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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.

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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.

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

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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.

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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.

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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.

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Discuss the agricultural use of waste heat.
