

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – I • EXAMINATION – WINTER 2012****Subject code: 711405N****Date: 10-01-2013****Subject Name: Energy Management****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 the role of training and awareness in energy management programme. **07**
(b) What is an energy audit? How energy audit helps in energy management? **07**

- Q.2** (a) Prepare a report of energy audit of industry you visited. **07**
(b) Explain essential imperatives and steps in user side energy planning. **07**

OR

- (b) Explain user end energy management and control system. **07**

- Q.3** (a) What are the advantages and limitations of renewable energy sources? **07**
(b) Discuss the scope of solar and wind energy development in India. **07**

OR

- Q.3** (a) Discuss the energy conservation measures in improving the boiler efficiency without investment. **07**
(b) Explain (1) causes of low power factor (2) Advantages of power factor improvement (3) Method of power factor improvement in sub- station. **07**

- Q.4** (a) What are the main applications of a solar pond? Describe briefly (any one). **07**
(b) Write short note on maintenance of stable density gradient in a solar pond. **07**

OR

- Q.4** (a) Explain a solar pond electric power plant with cooling tower. Draw an illustrative diagram also. **07**

- Q.4** (b) Discuss: In India solar power is cheaper than nuclear power. **07**

- Q.5** (a) What do you mean by greenhouse effect? Enumerate the main types of green houses. **07**
(b) Describe the applications of solar energy (any three). **07**

OR

- Q.5** (a) Name three greenhouse gases. Which one of them produces the maximum green- house effect? Explain. **07**
(b) Explain: (1) Energy and economy. (2) Steps in supply side energy planning. **07**
