Question Bank (K- scheme)

Unit Test: I

Name of Course: Electrical Power Generation, Transmission & Distribution

Course Code: 313333 **Course: GTD**

Semester: III **Programme : EE**

Chapter 1: Thermal Power Plant and Hydro Power Plant (16M)

2 Marks Questions

1. State any two advantages of thermal power plant.
2. List any two Thermal Power Station & Hydro power plants in Maharashtra with their installed capacity.
3. Define Renewable and Non-Renewable energy resources. State one example each.
4. State the function of coal and ash handling unit, Economiser & Superheater in thermal power plant.
5. State the classification of hydro-power plant according to quantity of water available.

4 Marks Questions

6. State the factors governing the selection of site for thermal power plant.
7. Explain with layout the working of typical thermal power plant.
8. Compare fire tube and water tube boilers used in thermal power plants.
9. Draw schematic arrangement of hydroelectric power station. State the function of surge tank, penstock, tailrace, Intake, trash rack, spillway, tunnel, Catchment area and forebay.
10. Describe the safe practices for Hydro Power Plants.
11. Explain Pumped storage Power Plant with neat diagram. State the advantages of Pumped storage Power Plant.

Chapter 2: Economics of Power Generation and Interconnected Power System (10M)

2 Marks Questions

12. Define Black out & Brown out.
13. Define National-grid and state connected grid.
14. State any four advantages of inter connections of grids system.
15. Compare base load plant with peak load plant (Any four).

4 Marks Questions

16. Define the terms:
    (i) Connected load (ii) Maximum demand (iii) Demand Factor (iv) Average Demand (v) Load Factor (vi) Diversity Factor (vii) Plant capacity factor (viii) Plant use Factor (ix) Hot reserve (x) Cold Reserve (xi) Spinning Reserve
17. Explain the choice of size and number of generator units in a power plant.
18. Give the causes and impact and reasons of grid system fault.
19. Find out the average load and maximum demand of supply system having following loads :

Types of Load	M.D. (kW)	Load Factor	Diversity Factor
Residential	1000	20	1.2
Commercial	2000	25	1.1
Industrial	10000	80	1.25

    Assume overall diversity factor = 1.3 & load factor = 0.5
20. A residential load of a locality is given below :

Time in Hrs.	0 – 5	5 – 6	6 – 9	9 – 18	8 – 21	21 – 24
Load kW	3	7	20	0	12	8

    Draw the load curve and load duration curve and find
    (i) Maximum Demand (ii) Energy consumed in during 24 hrs. (iii) Load factor (iv) Average load

Chapter 3: Transmission Line Components, Parameters and Performance (8M)

2 Marks Questions

21. State the meaning of Single line diagram.
22. State the classification of transmission lines based on voltage level.
23. List standard voltage level used in India.
24. State any two properties of insulating material used for overhead insulator.

4 Marks Questions

25. Draw the single line diagram of AC electric transmission and distribution system.
26. Differentiate between overhead transmission and underground transmission.
27. State the different methods of improving string efficiency. Explain any one method in detail.
28. Draw and explain the construction of underground cables.
29. State the requirement of line support used in transmission and distribution system.