

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. IST Semester–Remedial Examination – July- 2011****Subject code: 710706N****Subject Name: Energy Management****Date: 13/07/2011****Time: 10:30 am – 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Explain the demand side management. **07**

(b) Explain ROI, IRR cost evaluation by payback terms. **07**

Q.2 (a) Discuss the points of energy wastage in a power system. **07**

(b) (1). Write down the steps involved in energy management. **04**

(2). What are the limitations with ROI and IRR technique? **03**

OR

(b) What is the difference between quality power and reliable power? **07**

Q.3 (a) What are the base line data that an audit team should collect while conducting detailed energy audit? **07**

(b) Explain energy conservation in building. **07**

OR

Q.3 (a) (1). List at least four examples falling under “optimizing the input energy requirement while maximizing system efficiency. **04**

(2) Does cogeneration make sense? If yes explain briefly. **03**

(b) What are the benefits of power factor improvement? **07**

Q.4 (a) What are the factors to be considered while selecting motor? **07**

(b) List various energy efficient lighting controls. **07**

OR

Q.4 (a) List down important factors required for successful implementation of variable speed drives for any application. **07**

(b) List important energy conservation opportunities in a pumping system. **07**

Q.5 (a) Explain the functions and benefits of a demand controller. **07**

(b) List energy saving opportunities for a fan application. **07**

OR

Q.5 (a) (1). Explain the working of soft starter. Also mention its advantages **04**

(2). Explain the functions of electronic ballast. **03**

(b) Minimization of losses in boiler. Also state overall efficiency of thermal power plant. **07**
