Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (OLD) EXAMINATION – SUMMER 2017

Subject Code: 1721107 **Date:12/05/2017**

Subject Name: Energy Conservation & Management

Time:10:30 A.M. to 01:00 P.M. **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 energy conservation opportunities in boiler.	**07**
	(b)	Discuss the Energy Management System with its four important pillars.	**07**
Q.2	**(a)**	Suggests technical tips to conserve energy in case of (i) pumps (ii) motion drives.	**07**
	(b)	Explain energy conservations in I. C. Engine.	**07**
		OR	
	(b)	Counts the importance of energy management.	**07**
Q.3	**(a)**	Explain in detail about energy audit.	**07**
	(b)	Explain the term Co-generation and why it is needed? Classify co-generation Cycles.	**07**
		OR	
Q.3	**(a)**	Explain (i) Energy performance (ii) Bench marking in relation to energy audit.	**07**
	(b)	Prepare a list of key instruments for energy audit.	**07**
Q.4	**(a)**	List ECBC's mandatory requirements for buildings envelops.	**07**
	(b)	Discuss opportunities of waste heat recovery in case of large capacity steam generator	**07**
		OR	
Q.4	**(a)**	Discuss energy conservation opportunities in case of air compressors used in industry.	**07**
	(b)	Explain any two methods for energy storage.	**07**
Q.5	**(a)**	List the energy saving opportunities in refrigeration &Air-conditioning plant area.	**07**
	(b)	Discuss the following terms : (i) Energy economics (iii) Internal Rate of Return (ii) Payback period (iv) Net Present Value	**07**
		OR	
Q.5	**(a)**	List the seven important suggestions for energy saving in pumps & fans.	**07**
	(b)	Explain energy management strategies for industry.	**07**

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