

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016**

**Subject Code: 2713901****Date:06/01/2017****Subject Name: Energy Resources, Economics & Environment****Time: 2:30 pm to 5:00 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) Write a short note on Kyoto protocol and its Kyoto mechanisms. **07**  
 (b) Explain in detail Greenhouse Gases and its effect. **07**
- Q.2** (a) Explain payback period method and return on Investment method for financial Analysis. **07**  
 (b) Explain in detail with neat sketch gas based power generation. **07**
- OR**
- (b) Write a short note on solar photovoltaic technology. **07**
- Q.3** (a) Explain in detail the points to be considered for site selection of thermal power plant. **07**  
 (b) Write a short note on recent developments of Hydro Electricity power generation in India. Also mention the advantages and limitation of Hydro Electricity power generation. **07**
- OR**
- Q.3** (a) Define role of EIA in sustainable development. **07**  
 (b) Write a brief note on need of EIA for developing countries . **07**
- Q.4** (a) Write a short note on Scope of development of renewable energy sources in India. **07**  
 (b) Explain carbon credits and emission trading with its advantages and limitations. **07**
- OR**
- Q.4** (a) Write a short note on benefits and barriers of wind energy. **07**  
 (b) Explain biomass power generation with its benefits and barriers. **07**
- Q.5** (a) Explain the salient features of energy conservation act 2001 in detail. **07**  
 (b) Write a short note on Electricity act 2003 and its features. **07**
- OR**
- Q.5** (a) Write a short note on tidal energy for power generation. **07**  
 (b) Explain cut-in and cut-out speed for wind turbine. Compare horizontal and vertical axis wind turbine. **07**

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