

- Q.26 Explain the basic construction of UJT with a diagram.
- Q.27 Define construction and applications of SCR with diagrams.
- Q.28 Explain any five methods of triggering SCR.
- Q.29 Write a short note on SMPS.
- Q.30 Differentiate between Step-up and step-down chopper.
- Q.31 How can the speed of a DC motor be controlled using a chopper?
- Q.32 Explain about constant V/f operation.
- Q.33 What are the main disadvantages of cycloconverters?
- Q.34 Compare two modes of dual converter.
- Q.35 Write a short note on "stabilizers".

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Draw and Explain V-I Characteristics of SCR.
- Q.37 Explain the working and diagram of
- Single phase half wave controlled rectifier with resistive load.
 - Single phase half wave controlled rectifier with R-L load with load free wheeling diode.
- Q.38 Explain the working of Current source inverter with a diagram. Give applications to CSI.

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Roll No.

5th Sem / Elect, Power Station Engg., Elect & Eltx Engg. 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 SCR is a _____ layer and _____ terminal device.
- 3,3
 - 4,4
 - 4,3
 - 3,4
- Q.2 A 3 phase full wave fully controlled converter is a _____ pulse converter.
- 3
 - 6
 - 12
 - 2
- Q.3 Class E-Chopper operates in
- First quadrant
 - Second quadrant
 - All four quadrants
 - Both first, and second quadrant
- Q.4 Field control, method is used in d.c motors to get
- speed above normal speed
 - speed below normal speed
 - Both a and b
 - None of the above

- Q.5 ADIAC has _____ semiconductor layers.
 a) Four b) Two
 c) Three d) None of the above
- Q.6 In rectifiers, load current flow is
 a) Unidirectional b) Bidirectional
 c) Non directional d) Either A or B
- Q.7 _____ can be used as a dc static switch
 a) GTO
 b) Transistor
 c) Both GTO and Transistor
 d) TRIAC
- Q.8 SMPS are based on the _____ principle.
 a) Phase control b) Integral control
 c) Chopper d) MOSFET
- Q.9 AN inverter converts
 a) dc into variable dc
 b) ac into dc
 c) dc into ac
 d) ac into ac with different frequency
- Q.10 The duty cycle of a chopper is given by
 a) $\frac{T_{on}}{T_{off}}$ b) $\frac{T_{off}}{T_{on}}$
 c) $\frac{T_{off}}{T_{on} + T_{off}}$ d) $\frac{T_{on}}{T_{on} + T_{off}}$

SECTION-B

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

- Q.11 Class-D chopper operates in the first and second quadrant. (True/False)
- Q.12 The full form of UPS is _____.
- Q.13 What is Firing angle?
- Q.14 A current source inverter has a large _____ in series with the source.
- Q.15 What is a cycloconverter?
- Q.16 A rectifier converter _____ to _____.
- Q.17 Define inverter.
- Q.18 Expand UJT.
- Q.19 Write any two applications of TRIAC.
- Q.20 SCR is a _____ (unidirectional / bidirectional) device.

SECTION-C

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

- Q.21 Write any five instructions for maintenance and care of lead acid batteries.
- Q.22 Explain the controlling techniques of the chopper.
- Q.23 Give merits and demerits of VSI and CSI?
- Q.24 Explain different types of choppers according to quadrants.
- Q.25 Explain turn ON and Turn OFF of the SCR with Diagram.