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6th Sem / Branch : Electrical
Sub. : Industrial Electronic & Control of Drives (IECD)

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The SCR is turned off when the anode current falls below (CO1)
a) Break over voltage
b) Forward current rating
c) Latching current
d) Holding current

Q.2 A UJT has _____. (CO1)
a) One pn junction
b) Two pn junction
c) Three pn junction
d) None of the above

Q.3 Which device can be used in a chopper circuit? (CO3)
a) BJT b) MOSFET
c) GTO d) All of the above

Q.4 In the SCR structure the gate terminal is locate (CO1)
a) Near the anode terminal
b) Near the cathode terminal
c) In between the anode & cathode terminal
d) None of the above

Q.5 The single phase bridge type cycloconverter uses _____ number of SCRs. (CO7)
a) Four b) Eight
c) Six d) None of the above

Q.6 The load voltage of a chopper can be controlled by varying the (CO3)
a) Duty cycle b) Firing angle
c) Reactor position d) Extinction angle

Q.7 Which method is used to control the speed of DC shunt motor above normal speed? (CO3)
a) Armature voltage control method
b) Flux control method
c) Both option 1 & 2
d) None of the above

Q.8 SMPS is used of (CO6)
a) Obtaining controlled ac power supply
b) Obtaining controlled dc power supply
c) Storage of dc power
d) Switch from one source to another

Q.9 If the firing angle in an SCR rectifier is decreased, the output is (CO4)
a) Increased
b) Decreased
c) Maximum
d) Remain unaffected

Q.10 A cyclo-converter is a _____. (CO7)
a) One stage power converter
b) One stage voltage converter
c) One stage frequency converter
d) None of the above

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define duty cycle. (CO3)

Q.12 Draw symbol of SCR. (CO1)

Q.13 Which material is used for making heat sinks. (CO1)

Q.14 Define inverter. (CO5)

Q.15 Define Latching current. (CO1)

Q.16 Write full form of CVT. (CO6)

Q.17 Which method is used to control the speed of DC shunt motor above normal speed? (CO3)

Q.18 Define Commutation. (CO1)

Q.19 List any one application of DIAC. (CO2)

Q.20 Define UJT. (CO1)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain working of UJT as an Relaxation oscillator. (CO1)

Q.22 Draw the VI characteristics of DIAC and explain its working.

Q.23 List five advantages of AC drive over DC Drive. (CO7)

Q.24 Describe the working of single phase Half controlled half wave rectifier with resistive load. (CO4)

Q.25 Explain the working principle of series inverter with the help of circuit diagram. (CO5)

Q.26 Explain the different methods of triggering of an SCR. (CO1)

Q.27 Define UPS and explain the working of on line UPS. (CO5)

Q.28 Explain the series operation of thyristor. (CO1)

Q.29 Differentiate between Latching current and holding current.

Q.30 Explain the working of step up chopper with the help of circuit diagram. (CO3)

Q.31 Explain the working principle of dual converter. (CO7)

Q.32 List five applications of dual converters. (CO7)

Q.33 Write a short note on Maintenance of storage devices. (CO6)

Q.34 Write any five difference between on line ups and off lines UPS. (CO5)

Q.35 Explain illumination control circuit using TRIAC. (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Draw VI characteristics of TRIAC. Explain the construction and working of TRIAC. (CO1)

Q.37 Explain the working of three phase bridge inverter with the help of circuit diagram. (CO5)

Q.38 Explain the working principle of single phase to single phase cyclo-converter. Also write advantages and disadvantages of cyclo-converter. (CO7)