

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 171907**Date: 28/12/2012****Subject Name: Energy Conservation and Management****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Explain long term energy scenario for India. **07**
(b) Write short note on energy security. **07**
- Q.2** (a) Define & explain the following terms: **07**
(i) Power factor (ii) Relative humidity (iii) dew point temp.
(b) State and explain the factors that influence thermal performance of the buildings. **07**
- OR**
- (b) Give name and use of different energy audit instruments. **07**
- Q.3** (a) Name various financing options. Explain self-Financing energy management. **07**
(b) List the elements of monitoring & targeting system with its functions. **07**
- OR**
- Q.3** (a) Discuss the role of energy service companies(ESCOs) **07**
(b) Explain Internal rate of return technique with example. **07**
- Q.4** (a) Explain how CUSUM chart is drawn with an example. **07**
(b) Define and explain following terms **07**
(i) Plant energy performance (ii) Production factor (iii) Reference year equivalent energy use
- OR**
- Q.4** (a) Give various electricity saving techniques **07**
(b) What do you mean by co-generation? Classify co-generation system & explain bottoming cycle. **07**
- Q.5** (a) State & explain energy efficiency measures for industrial furnace. **07**
(b) Give tips for energy saving in pumps **07**
- OR**
- Q.5** (a) Give energy efficiency measures in boilers. **07**
(b) Give tips for energy saving in compressors. **07**
