

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

00778

**Term-End Examination**

**June, 2016**

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

*Time : 3 hours*

*Maximum Marks : 70*

---

*Note : Attempt any five questions. All questions carry equal marks. Assume suitable missing data, if any. Use of scientific calculator is permitted.*

---

---

1. (a) What is Energy Audit ? Explain the types of energy audit and mention their applications. 7

(b) Enlist various electrical measuring instruments with their measuring parameters. 7

2. (a) Explain the low investment energy conservation measures. 7
- (b) Discuss the scope of energy conservation in transport sector. 7
3. (a) Calculate the payback period of replacing 400 tubelights of 60 W with CFLs of 18 W. 7
- (b) Explain the mechanism of cooling process in evaporative coolers. What are the major limitations of evaporative coolers over air-conditioners ? 7
4. (a) Prepare energy balance sheet for a boiler. 7
- (b) Explain the following :  $2 \times 3 \frac{1}{2} = 7$
- (i) Relative humidity
- (ii) Power factor improvement
5. (a) Explain the significance of inflation in techno-economic analysis. 7
- (b) Is it possible to conserve energy by replacing the fan regulators ? Justify your answer by assuming practical numerical values. 7
6. (a) Describe optimal mix of renewable energy technology with suitable examples. 7
- (b) Explain briefly the objectives of integrated rural energy planning. 7

7. Write short notes on any **four** of the following :  $4 \times 3 \frac{1}{2} = 14$

- (a) Energy conservation measures in lighting
  - (b) Condensate Recovery
  - (c) Principles of Energy Management
  - (d) Combustion Analyzer
  - (e) Tachometer
  - (f) House-keeping measures for energy conservation
-