

- Q.25 Write short note on series inverters.
 Q.26 Describe applications of cycloconverter.
 Q.27 Differentiate between square wave invertors & sine wave inverters.
 Q.28 Write a short note on electric drives.
 Q.29 Explain cycloconverter.
 Q.30 Differentiate between on - line & offline UPS.
 Q.31 Discuss SMPS.
 Q.32 Describe classification of inverter.
 Q.33 Explain two transistor analogy of SCR.
 Q.34 Discuss Fan regulator circuit using Thyristor.
 Q.35 Write a short note on DIAC.

SECTION-D

- Note:** Long Answer type question. Attempt any two questions. (2x10=20)
- Q.36 Explain construction & working principle of UJT with its characteristics.
 Q.37 Discuss single phase half wave controlled rectifier with R.L. Load.
 Q.38 Explain basic inverter circuit & their applications.

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5th Sem / Instrumentation & Control Subject : Power Electronics

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 SCR can be used as _____.
 a) Unidirectional switch
 b) Bi-directional switch
 c) Not used as switch
 d) Both A & B
- Q.2 A DIAC is used to _____.
 a) Commutate a Triac b) To protect a Triac
 c) Trigger a Triac d) None of these
- Q.3 A single phase full wave half controlled bridge rectifier uses how many SCRs.
 a) 4 SCRs b) 4 SCRs
 c) 2 SCRs d) 1 SCRs
- Q.4 An inverter converts _____.
 a) DC into variable DC b) AC into DC
 c) DC into AC d) None of these
- Q.5 In UPS, filter is used to eliminate _____
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- a) Higher order harmonics
 b) Lower order harmonics
 c) Both A & B
 d) None of these
- Q.6** Induction motor drives are examples of _____
 a) DC Drives b) A.C Drives
 c) Chopper d) None of these
- Q.7** SCR can be triggered by _____.
 a) Forward voltage triggering
 b) Gate Triggering
 c) Both A & B
 d) None of these
- Q.8** SCRs are connected in series in order to full fill the requirement of _____.
 a) High current demand
 b) High voltage demand
 c) High power demand
 d) None of these
- Q.9** Heat sinks are made up of _____.
 a) Aluminum b) Copper
 c) Zink d) Both A & B
- Q.10** Controlled rectifiers are used in _____.
 a) HVDC b) Battery charger
 c) Both A & B d) None of these

SECTION-B

- Note :** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Expand UJT.
 Q.12 String efficiency is always less than 1. T/F
 Q.13 A SCR contains _____ PN Junction.
 Q.14 Expand F.W.D.
 Q.15 Uncontrolled rectifier contains only diodes. T/F
 Q.16 Half controlled rectifier operates in 1st quadrant. T/F
 Q.17 Step - up chopper Require forced commutation. T/F
 Q.18 A switching mode power supply is a multistage supply. T/F
 Q.19 In one-line UPS the invertor is _____ all the time.
 Q.20 F.W.D. In controlled Rectifiers, improves load current of rectifier. T/F

SECTION-C

- Note :** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Describe series operation of SCRs.
 Q.22 Explain construction & working principle of SCR.
 Q.23 Describe SCR specifications.
 Q.24 Draw & Explain single phase fully controlled full wave bridge rectifier.