

**CERTIFICATE IN ENERGY TECHNOLOGY
AND MANAGEMENT (CETM)**

Term-End Examination

December, 2015

**OEY-001 : ENERGY RESOURCES AND
CONVERSION PROCESSES**

Time : 3 hours

Maximum Marks : 70

Note : Answer any **seven** questions. All questions carry equal marks. Use of scientific calculator is permitted.

1. Define the following : 5×2=10
- (a) Power Factor
 - (b) pH
 - (c) Tidal Energy
 - (d) Convection
 - (e) Organic Loading Rate
2. Give a detailed description of the classification of biomass resources. 10

3. Explain the utilization of hydrogen as an energy source. 10
 4. Calculate the theoretical amount of air required for the combustion of (a) propane (C_3H_8) (b) butane (C_4H_{10}) having 0.04% oxygen. 10
 5. Discuss in detail the constituents of greenhouse gases. How do they produce the greenhouse effect? 10
 6. Describe the construction and working of a water pumping windmill. 10
 7. Enumerate the characteristics of lignite and sub-bituminous coal. 10
 8. Explain the principle and application of geothermal energy. 10
 9. Describe in detail the types of solar collectors. 10
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