BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

Unit Test-I
Question Bank

EIA-K Scheme (316329)

UNIT 1 Industrial Control Circuits (06 M) (CO1)

2 M Questions

1. Draw the symbol of (i) proximity switch (ii) pressure switch
2. Draw symbol of (i) Push button (ii) Limit switch
3. List any two input and output devices used in conjunction with PLC.
4. Define Automation. State the benefits of Automation.

4 M Questions

1. What is automation. Explain its need and benefits.
2. Differentiate between Control wiring and Power wiring. (Any 4 points)
3. Draw control and power circuit diagram for conveyor control.
4. Explain the working of DOL starter control circuit of an induction motor.
5. Develop the control circuit for Star/Delta starter using timer, for starting of a 3 phase Induction motor.
6. Explain with block diagram working of soft starter.
7. Draw control and power circuit diagram for hoist control.
8. Explain solenoid valve with neat sketch diagram.
9. Explain any two input devices of PLC.
10. Explain any two output devices of PLC.
11. Explain the working of FWD-STOP-REV control circuit of an Induction motor.
12. Draw power & control circuit for FWD-STOP-REV control circuit of an induction motor.

UNIT 2 PLC Fundamentals (18 M) (CO2)

2 M Questions

1. Draw the Block diagram of PLC
2. Define Scan time and Speed of Execution w.r.to PLC
3. Classify PLC according to size.
4. State the Function of Communication Module.
5. List any four advantages of PLC

4 M Questions

1. Explain the architecture of PLC with neat diagram.
2. List the types of memory and explain the function of memory in PLC.
3. Explain working of PLC Scan cycle.
4. Explain the Concept of Redundancy.

UNIT 3 Basics of PLC Programming (18 M) (CO3)

2 M Questions

1. List types of PLC Programming Languages.
2. List types of timer used in PLC.
3. Draw Ladder diagram for Ex-OR logic gate.
4. List different comparison instructtions of PLC.

4M Questions

1. Draw the ladder program for verifying the AND and OR Logic gates
2. Explain different Programming Languages used in PLC.
3. Explain down Counter module with example.
4. List the types of Counter. Explain Up Counter in detail with an example.
5. Draw Ladder diagram for :
   1) NAND Gate 2) Ex-NOR Gate 3) NOT Gate 4) NOR Gate
   Also write the truth table for each logic gate.
6. Explain the following Relay type instruction :XIC ,XIO and OSR
7. Explain Retentive ON timer in detail.
8. Explain Scaling instruction SCP.
9. Explain any two Logical and any two comparison instruction of PLC.
10. Explain TON Timer in detail.
11. Explain OFF Timer in detail.