

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014**

**Subject code: 1723902**

**Date: 03-12-2014**

**Subject Name: Energy Audit and 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)** List down the objectives of Energy Management. **07**  
**(b)** State and explain the functions of Instruments used for Energy Audit. **07**

- Q.2 (a)** Explain general principles of Energy Management. **07**  
**(b)** Write short note on Energy Efficient Lighting. **07**

**OR**

- (b)** Write short note on Energy Efficient Motor. **07**

- Q.3 (a)** Explain energy audit of Boiler in detail. **07**  
**(b)** Write short note on Automatic Power Factor Controller. **07**

**OR**

- Q.3 (a)** What are the types of lamps used in lighting system? Write down their features with typical applications. **07**  
**(b)** Give check list of energy conservation in refrigeration. **07**

- Q.4 (a)** Enlist the types of steam trappers and explain anyone of them with a neat sketch. **07**  
**(b)** Explain the concept of cogeneration with a neat sketch. **07**

**OR**

- Q.4 (a)** What are different types of motors? Explain in detail the energy efficiency improvements in energy efficient motors. **07**  
**Q.4 (b)** Enlist and discuss the energy saving methods for the pumping system. **07**

- Q.5 (a)** State any seven energy saving opportunities in compressed air system. **07**  
**(b)** How to conduct a detailed energy audit? **07**

**OR**

- Q.5 (a)** Discuss the following terms for the efficient operation of compressed air system: **07**  
1. Quality of air  
2. Capacity control of compressor  
3. Piping layout  
  
**(b)** What are the benefits of waste heat recovery? **07**

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