

Total No. of Questions : 10]

SEAT No. :

P2146

[Total No. of Pages : 3

[5254]-542

B.E. (Mechanical) (Semester - II)
POWER PLANT ENGINEERING
(2012 Pattern)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate full marks.*
- 4) Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) Assume suitable data, if necessary.*

- Q1) a)** The peak load in a power plant is 60 MW. The load having maximum demand of 30 MW, 20 MW, 10 MW and 14 MW are connected to the power plant. The capacity of the power plant is 80 MW and annual load factor is 0.50. estimate, **[6]**
- i) average load on the power plant
 - ii) energy supplied per year
 - iii) demand factor
- b) Explain essential properties of coal required for thermal power plant. **[4]**

OR

- Q2) a)** Define the following terms : **[6]**
- i) Connected load,
 - ii) Diversity Factor
 - iii) Maximum demand
- b) Explain coal beneficiation **[4]**

P.T.O.

- Q3) a)** Describe fluidized bed combustion system. **[4]**
b) State the advantages and disadvantages of nuclear power plant. **[6]**

OR

- Q4) a)** Explain silent features of high pressure boiler? **[4]**
b) Explain with neat sketch types of spillways. **[6]**

- Q5) a)** Explain with neat sketch combined cycle power plant. **[8]**
b) Draw performance characteristics of diesel power plant. **[8]**

OR

- Q6) a)** Discuss the working of semi closed cycle with neat sketch. **[8]**
b) Discuss various losses related to diesel power plant. **[8]**

- Q7) a)** What is function of PV system? What are advantages and disadvantages? **[10]**
b) Explain single basin and double basin tidal power plant with neat sketch. **[8]**

OR

- Q8) a)** Write short notes on : **[12]**
i) Geothermal power plant
ii) MHD
iii) Classification of wind mills.
b) What are the concentrating type collector systems? Discuss their advantages. **[6]**

Q9) a) Write a short note on : [8]

i) Global warming

ii) Acid precipitation

b) What are major electrical equipment's used in electrical power plant. [8]

OR

Q10) a) Explain with neat sketch construction and working of power transformer. [8]

b) Explain the different method adopted to control Nuclear pollution. [8]

