

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV • EXAMINATION – WINTER • 2014

Subject Code: 141904

Date: 02-01-2015

Subject Name: Non-Conventional Energy Sources

Time: 02:30 pm - 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) Why the exploration of renewable sources of energy has become essential? **07**
(b) Describe in briefly the different energy storage methods used in the solar system. **07**
- Q.2** (a) List different types of concentrating collectors. Explain any one with figure. **07**
(b) Describe working of Solar Pond as energy storage with the help of neat sketch. **07**
OR
(b) Define Solar Constant. Also explain about the variation of extraterrestrial solar radiation during the year with neat graph. **07**
- Q.3** (a) Discuss open cycle OTEC system with the help of a neat diagram. **07**
(b) Write on factors which affect site selection to establish wind power plant. **07**
OR
- Q.3** (a) How to select site for biogas plant? **07**
(b) Classify wind mills in details. **07**
- Q.4** (a) Explain working of Double Basin Tidal Power Plant with figure. Also write advantages of it. **07**
(b) What are liquid dominated hydrothermal resources? How these can be utilized in a high temperature wet steam system? **07**
OR
- Q.4** (a) What are the difficulties in tidal power developments? **07**
(b) What are the possible sources of Geothermal pollution? How these can be avoided? **07**
- Q.5** (a) Write advantages and disadvantages of Wave energy. **07**
(b) Describe an MHD open cycle system with schematic diagram. **07**
OR
- Q.5** (a) Define Energy Management. Write note on 'Energy Audit ' **07**
(b) Define Fuel cell and state the advantages of Fuel cell over conventional power plants. **07**
