

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1723007

Date: 14/07/2012

Subject Name: Energy Technology

Time: 10:30 am – 13:00 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) Discuss Various types of horizontal axis wind turbine generators. **07**
(b) Discuss National energy strategies. **07**

- Q.2** (a) Explain analysis of Coal and its calorific value. **07**
(b) What is Solar Constant? Discuss beam and Diffuse Solar radiation in brief. **07**

OR

- (b) Write advantages of flat plate type solar collectors over concentrating collectors. **07**

- Q.3** (a) Give classification of Gasifier and explain updraft gasifier with neat sketch. **07**
(b) What is nuclear energy? Discuss about nuclear fission in brief. **07**

OR

- Q.3** (a) Explain various types of geothermal sources. **07**
(b) Explain heat pump in chemical process industry. **07**

- Q.4** (a) Write a short note on WECS. **07**
(b) Discuss principle of tidal power generation and draw a neat sketch of typical single basin of tidal power plant. **07**

OR

- Q.4** (a) What is the fuel cell? Discuss advantages and disadvantages of fuel cell. **07**
Q.4 (b) Write a short note on molten carbonate fuel cell. **07**

- Q.5** (a) Discuss energy conservation in brief. **07**
(b) Write a short note on Pyrolysis. **07**

OR

- Q.5** (a) What is biomass? Discuss any ten major factors affecting generation of biogas. **07**
(b) Write a short note on ion-exchange fuel cell. **07**
