

Code No: J2102/R16

M. Tech. II Semester Regular Examinations, May-2017

ENERGY MANAGEMENT**Thermal Engineering (21)****Time: 3 Hours****Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1. a Explain the importance of energy management tool for various organizations. 6
b What is the role of energy manager in process industry? Discuss. 6
2. a Explain the organizational chart for energy management. 6
b State with reasons for the need of Energy Audit in any industry. 6
3. a Calculate the stoichiometric (Kg) amount of air required for complete combustion of liquid fuel using following data. 6

Constituents	Carbon	Hydrogen	Oxygen	Nitrogen	Sulfur	Water	Ash
% by weight	86.9	11	0.7	0.5	0.5	0.25	0.15

b Write about energy flow networks with neat sketch. 6
4. a Give features of energy conservation Act-2001. 6
b Explain about Cash Flow Diagrams. 6
5. a What is Time value of money and explain. 6
b What do you understand by risk analysis? Explain. 6
6. a Describe in detail about project evaluation. 6
b List out the advantages of Payback, Investor's rate of return and Present worth methods. 6
7. a Explain replacement analysis with suitable example and mention its advantages. 6
b Describe Solar energy with one example illustrating to save energy. 6
8. a Discuss about Phase Change Materials in thermal storage system. 6
b Explain the different types of Wind conversion devices. 6
