





12. a) Explain in detail the operation and steady state analysis of single phase fully controlled converter fed DC drives with neat waveforms in continuous and discontinuous conduction modes. (16)

(OR)

b) Explain the operation of four quadrant chopper fed DC separately excited motor drive with necessary diagrams. (16)

13. a) Explain the operation of v/f control technique of speed control method of induction motor. (16)

(OR)

b) i) Explain the speed control scheme of induction motor drive with stator voltage control and also state the disadvantages of this method. (10)

ii) Compare VSI and CSI fed induction motor drives. (6)

14. a) Explain in detail the construction, principle of operation and applications of permanent magnet synchronous motor. (16)

(OR)

b) Explain in detail about the open loop v/f control and self controlled mode of the synchronous motor drives. (16)

15. a) i) Discuss the design procedure for current controller of an electric drive. (8)

ii) Mention the factors involved in converter selection and equations involved in controller characteristics. (8)

(OR)

b) Derive the transfer function of DC motor-load system with converter fed system. (16)