Total No. of Questions : 4]

SEAT No. :

PA-9

[Total No. of Pages : 2

[5931]-15
S.E. (Electrical Engineering)
203141 : POWER GENERATION TECHNOLOGY
(2019 Pattern) (Semester - I)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Assume suitable additional data, if necessary.***
5) ***Use of non-programmable calculator is allowed.***

Q1) a) Write different methods which are used for increasing the efficiency of a thermal power plant. Explain any one in detail. **[6]**

b) Discuss merits and demerits of thermal power plant. **[4]**

c) Explain Rankine cycle with PV and TS Diagram. **[5]**

OR

Q2) a) Explain coal handling system in thermal power plant with neat flow chart. **[6]**

b) A 60 MW captive power plant (CPP) of a chemical plant has a coal fired Boiler, The operating data of CPP is as follows : **[4]**

i) Generator output : 60 MW

ii) GCV of coal used : 4240 kCal/kg

iii) Coal consumption (kg/hr) : 41758kg/hr

Find out gross heat rate :

c) Explain electrostatic precipitator with neat sketch. **[5]**

Q3) a) Explain with neat sketch the working of a nuclear power station. **[6]**

b) State when and where diesel electric power plants are used? **[4]**

c) Explain combined gas turbine power plants. **[5]**

P.T.O.

OR

Q4) a) Explain the function of moderator. Why does a breeder reactor require no moderator? **[6]**

b) Write a short note on applications of gas turbine power plant. **[4]**

c) Name the essential components of a diesel power plant and explain lubrication system. **[5]**

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