

**R09**

**Code No: C0706**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**M.Tech I – Semester Examinations, March/April-2011**

**ENERGY AUDITING CONSERVATION AND MANAGEMENT**

**(ELECTRICAL POWER SYSTEMS)**

**Time: 3hours**

**Max. Marks: 60**

**Answer any five questions  
All questions carry equal marks**

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- 1.a) Define energy audit and explain the steps involved in the control of energy.
- b) Discuss the significance of pie-charts, sankey diagrams and load profiles with suitable example. [12]
2. Explain energy audit of a process industry and mention the measures to conserve energy with an example. [12]
- 3.a) Explain the necessary steps in energy management program.
- b) Discuss the qualities and functions of energy manager. [12]
- 4.a) Discuss the points to be considered in the checklist for energy conservation.
- b) Describe the technologies for energy conservation. [12]
- 5.a) Explain the factors affecting the efficiency of a motor.
- b) How voltage variation, voltage unbalanced & over motoring effect the performance of an electrical motor? [12]
- 6.a) Discuss the effect of non-linear loads and harmonics on p.f of a motor.
- b) Discuss the steps in the design and practice of energy efficient lighting system. [12]
- 7.a) Explain the working of wattmeter & data logger.
- b) Explain present worth method with suitable example. [12]
- 8.a) Explain the life cycle costing analysis of an energy efficient lighting system.
- b) Explain time value of money and rate of return. [12]

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