Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Fifth Semester

Electrical and Electronics Engineering

EE3001 - Utilization and Conservation of Electrical Energy

Regulations - 2021

Duration : 3 Hrs *Maximum : 100 Marks*

*PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

Q.No	*Questions*	*BLT*	*CO*	*Marks*
1.	Discuss the requirements of an ideal traction system.	UN	1	2
2.	Mention different methods of track electrification.	RE	1	2
3.	Define luminous efficiency.	RE	2	2
4.	List out the uses of flood lighting.	RE	2	2
5.	State direct resistance heating.	RE	3	2
6.	Classify the types of arc welding.	RE	3	2
7.	What is the main function of Bureau of energy efficiency under the energy conversion act?	UN	4	2
8.	List out some benefits of improving power factor in electrical industries.	RE	4	2
9.	List the advantages of conduit wiring.	RE	5	2
10.	Compare online and offline UPS.	UN	5	2

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)*

Q.No		*Questions*	*BLT*	*CO*	*Marks*
11.	a	Describe the different methods of traction motor control.	UN	1	13
		Or			
	b	Explain the various types of electric braking used in traction. Discuss any two types in detail.	UN	1	13
12.	a	Evaluate the various steps involved in designing of illumination system.	UN	2	13
		Or			
	b	Explain the parts and principle of operation of LED.	UN	2	13
13.	a	Discuss in detail about any two types of resistance welding.	UN	3	13
		Or			
	b	Discuss electric arc welding equipment and power supply.	UN	3	13

14.	a	Explain the key features of the energy conservation act of 2001 and its significance in promoting energy conservation in India.	UN	4	13
		Or			
	b	Discuss the impact of capacitors on energy conservation in three-phase circuits.	UN	4	13
15.	a	Explain briefly with neat diagram working of online & offline uninterrupted power supply.	UN	5	13
		Or			
	b	Discuss in detail about linear and non-linear loads in domestic utilization.	UN	5	13

*PART – C (Marks 1*15 = 15)*

Q.No		*Questions*	*BLT*	*CO*	*Marks*
16.	a	Discuss elaborately about the modes of heat transfer and explain all.	UN	3	15
		Or			
	b	In a street lighting, two lamps are having luminous intensity of 300 candela, which are mounted at a height of 6 m and 10 m. The distance between lamp posts is 12 m. Find the illumination, just below the two lamps.	AN	2	15