

- Q.26 Discuss about the single phase half wave controlled rectifier with load.
 - Q.27 Write a short note on single phase semi-converter.
 - Q.28 What is a chopper & explain its different types in detail.
 - Q.29 What is cycloconverter & what are its applications.
 - Q.30 What is electric drive & explain with the help of block diagram of an electric drive system.
 - Q.31 What is UPS & Explain ON line UPS.
 - Q.32 What is the need of freewheeling Diode.
 - Q.33 Mention disadvantages of AC devices over DC derives.
 - Q.34 Write a short note on Heat Sinks.
 - Q.35 Explain the working of Dual Converter.

SECTION-D

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

- Q.36 Explain the construction & working of SCR also draw explain the VI characteristics.

Q.37 Write a short notes on any two of the following :-

 - i) Series & parallel operation of SCR
 - ii) GTO
 - iii) MOSFET

Q.38 Explain all types of choppers in details.

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**5th Sem / IC, EI
Subject:- Power Electronics**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 A light activated SCR is a :-

 - a) Two layer two junction device
 - b) Two layer three junction device
 - c) Four layer three junction device
 - d) Four layer two junction device

Q.2 The most commonly used method for firing as SCR is:-

 - a) Radiation Triggering Process
 - b) Gate Triggering Process
 - c) Voltage Triggering Process
 - d) Thermal Triggering Process

Q.3 The minimum gate current which can turn on SCR is called:

 - a) Trigger current
 - b) Holding current
 - c) Break over current
 - d) None of the above

Q.4 SCR can be used as _____. .

 - a) Uni-directional
 - b) Bi-directional

- c) Both A & B
d) None of the above
- Q.5 A 3 Phase fully controlled converter is a
a) 3 Pulse converters b) 6 Pulse converters
c) 2 Pulse converters d) 12 Pulse converters
- Q.6 The voltage of a controlled rectifier output is maximum when firing angle is-
a) 120° b) 60°
c) 0° d) 90°
- Q.7 An Cycloconverter is a :-
a) AC-DC Converter b) DC-AC Converter
c) DC-DC Converter d) AC to AC Converter
- Q.8 Average output of a DC Chopper is given by
a) $V_o = \frac{vs}{a}$ b) $V_o = \frac{a}{vs}$
c) $V_o = Vs \times a$ d) None of these
- Q.9 Variable Voltage fixed frequency supply is obtained by:
a) Three Phase Inverter
b) Three Phase Cycloconverter
c) AC Chopper
d) Dual Converter
- Q.10 UPS is used in
a) Computers
b) Communication links
c) Essential Instrumentation
d) All of these

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 With the increase in firing angle of SCR output is increased (True/False)
- Q.12 A UJT has _____ PN junction.
- Q.13 What is Holding current.
- Q.14 Define Triggering.
- Q.15 Define MOSFET
- Q.16 Draw the symbol of DIAC
- Q.17 Difference between controlled & uncontrolled rectifier.
- Q.18 What is an inverter?
- Q.19 What do you mean by electric drive.
- Q.20 What is UPS?

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write about the SCR specifications & ratings.
- Q.22 Discuss about the different methods of SCR triggering.
- Q.23 Discuss about the parallel operation of SCR.
- Q.24 Draw V-I characteristics of TRIAC & draw the diagram also.
- Q.25 Discuss about the different commutational ckt of SCR.