

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: 710706N**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 concept of Energy Management. Discuss elements of Energy Management. **07**
(b) What is Energy Audit? Explain types of Energy Audit. **07**
- Q.2** (a) Explain demand side management & its importance. **07**
(b) Explain in brief: (i) Payback period method. **07**
(ii) Return of investment method.
- OR**
- (b) Explain concept of harmonics & causes of harmonics. **07**
- Q.3** (a) Explain various methods of power factor improvement. **07**
(b) Explain concept of variable frequency drives and its applications. **07**
- OR**
- Q.3** (a) Explain role of Energy Manager. Explain steps for Energy planning. **07**
(b) Discuss Energy conservation & its importance. **07**
- Q.4** (a) Explain working of soft starter with Energy saver . What are the advantages of soft starter? **07**
(b) Explain various factors for successful implementation of variable speed drives. **07**
- OR**
- Q.4** (a) Explain briefly co-generation. **07**
Q.4 (b) Explain Automatic power factor controller. **07**
- Q.5** (a) Explain Energy saving in Air Conditioning system. **07**
(b) Explain Energy saving opportunities in blowers & cooling towers. **07**
- OR**
- Q.5** (a) Explain the method to find efficiency of induction motor with diagram. **07**
(b) Explain Energy conservation in cement industry. **07**
