

Total No. of Questions :10]

SEAT No. :

**P2877**

[Total No. of Pages :2

[4958] - 1066

**T.E. (Electrical)**

**ENERGY AUDIT AND MANAGEMENT**

**(2012 Pattern) (End - Sem) (303150) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks :70*

*Instructions to the candidates:*

- 1) Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate full marks.*
- 4) Use of Calculator is allowed.*
- 5) Assume suitable data, if necessary.*

- Q1) a)** Give salient features of Electricity Act 2003. **[5]**
- b) What are the responsibilities of energy manager under EC act 2001? **[5]**

OR

- Q2) a)** Explain green building concept. **[5]**
- b) Define supply side management (SSM). What is its barrier? **[5]**

- Q3) a)** Explain the principles of successful energy management. **[5]**
- b) Explain structure of power factor penalties and incentives in tariff for demand control. **[5]**

OR

- Q4) a)** What is forced field analysis concept in Energy Management? **[5]**
- b) Explain utility side management avenues for management of power network. **[5]**

**P.T.O.**

**Q5) a)** Define energy audit? Why energy audit is necessary? Describe two methods used in energy audit. [9]

b) Enlist and explain various instrumentation used for energy audit. [9]

OR

**Q6) a)** What are Energy-Production, Specific energy consumption-production relationship? Explain least square method used for plotting these relationships. [9]

b) Explain action plans for implementation of energy conservation options.[9]

**Q7) a)** Explain energy conservation measures in transmission and distribution system. [8]

b) What is co-generation? Explain energy conservation measures in waste heat recovery system. [8]

OR

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**Q8) a)** Explain various energy conservation measures in motor and drive systems. [8]

b) Explain energy conservation measures in agriculture pumping system.[8]

**Q9) a)** Explain discounted cash flow methods of financial appraisal. [10]

b) Explain energy audit case study of an educational institute. [6]

OR

**Q10)a)** What is sensitivity analysis? Discuss the main objectives of carrying out sensitivity analysis. What are the factors to be considered while carrying out sensitivity analysis? [10]

b) Explain energy audit case study in municipal corporations. [6]

