19 APR 2023

Reg. No.												

Question Paper Code	11779

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Eighth Semester

Electrical and Electronics Engineering

EE8016 - ENERGY MANAGEMENT AND AUDITING

(Regulations 2017)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	List the three major goals of energy audit.	2,K1,CO1
2.	What are the different methods of energy accounting?	2,K1,CO1
3.	Outline the few energy management possibilities in transformers.	2,K2,CO2
4.	Infer the effects of capacitors in energy management.	2,K2,CO2
5.	What is the use of task lighting?	2,K1,CO3
6.	List the various Lightning sources and energy saving measures.	2,k1,CO3
7.	What is demand meter?	2,K1,CO5
8.	How do you evaluate maximum demand per kWh?	2,K1,CO5
9.	Define energy cost.	2,K1,CO6
10.	List the purposes of economic models.	2.K2,CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Outline the different phases of energy auditing methodology.	13,K1,CO1
		OR	
	b)	Explain the objective of energy monitoring and give the key steps in an effective Monitoring, Targeting & Reporting process.	13,K1,CO1
12.	a)	What is meant by an energy efficient motor? Explain the measures adopted for energy efficiency to address each loss specifically.	13,K2,CO2
		OR	
	b)	Give short notes on (i) Types of Transformers (ii) Transformers Losses (iii) Methods for energy audit and conservation in transformer.	13,K2,CO2
13.	a)	Describe the various steps involved in design of the lightning system & also explain how optimizing lighting energy is done.	13,K2,CO4

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

OR

b) Explain the various energy efficiency improvement opportunities in lightning system. *13,K2,CO4*

14. a) Illustrate in detail about the feasibility of cogeneration. *13,K2,CO3*

OR

b) Write short notes on
(i) Multitasking solid state meters in Energy Management. *6,K2,CO5*
(ii) Importance of meter location and requirement in energy management. *7,K2,CO5*

15. a) Explain HVAC and energy management. *13,,K2,CO6*

OR

b) Discuss the steps involved in the cost of electricity. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Obtain the expression for CT and PT transformer burden and describe with example of meter location and requirement. *15,K2,CO5*

OR

b) Discuss the different Economic models for evaluating energy options, their applications and limitations. *15,K2,CO6*