

**EE/EX - 605**

**B.E. VI Semester**

Examination, June 2013

**Energy Conservation and Management**

*Time : Three Hours*

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*Maximum Marks : 70/100*

**Note:** Each question carry equal marks.

**Unit - I**

1. What is Energy Audit? Describe the role of energy manager for energy management in an organisation.
2. Describe briefly the various instruments used for energy auditing.

OR

3. Explain different types of energy audit.
4. Suppose you are a energy manager in a institutional organisation. Explain the steps for energy auditing and energy management in an institutional organisation.

**Unit - II**

5. Explain energy conservation in thermal system.
6. Explain with suitable examples of predictive and preventive maintenance.

OR

7. Explain waste heat recovery techniques in industry.
8. Explain thermal energy audit in heating ventilation and air conditioning.

**Unit - III**

9. Explain the need of demand side management? How DSM can be achieved by load management.
10. Discuss briefly the Net present value method Vs Internal rate of return method of evaluation of projects.

OR

11. Explain demand side management in Power System?
12. Explain pay back period with examples.

**Unit - IV**

13. Explain how energy efficient motors are different from Normal motors?
14. Explain the importance of variable frequency drives in energy conservation.

OR

15. A 415V, 3 phase, star connected induction motor draws a current of 33A at 0.7 p.f. logging under full load conditions. After connecting a star connected capacitor bank. The full load p.f. goes up to 0.9 logging. Find the KVAR rating of the bank and capacitance of each capacitor.

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**Unit - V**

6. Write short notes on (any two) :
  - i) Cogeneration
  - ii) Energy conservation process in cement industry.
  - iii) Energy conservation in building.
  - iv) Energy conservation in transport system.