

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

00794

Term-End Examination

June, 2014

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

Time : 3 hours

Maximum Marks : 70

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

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1. (a) What are different types of solar cookers ? Write the advantages and disadvantages of solar cookers. 7
 - (b) Classify different kinds of solar water heaters. Also write the advantages of solar water heaters. 7
 2. (a) What factors affect the efficiency of photovoltaic (PV) module ? Classify different types of photovoltaic power systems on the basis of functional and operational requirements. 7
 - (b) Draw the block diagram for photovoltaic power system for DC loads and AC loads. Also explain different steps used for design process for solar photovoltaic (SPV) systems. 7

3. (a) Name different types of biogas plants. Discuss the floating drum biogas plant with a neat sketch. Where will you use a fixed dome type plant? 7
- (b) Explain the working of the fluidized bed combustion system. 7
4. (a) Name various techniques used in drying. Also write the merits and demerits of each. 7
- (b) Draw the block diagram of a solar drying system. Also, define thermal efficiency and pick-up efficiency of a dryer. 7
5. (a) Enlist the advantages and disadvantages of solar passive systems. 7
- (b) Explain steps used for reducing greenhouse effect in the environment. 7
6. Write short notes on any **two** of the following : $2 \times 7 = 14$
- (a) Global warming and climate change
- (b) Cost components of drying units
- (c) Active and passive solar stills
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