Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1721107 Date: 07-06-2013

Subject Name: Energy Conservation and Management

Time: 10.30 am – 01.00 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)**	Write a note on current energy scenario of India.	**07**
	(b)	Explain ï Energy audit methodology.	**07**
Q.2	**(a)**	Short note - Energy Management.	**07**
	(b)	Which techniques are used for energy conservation in IC engine? Explain it.	**07**
		OR	
	(b)	Discuss ï 1. Energy cost 2. Bench marking for energy audit.	**07**
Q.3	**(a)**	Write a note on information needed to evaluate energy savings for variable speed applications.	**07**
	(b)	Write a note on the automotive power factor controllers.	**07**
		OR	
Q.3	**(a)**	Explain ï Waste heat management in industry.	**07**
	(b)	Define explain need of co-generation with suitable examples.	**07**
Q.4	**(a)**	Define ï (1) active power, (2) power factor, (3) synchronous speed, (4) slip, (5) square engine, (6) reactive power, (7) PEP.	**07**
	(b)	Short note ï Energy saving methods in industry.	**07**
		OR	
Q.4	**(a)**	Derive opportunities for energy efficiency in steam turbine cogeneration system.	**07**
	(b)	State advantages and disadvantages of various cogeneration systems with examples.	**07**
Q.5	**(a)**	Short Note ï Energy saving methods in buildings.	**07**
	(b)	Discuss energy conservation opportunity in boiler.	**07**
		OR	
Q.5	**(a)**	Define waste heat recovery and explain heat pipe with diagram.	**07**
	(b)	Discuss any two methods for energy storage.	**07**

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