Exam.Code:0936
Sub. Code: 33778

2015

B.E. (Electrical and Electronics Engineering)

Sixth Semester

EE-613: Energy Management and Auditing

Time allowed: 3 Hours Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) What are the advantages of energy efficient motors?

b) What are the types of commonly used lamps?

c) What is the difference between monitoring and targeting?

d) Explain the objective of carrying out sensitivity analysis?

e) Briefly explain the significance of knowing energy costs. (5x2)

UNIT - I

II. List the objectives of energy management. What are the various steps in the implementation of energy management in an organization? Also explain the role of training and awareness in energy management programme. (10)

III. a) Explain the steps involved in force filed analysis. List down some of the positive and negative forces in an industry.

b) What do you mean by terms:-

i) Simple Pay back method

ii) Present value of money

iii) Discounting

iv) RIO (2x5)

IV. a) Differentiate between energy conservation and energy efficiency. Why energy conservation is important in the prevailing energy scenario?

b) Explain the difference between internal and external benchmarking? Mention the benefits of each type. (2x5)

P.T.O.

UNIT - II

V. a) Define contract demand and billing demand. What are the areas to be looked into for maximum demand reduction in industry?

b) How will you assess the performances of power factor capacitors? (2x5)

VI. Explain the ways by which efficiencies of energy efficient motors are increased. A 50 kw induction motor with 86% present full load efficiency is being considered for replacement by a 89% efficiency motor. What will be the savings in energy if the motor works for 6000 hours per year and cost of energy is Rs. 4.50 per kWh. (10)

VII. Write notes on the following:-

a) Variable speed drives

b) Good practices in lighting (2x5)

x-x-x