MODEL QUESTION PAPER – I

Time : 3 Hrs **Max Marks : 100**

Note : (i) Answel all the question from Part - A. Each question carries 3 marks.

(ii) Answer division (A) or (B) of each question in Part - B. Each question carries fourteen marks.

PART - A (10 x 3 = 30 Marks)

1. Draw the diagram of electronic timer.
2. Compare ON delay and OFF delay timer.
3. What is the need for timer relay in star-delta starter?
4. Write the principle of dynamic braking.
5. Draw the circuit diagram of skip hoist control.
6. What is the necessity of sequential control in conveyor system?
7. What is the advantage of using modular PLC?
8. What are the applications of PLC?
9. What is a preset time of PLC timer?
10. Describe cascading of timers.

PART - B (5 x 14 = 70 Marks)

11. (a) Explain the operation of dash pot oil filled relay with neat diagram.

(Or)

(b) Explain the remote control operation of drives.

12. (a) Draw and explain the control circuit of automatic 3 step rotor resistance starter for wound induction motor.

(Or)

(b) Explain with neat diagram automatic auto transformer starter (open circuit transition).

13. (a) Draw and explain the control circuit of electric oven.

(Or)

(b) Explain the various trouble spots in control circuits.

14. (a) Explain modes of operation of PLC in detail.

(Or)

(b) Explain the components of PLC scan in detail.

15. (a) Explain the working of up counter used in PLC with a ladder diagram.

(Or)

(b) Explain the working of rotor resistance starter using ladder diagram.

MODEL QUESTION PAPER – II

Time : 3 Hrs **Max Marks : 100**

Note : (i) Answel all the question from Part - A. Each question carries 3 marks.

(ii) Answer division (A) or (B) of each question in Part - B. Each question carries fourteen marks.

PART - A (10 x 3 = 30 Marks)

1. What is zero speed switch and where it is used?
2. What is frequency response relay?
3. Draw the control circuit of DOL starter.
4. Compare the semi-automatic and automatic star-delta starter.
5. What are the three motions in a crane control?
6. Draw the control circuit of water pump.
7. Name the parts of PLC.
8. What is the principle of PLC.
9. What is ladder programming?
10. Briefly explain about status bits of PLC timer.

PART - B (5 x 14) = 70 Marks)

11. (a) Draw the control of electrical interlocks and mechanical interlocks and explain briefly.

(Or)

(b) Explain the working of magnetic time limit relay.

12. (a) Draw and explain winding for 2 speed control of induction motor.

(or)

(b) Explain dynamic braking of induction motor with neat diagram.

13. (a) Explain with control circuit, the operation of planner machine.

(Or)

(b) Write the general procedure for trouble in control circuits.

14. (a) Compare hardwire control system and PLC system in detail.

(Or)

(b) Explain the input module of PLC with schematic and wiring diagram.

15. (a) Explain various types of programming languages in PLC.

(Or)

(b) Explain with ladder diagram, the operation of star-delta starter using PLC.