

- 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 rectifies, with its waveforms  
 Q.38 Describe step down chopper with its duty cycle.

No. of Printed Pages : 4                      181551/121551/073651  
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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.

(2) 181551/121551/073651

- 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-off line 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 rectifier.  
 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.

(3) 181551/121551/073651