Q.26 Wwite any five instructions for maintenance and care of lead acid batteries.

Q.27 Compare two modes of dual converter.

Q.28 Differentiate between holding current and latching current of a thyristor.

Q.29 Give the principle of operation of HVDC Transmission.

Q.30 What are AC and DC drivers?

Q.31 Explain any five methods of triggering SCR.

Q.32 Explain the operation of Dual Converter in non-Circulating mode.

Q.33 Give the symbol of TRIAC. What is the working principle of TRIAC.

Q.34 Write a short note on Electric drivers.

Q.35 Write merits and demerits of Series Inverter.

Section-D

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

Q.36 Define construction of SCR with a diagram. Explain working principle and modes of operation of SCR.

Q.37 Explain the working of Single-phase full wave Center-Tapped and bridge Rectifiers with circuit diagram.

Q.38 Write a note on

i) DV/DT protection

ii) Online inverter

iii) SMPS

Roll No. .....

5th Sem.

Branch : Elect, Power Station Engg., Elect. & Eltx. Engg.

Subject : Industrial Electronics & Control of Drives

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 MOSFET is a

a) Current controlled device

b) Voltage controlled device

c) Both A & B

d) Power controlled device

Q.2 A TRIAC is a _____ Switch.

a) Bidirectional b) Unidirectional

c) Omnidirectional d) Mechanical

Q.3 A cyclo - Converter is _____ converter

a) AC to DC b) DC to DC

c) AC to AC d) DC to AC

Q.4 A free wheeling diode is used in a controlled rectifiers circuit is case of

a) Capacitive load b) Inductive load

c) Resistive load d) All types of load

Q.5 A DIAC is used to

a) Commutate a triac b) Trigger a triac

c) A protect a triac d) None

Q.6 In rectifiers, load current flow is

a) Unidirectional b) Bidirectional

c) Non directional d) Either A or B

Q.7 _____ can be used as a DC static switch

a) GTO

b) Transistor

c) Both GTO & Transistor

d) TRIAC

Q.8 SMPS are based on the _____ principle.

a) Phase control b) Integral control

c) Chopper d) MOSFET

Q.9 An inverter converts

a) DC into variable DC

b) AC into DC

c) DC into AC

d) AC into AC with different frequency

Q.10 The duty cycle of a chopper is given by

a) $\frac{Ton}{Toff}$ b) $\frac{Toff}{Ton}$

c) $\frac{Toff}{Ton+Toff}$ d) $\frac{Ton}{Ton+Toff}$

Section-B

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

Q.11 For wide range speed control _____ drives are used.

Q.12 In half wave rectifiers, one switching device is used. (True/False)

Q.13 The full form of UPS is _____.

Q.14 Draw symbol of DIAC.

Q.15 A UJT has _____ PN junction.

Q.16 The value of latching current is more than Holding Current. (True/False)

Q.17 A rectifier converter _____ to _____.

Q.18 What is Firing angle?

Q.19 What is slip power?

Q.20 Name any two types of commonly used batteries.

Section-C

Note: Short answer type Question. Attempt any twelve questions out of fifteen Questions. (12x5=60)

Q.21 Differentiate between step-up and step down chopper.

Q.22 What is UPS? What are the applications of the UPS system?

Q.23 Explain about constant V/F operation.

Q.24 Differentiate between controlled and uncontrolled rectifiers.

Q25 Show basic construction of a UJT. What is its intrinsic standoff ratio?