

Code: 20EE4701B

**IV B.Tech - I Semester – Regular / Supplementary Examinations
OCTOBER 2024**

**ENERGY CONSERVATION AND AUDIT
(ELECTRICAL & ELECTRONICS ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Distinguish between renewable and non-renewable energies.	L2	CO1	7 M
	b)	Explain about energy intensity on PPP.	L3	CO2	7 M
OR					
2	a)	Explain the importance of energy conservation.	L2	CO1	7 M
	b)	Discuss the effects of energy on environment.	L3	CO2	7 M
UNIT-II					
3	a)	Discuss the three types of energy audit.	L4	CO3	7 M
	b)	Explain the process for computation of plant energy performance.	L2	CO1	7 M
OR					

4	a)	Mention two examples each for the following processes. (i) Maximizing system efficiencies. (ii) Fuel and energy substitution.	L4	CO3	6 M
	b)	Explain the function of the following energy audit instruments. (i) Non-Contact Infrared Thermometer (ii) Combustion Gas Analyzer (iii) Fyrite (iv) Lux meter	L4	CO3	8 M

UNIT-III

5	a)	Discuss the steps involved in maximum demand control.	L2	CO1	8 M
	b)	Discuss the cost benefits of power factor improvement.	L3	CO4	6 M

OR

6	a)	Discuss the various factors effecting motor efficiency. How do you minimize them?	L3	CO4	7 M
	b)	Discuss the effect of rewinding a motor on its energy efficiency.	L3	CO4	7 M

UNIT-IV

7	a)	Discuss about the components present in compressed air system.	L2	CO1	7 M
	b)	Explain about the factors effecting the performance and saving opportunities in air conditioning.	L3	CO4	7 M

OR

8	a)	Discuss the types of blowers.	L2	CO1	7 M
	b)	Explain the energy saving opportunities for a fans and blowers.	L3	CO4	7 M
UNIT-V					
9	a)	Explain the significance of energy efficient motor in energy saving.	L4	CO5	7 M
	b)	Discuss the importance of energy efficient lighting controls and its role in saving energy.	L4	CO5	7 M
OR					
10	a)	Explain the role of occupancy sensors in energy saving.	L2	CO5	7 M
	b)	Explain the role of variable speed drives in energy saving.	L4	CO5	7 M