

B.TECH
(SEM VII) THEORY EXAMINATION 2022-23
ENERGY CONSERVATION AND AUDITING

Time: 3 Hours

Total Marks: 100

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- (a) Explain the role of energy manager.
- (b) What are the needs of energy planning and audit?
- (c) Write a short note on Demand side Management.
- (d) What is UDAY scheme by Govt Of India?
- (e) Explain different energy management terms in energy conservation programme.
- (f) Write down the format of energy audit report.
- (g) Compare Blowers performance in series & parallel operation.
- (h) Explain how water is lost in cooling towers?
- (i) What is the need for energy efficient devices?
- (j) What are different motor efficiency testing standards?

SECTION B

2. Attempt any three of the following: 10x3 = 30

- (a) Explain the characteristics of solid, liquid and gaseous fuels from energy point of view.
- (b) Explain the customer acceptance & its implementation issues for Demand Side Management.
- (c) List the various equipments required for energy audit. Explain each one in detail.
- (d) Compare parallel and series operating pump performance and explain Energy Saving in Pumps & Pumping Systems.
- (e) Explain the Importance of Automatic power factor controllers with examples.

SECTION C

3. Attempt any one part of the following: 10x1=10

- (a) Classify Energy Storage Systems. Explain any one in detail.
- (b) Which fuel option is better for the storage and transportation? Describe each reason

4. Attempt any one part of the following: 10x1=10

- (a) Explain the evolution of Demand Side Management, also explains the national and international experiences with DSM.
- (b) Explain various energy management information systems (EMIS).

5. **Attempt any *one* part of the following:** **10x1=10**
- (a) What are the needs of energy planning and audit?
 - (b) Explain various instruments for energy audit and give their economic Analysis.
6. **Attempt any *one* part of the following:** **10x1=10**
- (a) Analyze the methods of motor efficiency testing.
 - (b) Explain the energy audit and its analysis for Air Conditioning System.
7. **Attempt any *one* part of the following:** **10x1=10**
- (a) Explain Energy efficient motors & motor losses reduction techniques, and comparing motor efficiencies.
 - (b) Compare different types of lighting sources based on consumption of energy, and explain role of voltage on the efficiency of lighting system.

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