

Q.33 Write a short note on Triac.

Q.34 Explain Fan regulator circuit using Thyristor

Q.35 Describe MOSFET.

SECTION-D

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

Q.36 Discuss UJT as a relaxation oscillator with circuit diagram.

Q.37 Explain single phase full wave centre tap rectifiers, with its waveforms

Q.38 Describe step down chopper with its duty cycle.

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5th Sem. / Branch : Instrumentation & Control / EI Subject:- Power Electronics

Time : 3Hrs.

M.M. : 100

SECTION-A

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

Q.1 SCR is a _____ junction device.

- a) 2
- b) 3
- c) 1
- d) 4

Q.2 ADIAC is a _____

- a) Four Layer, two terminal device
- b) Three Layer, one terminal device
- c) Four Layer, one terminal device
- d) None of these

Q.3 A single phase full form wave half controlled bridges uses _____

- a) 2 SCRs
- b) 6 SCRs
- c) 3 SCRs
- d) 4 SCRs

Q.4 A Rectifies Converts _____

- a) AC to DC
- b) DC into AC
- c) AC into variable AC
- d) None of these

Q.5 On-line UPS is _____

- a) Most expensive
- b) Heaviest
- c) Both (a) & (b)
- d) None of these

- Q.6 Synchronous motor drives are example of _____
 a) A,C drives b) D.C drives
 c) Both (a) & (b) d) None of these
- Q.7 SCR can be commutated by _____
 a) Natural Commutation
 b) Force Commutation
 c) Both (a) & (b)
 d) None of these
- Q.8 SCRs are connected in parallel in order to full fill the requirement of _____
 a) High voltage demand
 b) High current demand
 c) High Power demand
 d) None of these
- Q.9 Heat Sinks with fins can be used to _____
 a) Increase Surface area
 b) Decrease Surface area
 c) Decrease efficiency
 d) None of these.
- Q.10 CSI expands as _____.
 a) Current source inverter
 b) Current set inverter
 c) Circuit source inverter
 d) None of these.

SECTION-B

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

Q.11 Expand DIAC.

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- Q.12 The numbers of devices used in series/parallel.
- Q.13 UJT contains _____ PN Junction
- Q.14 Expand HVDC.
- Q.15 Controlled Rectifier contains only diodes T/F
- Q.16 Fully controlled rectifier operates in 2nd quadrant T/F
- Q.17 A cycloconverter is a group of controlled rectifiers T/F
- Q.18 Expand FWD.
- Q.19 In-offline UPS the inverter is _____ all the time.
- Q.20 F.W.D. in controlled rectifiers improves power factor. T/F.

SECTION-C

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

- Q.21 Describe parallel operation of SCRs.
- Q.22 Discuss SCR Commutation methods.
- Q.23 Explain selection of heat sink of Thyristor.
- Q.24 Draw & explain single phase full wave centre tap rectifies.
- Q.25 Write a short note on parallel inverters
- Q.26 Describe dual converters.
- Q.27 Discuss types of choppers.
- Q.28 Write a short note on D.C. drive control.
- Q.29 Explain phase A.C. Drives.
- Q.30 Describe on-line UPS with its diagram.
- Q.31 Discuss HVDC.
- Q.32 Mention types of Choppers.

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