

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-IV EXAMINATION – WINTER 2015**

**Subject Code: 141904****Date:06/01/2016****Subject Name: Non Conventional Energy Sources****Time: 02:30pm to 05:00pm****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) What are the Renewable and non Renewable energy source? Describe Briefly. **07**  
 (b) Which instruments are used for solar radiation measurements? Explain Construction & working of Pyranometer. **07**
- Q.2** (a) Describe the main Considerations in selecting site for wind energy conversion system. **07**  
 (b) Enlist type of Solar Thermal power plants. Discuss working of solar pond electrical power plant with neat sketch. **07**
- OR**
- (b) What do you mean by solar distillation? Explain solar still with neat sketch. **07**
- Q.3** (a) Discuss briefly the types of Bio gas plant. **07**  
 (b) State the different types of geothermal energy resources. Explain the hot dry rock geothermal resource and their application. **07**
- OR**
- Q.3** (a) Discuss the factors which affect the biogas production in detail. **07**  
 (b) What are liquid dominated hydrothermal resources? How these can be utilized in high temperature wet steam system? **07**
- Q.4** (a) Describe the closed cycle OTEC power plant and state its advantages over open cycle system. **07**  
 (b) Give Advantages & Disadvantages of MHD power Generation. **07**
- OR**
- Q.4** (a) Explain with neat sketch closed cycle seeded inert gas MHD generator **07**  
 (b) What is a fuel cell? Give advantages & limitation of fuel cells. **07**
- Q.5** (a) Discuss briefly hydrogen as alternative fuel for vehicle. **07**  
 (b) Define the term 'energy management' write note on energy audit classify the energy audit and discuss them in brief **07**
- OR**
- Q.5** (a) Write hydrogen production methods And explain any one in details. **07**  
 (b) What are the basic sources of waste heat? How it utilized to increase the energy economic? **07**

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