

**CERTIFICATE IN ENERGY
TECHNOLOGY AND MANAGEMENT
(CETM)**

Term-End Examination

December, 2024

**OEY-003 : ENERGY MANAGEMENT : AUDIT AND
CONSERVATION**

Time : 3 Hours

Maximum Marks : 70

Note : (i) Attempt any **five** questions.

(ii) All questions carry equal marks.

1. (a) Explain good housekeeping measures important for energy conservation at home.
7
- (b) Discuss the survey methodology. What are its limitations ?
7
2. (a) What is evaporative cooling ? Explain the reasons for lowering of temperature by evaporation.
7

- (b) What are the alternatives available for chulha ? Explain their relative advantages and limitations. 7
3. (a) Discuss the various reasons for increased emphasis on energy conservation. 7
- (b) Describe the heat loss associated with the flue gas. How this heat loss can be reduced ? 7
4. (a) Develop energy balance sheet for steel industry. 7
- (b) Explain the significance of techno-economic analysis in energy audit. 7
5. (a) Describe the importance of awareness and training programme in IREP. 7
- (b) Explain the low investment energy conservation measures. 7
6. (a) In a manufacturing plant, the following data gathered for a given month : 7
- Production : 1200 pieces
- Specific energy consumption : 1000 kWh/piece;
- Variable energy consumption : 950 kWh/piece
- Compute the fixed energy consumption of the plant for the month.

[3]

- (b) For setting up a small scale production unit, the following data is given : 7

Cost of setting up the production unit

= ₹ 1 lac

Production rate 1000 piece per month.

Cost of production per unit = ₹ 100

Selling price per unit = ₹ 125

Compute the payback period.

7. Write short notes on any *two* of the following :

7+7

- (a) Thermal Energy Balance
- (b) Power factor
- (c) Wattmeter
- (d) Loading of Motors
- (e) PV-Biogas and Biogas Based Generation

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