Seat No.:	Enrolment No
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-VI • EXAMINATION – WINTER 2013

	•	Code: 161904 Date: 06-12-2013	
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	2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	Define the following terms with necessary sketch.  1. Solar declination angle 2. Hour angle 3. solar Zenith angle 4. Solar incident angle.	07
	<b>(b)</b>	Define Sun rise hour angle, also calculate the day length in Ahmedabad $(23^0\mathrm{N})$ on $22^{\mathrm{nd}}$ December and $22^{\mathrm{nd}}$ March.	07
Q.2	(a) (b)	What is Solar still? Explain Solar still with neat sketch.  List different types of concentrating collector. Explain any one with figure.  OR	07 07
	<b>(b)</b>	Discuss the working of compound parabolic concentrator (CPC) and state its advantages and disadvantages.	07
Q.3	(a) (b)	Classify wind mills and explain horizontal axis wind mill.  Discuss various factors for site selection to establish wind power plant.  OR	07 07
Q.3	(a) (b)	Explain fixed dome type domestic biogas plan with neat sketch.  What is MHD? What are the various types of it? Explain any one of them.	07 07
Q.4	(a) (b)	Explain principle open cycle OTEC system with suitable diagram.  What are the advantages and disadvantages of Geothermal energy forms?  OR	07 07
Q.4	(a) (b)	Write short note on: Tidal power plant with double basin system.  Explain briefly construction and working of sun shine recorder.	07 07
Q.5	(a)	What are the co-general plants? Explain the different between bottoming and topping cycle	07
	<b>(b)</b>	Describe with neat sketch 'solar water heater.  OR	07
Q.5	(a) (b)	Explain about Phosphoric Acid Fuel Cell(PAFC). Discuss Hydrogen as alternative fuel for motor vehicle.	07 07

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