Power System Protection-Questions

B.E. Sem-VIII-Electrical

 back-up protection. Why is a power system divided into a number of protective zones? Why do adjacent zones overlap? Explain construction and working of an over current relay? How is the plug setting and time setting done? Discuss classification of over current relays? Explain time grading and current grading of radial feeders using over current relays. What are the dis-advantages of time and current grading because of which combination of the two is preferred? Explain the construction and working of directional over-current relays? Derive its torque quation. Explain why the 30°, 60° and 90° connections provided in a directional relay. How are parallel feeders and ring main system protected using directional and non-directional relays? Discuss construction and operating principle of induction type of electromagnetic relay. Derive its torque equation. Discuss construction and operating principles of different types of electromagnetic relay. Define PSM and TMS. Explain the significance of these terms. Write a short note on Buchholz relay. Discuss simple differential protection of a transformer. What are the dis-advantages of simple differential protection of a transformer because which biased differential protection is used? Explain restricted earth fault protection of an alternator. What are the advantages of numerical relays as compared to electromagnetic relays. Explain the construction, principle of operation and torque equation of an impedance relay. Explain the construction, principle of operation and torque equation of an reactance relay. Define reach, over reach, under reach, burden, CT ratio error, CT phase angle error, blin spot, unit protection, knee point, ankle point, pick-up, reset. Explain the construction, principle of operation and torque equation of a MHO relay. Discuss the block diagram for interface of a Impe	1.	Discuss the essential properties of a protective system?
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27 Discuss the block diagram for interface of all over-current relay.	27	Discuss the block diagram for interface of an over-current relay.

28	Why is carrier current protection used?
29	Explain the line diagram of the equipments used in carrier current protection.
30	Explain directional aided carrier current protection.
31	Explain phase comparison carrier current protection.
32	Discuss the magnetizing characteristics of a current transformer showing all the regions
	distinctly.
33	What protection is used in case of single phasing of an induction motor.
34	Explain bus zone protection.
35	Explain what is meant by cascade tripping.
36	Why is the setting of earth fault relays kept low as compared to that of phase fault relays.
37	Write a note on testing of relays.
38	Explain the stability tests and special tests carried out on relays.
39	Discuss the three phase differential protection of a generator.
40	Discuss the protection schemes used in an induction motor.