Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – WINTER 2013

	•	Code: 171907 Date: 03-12-201	13
Tir	ne: 1 ructio 1. 2.	Name: Energy Conservation and Management 0:30 TO 01:00 Total Marks: ' ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	70
Q.1	(a)	Define & explain the following terms:	07
	(b)	(i) Power factor (ii) Relative humidity (iii) dew point temp. Write short note on energy security.	07
Q.2	(a) (b)	Classify the energy audit & Explain the three phases of detailed energy audit. Explain long term energy scenario for India. OR	07 07
	(b)	Explain Simple pay back method with its advantage & limitation.	07
Q.3	(a) (b)	Discuss the role of energy service companies. (ESCOs) Define Energy management. State the basic principles and benefits of energy management.	07 07
		OR	
Q.3	(a) (b)	Explain how CUSUM chart is drawn with an example. Give various electricity saving techniques.	07 07
Q.4	(a)	What do you mean by cogeneration? Classify cogeneration system & Explain	07
	(b)	bottoming cycle. State key elements of Energy monitoring and targeting system. Also discuss its benefits.	07
		OR	
Q.4	(a) (b)	List the suggestions for improving the efficiency in compressed air system. Give energy efficiency measures in boilers.	07 07
Q.5	(a) (b)	With a neat sketch explain Gas turbine co-generation plant. Explain Sensitivity Analysis & List the micro & macro factors. OR	07 07
Q.5	(a)	Explain in brief Energy efficiency versus Energy conservation. Write step wise procedure to calculate Boiler efficiency.	07
	(b)	Discuss the sources of waste heat and its potential applications.	07
