

## SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Explain the working of Inverter also explain working of series and parallel Inverter.
- Q.4 With the help of neat diagrams explain the working of single phase half wave controlled rectifier with R-L load.
- Q.5 Draw and explain Block diagram of UPS. Differentiate between online and offline UPS.
- Q.6 What is an electric drive explain its types. Explain various methods of control of Drives.
- Q.7 Write short notes on any two
- (a) SCR specification and ratings
  - (b) Bridge controlled Rectifier.
  - (c) Step up cyclo converter.

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## 5th Sem. / Instrumentation & Control Electronic & Instt.

**Subject : Power Electronics**

Time : 3 Hrs.

M.M. : 100

## SECTION-A

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1 a) Firing angle.
- b) UJT symbol.
- c) TRIAC symbol.
- d) PUT \_\_\_\_\_ (Expand)
- e) Commutation.
- f) Triggering.
- g) Expand LASCR \_\_\_\_\_.
- h) Choppers.

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- i) Cyclo converter.
- j) Heat Sink.
- k) Latching current.
- l) Snubber Circuit.
- m) UPS.
- n) Duty Cycle.
- o) SMPS.
- p) Electric Drive.
- q) HVDC.
- r) Inverter.

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) Explain different methods of Triggering.
  - ii) Explain two transistor analog for SCR.

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- iii) Explain class D commutation.
- iv) Describe principle operation of UJT.
- v) Draw and explain VI characteristics of TRIAC.
- vi) Discuss selection criteria for heat sink.
- vii) Explain working of parallel Inverter.
- viii) Discuss working of Dual converter.
- ix) Discuss step up at step down choppers.
- x) Explain basic concept of SMPS.
- xi) Discuss application of SCR as light intensity control.
- xii) What is variable frequency drive.
- xiii) What is HVDC explain its types.
- xiv) Explain series and parallel operation of SCR.
- xv) Explain the construction of DIAC.

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