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6th Sem / Branch : Electronics & Communication
Sub. : Industrial Automation

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 What is the full form of SCADA? (CO7)
a) Supervisory Control and Document Acquisition
b) Supervisory Control and Data Acquisition
c) Supervisory Column and Data Assessment
d) Supervisory Column and Data Assessment

Q.2 The ____ is moved toward the relay electromagnet when the relay is on. (CO3)
a) Armature b) Coil
c) No Contact d) NC contact

Q.3 Solenoids, lamps, motors are connected to (CO4)
a) Analog output b) Digital output
c) Analog input d) Digital input

Q.4 Inpur/Output modules of PLC consist of (CO3)
a) Discrete b) Analog
c) Register d) All of the above

Q.5 _____ of PLCs can be done in very little time (CO2)
a) Programming b) Installation
c) Commissioning d) All of the above

Q.6 The PLC is used in _____. (CO2)
a) Machine tools
b) Automated assembly equipment
c) Molding and extrusion machines
d) All of the above

Q.7 Ladder logic programming consists primarily of : (CO6)
a) Virtual relay contacts and coils
b) Logic gate symbols with connecting lines
c) Function blocks with connecting lines
d) Text based code

Q.8 DCS is a _____. (CO7)
a) Distributed Control System
b) Data Control System
c) Data Column System
d) Distributed Column System

Q.9 The difference between online and offline programming PLC is _____ (CO2)
a) Whether the PLC is running or stopped
b) Whether the programming PC has internet connectivity.
c) The type of programming cable used
d) Where the edited program resides

Q.10 The control in SCADA is _____. (CO6)
a) Online control b) Direct control
c) Supervisory control d) Automatic control

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Small PLCs have a memory form _____ to store the user's logic program. (CO2)

Q.12 What is scan time of a PLC? (CO1)

Q.13 _____ is the heart of the SCADA system. (CO6)

Q.14 Expand EPROM. (CO1)

Q.15 What is bus? (CO2)

Q.16 ____ is an electromagnetic switch. (CO1)

Q.17 PLC stands for _____. (CO1)

Q.18 FBD stands for _____. (CO2)

Q.19 What is retentive timer? (CO2)

Q.20 What is RTC? (CO6)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Difference between open architecture and dedicated system. (CO6)

Q.22 Discuss relative merits & demerits of PLC & DCS. (CO2)

Q.23 What are the applications of PLC in industry? (CO5)

Q.24 Discuss importance of local area Network for DCS. (CO3)

Q.25 Explain the different programming language of PLC. (CO4)

Q.26 Explain real time clock function. (CO3)

Q.27 Explain briefly concept of DCS. (CO5)

Q.28 Explain the methods of speed control of motor. (CO7)

Q.29 What do you mean by SCADA? What are its applications? (CO6)

Q.30 Explain timer and counter instructions of PLC. (CO3)

Q.31 Write short note on memory structure of PLC. (CO2)

Q.32 Explain comparison instruction of PLC like equal, not equal, greater, greater than equal to. (CO3)

Q.33 Discuss SCADA system in industry. (CO6)

Q.34 Explain comparison instruction of PLC like equal, not equal, greater, greater than equal to. (CO3)

Q.35 Difference between DCS and SCADA. (CO6)

SECTION-D

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

Q.36 What are AC drives? Explain different types of AC drives. (CO3)

Q.37 What is automation? Explain generalized automation, production systems and their classification. (CO1)

Q.38 Draw block diagram of PLC and explain function of each block in detail. (CO2)