

EE/EX - 605 B.E. VI Semester

Examination, December 2014

Energy Conservation and Management

Time: Three Hours

Maximum Marks: 70

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

Unit -1

1. a) Explain the different types of instruments used for energy audit.
- b) Explain with an example the importance of energy policy and also list the various roles of an energy management team.

Or

2. a) What are energy monitoring techniques? Explain energy accounting and analysis,
- b) Why material and energy balance crucial for energy audit?

Unit-II

- 3 a) What is waste heat recovery techniques and thermal insulation in thermal system?
- b) Explain the type of maintenance being practiced in industries.

OR

4. a) Explain the energy saving opportunities in an air condition system. How would you calculate the heat load for a room to be air conditioned.
- b) What is the significance of second law of thermodynamics and entropy in energy conservation?

Unit - III

- 5 a) What is depreciation? Explain the method used for calculating the depreciation.
- b) What is the significance of two-part tariff and three part tariff? Explain the advantage of each.

OR

6. a) List at least six types of energy storage system for power systems.
- b) Define the following:
 - i) Pay back period
 - ii) Cost benefit risk analysis
 - iii) Time value of money

Unit-iv

7. a) What are the various measures which can be adopted for energy conservation in electric drive system?
- b) How energy conservation in electric traction system can be achieved?
8. a) Write short note on energy efficient motors.
- b) Define power factor? Discuss briefly methods to improve power factor in an industry.
- 9.a) What are the major areas where the cogeneration system is applicable? What is the need for performance assessment of cogeneration plant?
- b) How electrical energy conservation be done in domestic gadgets.

Or

10. a) Define room index? What possible improvement measures you would look for a general lighting system?
- b) How energy conservation planning is done in any industry?