

POWER SYSTEM –I

Question Bank

1. Differentiate between actual impedance and base impedance.
2. Draw steady state model of synchronous machine.
3. Draw the representation various loads, transformer, motors, relays etc.
4. The equal area criteria of stability is used for:
 - a) no load on the busbar
 - b) One machine and infinite busbar
 - c) More than one machine and infinite busbar
 - d) None of the above
5. 3. If the torque angle of the alternator increases indefinitely the system will show:
 - a) Steady state stability limit
 - b) Transient state stability limit
 - c) Instability
 - d) None of the above
6. 4. The steady state stability of the power system can be improved by:
 - a) Increasing the number of parallel lines between the transmission points
 - b) Connecting capacitors in series with the line
 - c) Reducing the excitation of the machines
 - d) Both a and b
7. The inertia constant of the two machines which are not swinging together are M_1 and M_2 . The equivalent inertia constant of the system is:
 - a) $M_1 - M_2$
 - b) $M_1 + M_2$
 - c) $M_1 M_2 / (M_1 + M_2)$
 - d) $M_1 M_2 / (M_1 - M_2)$
8. If a generator of 250MVA rating has an inertia constant of 6MJ/MVA, its inertia constant on a 100MVA base is:
 - a) 15 MJ/MVA
 - b) 10.5 MJ/MVA
 - c) 6 MJ/MVA
 - d) 2,4 MJ/MVA
9. Explain load flow method using Guass siedel method
10. Differentiate between slack, swing, PQ and PV bus.
11. Explain using some explain Newton Raphson method.
12. Why load flow analysis is required in power system
13. Why we require per unit system for power system
14. Discuss optimisation method in power system.
15. Why do we keep voltage and frequency constant in power system or synchronous generators.
16. Why do we require Automatic voltage regulators.

17. What is optimal generation scheduling.
18. Discuss optimal unit commitment.
19. Discuss economic dispatch control
20. What is the main difference between single area and two area frequency load control.
21. Discuss decoupled load flow studies.
22. What do you understand by single line diagram and what is its significance.
23. Discuss complex power.
24. Why Synchronous and induction machines are rated in KVA, MVA rather than in MW or KW.
25. Discuss completely optimal (two area) frequency load control.