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Reg. No. : .....

Name : .....

Sixth Semester B.Tech. Degree Examination, May 2011

(2008 Scheme)

Branch : ELECTRICAL AND ELECTRONICS

08.606 (Elective – II A) : Energy Conservation and Management

Time : 3 Hours Max.Marks : 100

PART – A

Answer **all** questions.

1. How is energy intensity related to GDP coupling ? Explain.
2. What are the advantages of conducting an energy audit ?
3. Define COP.
4. Discuss the factors contributing to energy inefficiency.
5. Differentiate between efficiency, efficacy and effectiveness.
6. Bring out the salient points in management opportunities with lighting.
7. Explain what is electrical load analysis.
8. What are the advantages of co-generation of electricity ?
9. What are the advantages of LED ?
10. Explain what is evaluation and payback method in energy project proposal.

(10×4=40 Marks)

P.T.O.

PART – B

Answer **any one** full question from each Module.

Module – I

11. a) Define energy audit and explain the various types of energy audit. **8**

    b) Explain the general principles of energy management. **12**

OR

12. a) Write an essay on the Global energy scene with special reference to supply and demand. **10**

    b) Explain energy conservation measures commonly implemented for commercial and industrial facilities. **10**

Module – II

13. a) State and explain the energy management opportunities in heating, ventillating and airconditioning system. **10**

    b) Explain the principles of process management. **10**

OR

14. a) Explain the methods to improve the HVAC system in terms of energy efficiency. **10**

    b) Describe the management ooportunities with lighting and electrolytic system. **10**

Module – III

15. Explain the following :

    a) Life cycle costing approach. **7**

    b) Computers in energy management **7**

    c) DEFENDUS strategy. **6**

OR

16. An electrical energy audit in a factory indicates that total energy consumption is 40×10^6 kWh/year. By upgrading the motor a 10% saving in energy can be realised. The additional cost of the energy efficient motor is estimated at Rs. 80,000/-. Assuming 15 paise/unit energy charge and 20 year life cycle, is the expenditure justifiable on a minimum return of 20%. Solve the problem using present worth and annual cost method. Also calculate the simple payback period. **20**
