

- Q.25 Explain real time clock function. (CO2)
 Q.26 Write five applications of SCADA. (CO3)
 Q.27 With an example, explain event driven sequencer. (CO2)
 Q.28 Define Bus. Explain various types of bus. (CO2)
 Q.29 Write down the salient features of Ethernet. (CO4)
 Q.30 Write short note on Device-net and Profibus. (CO4)
 Q.31 Explain Real Time clock function. (CO2)
 Q.32 Write down the comparison of DCS and SCADA. (CO3)
 Q.33 Write down the specifications of PLC. (CO2)
 Q.34 What is ladder logic? Draw the ladder logic diagram for the Boolean expression $Y = D(A + BC)$ (CO2)
 Q.35 Write short note on power supply requirements of PLC. (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Discuss the application of PLC in car parking system. (CO2)
 Q.37 What is DCS? Explain the structure and architecture of DCS. (CO3)
 Q.38 What is automation? Explain generalized automation, production systems and their classification. (CO4)

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6th Sem / Mechatronics Subject:- Industrial Automation

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 DCS stands for _____ (CO3)
- a) Distributed control system
 - b) Distributed control server
 - c) Digital Control system
 - d) None of the above
- Q.2 Which of the following are the components of SCADA (CO3)
- a) Computers
 - b) Communication of networks data
 - c) GUI
 - d) All the above
- Q.3 Which one is the PLC programming language? (CO2)
- a) HMI
 - b) MHI
 - c) FBD
 - d) None of the above

- Q.4 For PLC scan cycle which one is correct (CO2)
 a) Read input, execute program, write output
 b) Write output, execute program, Read input
 c) Execute program, write output, read input
 d) None of these
- Q.5 PLC operates on the following signals. (CO2)
 a) Digital b) Impulse
 c) Analog d) Frequency
- Q.6 A technology for the application of mechanical, electronics and computer-based systems to control and operate the system is called: (CO2)
 a) PLC
 b) Sequential Controller
 c) Microprocessor-based systems
 d) Automation
- Q.7 IN PLC, which of the following is NOT a subpart of CPU? (CO2)
 a) Programmer b) Microprocessor
 c) Memory d) Power supply
- Q.8 Input signal to smart sensor is fed from _____. (CO1)
 a) Power supply b) Transducer
 c) voltmeter d) All of the mentioned
- Q.9 The control logic in a PC can be programmed by _____ (CO2)
 a) FBD, Ladder logic b) Sequential Logic
 c) Structural text d) All of the above

- Q.10 Which one is not a module of PLC (CO2)
 a) Input module b) Output Module
 c) CPU d) RTU

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Define Switch. (CO1)
- Q.12 What is watchdog timer? (CO2)
- Q.13 A _____ is that part of the memory where programs and data are stored. (CO2)
- Q.14 A _____ is a device that is for making and breaking an electrical power circuit. (CO1)
- Q.15 Define automation. (CO1)
- Q.16 SCADA is a system of _____ and _____ elements. (CO3)
- Q.17 What is the function of relay in PLC. (CO2)
- Q.18 Draw ladder diagram for OR gate. (CO2)
- Q.19 GUI stands for _____. (CO4)
- Q.20 HART stands for _____. (CO5)

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 What is relay? How it works? (CO1)
- Q.22 Differentiate between relay and contactor. (CO1)
- Q.23 Explain memory structure of PLC. (CO2)
- Q.24 Explain comparison instructions of PLC like equal, not equal, greater and greater than equal to using ladder diagram. (CO2)