

B.Tech IV Year II Semester (R13) Advanced Supplementary Examinations July 2017

ENERGY MANAGEMENT

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define energy management.
 - (b) Draw cash flow diagram of a typical production project.
 - (c) Why depreciation is to be considered in project report preparation?
 - (d) Write about 'Pay back method'.
 - (e) Write short notes on Break Even Analysis.
 - (f) What are the qualities of project manager?
 - (g) Enumerate types of budgets.
 - (h) What is energy index?
 - (i) How 'Load profile' helps in energy management?
 - (j) Explain energy production in India.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 What are managerial objectives of a firm? List out various costs involved in a project.

OR

- 3 Explain applications of Present Worth Factor and Capital Recovery Factor.

UNIT – II

- 4 Classify methods of depreciation. Differentiate between them.

OR

- 5 A company purchased a captive power plant on 01-04-2014 for Rs. 2,30,50,000. The depreciation is provided at a rate of 10% per annum. Assume books of accounts are closed at the end of financial year. Prepare machinery account for 3 years using: (i) Fixed installment method. (ii) Diminishing balance method.

UNIT – III

- 6 Write detailed notes on general principles of energy management. What are the qualities of an energy manager?

OR

- 7 There are two projects A and B under consideration to select. The capital cost of project A is Rs. 12 Lakhs and of project B is Rs. 10 Lakhs. The net cash flow of project A are 2000, 4000, 10000, 22000, whereas NCI of project B are 1000, 3000, 10000, 20000. Suggest best project considering payback period and NPV methods. Assume annual interest is 10%.

UNIT – IV

- 8 What are the objectives of 'Energy auditing'? List out various charts & tools used in energy management. Explain function of each of it.

OR

- 9 Name different types of Energy audits. Explain how energy saving potential be estimated by using energy management taking an industry as an example.

UNIT – V

- 10 Describe about 'Energy resources in India'. Present what are the challenges in energy distribution and transmission.

OR

- 11 Discuss on 'Energy policy of India'. Explain economic impact of change in international crude oil prices on India.