Seat No.:	Enrolment No.
2000 1 1000	

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-VII (NEW) - EXAMINATION – SUMMER 2017 Subject Code: 2170505 Date: 06/05/2017

**Subject Name: Energy Technology(Department Elective - II)** 

Time: 02.30 PM to 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) (b)	Write a note on in-situ and drift theory for the formation of coal Elaborate the terms energy management, energy audit & conservation	07 07
Q.2	(a)	Describe with neat sketch the working of a wind energy system with main components	07
	<b>(b)</b>	Write a short note on cannel & boghead coal OR	07
	<b>(b)</b>	What is solar collector? List various types of Focusing type Concentrator and Explain any one	07
Q.3	(a) (b)	Enlist various domestic and industrial applications of solar energy Discuss the properties of hydrogen and write a short note on metal hydrides OR	07 07
Q.3	(a) (b)	What is washing of coal? Describe washability curve in detail Enlist different geothermal resources and explain heat extraction from hot dry rocks	07 07
Q.4	(a)	Enlist different wave energy conversion devices and write a note on methods of utilizing tidal energy	07
	<b>(b)</b>	Explain polarization in fuel cell. Also discuss advantages and disadvantages of fuel cell	07
		OR	
	(a) (b)	What is OTEC? Explain closed cycle OTEC system in detail Categorize different types of fuel cell and describe Molten Carbonate Fuel Cell (MCFC) with neat and clean diagram	07
Q.5	(a)	List the various methods of production of Hydrogen from different sources and describe the most popular method of hydrogen production in detail	07
	<b>(b)</b>	What is MHD? Explain the design problems involved in the development of MHD	07
		OR	
Q.5	(a)	Classify biogas plants and explain the methods of maintaining and starting biogas plants	07
	<b>(b)</b>	What is nuclear energy? Also explain nuclear waste management in detail	07

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