Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV • EXAMINATION – WINTER • 2014

Subject Code: 141904 **Date: 02-01-2015**

Subject Name: Non-Conventional Energy Sources

Time: 02:30 pm - 05:00 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)**	Why the exploration of renewable sources of energy has become essential?	**07**
	(b)	Describe in briefly the different energy storage methods used in the solar system.	**07**
Q.2	**(a)**	List different types of concentrating collectors. Explain any one with figure.	**07**
	(b)	Describe working of Solar Pond as energy storage with the help of neat sketch.	**07**
		OR	
	(b)	Define Solar Constant. Also explain about the variation of extraterrestrial solar radiation during the year with neat graph.	**07**
Q.3	**(a)**	Discuss open cycle OTEC system with the help of a neat diagram.	**07**
	(b)	Write on factors which affect site selection to establish wind power plant.	**07**
		OR	
Q.3	**(a)**	How to select site for biogas plant?	**07**
	(b)	Classify wind mills in details.	**07**
Q.4	**(a)**	Explain working of Double Basin Tidal Power Plant with figure. Also write advantages of it.	**07**
	(b)	What are liquid dominated hydrothermal resources? How these can be utilized in a high temperature wet steam system?	**07**
		OR	
Q.4	**(a)**	What are the difficulties in tidal power developments?	**07**
	(b)	What are the possible sources of Geothermal pollution? How these can be avoided?	**07**
Q.5	**(a)**	Write advantages and disadvantages of Wave energy.	**07**
	(b)	Describe an MHD open cycle system with schematic diagram.	**07**
		OR	
Q.5	**(a)**	Define: Energy Management. Write note on ‘Energy Audit ‘	**07**
	(b)	Define Fuel cell and state the advantages of Fuel cell over conventional power plants.	**07**

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