

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016

Subject Code:2170505

Date:25/11/2016

Subject Name:Energy Technology(Department Elective - II)

Time: 10.30 AM to 1.00 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) What is meant by conventional & non conventional energy sources? Explain in brief these energy sources with reference to Indian context. **07**
(b) Explain proximate and ultimate analysis of coal in detail. **07**
- Q.2** (a) Define following: **07**
Calorific Value, Gross Calorific Value, Net Calorific Value, Coking, Caking, Incident Angle and Zenith Angle
(b) Discuss theory of coal origin in details. **07**
- OR**
- (b) What is washing of coal? Describe washability curve in detail. **07**
- Q.3** (a) What is solar collector? List various types of focusing type concentrator and explain one of it. **07**
(b) What are basic components involved in wind energy conversion system? **07**
- OR**
- Q.3** (a) Write short note on a site selection for wind energy farm. **07**
(b) Explain solar pond briefly. What are the applications of solar pond? **07**
- Q.4** (a) Explain classification of biogas plant. Describe fixed dome type of biogas plant in detail. **07**
(b) Enlist different geothermal energy resources and explain the heat extraction from hot dry rocks. **07**
- OR**
- Q.4** (a) Describe construction and working of KVIC digester. **07**
(b) What are the advantages and limitations of geothermal energy forms? **07**
- Q.5** (a) Describe closed cycle OTEC system and its advantages over open cycle system. **07**
(b) What is fuel cell? Describe any one fuel cell with neat sketch. **07**
- OR**
- Q.5** (a) Describe MHD open cycle system. What are the benefits of MHD power generation? **07**
(b) Differentiate between fission & fusion. Explain condition of thermo nuclear fusion in brief. **07**
