: Power Electronics r 12

Time: 1 hour Max. Marks: 50

==============================================================================

Note to the students:- All the Questions are compulsory and carry equal marks .

|  |  |
| --- | --- |
| Q1. | An SCR is -----------device |
| Option A: | Fully Controlled |
| Option B: | Uncontrolled |
| Option C: | Semi Controlled |
| Option D: | fully semi controlled |
|  |  |
| Q2. | SCR is the preferred device in which converter |
| Option A: | Switching voltage regulators |
| Option B: | Controlled Rectifiers |
| Option C: | Inverters |
| Option D: | Fan Regulators |
|  |  |
| Q3. | SCR is a\_\_\_\_\_\_\_\_\_\_ Junction device |
| Option A: | 1 |
| Option B: | 2 |
| Option C: | 3 |
| Option D: | 4 |
|  |  |
| Q4. | What can be used for Thermal Protection |
| Option A: | Varistor |
| Option B: | Heat Sink |
| Option C: | snubber circuit |
| Option D: | Inductor |
|  |  |
| Q5. | When inductor and capacitor are in series the nature of the current will be |
| Option A: | depend upon source |
| Option B: | square wave |
| Option C: | triangle wave |
| Option D: | sinusoidal wave |
|  |  |
| Q6. | DIAC is ...............device |
| Option A: | Fully Controlled |
| Option B: | Uncontrolled |
| Option C: | Semi Controlled |
| Option D: | Automatic |
|  |  |
| Q7. | A diode has forward resistance of the order of …………… |
| Option A: | kΩ |
| Option B: | Ω |
| Option C: | MΩ |
| Option D: | Zero |
|  |  |
| Q8. | MOSFET is ...............device |
| Option A: | Current controlled |
| Option B: | Voltage Controlled |
| Option C: | current and voltage controlled |
| Option D: | Automatic control |
|  |  |
| Q9. | IGBT possess…. |
| Option A: | low input impedance |
| Option B: | high on-state resistance |
| Option C: | high input impedance |
| Option D: | Low on-state resistance |
|  |  |
| Q10. | In IGBT, the p+ layer connected to the collector terminal is called as the |
| Option A: | drift layer |
| Option B: | body layer |
| Option C: | injection layer |
| Option D: | collector Layer |
|  |  |
| Q11. | The average value of output voltage of a half wave controlled rectifier is equal to \_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Vm(1+cos α)/2π |
| Option B: | Vm/2π(1-sin α) |
| Option C: | Vm/π(1+sin α) |
| Option D: | Vm/π(1-sin α) |
|  |  |
| Q12. | If one is increasing the firing angle, output of Half Wave controlled Rectifier will.............. |
| Option A: | Increase |
| Option B: | Decrease |
| Option C: | Constant |
| Option D: | None of the above |
|  |  |
| Q13. | The average value of output current of a half wave controlled rectifier is equal to \_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Vm/Rπ(1+sin α) |
| Option B: | Vm(1+cos α)/2πR |
| Option C: | 2Vm/Rπ(1+sin α) |
| Option D: | Vm/Rπ(1-sin α) |
|  |  |
| Q14. | By using the Free Wheeling Diode in case of Rectifier, negative spike will....... |
| Option A: | Increase |
| Option B: | Decrease |
| Option C: | Constant |
| Option D: | Eliminate |
|  |  |
| Q15. | The average value of output voltage of full wave controlled rectifier(RL Load) is equal to \_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Vm/ π R (cos α + cos β) |
| Option B: | (2 Vm cos α)/π |
| Option C: | Vm/ 2 π R (cos α - cos β) |
| Option D: | Vm/2 π R (cos α + cos β) |
|  |  |
| Q16. | In a half wave bridge inverter circuit, the power delivered to the load by each source is given by |
| Option A: | Vs x Is |
| Option B: | (Vs x Is)/2 |
| Option C: | 2(Vs x Is) |
| Option D: | Vs |
|  |  |
| Q17. | In the SPWM, the modulating signal is |
| Option A: | Square |
| Option B: | Sinusoidal |
| Option C: | Triangular |
| Option D: | Saw – tooth |
|  |  |
| Q18. | If energy is taken from the AC side of the inverter and sends it back into the DC side, then it is known as |
| Option A: | Motoring mode operation |
| Option B: | Braking mode operation |
| Option C: | Regenerative mode operation |
| Option D: | None of these |
|  |  |
| Q19. | In A buck boost converter the output voltage is \_\_\_\_\_\_\_\_\_\_\_\_\_ than the input voltage |
| Option A: | greater |
| Option B: | less than |
| Option C: | equal to |
| Option D: | greater than or less than |
|  |  |
| Q20. | Buck-Boost acts as Buck converter for duty cycle is equal to \_\_\_\_\_\_\_\_\_ |
| Option A: | .9 |
| Option B: | 0.7 |
| Option C: | 0.6 |
| Option D: | 0.4 |
|  |  |
| Q21. | What is the formula for output voltage for Buck-Boost converter? |
| Option A: | D×Vin |
| Option B: | Vin ÷ (1-D) |
| Option C: | D×Vin ÷ (1-D) |
| Option D: | D×Vin ÷ (1+D) |
|  |  |
| Q22. | A cycloconverter is a \_\_\_\_\_\_\_\_\_ |
| Option A: | one stage power converter |
| Option B: | one stage voltage converter |
| Option C: | one stage frequency converter |
| Option D: | one stage AC to DC converter |
|  |  |
| Q23. | The single phase bridge type cycloconverter uses \_\_\_\_\_\_\_\_\_\_ number of SCRs. |
| Option A: | 4 |
| Option B: | 8 |
| Option C: | 6 |
| Option D: | 2 |
|  |  |
| Q24. | In a three phase half-wave cycloconverter \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | both inverting and converting action takes place |
| Option B: | only inversion action takes place |
| Option C: | only converting action takes place |
| Option D: | Can work according to requirement |
|  |  |
| Q25. | In AC voltage controllers the |
| Option A: | variable ac with fixed frequency is obtained |
| Option B: | variable ac with variable frequency is obtained |
| Option C: | variable dc with fixed frequency is obtained |
| Option D: | variable dc with variable frequency is obtained |