

Register No.:

415

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. What is the necessity for starter? Mention the types of starters.
2. Define Electric current. Mention its unit.
3. Define frequency and time period.
4. List out the applications of three phase induction motors.
5. Define Multimotor drive.
6. Define stepper motor drive.
7. Define IC voltage Regulator.
8. Define Inductive Proximity Sensor.
9. Define LED. Mention the applications of LED.
10. Draw a symbol, boolean equation, truth table for Ex-NOR Gate.

[Turn over.....

PART – B

11. (a) With neat diagram explain the working principle of three point starter.

(Or)

- (b) A resistance of 'R' ohms is connected in series with a parallel circuit comprising of two resistances 6 Ohms, 4 Ohms respectively. The total power dissipated in the circuit is 40 Watts. When the applied voltage is 30 Volt. Calculate the value of 'R'.

12. (a) Explain the constructional details of core type transformer with neat diagram and explain each parts.

(Or)

- (b) Explain the working principle of Slip ring induction motor with neat diagram.

13. (a) Explain DC servo motor drive with suitable sketches.

(Or)

- (b) Explain the constructional details of stepper motor.

14. (a) Explain the construction and working principle of photo electric sensor with neat sketch.

(Or)

- (b) Explain the construction and working principle of ELCB.

15. (a) Explain with suitable sketches and arrangements of Common Cathode arrangement in 7 segment LED

(Or)

- (b) What is meant by universal gate? How NOR gate is converted into AND, OR and NOT gate?