

Register No.:

**2182**

**October 2024**

***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.]

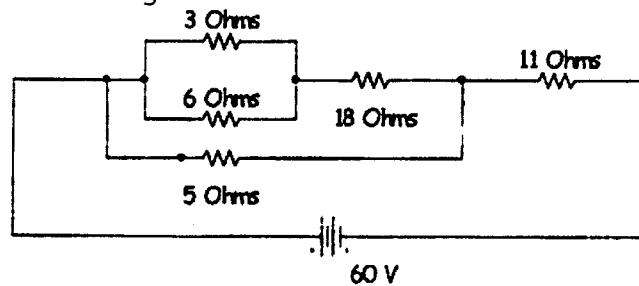
**PART – A**

1. Define Voltage.
2. Define Permeability.
3. Define power factor in AC circuit.
4. List the types of speed control in three phase induction motor.
5. What is meant by industrial drive? Mention its types.
6. State any three applications of brushless servo motor.
7. What is meant by Regulated Power Supply (RPS)?
8. Define Photo Electric Sensor.
9. Write about universal gates.
10. State any three applications of LCD.

[Turn over.....

PART - B

11. (a) Find the current in each branch of the circuit given below, if the total applied voltage is 60V.



(Or)

- (b) Explain the working principle of DC motor with neat sketches. Also mention its applications.
12. (a) Explain the construction and working of transformer with neat diagram.  
(Or)  
(b) Explain the construction and working of three phase induction motor with neat diagram.
13. (a) Explain the working principle of stepper motor with suitable sketches.  
(Or)  
(b) Explain about the Variable Frequency Drive (VFD) with block diagram.
14. (a) Explain the construction and working principle of half wave rectifier with neat diagram.  
(Or)  
(b) Explain the construction and working principle of Inductive proximity sensor with neat diagram.
15. (a) Explain the construction and working principle of LED with neat diagram.  
(Or)  
(b) Draw the block diagram of PLC and explain.

-----