

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

Term-End Examination

December, 2016

00348

**OEY-001(S) : ENERGY RESOURCES AND
CONVERSION PROCESSES**

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions. All questions carry equal marks. Use of calculators is permitted.

1. Define the following terms: 5×2=10
- (a) Calorific Value
 - (b) Alkalinity
 - (c) Radiation
 - (d) Power Factor
 - (e) Energy Sink
2. Name the two major classifications of energy resources based on their exhaustion. Discuss, in detail, any two energy resources of each category. 10

3. (a) What are the different types of renewable energy resources ? 5
- (b) Enumerate the advantages and disadvantages of renewable energy. 5
4. (a) Classify the different biomass resources. 5
- (b) Discuss, in detail, the environmental effects of biomass. 5
5. Explain the three stage processes of biomethanation with a neat block diagram. 10
6. What is Geothermal Energy ? Also, describe in detail applications of geothermal energy. 10
7. What are biofuels ? Discuss, in detail, 1st and 2nd generation biofuels. 10
8. Describe the three categories of solar collectors based on their temperature. 10
9. Write short notes on the following : 2×5=10
- (a) Wind-Solar Hybrid Systems
- (b) Fuel Cells
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