

- Q.18 What is an Inverter? Explain the working of series Inverter.
- Q.19 Explain the working principle of Single Phase Half Wave Converter Drives.
- Q.20 Write a short note on Voltage Source Inverter Drive.
- Q.21 Explain the working of Off-Line UPS.
- Q.22 Explain Battery Charger circuit using SCR with the help of a diagram.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 What is Triggering? What are the methods of Triggering? Explain Gate Triggering.
- Q.24 What is Chopper? Explain types of choppers in detail.
- Q.25 Explain working principle of VFD with the help of block diagram.

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**3rd Sem / Branch : Automation & Robotics
Subject:- Drives and Control System**

Time : 3Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 A SCR is a
- Two layer two junction device
 - Three layer two junction device
 - Four layer three junction device
 - Four layer four junction device
- Q.2 TRIAC is equivalent to
- Two SCRs connected in parallel
 - Two SCRs connected in anti-parallel
 - One SCR, one Diode connected in parallel
 - One diode, one SCR connected in anti-parallel
- Q.3 A single phase full wave fully controlled bridge rectifier uses _____

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- a) 4 SCRs
- b) 6 SCRs
- c) 2 SCRs
- d) 8 SCRs

Q.4 A Class-E chopper can operate in

- a) 1st and 2nd quadrant
- b) 2nd and 3rd quadrant
- c) 1st and 4th quadrant
- d) All of the four quadrant

Q.5 Field control method is used in DC Motors to get

- a) Speed above normal speed
- b) Speed below normal speed
- c) Both a and b
- d) None of the above

Q.6 The power supply which is used to get continuous power supply for load is known as

- a) Regulated power supply
- b) Unregulated power supply
- c) Uninterruptible power supply
- d) Switched Mode Power supply

SECTION-B

Note: Objective type questions. All questions are compulsory. (6x1=6)

- Q.7 Draw the symbol of DIAC
- Q.8 Define Commutation.
- Q.9 The speed of motor increases with the increase in _____
- Q.10 In a Dual Converter, one converter operates as _____ and other as _____
- Q.11 SMPS stands for _____
- Q.12 A inverter converts _____ into _____

SECTION-C

Note: Short answer type questions. Attempt any Eight questions out of ten questions. (8x4=32)

- Q.13 Explain the V-I characteristics of a SCR.
- Q.14 Explain the working of UJT as Relaxation Oscillator
- Q.15 Explain the working of Fan Regulator using Thyristor.
- Q.16 Explain the working of single phase fully controlled full wave bridge rectifier.
- Q.17 Differentiate between class A and class B chopper.