

- Q.26 Explain the principle of cycloconverters.
 Q.27 What do you mean by Phase control method?
 Q.28 Explain with the help of block diagram of an electric drive system.
 Q.29 What is UPS/ Explain the working of on line and off-line UPS.
 Q.30 What is a Chopper? English its different types in details.
 Q.31 Discuss the application of inverters.
 Q.32 Difference between controlled and uncontrolled rectifier.
 Q.33 Explain the working of an automatic battery charger.
 Q.34 Give the circuit of an automatic street light and explain its working.
 Q.35 Describe MOSFET.

Section-D

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

- Q.36 Explain the basic scheme for speed control of 3 phase induction motor using variable voltage and variable frequency method.
 Q.37 Discuss the different communication technique of SCR.
 Q.38 Explain the Class A Class B and Class choppers.

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**5th Sem., Branch : IC, EI
Subject : Power Electronics**

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

- Q.1 SCR can be used as
 a) Unidirectional switch b) Bidirectional Switch
 c) Not used as switch d) None of these
 Q.2 An SCR is a
 a) Two layer two-junction device
 b) Three layer, Tree-junction device
 c) Four layer, three junction device
 d) None of these
 Q.3 A single phase full wave fully controlled bridges uses _____.
 a) 2SCRs b) 6SCRs
 c) 3SCRs d) 4SCRs
 Q.4 An inverter convert _____.
 a) AC to DC b) DC into AC
 c) AC into variable AC d) DC into variable DC

- Q.5 A cycloconverter _____.
 a) AC-DC convert b) DC-AC converter
 c) DC-DC convert d) AC-AC converter
- Q.6 UPS never used in
 a) Street-lighting b) Communication link
 c) Computer d) All of these
- Q.7 SCR can be commutated by _____.
 a) Natural communication
 b) Force communication
 c) Both A & B
 d) None of these
- Q.8 The minimum gate current which can turn on SCR is called _____.
 a) Trigger current b) Holding Current
 c) Junction Current d) Break over Current
- Q.9 Cycloconverter drives are generally employed in

 a) Traction
 b) Miling
 c) Generating low frequencies
 d) Generating pulses
- Q.10 Uninterruptible power supply is used in
 a) Computer b) Street light
 c) Essential instrument d) All of these

Section-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 TRIAC stands for.
- Q.12 A UJT has ____ PN junction.
- Q.13 Turn on of time SCR is about 2 to 5 _____.
- Q.14 A dual converter operate in which quadrants.
- Q.15 Controlled Rectifier contains only diodes. (True/False)
- Q.16 The device which convert AC into DC.
- Q.17 The duty cycle of chopper is expressed as _____.
- Q.18 Expand SCR.
- Q.19 In-off line UPS the inverter is _____ all the time.
- Q.20 AN SCR is more efficient than TRIAC. (Yes/No)

Section-C

- Note:** Short answer type Question. Attempt any twelve questions out of fifteen Questions. (12x5=60)
- Q.21 Explain the construction working principle of SCR.
- Q.22 Discuss the different method of triggering of SCR.
- Q.23 Draw the V-I characteristics of DIAC and TRIAC and also discuss the region of operation.
- Q.24 Explain the single phase half wave controlled rectifier with R-L load & draw all possible wave.
- Q.25 What is an inverter/ What are the different types of inverter?