

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV • EXAMINATION – SUMMER • 2014

Subject Code: 140904

Date: 25-06-2014

Subject Name: Energy Systems

Time: 10:30 am - 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)** Explain the Schematic arrangement of Steam Power Station. **07**
(b) Explain the factors while considering the site of Hydro-Electric Power Station. **07**
- Q.2(a)** Classify different types of Nuclear Reactors. **07**
(b) Discuss the grid connected wind energy conversion system with the help of schematic diagram. **07**
- OR**
- (b)** State the function and type of material used for control rods in Nuclear reactor. **07**
- Q.3(a)** Explain the working of horizontal axis wind generator with the help of a schematic diagram. **07**
(b) Explain the working of Pyranometer for measurement of solar radiations. **07**
- OR**
- Q.3(a)** Explain the effects of various parameters on performance of Solar Energy collectors. **07**
(b) Write a short note on Solar Distillation. **07**
- Q.4(a)** Explain principle and working of Ocean Temperature Energy Conversion (OTEC) Plants. **07**
(b) Explain the principle of operation of Fuel Cell. Classify Fuel Cells. **07**
- OR**
- Q.4(a)** Define (1) Power Coefficient (2) Tip-Speed Ratio (3) Solidity with respect to performance of wind mills. **07**
(b) Explain Non-focusing type concentrators of solar energy. **07**
- Q.5(a)** Write a short note on Bio-Fuel technology. **07**
(b) Differentiate between Thermal and Diesel power plant. **07**
- OR**
- Q.5(a)** Explain the working of solar panels for Battery charging. **07**
(b) Explain advantages of closed cycle gas turbine power plant. **07**
