Seat No.:	Enrolment No

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-IV EXAMINATION - SUMMER 2016

	•	ect Code:141904 Date:10/06/2016	
	_	ect Name:Non – Conventional Energy Sources e:10:30 AM to 01:00 PM Total Marks: 70	
	Instru		
		<ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>	
Q.1	(a)	Explain in brief Non-Conventional energy sources with special references to Indian Context.	07
	<b>(b)</b>	Explain with neat sketch various sun earth angles.	07
Q.2	(a)	Classify the solar collectors and write on principle, construction and working of liquid flat collector.	07
	<b>(b)</b>	Classify windmills. Draw the neat sketch of Horizontal Axis Wind Turbine Generator. State the function of each component.  OR	07
	<b>(b)</b>	Explain effect of following factors on performance of biogas generation.  1) PH value, 2) Diameter to depth ratio, 3) Pressure, 4) Seeding	07
Q.3	(a) (b)	Describe the main considerations in selecting a site for wind generators.  Explain constructional details and working of KVIC digester.  OR	07 07
Q.3	(a) (b)	Describe an MHD open cycle system with schematic diagram. Classify different types of biogas plant with an example. Explain construction and working of Janta model Biogas plant with neat sketch.	07 07
Q.4	(a)	Describe the closed cycle OTEC power plant and state its advantages over open cycle system.	07
	<b>(b)</b>	Explain working of Double Basin Tidal Power Plant with figure. Also write advantages of it.	07
		OR	
Q.4	(a) (b)	State different types of wave energy conversion devices and explain any one Write scope for Geothermal plant in India and discuss dry steam type Geothermal power plant.	07 07
Q.5	(a) (b)	Describe the Principle of operation of fuel cells with neat sketch.  Define: Energy Management. Write note on 'Energy Audit'  OR	07 07
Q.5	(a) (b)	Write hydrogen production methods And explain any one in details.  Discuss: solar cell	07 07

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