

- Q.29 Explain natural communication circuit.
- Q.30 Explain single phase half wave circuit with resistive load.
- Q.31 Describe the principle of type-B chopper circuit.
- Q.32 Describe the principle of modified series inverter.

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. 3x10=30

- Q.33 Explain construction, working principle and V-I characteristic of tirac.
- Q.34 Explain Class-C commutation.
- Q.35 Explain single phase full wave converter with RL load and its waveform.
- Q.36 Write short note on any two (5x2)
- Two transistor analogy of SCR.
 - Battery charger.

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5th Sem. / Power Electronics

Subject : Power Electronics - I

Time : 3 Hrs. M.M. : 100

SECTION-A

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

- Q.1 SCR can conduct only in _____.
- Q.2 The process of turning off an SCR is called as _____.
- Q.3 A free wheeling diode is used in a controlled rectifier circuit in case of _____ load.
- Q.4 The ON time of the inverter is _____.
- Q.5 The chopper circuit using SCR requires _____ to turn OFF the SCR.
- Q.6 The anode of SCR is always maintained at negative potential with respect to cathode (T/F)

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- Q.7 A Full converters can operate in two quadrant (T/F)
- Q.8 Chopper circuits converts fixed AC into variable DC voltage (T/F)
- Q.9 Diac is unidirectional device (T/F)
- Q.10 Power loss in a thyristor is much lesser than that is a transistor (T/F)

SECTION-B

Note:Very short answer type questions. Attempt any ten questions out of twelve questions. 10x2=20

- Q.11 Draw the symbol of IGBT & its full form.
- Q.12 Write any two specifications of SCR.
- Q.13 Define SCR ratings.
- Q.14 Name any two methods of SCR triggering.
- Q.15 Use of heat sink.
- Q.16 Any two applications of Triac.

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- Q.17 List two disadvantages of half wave rectifier.
- Q.18 Define inverter.
- Q.19 Write any two application of chopper.
- Q.20 Define duty cycle.
- Q.21 Define step down chopper.
- Q.22 Symbol of PUT and full form.

SECTION-C

Note:Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

- Q.23 What is power MOSFET and its characteristics.
- Q.24 Explain parallel operation of SCR.
- Q.25 Discuss SCR voltage ratings.
- Q.26 Compare SCR and Triac.
- Q.27 Explain the working of temperature control circuit.
- Q.28 Explain the working of Fan regulation.

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