

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

Subject Code: 170505**Date: 29/11/ 2014****Subject Name: Energy Technology****Time: 10:30am TO 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)** Give detailed classification of energy sources: renewable and non-renewable sources, primary and secondary sources. **07**
- (b)** Write a brief note on types, analysis and properties of coal. **07**
- Q.2 (a)** Classify different types of solar collectors and explain any one in detail. **07**
- (b)** Discuss gasification and liquefaction of solid fuels. **07**
- OR**
- (b)** Define solar constant and discuss solar energy storage system in brief. **07**
- Q.3 (a)** Classify WEC systems and explain its working with neat sketch. **07**
- (b)** Enlist different geothermal resources and explain heat extraction from hot dry rocks. **07**
- OR**
- Q.3 (a)** Describe working of vapor dominated power plant from geothermal energy source. **07**
- (b)** Discuss different biomass conversion technologies in detail. **07**
- Q.4 (a)** Explain the phases involved in generation of biogas from biomass and factors affecting the same. **07**
- (b)** Discuss working principle and advantages of “closed cycle” OTEC system. **07**
- OR**
- Q.4 (a)** Define and classify fuel-cell. Explain any one in detail with applications. **07**
- (b)** State properties of hydrogen and discuss the methods of hydrogen production. **07**
- Q.5 (a)** Write a note on methods of utilizing tidal energy and its storage. **07**
- (b)** What is nuclear fission and fusion? Explain the components of nuclear reactor with neat figure. **07**
- OR**
- Q.5 (a)** Explain working of MHD system and discuss its advantages and disadvantages. **07**
- (b)** Explain working of boiling water nuclear reactor power plant in detail. **07**
