

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

Term-End Examination

December, 2013

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

Time : 3 Hours

Maximum Marks : 70

*Note : This question paper contains 7 questions. Question No. 1
is compulsory. Attempt any other five questions.*

1. Discuss **any four** of the following : 4x5=20
- (a) Biogas system
 - (b) Concentrating type solar cooker
 - (c) Solar PV cell efficiency
 - (d) Green building
 - (e) Combustion efficiency
2. (a) How do you calculate thermal efficiency of solar water heater ? 5+5=10
- (b) Discuss the ways to improve thermal efficiency of solar water heater.

3. Discuss daylighting and climate responsive passive designs. 10
 4. Explain the various biomass based energy technologies for Indian conditions. 10
 5. Enumerate the various drying techniques and enlist at least one merit and one demerit of each. 10
 6. A solar cell is having an area of $25 \times 10^{-4} \text{ m}^2$ and produces power of 0.2 W. If the efficiency of the solar cell is 12%, determine the intensity of solar radiation. 10
 7. Explain with an appropriate diagram the phenomenon of Green House Effect. 10
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