



PART – B

(5×16=80 Marks)

11. a) i) Explain clearly about the zones of protection in power system. (8)
ii) Briefly discuss about nature and causes of faults. (8)
(OR)
- b) Explain in detail about the need and different methods for neutral grounding with suitable diagram. (16)
12. a) i) With neat sketch explain negative sequence relay. (8)
ii) Explain clearly about current balance differential relays. (8)
(OR)
- b) Explain impedance relay with suitable R-X diagrams. (16)
13. a) i) Explain clearly about Buchholz relay for the protection of incipient faults in transformers. (10)
ii) A star connected, 3 phase, 10 MVA, 6.6 KV alternator has a per phase reactance of 10%. It is protected by Merz-price circulating-current principle which is set to operate for fault currents not less than 175 A. Calculate the value of earthing resistance to be provided in order to ensure that only 10% of the alternator winding remains unprotected. (6)
(OR)
- b) i) With neat sketch explain the protection schemes for motors. (8)
ii) With suitable diagrams explain bus bar protection. (8)
14. a) Describe the construction, working principle and operation of static over current relay. (16)
(OR)
- b) i) Compare static relays with electromagnetic relays. (8)
ii) Explain the advantages of Numerical relays. (8)
15. a) i) With neat sketch explain resistance switching. (8)
ii) Explain current chopping with suitable diagrams. (8)
(OR)
- b) Explain the construction, working principle, operation and application of Vacuum circuit breakers. (16)