Register No.:

497

April 2023

Time - Three hours
(Maximum Marks: 100)

N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.

PART - A

1. Give the applications of SCR.
2. List out the methods used for triggering the SCR.
3. Write short notes on phase controlled rectifier.
4. What is the effect of inductive load in the performance of a three-phase bridge rectifier?
5. What is meant by PWM control in DC Chopper?
6. What are the applications of Inverter?
7. What are the advantages of Microprocessor based DC- drive?
8. What are the advantages and disadvantages of Three-Phase Semi Converter DC Motor Drives?
9. Write short notes on Slip Power Recovery Scheme.
10. List the advantages of Variable Frequency Induction Motor Drives.

[Turn over.....

PART - B

11. (a) Explain the current ratings of SCR in detail.

(Or)

(b) With a block diagram explain the IC based advanced triggering circuits for SCR & TRIAC using TCA 785

12. (a) Explain Half Wave-Controlled Rectifier with Resistive Load.

(Or)

(b) Explain about dv/dt, di/dt, short circuit protections.

13. (a) Explain the operation of Single-Phase Full Bridge Inverter with neat sketch.

(Or)

(b) Explain about Step Up and Step Down Chopper.

14. (a) Explain about Single Phase Full Converter Drives.

(Or)

(b) Draw the circuit diagram and explain the operation of Closed loop system control with inner current loop and field weakening.

15. (a) With suitable diagram explain the speed control of Three Phase Induction Motor.

(Or)

(b) Draw the circuit diagram and explain the operation of Closed loop Control of AC Drive System.
