**QUESTIONS BANK WINTER 2022**

**POWER ELECTRONICS**

**5TH SEM ELECTRICAL**

**2 MARK QUESTIONS**

1.Define latching current and holding current.

2.What is voltage clamping device? Give some examples.

3. What are the advantages of using a free-wheeling diode in rectifier circuit?

4.Define storage time of power BJT.

5.What do you mean by duty cycle?

6.Draw V-1 characteristic of thyristor?

7.What are the examples of cycloconverter?

8.Define reverse recovery time of a diode. What is softness factor?

9.What are the uses of no-break ups?

10. what do you mean by electric drives?

11.What is rise time?

12.What are the different turn on methods of thyristors?

13.What is the function of buck converter?

14.Define inverter?

15.Define chopper?

16.Draw the symbols of UJT, POWER BJT.

17.Define holding current and latching current.

18.What is the use of UPS?

19.What is the difference between power diode and signal diode?

20.Derive firing angle and conduction of SCR.

**LONG QUESTIONS**

1.What are the modes of operation of SCR?

2.Explain the control strategies of choppers?

3.How can gate of a thyristor be protected?

4.Describe the principle of a thyristors using two transistor analogy.

5.What are the advantages of using free-wheeling diode?

6.With a neat diagram and graph, discuss single phase full wave AC voltage regulator?

7.Explain the speed control of induction motor drives by stator voltage control?

8.Explain the operation of boost converter.

9.Explain with a neat circuit diagram, step-up and step-down midpoint cycloconverter.

10.Explain ant three turn on methods of thyristors.

11.Describe overcurrent and gate protection of thyristor.

12.Explain operations of single-phase full wave converter with RL load and freewheeling diode.

13.Explian switching characteristic of SCR with necessary diagram?

14.Explain single-phase voltage source series inverter?

15.Describe the working of single-phase-to-single-phase step-down cycloconverter.

16.Explain the construction and working of MOSFET.

17. Explain the construction and working of IGBT.

18.Explain single-phase half wave rectifier with inductive load with a neat diagram.

19.Design a snubber circuit and state where it is used.

20.Discuss the principle of operation and applications of power transistor.