

586

Register No.:

April 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. List out any four switches used in the control circuits.
2. What is selector switch? Draw the symbol of selector switch.
3. What is field failure protection?
4. Write a note on open circuit transition in autotransformer starter.
5. What is Skip Hoist Control?
6. Write about control of Conveyor System.
7. Write the types of automation.
8. List out any three PLCs available.
9. What is preset in timer instruction?
10. What are the major components of DCS?

[Turn over.....

PART - B

11. (a) (i) Explain the construction and working of float switch with neat diagram. (7)
(ii) Explain the following (1) DC series current relay
(2) Frequency response relay. (7)
(Or)
- (b) Draw and explain Simple ON-OFF motor control circuit and Electrical Interlock.
12. (a) With neat sketch, explain the operation of counter emf starter.
(Or)
- (b) With neat sketch, explain the principle of secondary frequency acceleration starter.
13. (a) Draw the automatic control circuit of water pump and explain its operation.
(Or)
- (b) Write the general procedure for trouble shooting in control circuits.
14. (a) Explain the working principle of PLC with block diagram.
(Or)
- (b) (i) List any seven distinct advantages that PLCs offer over conventional relay-based control systems. (7)
(ii) How the I/O modules connect to the processor in a modular-type PLC configuration? Explain. (7)
15. (a) Explain the various types of programming methods to program a PLC.
(Or)
- (b) With a neat block diagram explain the operation of SCADA.
