CERTIFICATE IN ENERGY TECHNOLOGY AND MANAGEMENT (CETM)

Term-End Examination

December, 2013

OEY-003 : ENERGY MANAGEMENT : AUDIT AND CONSERVATION

Time : 3 hours   *Maximum Marks : 70*

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

1.   Explain the use of energy audit instruments for conducting energy audit.   7

2.   Discuss the basic principles of developing energy balance.   7

3.   What are the basic principles of classification of energy conservation measures ?   7

4.   What do you understand by medium term energy conservation measures in wire manufacturing industry.   7

5.   Write down in detail the energy conservation measures in Boilers.   7

6. Discuss energy conservation measures in motors.   7

7. (a) What are the ways to improve power factor.

    (b) The average PF in an industry is 0.85 and it
         needs to be improved to 0.95. Determine
         the capacitor required if the connected load
         is 1000 kW.   3+4=7

8. Elaborate the basic concepts of integrated rural   7
    energy planning.

9. Discuss the optimal mix of renewable energy   7
    technologies.

10. There are two energy conservation measures :   7

    (a) The equipment cost is Rs 10,000 and it pays
         back Rs 12,000 in two years.

    (b) The equipment cost is Rs 7,000 and pays
         back Rs 4,000 each year for two years.

    Determine the best alternative, if the interest rate
    is 8%

11. How do you calculate life cycle cost of solar PV   7
    power ?

12. Discuss waste heat recovery from flue gases.   7

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