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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (ME) (E-I 2012 Onwards) (Sem.-6)

**POWER PLANT ENGINEERING**

Subject Code : DE/ME-1.8

M.Code : 71250

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****Answer briefly :**

1. What are commercial and non - commercial sources of energy?
2. Enlist few direct energy conversion systems.
3. What is difference between closed and open gas cycle?
4. What are the different methods to measure rainfall?
5. What is the use of draft tube in hydroelectric power plant?
6. What is the working principle of cyclone dust collector?
7. What is Fluidized bed combustion system?
8. What is the function of grate in boiler?
9. What are high pressure boilers? Enlist any two.
10. Define Radioactivity.

### SECTION-B

11. Describe Electrostatic Precipitator for dust collection in a steam power plant.
12. The yearly duration curve of a power plant is straight line from 150MW to 40MW. Power is supplied with one unit of 100MW and two units of 50MW capacity each. Determine :
  - a) Installed capacity
  - b) Load factor
  - c) Plant factor
  - d) Utilization factor
13. Explain the various combination cycles of gas turbine and steam plants for power production.
14. Explain performance and operating characteristics of power plant.
15. Explain with diagram different equipments of coal preparation.

### SECTION-C

16. Describe the construction and working of a Pressurized - water reactor with neat diagram and explain its advantages and limitations.
17. Explain various resources of geothermal energy.
18. Write short notes on :
  - a. Electricity from city refuse
  - b. Radioactive waste disposal
  - c. Flow duration curve

**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.**