Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY **BE - SEMESTER-IV • EXAMINATION - SUMMER 2013**

Subject Code: 140904 Date: 17-06-2013

**Subject Name: Energy System** 

Time: 10:30am - 01:00pmTotal Marks: 70

**Instructions:** 

1. Attempt all questions.

- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks. 0.1 (a) Discuss factor for site selection for hydro power station 07 **(b)** Draw and explain schematic diagram of thermal power station in brief 07 **Q.2** Describe schematic arrangement of diesel power plant and explain each 07 component. (b) Discuss main component of nuclear reactor and their function with neat sketch 07 **(b)** Draw and explain closed cycle gas turbine power plant 07 0.3 Discuss fully grid connected wind energy conversion system 07 (a) Draw and explain vertical axis wind turbine and also discuss merits over 07 horizontal axis wind turbine **Q.3** Explain construction and function of liquid flat plate collector with neat sketch 07 Give advantage of solar water heating system and explain forced circulation 07 solar heating system with block diagram 0.4 (a) Give brief note on solar dryer with neat sketch 07 Discuss advantages of solar photovoltaic system and draw basic solar PV 07 system  $\mathbf{OR}$ **Q.4** Enlist major component in solar pumping system Explain function of any two 07 component with diagram 07
  - (b) Discuss advantage of fuel cell and Classify the types of fuel cells
- Discuss tidal energy, its limitation and availability in India 07 **Q.5** 
  - (b) Draw and explain components of closed ocean thermal energy conversion system

OR

- (a) Discuss the different bio fuels derived from biogas 07 Q.5 07
  - (b) Draw and explain construction of any one type bio gas plant in detail

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