

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (ME) (Sem.-6th)
POWER PLANT ENGINEERING

Subject Code : DE/ME-1.8

Paper ID : [A0829]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

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

SECTION-A**I. Answer briefly :**

- Enumerate various methods by which energy can be obtained from waste.
- What is the function of Electrostatic precipitator?
- What is flow duration curve?
- What are high pressure boilers?
- Define cetane number.
- What is Electrostatic Precipitator?
- What is use of coolant in Nuclear power plant?
- What are peak load power plants?
- Explain the function of Condenser in steam Power Plant.
- What are the factors taken into consideration while selection of site for hydro-electric plant?

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SECTION-B

- Define precipitation, evaporation and run-off.
- What factors are considered in selection of plant?
- Write short note on coal storage preparation and handling.
- A power plant of 150MW installed capacity has

Capital cost = Rs. 1800/KWh installed, interest and depreciation = 10%, annual load factor = 60%, annual capacity factor = 60%, annual energy charges = Rs. 30×10^6 energy consumed by plant.

Calculate

- reserve capacity
- generating cost.

What measures are required during disposal of ash?

SECTION-C

- Explain working of combined Steam and Gas turbine power plant.
- (a) Explain principle of working of Magnetic separation system.
(b) Explain briefly working of Solar Power system.
- A generating station has a maximum demand of 100 MW and daily load on station is as follows :

Time	Load in KW	Time
11 pm - 6 am	2000	1 pm - 2 pm
6 am - 8 am	3500	5 pm - 6 pm
8 am - 12 noon	8000	7 pm - 8 pm
12 pm - 1 pm	3000	9 pm - 10 pm

Draw load curve. Select the size and number of turbines. Also calculate reserve plant would be necessary? Also calculate plant capacity factor.

