



12. (a) (i) Explain the construction and operation of Power Darlington with neat sketch. (10)

(ii) List out the problems associated with BJT operation. (6)

Or

(b) (i) Explain the two transistor analogy of thyristor. (8)

(ii) Compare BJT with Thyristor. (8)

13. (a) Explain the switching characteristics of power MOSFET with neat sketch and using its dynamic model. (16)

Or

(b) (i) Write short notes on MCT. (10)

(ii) How GTO differs from SCR? (6)

14. (a) (i) Draw the gate drive circuit for MOSFET and explain. (8)

(ii) Explain how pulse transformer and Opto-Coupler provide isolation. (8)

Or

(b) Explain how snubbers are designed for IGBT protection. (16)

15. (a) Explain the various cooling methods used for power devices and for power converter modules in detail. (16)

Or

(b) (i) Explain the factors to be considered for selection of heat sink. (10)

(ii) Explain the terms thermal resistance and thermal impedance. (6)