Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI (NEW) - EXAMINATION – SUMMER 2016

Subject Code: 2163904 **Date:13/05/2016**

Subject Name: Non-Convetional Energy Resources

Time: 10:30 AM to 01:00 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)**	What is mean by Conventional and Non-convetional Energy Resources?	**07**
	(b)	Briefly discuss OPEN cycle system in OTEC with neat sketch.	**07**
Q.2	**(a)**	What is mean by Solar Energy? Explain theory of Solar Cells.	**07**
	(b)	Write a short note on Flate plat collector	**07**
		OR	
	(b)	Autonomus power plant is to be designed to supply power to village school the power to village school. The power supply is at 12V dc, the building loads are 1)fluroscent tube :- 30 x 8 W for 4.5 hrs/day 2)radio with player :2 x 2.5 W for 3 hrs/day 3)color TV sets : 2 x 80 for 4 hrs/day 4)computers : 4 x 24 W for 7 hrs/day The daily solar radiation is 5.4 KWh/m^2/day and average panel efficiency = 11% , peak power rating of 160 W Determine 1)Daily power requirement 2)Solar panel area 3)Total peak output 4)No. of Solar panels needed.	**07**
Q.3	**(a)**	Explain OTEC Principle and their availability in India.	**07**
	(b)	What arethe Advantages and Limitation of Fuel Cells?	**07**
		OR	
Q.3	**(a)**	Explain the principle and working of various types of Fuel Cell.	**07**
	(b)	Give the difference between Nuclear Fussion ans Fission?	**07**
Q.4	**(a)**	What is Biomass Energy? What is the difference between Biomass and Biofuel?	**07**
	(b)	what is Tidal Energy? Explain spring and Neap tieds?	**07**
		OR	
Q.4	**(a)**	What is MHD? Explain the principle of MHD power generation.	**07**
	(b)	Explain in brief OPEN cycle system in MHD power plant.	**07**
Q.5	**(a)**	Explain in detail “Hot Dry Rock”	**07**
	(b)	What are the Advantages and Disadvantages of Geo- thermal Forms?	**07**
		OR	
Q.5	**(a)**	Discuss the principle of Wind Energy Conversion and basic components of Wind Energy Conversion Systems.	**07**
	(b)	Give the Construction and Working of Horizontal and Vertical type Wind Mills.	**07**

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