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**6th Sem / Elect**  
**Subject:- Industrial Electronics and Control of Drives**

Time : 3Hrs. M.M. : 100

**SECTION-A**

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

Q.1 Dual converter can be operated in \_\_\_\_\_ quadrants (CO3)

- a) One
- c) Four
- b) Three
- d) Two

Q.2 A fully controlled converter use (CO2)

- a) Diodes Only
- c) Both A & B
- b) Thyristor Only
- d) None of these

Q.3 ADIAC is \_\_\_\_\_ Device. (CO1)

- a) Self Heating
- c) Bidirectional
- b) Tri Directional
- d) None of these

Q.4 Material used for the heat sink (CO1)

- a) Zinc
- c) Nikle
- b) Aluminium
- d) All of these

Q.5 Holding Current is \_\_\_\_\_ than latching current (CO1)

- a) More
- c) Equal to
- b) Less
- d) None of these

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Q.6 Class B Chopper Operates in \_\_\_\_\_ Quadrant.(CO3)

- a) 1st
- c) Second
- b) Four
- d) Third

Q.7 Cycloconverter is single state \_\_\_\_\_ changer (CO3)

- a) Current
- c) Frequency
- b) Voltage
- d) Amplitude

Q.8 UJT has \_\_\_\_\_ Junction (CO1)

- a) Two
- c) Three
- b) One
- d) Four

Q.9 The most suitable method to turn on SCR (CO1)

- a) Temperature Triggering
- b) Gate Triggering
- c) Current Triggering
- d) All of these

Q.10 A DIAC is used as triggering agent for the TRIAC. (CO1)

- a) True
- b) False
- c) all of these
- d) A & B

**SECTION-B**

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

Q.11 State one application of DIAC. (CO1)

Q.12 Define Controlled rectifier. (CO3)

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- Q.13 Expand SMPS. (CO5)  
 Q.14 State latching current. (CO1)  
 Q.15 Define Inverter. (CO3)  
 Q.16 In which quadrant class C chopper operates. (CO3)  
 Q.17 Define commutation. (CO1)  
 Q.18 What is an Electric Drive? (CO4)  
 Q.19 What is series inverter? (CO4)  
 Q.20 Explain the term cycloconverter. (CO4)

### **SECTION-C**

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

- Q.21 Explain UJT as relaxation oscillator. (CO1)  
 Q.22 Explain series operation of SCR. (CO1)  
 Q.23 Difference between on line and off line UPS. (CO4)  
 Q.24 List five advantages of SCR over conventional power supply. (CO5)  
 Q.25 Explain cyclo converter drive for the speed control of induction motor. (CO4)  
 Q.26 Explain principle of operation of DC drives. (CO4)  
 Q.27 State five advantages of an electric dive. (CO4)  
 Q.28 Explain working principal of Dual converter. (CO3)  
 Q.29 What do you mean by class B chopper? Explain? (CO3)

- Q.30 Explain principle of operation series inverter with Diagram? (CO3)  
 Q.31 Explain the term Cycloconverter. Explain step up cycloconverter. (CO3)  
 Q.32 Explain the importance of freewheeling diode. (CO2)  
 Q.33 Explain with Diagram single phase half controlled full wave rectifier. (CO2)  
 Q.34 Explain various methods of triggering SCR. (CO1)  
 Q.35 Describe snubber circuit protection of thyristor. (CO1)

### **SECTION-D**

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

- Q.36 Explain the construction working principal and VI characteristics of SCR with neat diagram and Waveform. (CO1)  
 Q.37 Define chopper. Explain its different types in Detail (CO3)  
 Q.38 Give the answer of following :-  
     a) Block diagram of SMPS (CO5)  
     b) Battery charger circuit using SCR. (CO1)