

6. _____ convert sensor signals to digital data and sending digital data to the supervisory system. CO3- R
- (a) RTU (b) PLC (c) Safety device (d) Motor
7. A hardware assembly in PLC which houses the processor, communication and I/O modules is called as _____. CO4- R
- (a) Mother board (b) Output device (c) Rack (d) FRC
8. _____ is a computer application that is used to monitor and control a plant or equipment at the supervisory level. CO4- R
- (a) PLC (b) SCADA (c) Controller (d) VLSI
9. _____ can be used to control the speed of AC induction motors along with PLC. CO5- R
- (a) VFD (b) Starter (c) Autotransformer (d) Relay
10. SCADA stands for _____. CO5- R
- (a) Supervisory control and data acquisition (b) Sequential control and data acquisition
- (c) Supervisory current and data acquisition (d) Supervisory control and data authority

PART – B (5 x 2= 10Marks)

11. Mention the role of I/O modules in a PLC. CO1- R
12. What is the meaning of Scan time in PLC? CO2- R
13. Define SCADA. CO3- R
14. List the features of SCADA software. CO4- R
15. Write any two advantages of PLC over relays. CO5- R

PART – C (5 x 16= 80Marks)

16. (a) (i) Describe the advantages and disadvantages of PLC based controller over normal controller. CO1- Ana (8)
- (ii) Discuss the procedure for proper construction of PLC ladder diagrams with suitable examples. CO1- Ana (8)

Or

- (b) Enumerate the input and output modules of PLC with neat diagram. CO1- Ana (16)
17. (a) Explain in detail PID control of PLC with neat diagram. CO2- U (16)
- Or
- (b) Describe with a neat diagram the basic operation of controlling a robot with PLC sequencer control. CO2- U (16)
18. (a) (i) Write short notes on Human machine interface. CO3- U (8)
- (ii) Elaborate the functions of Remote terminal unit. CO3- U (8)
- Or
- (b) (i) Explain the working of Intelligent electronic devices. CO3- U (8)
- (ii) Explicate data acquisition system in SCADA. CO3- U (8)
19. (a) (i) Explain first, second, third generation of SCADA architecture. CO4-U (8)
- (ii) Briefly explain the energy management system. CO4-U (8)
- Or
- (b) (i) Explain automatic substation control based on SCADA. CO4-U (8)
- (ii) List the advantages and disadvantages of SCADA system. CO4-U (8)
20. (a) Explain the operation of PLC based speed control of AC motor drive. CO5- U (16)
- Or
- (b) Illustrate the application of SCADA in distribution system. CO5- U (16)

