Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (OLD) - EXAMINATION - SUMMER 2017

U			05/05/2017	
Ti	me: structi	et Name: Alternate Energy Sources 10:30 AM to 01:00 PM Total Mark ions: 1. Attempt all questions.	s: 70	
		 Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 		
Q.1	(a) (b)	Explain Solar Radiation at the Earth's Surface. What are the conventional and non-conventional energy sources? Describe briefly.	07	
Q.2	(a) (b)	List different types of concentrating collector. Explain any one with figure. Discuss the working of Flat plate collector and state its advantages and disadvantages	07 1 07	
	(b)	OR Define the following terms: solar constant, hour angle, solar declination, zenith angle, day length, local solar time, and solar altitude angle.	u 07	
Q.3	(a) (b)	How are bio-gas plants classified? Explain continuous and batch type plants. List application and prospects of geothermal energy with reference to Indian context.	07 07	
Q.3	(a) (b)	OR Explain in detail site selection criteria for biogas plant and list digester design consideration. Classify the different solar energy measuring equipments. What is the difference between a Pyrheliometer and a Pyranometer?		
Q.4	(a) (b)	Write short note on Darrieus rotor. List the advantages and disadvantages of Wind Energy. OR	07 07	
Q.4	(a) (b)	Write down advantages and disadvantages of MHD Power plant system. Write a short note on vapour dominated hydrothermal system.	07 07	
Q.5	(a) (b)	Explain principle open cycle OTEC system with suitable diagram. Explain following terms: - Energy conservation, Energy management, Energy audit, Energy efficiency, Energy security.	07 07	
Q.5	(a) (b)	OR Discuss the advantages and disadvantages of OTEC system. Describe the layout and working of a continuous solar cooling system.	07 07	
