No. of Printed Pages : 4 180962/170962
Roll No. .....

6th Sem / Elect.
Subject:- Industrial Electronics and Control of Drives

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The number of gates in a silicon controlled switch is (CO-1)

a) One b) Two
c) Three d) Four

Q.2 To turn off an SCR, it is necessary to reduce its current to less than (CO-1)

a) Trigger current b) Holding current
c) Breakover current d) None of the above

Q.3 A UJT has..... (CO-2)

a) Two pn junctions b) One pn junction
c) Three pn junctions d) None of he above

Q.4 A fully controlled converter uses (CO-3)

a) Diodes only b) Thyristors only
c) Both diodes and thyristors
d) None of the mentioned

Q.5 In a three-phase half wave 6-pulse mid-point type diode rectifier, each diode conducts for (CO-3)

a) 120^o b) 90^o
c) 60^o d) 180^o

Q.6 An inverter converts (CO-4)

a) dc into variable dc b) ac into dc
c) dc into ac
d) ac into ac of different frequency

Q.7 Choppers is a (CO-4)

a) AC-DC converters b) AC-AC converters
c) DC-AC converters d) DC-DC converters

Q.8 A Cycloconverter can be .

a) Step down b) Step up
c) Step down or Step up d) Neither of the above

Q.9 Armature control method is used in d.c. motor to get (CO-6)

a) Constant Speed
b) Speeds above normal speed
c) Speeds below normal speed
d) Both B & C

Q.10 SMPS is used for _____ (CO-7)

a) Obtaining controlled ac power supply
b) Obtaining controlled dc power supply
c) Storage of dc power
d) Switch from one source to another

SECTION-B

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

Q.11 A TRIAC can be triggered by gate pulse of _____ polarity. (CO-2)

Q.12 The process of turning OFF a thyristor is called ____ (CO-1)

Q.13 The series inverter uses_____ type of commutation. (CO-4)

Q.14 In half wave rectifiers; one switching device is used. (True/False) (CO-3)

Q.15 Cycloconvertersare used for generating high frequencies. (True/False) (CO-4)

Q.16 A UJT has _____PN Junction . (CO-2)

Q.17 The duty cycle of a chopper is expressed as_____. (CO-5)

Q.18 Armature control method is used in d.c. motors to get speed below ____. (CO-6)

Q.19 DC motors provide_____starting torque. (CO-6)

Q.20 UPS stands for_____. (CO-7)

SECTION-C

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

Q.21 Draw and explain the circuit of single phase half controlled full wave rectifier. (CO-2)

Q.22 Draw and explain illumination control circuit using SCR. (CO-1)

Q.23 Differentiate between controlled and uncontrolled rectifiers . (CO-3)

Q.24 Write any five applications of thyristor converters. (CO-3)

Q.25 Draw and explain the parallel inverter . (CO-4)

Q.26 Explain the principle of cycloconverters ? What are its applications ? (CO-5)

Q.27 Draw a circuit for a fan regulator using a TRIAC-DIAC pair (CO-2).

Q.28 Differentiate between On line and Off -line UPS (CO-7).

Q.29 Explain the working principle of chopper circuit, (CO-5)

Q.30 Explain variable voltage variable frequency method for speed control of 3-phase induction motor. (CO-6)

Q.31 Write any five instructions for maintenance and care of lead acid batteries. (CO-7)

Q.32 Show the basic construction of a UJT. What is its intrinsic stand off ratio ? (CO-2)

Q.33 Compare two modes of dual converter. (CO-6)

Q.34 Compare AC and DC drives. (CO-6)

Q.35 What is UPS ? What are the applications of UPS system ? (CO-7)

SECTION-D

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

Q.36 Write short technical notes on any two: (CO-2)

(a) Construction of SCR

(b) UJT as relaxation oscillator

(c) TRIAC

Q.37 What are the two main methods of speed control of d.c. separately excited motor? Explain any one in detail using circuit and block diagram. (CO-6)

Q.38 What is inversion process ? Name different types of inverters. Explain any one with the help of circuit diagram and waveforms. (CO-4)