

PART – B (5 × 16 = 80 Marks)

11. (a) (i) Describe the working of FBC boiler with a neat diagram. (8)
(ii) Explain the arrangement and operation of a surface condenser. (8)

OR

- (b) (i) Discuss the functions of air heater types. (8)
(ii) Describe with a sketch the working of a mercury-water binary cycle. (8)

12. (a) (i) With the help of a diagram, explain the functions of essential components of diesel power plant. (10)
(ii) What is IGCC system? Brief. (6)

OR

- (b) (i) Bring out the difference between closed cycle and open cycle gas turbine power plants. (8)
(ii) Discuss why combined cycle power generation is so important in present day energy scenario. (8)

13. (a) (i) Explain the functions of reflectors and cladding. (8)
(ii) Explain the necessity of pressurizer in a PWR power plant. (8)

OR

- (b) (i) List and brief the characteristics features of a BWR. (8)
(ii) Write a note on India's three stage nuclear power programme. (8)

14. (a) (i) Write on the factors that should be considered while selecting a site for a hydroelectric plant. (8)
(ii) What is pumped storage plant? Explain with a sketch. (8)

OR

- (b) (i) Describe the functions of a solar PV electric plant. (8)
(ii) Enumerate the advantages of fuel cell power sources with specific reference to environment. (8)

15. (a) (i) List and discuss any 4 power tariff structure adopted by TANGEDCO ? (8)

(ii) Name the pollution control technologies adopted in thermal power plants and describe any one. (8)

OR

(b) (i) Name and elaborate on the elements that contribute to the total cost of electricity. (6)

(ii) Brief : Base Load, Peak Load and average load of a thermal power plant. (6)

(iii) Indicate the likely % cost of capital and operating cost of a thermal power plant take the like of the power plant as 25 years. (4)