Seat No.:	Enrolment No.

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	07
		Management.	
	(b)	What is Energy Audit? Explain types of Energy Audit.	07
Q.2	(a)	Explain demand side management & its importance.	07
(b	(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
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Q.4	(a)	Explain working of soft starter with Energy saver . What are the	07
Ų.i	(4)	advantages of soft starter?	٠.
	(b)	Explain various factors for successful implementation of variable speed	07
	(0)	drives.	0,
		OR	
Q.4	(a)	Explain briefly co-generation.	07
Q.4	(b)	Explain Automatic power factor controller.	07
7. 7	(0)	Explain Nationatic 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
	(L)		05
	(b)	Explain Energy conservation in cement industry.	07
