



12. (a) Discuss the essential components of the diesel power plant with neat layout. (16)

Or

- (b) (i) Derive an expression for the work ratio using Brayton cycle. (8)  
(ii) Discuss the working of anyone type of combined cycle power plant. (8)

13. (a) (i) Explain CANDU(Canadian-Deuterium-Uranium) reactor with neat diagram also mention its merits and demerits. (10)  
(ii) Discuss about the safety measures adopted in modern nuclear plants. (6)

Or

- (b) Explain the construction and working of nuclear power plant with a layout. (16)
14. (a) (i) Explain the construction and working of fuel cell also mention its merits and demerits. (12)  
(ii) List the advantages and disadvantages of wind Energy system. (4)

Or

- (b) Explain the layout of hydroelectric power plant with neat diagram. (16)
15. (a) Explain the methods to control pollution in thermal and nuclear power plants. (16)

Or

- (b) (i) Explain site selection criterion of hydro power plant. (8)  
(ii) A Peak load on the thermal power plant is 75 MW. The loads having maximum demands of 35 MW, 20 MW, 15 MW and 18MW are connected to the power plant. The capacity of the plant is 90 MW and annual load factor is 0.53. Calculate the average load on power plant, energy supplied per year, demand factor and diversity factor. (8)