**POWER ELECTRONICS AND STATIC DRIVES**

**1. In thyristor, holding current is:** a) more than the latching current b) less than the latching current  
 c) equal to latching current d) none of the above

**ANS: B**

**2. When a thyristor turn on, the gate drive:** a) can be turned down but thyristor remains in on position  
 b) cannot be turned down as thyristor will be turned off  
 c) gate drive has no impact on starting and turning off the thyristor  
 d) none of the above

**ANS: A**

**3.  A thyristor can be termed as:** a) DC switch b) AC switch  
 c) both AC and DC switch d) none of the above

**ANS: A**

**4. During forward blocking state, a thyristor is associated with:**  
 a) large current and low voltage b) low current and large voltage  
 c) medium current and large voltage d) None of the above

**ANS: B**

**5. Turn-off time of an SCR is measured from the instant:** a) anode current becomes zero b) anode voltage becomes zero  
 c) anode voltage and anode current becomes zero

d) gate current becomes zero

**ANS: A**

**6. A forward voltage can be applied to an SCR after its:** a) anode current reduces to zero b) gate recovery time  
 c) reverse recovery time d) anode voltage reduces to zero

**ANS: B**

**7. In a thyristor, the magnitude of the anode current will:** a) increase if the gate current is increased  
 b) decrease if the gate current is decreased  
 c) increase if gate current is decreased  
 d) no change with the variation of the gate current

**ANS: D**

**8. In a thyristor, ratio of latching current to holding current is:** a) 0.4 b) 1.0  
 c) 2.5 d) 4.0

**ANS: C**

**9. Once SCR starts conducting a forward current, its gate losses control over:** a) anode circuit voltage only b) anode circuit current only  
 c) anode circuit voltage and current d) none of the above

**ANS: C**

**10. On state voltage drop across thyristor used in a 230 V supply system is of the order:** a) 110-115V b) 250 V  
 c) 1- 1.5 V d) none of the above  **ANS: C**

**11. An IGBT has three terminals called:** a) Collector, Emitter and Base b) Drain, Source and Base  
 c) Drain, Source and Gate d) Collector, Emitter and Gate

**ANS: D**

**12. The function of snubber circuit connected across the SCR is to:** a) Suppress *dv/dt* b) Increase *dv/dt*  
 c) Decrease*dv/dt* d) Decrease *di/dt* **ANS: A**

**13. An UJT exhibits negative resistance region:**  
 a) Before the break point b) Between peak and valley point  
 c) After the valley point d) Both (a) and (c)

**ANS: B**

**14. For dynamic equalizing circuit used for series connected SCRs, the choice of *C* is based on:** a) Reverse recovery characteristics b) Turn-on characteristics  
 c) Turn-off characteristics d) Rise time characteristics  **ANS: A**

**15. A four quadrant operation require:** a) Two full converters in series  
 b) Two full converters connected back to back  
 c) Two full converters connected in parallel  
 d) Two semi conductors connected back to back   **ANS: B**

**16. In a circulating-current type of dual converter, the nature of the voltage across the reactor is:** a) Alternating b) Pulsating  
 c) Direct d) Triangular **ANS: A**

**17. The frequency of the ripple in the output voltage of 3-phase semiconductor depends on:** a) Firing angle and load resistance b) Firing angle and load inductance  
 c) The load circuit parameters d) Firing angle and the supply frequency

**ANS: B**

**18. A single-phase full bridge inverter can operate in load-commutation mode in case load consists of:** a) RL load b) RLC under damped  
 c) RLC damped d) RLC critically damped

**ANS: B**

**19. Practical way of obtaining static voltage equalization in series connected SCRs is by the use of:**  
 a) one resistor across the string b) One resistor in series with each SCR

c) Resistors of different values across each SCR  
 d) Resistors of the same value across each SCR **ANS: D**

**20. A resistor connected across the gate and cathode of an SCR in a circuit increases its** a) *dv/dt* rating b) Holding current  
 c) Noise Immunity d) Turn-off time

**ANS: C**

**21. In thyristor, holding current is:** a) more than the latching current b) less than the latching current  
 c) equal to latching current d) none of the above

**ANS: B**

**22. When a thyristor turn on, the gate drive:** a) can be turned down but thyristor remains in on position  
 b) cannot be turned down as thyristor will be turned off  
 c) gate drive has no impact on starting and turning off the thyristor  
 d) none of the above

**ANS: A**

**23.  A thyristor can be termed as:** a) DC switch b) AC switch  
 c) both AC and DC switch d) none of the above

**ANS: A**

**24. During forward blocking state, a thyristor is associated with:** a) large current and low voltage b) low current and large voltage  
 c) medium current and large voltage d) None of the above

