

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

**Term-End Examination**

**June, 2024**

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

*Time : 3 Hours*

*Maximum Marks : 70*

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

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1. (a) How is solar radiation calculated on tilted surface ? Explain. 7
- (b) What is hybrid solar cooker ? What are the different factors which should be kept in mind in using solar cooker ? 7
2. (a) Write different steps of design process of solar PV power system. 7
- (b) What are the different factors on which voltage output of a PV array depend ? 7
3. (a) What are the different modes of solar drying technologies ? Explain any *one* of them. 7

[ 2 ]

- (b) Explain different cost components of drying unit. 7
4. (a) What are the main components of solar radiation falling on the earth ? Also, define solar constant. 7
- (b) Describe solar air collector with a non-porous absorber and a porous absorber with neat schematic diagram. 7
5. (a) What is solar passive building ? Write the advantages and disadvantages of solar passive building. 7
- (b) Explain the operation of solar lantern, and street lighting system. 7
6. (a) What is pyrolysis ? Classify the types of pyrolysis. 7
- (b) Explain the working of the fluidized bed combustion system. 7
7. Write short notes on any *two* of the following : 7 each
- (a) Global warming and climate change
- (b) Active and passive solar stills
- (c) Thermal efficiency and heat removal factor

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