

- 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. (CO1)

Q.37 Explain the working of Current source inverter with diagram. Give applications of CSI. (CO3)

Q.38 Explain the working of Single-phase full wave centre-tapped and bridge Rectifier with circuit diagram.(CO2)

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Time : 3 Hrs.

M.M. : 100

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

- Q.1 A UJT is a _____ terminal, _____ junction semiconductor device. (CO1)
- a) 2, 2 b) 3, 2
- c) 2, 1 d) 3, 1
- Q.2 A TRIAC is a _____ switch (CO1)
- a) Bidirectional b) Unidirectional
- c) Omnidirectional d) Mechanical
- Q.3 A cycloconverter is _____ converter. (CO3)
- a) AC to DC b) DC to DC
- c) AC to AC d) DC to AC
- Q.4 Field control method is used in d.c motors to get (CO4)
- a) Speed above normal speed
- b) Speed below normal speed
- c) Both A & B
- d) None of the above

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- Q.5 The duty cycle of a chopper is given by (CO3)
- a) $\frac{T_{on}}{T_{off}}$ b) $\frac{T_{off}}{T_{on}}$
- c) $\frac{T_{off}}{T_{on}+T_{off}}$ d) $\frac{T_{on}}{T_{on}+T_{off}}$
- Q.6 Transient undervoltage caused by switching heavy loads such as industrial machinery is known as (CO5)
- a) Sag b) Surge
- c) Brownout d) Power Failure
- Q.7 Class E-Chopper operates in (CO3)
- a) First quadrant b) Second quadrant
- c) All four quadrants d) Both A & B
- Q.8 MOSFET is a (CO1)
- a) Current controlled device
- b) Voltage controlled device
- c) Both A & B
- d) Power controlled device
- Q.9 SCR is a _____ layer and _____ terminal device. (CO1)
- a) 3,3 b) 4,4
- c) 4,3 d) 3,4
- Q.10 A 3 Phase full wave half-controlled converter is a _____ pulse converter (CO2)
- a) 3 b) 6
- c) 12 d) 2

Section-B

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

- Q.11 The value of latching current is more than Holding Current. (True/False) (CO1)
- Q.12 Class D- Chopper operates in first and second quadrant. (True/False) (CO3)
- Q.13 The uncontrolled rectifier contains thyristors in the circuit. (True/False) (CO2)
- Q.14 Speed of three phase induction motor can be controlled by armature voltage control. (True/False) (CO4)
- Q.15 The full form of UPS is _____. (CO5)
- Q.16 A rectifier converts _____ to _____. (CO2)
- Q.17 A current source inverter has a large _____ in series with the source. (CO3)
- Q.18 Define is firing angle? (CO3)
- Q.19 What is UPS? (CO5)
- Q.20 What is a Cycloconverter? (CO3)

Section-C

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

- Q.21 Explain different types of inverter. (CO3)
- Q.22 Explain the controlling techniques of the chopper. (CO3)
- Q.23 Give merits and demerits of VSI and CSI? (CO3)
- Q.24 Explain different types of choppers with respect to operating in quadrant. (CO3)