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

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]**