Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (ME) (Sem.–6)

ENERGY CONSERVATION AND MANAGEMENT

Subject Code : DE/ME-1.4

M.Code : 71246

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a. Enumerate the benefits of energy conservation.

b. Define Energy Security.

c. Explain the role of renewable energy sources in energy management of nation.

d. Differentiate between renewable and nonrenewable energy.

e. Explain the role of BEE in energy conservation.

f. Enumerate the techniques for improvement of power factor for improving energy efficiency.

g. Enumerate the factors that influence thermal performance of the buildings.

h. How does preventive maintenance help in energy conservation?

i. Enumerate various heat losses encountered in furnaces.

j. How does specialized process like fluidized bed technology contribute towards energy conservation?

SECTION-B

2. Explain the duties and responsibilities of energy manager in an industry.

3. Explain the strategies for optimum use of gas turbines for power generation.

4. Discuss energy recovery in thermal systems.

5. Write short note on energy efficient alternative sources of energy for promoting energy conservation.

6. Give an account of Energy conservation Act - 2001.

SECTION-C

7. a. What are important parameters usually monitored during energy audit? Describe the instruments required for an Energy Audit.

   b. Describe the electrical energy conservation areas in boilers.

8. a. Explain the devices used for waste heat recovery techniques.

   b. Explain the energy conservation measures for iron and steel industry.

9. a. Discuss the energy conservation opportunities in pulp and paper industry.

   b. Explain in brief Energy efficiency versus Energy conservation. Write step wise procedure to calculate Boiler efficiency.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.