EE/EX - 605

B.E. VI Semester

Examination, June 2014

Energy Conservation and Management

Time : Three Hours

Maximum Marks : 70

Note: 1. Attempt any five questions one from each unit.
2. All question carry equal marks.

Unit - I

1. a) What are the essential elements of energy monitoring and reporting.
   b) What are the responsibilities and duties of energy manager in an industry.

OR

2. a) Write a detail description of types of audit?
   b) Make a sample energy policy for an industry.

Unit - II

3. a) Discuss energy recovery in thermal systems.
   b) How predictive and preventive maintenance help in energy conservation.

OR

4. a) Write a note on thermal energy audit in air conditioning.
   b) Explain, entropy and enthalpy and second law of thermodynamics.

Unit - III

5. a) Discuss NPV method verses IRR method of evaluation of project.

   b) Why the study of load curves is important for energy conservation.

OR

6. a) How demand side management helps in energy conservation.
   b) What is the need of energy storage? What are the various systems available for it.

Unit - IV

7. a) How energy efficient electric drives are different than industrial drives.
   b) What are the techniques available for power factor improvement in a power system.

OR

8. A 415V, 3phase load draws a current of 60A at 0.8pf lagging. A synchronous motor is installed to improve the p.f to 0.9 lagging. The synchronous motor will drive a 35HP load at an efficiency of 0.9. Find the KVA and p.f of synchronous motor.

Unit - V

9. a) Discuss energy conservation measures for cement industry.
   b) What is an integrated energy system. Discuss the benefits of cogeneration system.

OR

10. a) Explain with diagram the difference between implant cogeneration and reject heat cogeneration and their uses.
    b) Write a note on electrical energy conservation in building.

******