Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– II(Old course) • EXAMINATION (Remedial) – WINTER- 2015

Subject Code: 1721107 **Date: 14/12/2015**

Subject Name: Energy Conservation Management

Time:2:30 pm to 5:00 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)**	Discuss the use of insulating materials for hot as well as cold insulation.	**07**
	(b)	What is an energy audit? What are the various steps in the implementation of energy management in an organization?	**07**
Q.2	**(a)**	What is cogeneration? Classify cogeneration process. Explain Factors influencing cogeneration choice.	**07**
	(b)	Enlist commercial waste heat recovery devices. Explain any two.	**07**
		OR	
	(b)	Define: net refrigeration capacity, COP, energy efficiency ratio. What is the relation between COP and kW/ton of refrigeration?	**07**
Q.3	**(a)**	State the methods used to evaluate the performance of the boiler and explain indirect method to evaluate the boiler	**07**
	(b)	Define boiler efficiency. What are the controllable and uncontrollable losses in a boiler?	**07**
		OR	
Q.3	**(a)**	Explain energy conservation opportunities in a cooling tower system.	**07**
	(b)	List the energy savings opportunities in industrial lighting systems.	**07**
Q.4	**(a)**	Explain energy conservations in I. C. Engine.	**07**
	(b)	Explain energy efficient motors with its benefits.	**07**
		OR	
Q.4	**(a)**	Enlist different types of losses incurred in electrical power supply system. Explain different methods to reduce losses incurred in electrical power supply system.	**07**
	(b)	Discuss the opportunities for energy management in industry.	**07**
Q.5	**(a)**	Write short note on Sensitivity and Risk Analysis	**07**
	(b)	What are the parameters which affect energy efficiency in compressed air system?	**07**
		OR	
Q.5	**(a)**	Write short note on Waste Heat Recovery from Furnace Flue Gases.	**07**
	(b)	Enlist different Energy Saving opportunities in a refrigeration plant.	**07**

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