Q.27 Explain the working of single-phase half wave-controlled rectifier (with Resistive load). (CO2)

Q.28 What is inverter? Write applications of series inverter. (CO3)

Q.29 What is chopper? Name different types of chopper. (CO3)

Q.30 Write a short note on "Cycloconverter". (CO3)

Q.31 What are different advantages and disadvantages of AC drive control? (CO4)

Q.32 Explain the working of dual converter. (CO3)

Q.33 Draw block diagram of UPS. (CO5)

Q.34 Explain the principle of operation of high voltage DC transmission. (CO5)

Q.35 Explain the working of Smart UPS. (CO5)

SECTION-D

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

Q.36 Explain VI characteristics of SCR. (CO1)

Q.37 Explain speed control of DC motor using choppers with the help of suitable diagram. (CO4)

Q.38 Detailed comparison between Online UPS and Offline UPS. (CO5)

(**Note:** Course outcome/CO is for office use only)

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Roll No. .....

5th Sem / Eltx / IC / Mechatronics / GE

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. (CO1)

a) 1 b) 2

c) 3 d) 4

Q.2 The most commonly used method for firing an SCR is (CO1)

a) Radiation triggering process

b) Gate triggering process

c) Voltage triggering process

d) Thermal triggering process

Q.3 A single phase full wave fully controlled bridge uses. (Co2)

a) 1 SCR b) 2 SCRs

c) 4 SCRs d) 6 SCRs

Q.4 A fully controlled rectifier circuit contains (CO2)

a) SCRs

b) Mixture of SCRs and diodes

c) Diodes only

d) None of these

Q.5 A class E chopper can operate in (CO3)

a) 1st and 2nd quadrant b) 2nd and 3rd quadrant
c) 1st and 4th quadrant d) All four quadrant

Q.6 The load circuit of a single phase series inverter (CO3)

a) Must be overdamped
b) Must be underdamped
c) May be underdamped and overdamped
d) None of the above

Q.7 Armature control method is used in dc motors to get (CO4)

a) Constant speed
b) Speeds above normal speed
c) Speeds below normal speed
d) None of the above

Q.8 Cycloconverter drives are generally employed in (CO4)

a) traction
b) milling
c) generating low frequency
d) generating pulses

Q.9 UPS is never used in (CO5)

a) Street lighting b) Communication link
c) Computer d) modem

Q.10 A offline UPS requires (CO5)

a) resistor b) Capacitor
c) battery d) inductor

SECTION-B

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

Q.11 Write full form of UJT. (CO1)

Q.12 Define SCR triggering. (CO1)

Q.13 Write any two applications of TRIAC. (CO1)

Q.14 Draw symbol of GTO. (CO1)

Q.15 Define firing angle. (CO2)

Q.16 What is the need of free wheeling diode? (CO2)

Q.17 Write any two features of parallel inverter. (CO3)

Q.18 Write any one limitation of series inverter. (CO3)

Q.19 Define Slip power. (CO4)

Q.20 What is full form of UPS? (CO5)

SECTION-C

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

Q.21 Explain working principle of UJT. (CO1)

Q.22 Write different specifications of SCR. (CO1)

Q.23 What are different commutations circuits for SCR? (CO1)

Q.24 Write a short note on "MOSFET". (CO1)

Q.25 Write a short note on "Selection of heat sinks for thyristor". (CO1)

Q.26 Explain the circuit of fully controlled full wave bridge rectifier. (CO2)