Q.P.Code: 37325

Duration: - Three Hours **Total Marks:- 80**

NOTE

1. Question No 1 is Compulsory.
2. Solve any three out of the remaining.
3. Figure to the right side indicates marks.
4. Assume the suitable data and mention the same if required.

Q No 1 Answer the following Questions

a. What are the various methods for meeting fluctuating load? [5]

b. State and explain the laws of thermodynamics'. [5]

c. What are the drawbacks of nuclear power generation? [5]

d. Discuss the role of Biomass in power generation. [5]

Q No 2a A thermal power plant consist of two units of 60 MW running for 8000 hrs and one 30 MW unit running for 2000 hrs per year. Energy produced by the plant is $876*10^6$ KWH per year. Determine the plant load factor and plant use factor. Assume maximum demand is equal to the plant capacity. [10]

Q No 2b What is condenser? Discuss the working of any condenser with figure. [10]

Q No 3a Discuss the coal handling system in thermal power plant with neat diagram. [10]

Q No 3b The run off data of a particular site is given below.

Month	Mean discharge per month (Millions of cum)	Month	Mean discharge per month (Millions of cum)
January	40	July	75
February	25	August	100
March	20	September	110
April	10	October	66
May	00	November	50
June	50	December	40

(1) Draw the hydrograph (2) Find mean flow (3) Draw flow duration curve [10]

Q No 4a Discuss any one type of cooling tower.

Q No 4b Explain the following terms with respect to nuclear power generation. [10]

a. Nuclear Material b. Reactor Control

Q No 5a Discuss the features of Pelton Wheel Turbine in hydro power generation. [10]

Q No 5b What is solar pond technology? Discuss the working of solar pond electric power plant. [10]

Q No 6a Discuss the various factors affecting the selection of site for wind power generation. [10]

Q No 6b Discuss the combined heat power generation system. [10]