Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII EXAMINATION – WINTER 2015

Subject Code: 170505 **Date: 04/12/2015**

Subject Name: ENERGY TECHNOLOGY

Time: 10:30am to 1:00pm **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)**	Answer the following : (1) Define : Fossile Fuel (2) Define : Biomass gasification (3) Define: Energy (4) What is Solar constant? (5) Caking & Coking of coal (6) What is the difference between Proximate & Ultimate analysis. (7) Give the examples of conventional renewable source of energy.	**07**
	(b)	What is meant by "Energy Plantation "? What are its advantages & disadvantages?	**07**
Q.2	**(a)**	List Discuss about basic components of a Wind Energy Conversion System (WECS).	**07**
	(b)	State & Discuss the factor affecting biodigetion of bio mass for generation of bio gas. .	**07**
		OR	
	(b)	Advantage and disadvantage of wind energy.	**07**
Q.3	**(a)**	Give the names of the ocean source of energy. Discuss above the Open Cycle OTEC System.	**07**
	(b)	Discuss operation methods of utilization Tidal energy.	**07**
		OR	
Q.3	**(a)**	What is Magneto Hydro Dynamic Power Generator? Discuss its principle with a neat sketch.	**07**
	(b)	Discuss simple electrolytic cell process for production of hydrogen.	**07**
Q.4	**(a)**	Describe a typical solar pond explaining principle, construction & operation.	**07**
	(b)	Write Short notes of solar pumping.	**07**
		OR	
Q.4	**(a)**	Advantages and Limitations of wave energy.	**07**
	(b)	State important applications of solar energy. Describe flate-plate liquid solar heat collector for water heating.	**07**
Q.5	**(a)**	Discuss Hydrox (H_2-O_2) fuel cell.	**07**
	(b)	Describe working of vapor dominated power plant from geothermal energy Source.	**07**
		OR	
Q.5	**(a)**	What is washing of coal? Describe wash ability curve in detail.	**07**
	(b)	What is nuclear fission and fusion? Explain the components of nuclear reactor With neat figure.	**07**

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