

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

Term-End Examination

June, 2025

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

Time : 3 Hours

Maximum Marks : 70

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

-
1. Define any *five* of the following : 5×2=10
- (a) Emissivity
 - (b) Reflectivity
 - (c) Irradiation
 - (d) Solar constant
 - (e) Stefan-Boltzmann's law
 - (f) Direct Radiation

2. What is an evacuated tube solar collector ?
Also write the advantages of solar water heater over electric water heater. 10
3. (a) What do you understand by 'efficiency of a solar cell' ? 5
(b) Explain different steps for reducing green house effect in nature. 5
4. (a) Discuss the factors which affect the generation of biogas. 5
(b) What are the components which are used in a box type solar cooker ? Draw a neat sketch of a box type solar cooker. 5
5. Describe the procedure for evaluating an energy-conscious design for a building. 10
6. What is Gasification ? Also classify biomass gasifiers. 10
7. Explain construction and working of natural circulation type of solar water heater. 10

[3]

8. (a) Differentiate between hybrid and active building systems. 5
- (b) Describe the importance of ventilation in heating and cooling of buildings. 5
9. Write short notes on any *two* of the following : 2×5=10
- (a) Solar pond
- (b) Solar PV system for pumping
- (c) Solar passive cooling

× × × × ×