Total No. of Questions : 8] [Total No. of Printed Pages : 2

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EE/EX-605

B. E. (Sixth Semester) EXAMINATION, June, 2012

(Common for EE & EX Engg. Branch)

ENERGY CONSERVATION & MANAGEMENT

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Draw and explain the energy flow diagram in a plant.
   (b) List the various energy auditing instruments and their application.
2. (a) Discuss the preliminary and detailed audit.
   (b) What is the importance of energy accounting and analysis ?
3. (a) Explain the methodology of energy audit of a refrigeration plant.
   (b) Define irreversibility and explain the Second Law of Thermodynamics.
4. (a) Write a note on thermal insulation.
   (b) What is the importance of heat recovery ? Explain the process and a device for recovering commercial waste heat.

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5. (a) How a load factor of utilities improves the energy conservation ?

   (b) Explain the following :

   (i) Simple pay-back period

   (ii) Internal rate of return

6. (a) What is the need of energy efficient electric drives ? What are the areas to be look into to improve the efficiency of a motor ?

   (b) Discuss the measures for energy conservation in electric vehicle.

7. (a) What are the advantages of cogeneration systems ? Why is it becoming necessary now-a-days ?

   (b) Why energy conservation has become an important task for any industry ?

8. Write short notes on any *two* of the following :

   (a) Energy conservation policy

   (b) Energy storage for power systems

   (c) Conservation of energy in domestic sector