

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

Term-End Examination

December, 2025

**OEY-002 : RENEWABLE ENERGY
TECHNOLOGY 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
- (i) Global Solar Radiation
 - (ii) pH value
 - (iii) Flash point
 - (iv) Pour point
 - (v) Calorific value of fuel
 - (vi) Viscosity

2. Explain the construction and working principle of a flat plate solar water heater. 10
3. How does a biogas plant work ? What are the reactions that take place in a biogas plant ? 10
4. What is “Green Building” ? Discuss the advantages of green buildings. 10
5. Explain the operation of a photovoltaic solar cell. Also draw I-V characteristics of a solar cell. 10
6. Compare different types of improved cooking stoves on the basis of function, construction material, portability and fuel type. 10
7. (a) Explain in detail the main components of solar radiation falling on the earth. 5
- (b) State the Kirchhoff's law of radiation. How is solar radiation estimated on a horizontal surface ? 5

8. (a) Explain the construction and working of a solar street lighting system with a neat sketch. 5
- (b) What is Pyrolysis ? Describe in brief the types of Pyrolysis. 5
9. Write short notes on any *two* of the following: 2×5=10
- (a) Green house effect
- (b) Natural circulation solar dryer
- (c) Solar passive system

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