

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

Term-End Examination

June, 2015

00391

**OEY-002 : RENEWABLE ENERGY
TECHNOLOGIES AND THEIR USES**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks.

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1. (a) What is the solar constant ? What is its approximate value ? 7
 - (b) Classify different forms of solar radiation. Explain each in brief. 7
 2. (a) Write the step-by-step method to design solar PV power system. 7
 - (b) What is the difference between solar cell and PV module ? Also, write the advantages of SPV systems. 7
 3. (a) Enumerate popular biogas plants developed in India and discuss any one of them. 7
 - (b) Briefly explain the different bio-fuels and their characteristics. 7

4. (a) Explain the different stages of drying processes. Also, write the different modes of drying. 10
- (b) Write the merits and demerits of solar drying. 4
5. (a) Explain the difference between greenhouse effect, global warming and climate change. 7
- (b) Define the following : 7
- (i) Conductive heat transfer
 - (ii) Convective heat transfer
 - (iii) Radiative heat transfer
6. (a) What are the different advantages and disadvantages of solar passive buildings ? 7
- (b) Describe the working and construction of built-in type solar water heater. 7
7. Write short notes on any *two* of the following : $2 \times 7 = 14$
- (a) Solar Lantern
 - (b) Pyrolysis
 - (c) Solar Air Heater
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