**ANS: B**

**25. Turn-off time of an SCR is measured from the instant:** a) anode current becomes zero b) anode voltage becomes zero  
 c) anode voltage and anode current becomes zero d) gate current becomes zero

**ANS: A**

**26. A forward voltage can be applied to an SCR after its:** a) anode current reduces to zero b) gate recovery time  
 c) reverse recovery time d) anode voltage reduces to zero

**ANS: B**

**27. In a thyristor, the magnitude of the anode current will:** a) increase if the gate current is increased  
 b) decrease if the gate current is decreased  
 c) increase if gate current is decreased  
 d) no change with the variation of the gate current

**ANS: D**

**28. In a thyristor, ratio of latching current to holding current is:** a) 0.4 b) 1.0  
 c) 2.5 d) 4.0

**ANS: C**

**29. Once SCR starts conducting a forward current, its gate losses control over:** a) anode circuit voltage only b) anode circuit current only  
 c) anode circuit voltage and current d) none of the above

**ANS: C**

**30. On state voltage drop across thyristor used in a 230 V supply system is of the order:** a) 110-115V b) 250 V  
 c) 1- 1.5 V d) none of the above

**ANS: C**

**31. The consideration involved in the selection of the type of electric drive for a particular application depends on**

(A) Speed control range and its nature (B) Starting torque

(C) Environmental conditions (D) All of the above.

**Ans: d**

**32. Which of the following is preferred for automatic drives?**

(A) Synchronous motors (B) Squirrel cage induction motor

(C) Ward Leonard controlled dc motors (D) Any of the above.

**Ans: c**

**33. Which type of drive can be used for hoisting machinery?**

(A) AC slip ring motor (B) Ward Leonard controlled DC shunt motor

(C) DC compound motor (D) Any of the above.

**Ans: d**

 3**4.** **The motor normally used for crane travel is**

(A) AC slip ring motor (B) Ward Leonard controlled DC shunt motor

(C) Synchronous motor (D) DC differentially compound motor.

**Ans:** **a**

**35. A wound rotor induction motor is preferred over squirrel cage induction motor when the major consideration involved is**

(A) high starting torque (B) low starting current

(C) speed control over limited range (D) all of the above.

**Ans: d**

**36. When smooth and precise speed control over a wide range is desired, the motor preferred is**

(A) synchronous motor (B) squirrel cage induction motor

(C) wound rotor induction motor (D) dc motor.

**Ans: d**

**37. When quick speed reversal is a consideration, the motor preferred is**

(A) synchronous motor (B) squirrel cage induction motor

(C) wound rotor induction motor (D) dc motor.

**Ans: d**

**38. Stator voltage control for speed control of induction motors is suitable for**

(A) fan and pump drives (B) drive of a crane

(C) running it as generator (D) constant load drive.

**Ans: a**

**39. The selection of control gear for a particular application is based on the consideration of**

(A) duty (B) starting torque

(C) limitations on starting current (D) all of the above.

**Ans: d**

**40.** **As compared to squirrel cage induction motor, a wound rotor induction motor is preferred when the major consideration is**

(A) high starting torque (B) low wind age losses

(C) slow speed operation (D) all of the above.

**Ans: a**

**41.** **A synchronous motor is found to be more economical when the load is above**

(A) 1 kW (B) 10 kW

(C) 20 kW (D) 100kW.

**Ans: d**

**42.** **The advantage of a synchronous motor in addition to its constant speed is**

(A) high power factor (B) better efficiency

(C) lower cost (D) all of the above.

**Ans: a**

**43. In** **motor circuit static frequency changers are used for**

(A) power factor improvement (B) improved cooling

(C) reversal of direction (D) speed regulation.

**Ans: d**

**44. In case of traveling cranes, the motor preferred for boom hoist is**

(A) AC slip ring motor (B) Ward Leonard controlled DC shunt motor

(C) Synchronous motor (D) Single phase motor.

**Ans: a**

**45.** **The characteristics of drive for. Crane hoisting and lowering is**

(A) smooth movement (B) precise control

(C) fast speed control (D) all of the above.

**Ans: d**

**46.** **Which of the following is not use as earth continuity conductor?**

(A) water pipes (B) gas pipes

(C) structural steel members (D) all of the above.

**Ans: d**

**47.** **The diameter of a 50 SWG wire is closer to**

(A) 0.0253 mm (B) 0.05 mm

(C) 0.1 mm (D) 0.5 mm.

**Ans: a**

**48.** **Non-metallic conduits for wiring are generally made of**

(A) rubber (B) cork

(C) wood (D) PVC.

**Ans: d**

**49.** **PVC conduits can be buried on**

(A) lime (B) plaster

(C) concrete (D) any of the above.

**Ans: d**

**50.** **PVC conduits can be joined by**

(A) solvent cement (B) welding

(C) threading (D) any of the above.

**Ans: d**