

3 hours

80 Marks

Instructions

1. Question number 1 is compulsory
2. Attempt any **THREE Questions** out of remaining **FIVE Questions**.
3. Use illustrative diagrams wherever required.

- Q1)** Attempt any Four.
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|----|--|-----------|
| a) | Discuss the present energy scenario in India. | 05 |
| b) | Define energy conservation and energy efficiency. | |
| c) | Give examples of high-grade energy and low-grade energy. | 05 |
| d) | Enlist any five energy audit instruments. | 05 |
| e) | Define simple payback period (SPP). Write the formula to find SPP. | 05 |
| f) | What do you mean by ECBC code of buildings? | 05 |
- Q2)**
- | | | |
|----|---|-----------|
| a) | What do you mean by energy audit? Explain the types of energy audit. | 10 |
| b) | Define energy management. What are the duties and responsibilities of energy manager? | 10 |
- Q3)**
- | | | |
|----|---|-----------|
| a) | Explain Energy Conservation Act- 2001 and its Features. | 10 |
| b) | Explain the Elements of monitoring & targeting. | 10 |
- Q4)**
- | | | |
|----|--|-----------|
| a) | Define power factor. What are the methods of power factor improvement? | 10 |
| b) | List any TEN Energy conservation measures in lighting system. | 10 |
- Q5)**
- | | | |
|----|--|-----------|
| a) | Explain any FIVE energy conservation measures in water pumping system. | 10 |
| b) | Discuss general fuel economy measures in Boilers and furnaces. | 10 |
- Q6)**
- | | | |
|----|--|-----------|
| a) | Enlist five energy saving measures in a commercial building. | 05 |
| b) | List the steps to evaluate performance of HVAC system. | 05 |
| c) | List the steps to evaluate performance of lighting system. | 05 |
| d) | Explain the term LEED rating. | 05 |