Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 171907 **Date: 28/12/2012**

Subject Name: Energy Conservation and Management

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain long term energy scenario for India.	**07**
	(b)	Write short note on energy security.	**07**
Q.2	**(a)**	Define & explain the following terms: (i) Power factor (ii) Relative humidity (iii) dew point temp.	**07**
	(b)	State and explain the factors that influence thermal performance of the buildings.	**07**
		OR	
	(b)	Give name and use of different energy audit instruments.	**07**
Q.3	**(a)**	Name various financing options. Explain self-Financing energy management.	**07**
	(b)	List the elements of monitoring & targeting system with its functions.	**07**
		OR	
Q.3	**(a)**	Discuss the role of energy service companies(ESCOs)	**07**
	(b)	Explain Internal rate of return technique with example.	**07**
Q.4	**(a)**	Explain how CUSUM chart is drawn with an example.	**07**
	(b)	Define and explain following terms (i) Plant energy performance (ii) Production factor (iii) Reference year equivalent energy use	**07**
		OR	
Q.4	**(a)**	Give various electricity saving techniques	**07**
	(b)	What do you mean by co-generation? Classify co-generation system & explain bottoming cycle.	**07**
Q.5	**(a)**	State & explain energy efficiency measures for industrial furnace.	**07**
	(b)	Give tips for energy saving in pumps	**07**
		OR	
Q.5	**(a)**	Give energy efficiency measures in boilers.	**07**
	(b)	Give tips for energy saving in compressors.	**07**

****