

Roll No

EE/EX-605**B.E. VI Semester**

Examination, June 2016

Energy Conservation And Management**Time : Three Hours****Maximum Marks : 70**

- Note:** i) Answer five questions. In each question part A, B, C and D is compulsory.
 ii) All parts of each question are to be attempted at one place.
 iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
 iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) What is the aim of energy audit?
- b) Define energy monitoring.
- c) Write a note on preliminary energy balance.
- d) Discuss the loss of energy in material flow.

OR

Explain the instruments used for energy audit.

Unit - II

2. a) State the first law of thermodynamics.
- b) Enlist the different types of lubricants.
- c) Differentiate between reversible and irreversible process.
- d) State and explain the second Laws of thermodynamics.

OR

What is a HVAC system? What are the energy conservation opportunities in HVAC system?

Unit - III

3. a) What is the utilization factor?
- b) Write short note on plant capacity factor.
- c) Explain the present value index.
- d) Explain the different types of tariffs used for electricity consumers.

OR

Explain the methods used for calculating annual depreciation cost.

Unit - IV

4. a) Explain an electric drive system with block diagram.
- b) Explain the constant power drive system.
- c) How a capacitor bank improves the poor power factor? Explain.
- d) How energy conservation in a transport system can be achieved? Discuss.

OR

Discuss the methods to improve power factor of a system.

Unit - V

5. a) Explain the term colour rendering index.
- b) Classify the co-generation techniques.
- c) Enlist the advantages of co-generation system.
- d) Explain energy conservation process in cement industry.

OR

Discuss the agricultural use of waste heat.
