	3	0	0	0	3	3	ELM OR ET
PEC-5	24ILA3507	SMART SENSORS AND NETWORKING	SSSN	3	0	0	0	3	3	ELM OR ET
PEC-5	24ILA3508	PLC PROGRAMMING & CONTROL	PLCPC	3	0	0	0	3	3	ELM OR ET

Specialization **SMART GRID TECHNOLOGIES**

CAT	Course Code	Course Title	Short Name	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	24SGT3101	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	DERSG	3	0	2	0	4	5	EPGTD OR EPE
PEC-2	24SGT3202	DISTRIBUTION SYSTEM PRACTICES	DSYP	3	0	0	0	3	3	EPGTD OR EPE
PEC-2	24SGT3203	MICROGRID DYNAMICS AND CONTROL	MDC	3	0	0	0	3	3	EPGTD OR EPE
PEC-3	24SGT3304	ENERGY MANAGEMENT SYSTEMS AND SCADA	EMS&SCADA	3	0	0	2	3.5	5	EPGTD OR EPE
PEC-4	24SGT3405	SMART GRID COMMUNICATION AND CYBERSECURITY	SGCCS	3	0	0	0	3	3	EPGTD OR EPE
PEC-4	24SGT3406	SMART METERS AND SMART CITIES	SMSC	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	24SGT3507	INTERNET OF THINGS AND SMART GRID ANALYTICS	IoT&SGA	3	0	0	0	3	3	EPGTD OR EPE
PEC-5	24SGT3508	SMART GRID PROTECTION	SGP	3	0	0	0	3	3	EPGTD OR EPE

HONORS FLEXI COURSES

CAT	Course Code	Course Title	Short Name	L	T	P	S	Cr	CH
-----	-------------	--------------	------------	---	---	---	---	----	----

HFC	24EC2211	EMBEDDED SYSTEMS DESIGN	ESD	3	0	2	0	4	5
HFC	24EC2211	VLSI DESIGN	VLSI	3	0	2	2	4.5	7
HFC	24EE01HF	DISTRIBUTED SYSTEM PLANNING AND A	DSPA	3	1	0	0	4	4
HFC	24EE02HF	ADVANCED ELECTRICAL DRIVES	CPD	3	0	2	0	4	5
HFC	24EE03HF	ADVANCED POWER ELECTRONICS	APEC	3	0	2	0	4	4
HFC	24EE04HF	CUSTOM POWER DEVICES	AED	3	1	0	0	4	4
HFC	24EE05HF	RESTRUCTURED POWER SYSTEMS	RPS	3	1	0	0	4	4
HFC	24EE06HF	PLC & SCADA	PLCS	3	0	2	0	4	5