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GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER II (NEW) - • EXAMINATION - SUMMER 2016 Date: 02/06/2016 Subject Code: 2723007 **Subject Name: Energy Technology** Time: 10:30 am 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** Explain analysis of coal & its calorific value. **07** (a) Discuss impact of energy on economy. 07 **(b) Q.2** (a) Give the classification of different energy sources with their example. 07 Explain Energy chain and Energy demand. **07** (b) Explain energy audit. How it helps in energy strategy and planning? 07 **(b)** Q.3 With the help of a diagram (a) Discuss the power versus wind speed characteristic of a 07 (a) wind turbine (b) Discuss Cp versus to tip speed ratio. List the various parameters for selecting the site for wind power plant. **07** (b) Q.3 Describe with a neat sketch the working of wind energy conversion system (WECS) (a) **07** with main components. Write a short note on Solar Pond. 07 **(b)** Explain factors affecting biogas generation. 0.4 **07** (a) Give classification of solar concentrating collectors. Also explain the compound **07** (b) parabolic concentrating briefly. OR With the help of block diagram explain closed cycle Magneto Hydro Dynamic (MHD) **Q.4** 07 power generation system. Give the classification of biogas plants. 07 **(b) Q.5** (a) Explain thermo chemical method for Hydrogen. 07 Write a short note on Hydrogen-Oxygen fuel cell. **07** (b)

Write a short note on Molten carbonate fuel cell.

Explain Refining and Enrichment for nuclear fuel.

Q.5

(a)

(b)

07

07