



B.Tech VI Semester Supplementary Examinations, June/July 2023

**ELECTRICAL ENERGY CONSERVATION AND AUDITING
(EEE)**

Maximum Marks: 70

Date:03.07.2023 Duration: 3 hours

- Note:**
- 1.This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Define Audit.
- 2 Define Energy conservation.
- 3 Write about maximum demand control.
- 4 Define sensible and latent heat.
- 5 What is meant by Energy Audit and management?
- 6 Draw the energy balance diagram.
- 7 List the factors that affect the performance of a motor.
- 8 List methods to improve power factor.
- 9 Write the different types of Air compressors.
- 10 What is an electronic ballast?

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 A. Explain commercial energy production. 5M
B. Differentiate between energy conservation and energy efficiency. 5M
OR
- 12 How energy auditing is important in power management. 10M
- 13 Explain the role of training and awareness in energy management program. 10M
OR
- 14 A.A fluorescent tube light consumes 40 W for the tube and 10 W for choke. If the lamp operates for 8 hours a day for 300 days in a year, calculate the total energy cost per annum if the energy cost is Rs.3/- per kWh. 5M
B. What are the three modes of heat transfer? Explain with examples? 5M
- 15 What are the various steps in the implementation of energy management in an organization?10M
OR
- 16 Explain the various Energy audit instruments. 10M

17 What are the areas to be looked into for maximum demand reduction in industry? 10M

OR

18 Analyze the performance of PF Capacitors. 10M

19 A. What are savings opportunities in HVAC Systems? 5M

B. Write about variable speed drives. 5M

OR

20 List the factors that affect energy efficiency in air compressors. 10M