

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Sem-I Regular Examination January / February 2011

**Subject code: 710706N**

**Subject Name: Energy Management**

**Date: 04 /02 /2011**

**Time: 02.30 pm – 05.00 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 briefly the difference between preliminary and detailed energy audits? **07**  
**(b)** Write short note on demand side management **07**

**Q.2 (a)** Enlist instruments used in energy audit and explain any one in detail **07**  
**(b)** List down objectives of energy management and discuss managerial functions involved for the same. **07**

**OR**

**(b)** What do you understand by fuel substitution ? Explain with example. **07**

**Q.3 (a)** Explain the following term(1) ROI(2)IRR (3)NPV **07**  
**(b)** Write short note on sensitivity analysis. **07**

**OR**

**Q.3 (a)** State the qualitative parameters of quality power **07**  
**(b)** Explain the effect of choice of voltage of transmission on saving energy of transmission. Also define voltage sag term. **07**

**Q.4 (a)** Discuss energy conservation in industry with any one example. **07**  
**(b)** Discuss performance evaluation of rewind motor **07**

**OR**

**Q.4 (a)** Discuss good practices in lighting with replacing convectional system **07**  
**(b)** Explain term (1) luminous efficiency (2) color rendering index (3) luminaire. **07**

**Q.5 (a)** Brief note on Sankey diagram for energy flow **07**  
**(b)** Suggest steps for minimization of losses in boiler or air condition system **07**

**OR**

**Q.5 (a)** Discuss factor for successful implementation of variable frequency drive. **07**  
**(b)** Discuss the main points of energy saving in buildings **07**

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