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- a) AC - DC converters
- b) DC - DC converters
- c) DC - AC converters
- d) AC - AC converters
- (x) Step-down chopper is also established as a
 - a) first-quadrant chopper
 - b) second-quadrant chopper
 - c) third-quadrant chopper
 - d) fourth-quadrant chopper
- (xi) Examine the case-For an SCR in the forward blocking mode (practically)
 - a) leakage current does not flow
 - b) leakage current flows from anode to cathode
 - c) leakage current flows from cathode to anode
 - d) leakage current flows from gate to anode
- (xii) Type C chopper can operate in
 - a) 1st and 2nd quadrants
 - b) 2nd and 3rd quadrants
 - c) 1st, 2nd and 3rd quadrants
 - d) all of these
- (xiii) Name the device which has reverse blocking mode the middle junction (J2) has the characteristics of that of a
 - a) transistor
 - b) capacitor
 - c) inductor
 - d) none of these
- (xiv) discover, where the load is connected In a silicon controlled rectifier-
 - a) Across anode
 - b) In series with anode
 - c) Across cathode
 - d) In series with cathode
- (xv) In the current limit control method, when the load current develop a predefined lower value, then
 - a) the chopper is switched off
 - b) the chopper is switched on
 - c) the source voltage is removed
 - d) load voltage goes to zero

Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. Show how switching loss in power MOSFET is lesser than that in a power BJT. (3)
- 3. Sketch the layer structure diagram of a TRIAC and Indicate all. (3)
- 4. Write, what is the advantages and disadvantages of bridge rectifier over full-wave rectifier using two diodes. (3)
- 5. Write short note on DIAC. (3)
- 6. Explain switching characteristics of power MOSFET. (3)

OR

Draw the diagram of buck converter? (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

- 7. Draw and explain the turn on characteristics of Thyristor. (5)
- 8. Explain the operation of Single Phase Half Wave Rectifier with RL load. (5)
- 9. justify. how the Output voltage of a chopper can be controlled? (5)
- 10. Define, Sinusoidal Pulse Width Modulation with suitable diagram. (5)
- 11. Draw and explain the switching characteristics of SCR. (5)
- 12. justify,how the output voltage of a rectifier circuit can be controlled by using a thyristor? (5)

OR

Estimate and discuss the various techniques to control the output voltage of a chopper? (5)