

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

**Term-End Examination**

**December, 2023**

**OEY-002 : RENEWABLE ENERGY  
TECHNOLOGIES AND MANAGEMENT**

*Time : 3 Hours*

*Maximum Marks : 70*

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

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1. Explain the factors which affect the amount of solar radiation reaching a surface. 10
2. Explain construction and working of box type solar cooker with neat sketch. 10
3. What is photovoltaic effect ? Also, draw and explain the I-V characteristics of solar cell. 10
4. What are the different types of biogas plants based on the feed method ? Explain each of them. 10

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5. What is Pyrolysis ? What are the different types of Pyrolysis ? 10
6. Explain the following :  $2\frac{1}{2} \times 4 = 10$
- (i) Wet-basis moisture content
  - (ii) Dry-basis moisture content
  - (iii) Equilibrium moisture content
  - (iv) Bone dry and humidity
7. (a) What are the different climatic zones ? Also explain climatic zones on the basis of their characteristics. 7
- (b) Explain direct gain passive system. 3
8. (a) Explain working of solar air collector. Also, explain natural and forced circulation dryer. 10
9. Write short notes on any *two* of the following :  $2 \times 5 = 10$
- (a) Solar green house
  - (b) Solar still
  - (c) Solar water heater

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