

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

Term-End Examination

June, 2017

00095

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

Time : 3 hours

Maximum Marks : 70

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

1. Define the following : 7×2=14

- (a) Beam radiation
- (b) Diffused radiation
- (c) Albedo
- (d) Insolation
- (e) Solar time
- (f) Solar constant
- (g) Absorptivity

2. (a) Explain the forced circulation type of solar water heater with a neat schematic diagram. 7
- (b) What are the different site requirements for installation of a solar water heater? Also, write the different advantages of a solar water heater. 7
3. Explain the following solar PV plants : $4 \times 3 \frac{1}{2} = 14$
- (a) Stand-alone solar power plant
- (b) Solar generators
- (c) Building-integrated PV system
- (d) SPV pumping system
4. (a) Explain the construction and working of a Floating Drum Biogas plant. 10
- (b) Write the advantages and disadvantages of a Floating Drum Biogas plant. 4
5. (a) Describe the principle of open sun drying with a neat schematic diagram. Also, explain the different modes of drying. 7
- (b) Draw a neat schematic diagram of Natural Circulation Solar Dryer. Also, explain its working. 7

6. (a) Differentiate between passive, hybrid and active building systems. 7
- (b) How are conductive, convective and radiative heat transfers calculated? Explain with suitable example. 7
7. Write short notes on any *two* of the following: $2 \times 7 = 14$
- (a) Greenhouse Effect
- (b) Pyrolysis
- (c) Solar Lantern
-