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GUJARAT TECHNOLOGICAL UNIVERSITY BE SEMESTER- 1st / 2nd (SPFU) EXAMINATION - WINTER 2016

Subject Code: TEE010 Date: 02/02/2017 **Subject Name: Renewable Energy** Time:10:30 AM TO 1:00 PM **Total Marks: 70 Instructions:** 1. Attempt any five questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. **Q.1** (a) What are the conventional and non-conventional energy sources? Describe 07 **(b)** Explain the principle of working of a Pyrheliometer with a neat sketch. 07 0.2 (a) Explain basic operational principles of solar cells. 07 Explain in detail the applications of Solar Photovoltaic systems 07 Explain operating principle of Microhydel. 0.3 07 (a) Explain the components of a Microhydel power plant. 07 **(b) Q.4** (a) List advantages and disadvantages of Geothermal energy as compared to Wind **07** and Solar energy. (b) Explain working of horizontal axis wind generator with the help of a schematic 07 Diagram. Q.5 Explain site selection procedure for wind mills for power generation. 07 (a) Discuss about Stages of anaerobic digestion process 07 **Q.6** (a) Explain Biomass Pyrolysis process. 07 What is basic principle of ocean thermal energy conversion? **07 Q.7** (a) Describe the construction and working of OTEC system based on closed cycle 07 With help of schematic diagram. (b) Give advantages, disadvantages and applications of solar- thermal system. 07
