Q.26 Explain the functions of relays. Make two circuits explaining function of relays.

Q.27 Explain contactors.

Q.28 Compare merits and demerits of SCADA and DCS.

Q.29 Explain the working of relays.

Q.30 Draw the configuration of general DCS.

Q.31 Construct ladder diagram for the logical expression $y = AB + BC + CD$.

Q.32 Explain RS485 interface.

Q.33 Define SPC, MTU, RLC.

Q.34 Write short note on Ethernet addressing modes.

Q.35 Draw four symbols of ladder Diagram.

Section D

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

Q.36 Write various application of PLC in industrial automation. Write the advantages of PLC over relays.

Q.37 Compare sensor bus, device bus and field bus with examples.

Q.38 Explain the construction, working and application of switches.

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Roll No.....

122461

Branch : Mecatronics
Subject : Industrial Automation

Time : 3 Hrs. **M.M. : 100**

SECTION-A

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

Q.1 The programmable logic controller are used in

a) Manufacturing b) Automation

c) Both A and B d) None of the above

Q.2 Which of the following components are a part of programmable logic controller?

a) I/O module b) Power Supply

c) CPU d) All of the above

Q.3 The SCADA systems is used to

a) Monitor b) Control

C) Both A and B d) None of the above

Q.4 PLCs can be programmed in

a) Ladder logic, structured text

b) Sequential function chart

c) Instruction list

d) All of the above

Q.5 The applications where SCADA can be used can be:

a) Manufacturing b0 Mass transit

c) Traffic signals d) All of the above

Q.6 Which one of the following is a type of PLCs

a) Fixed, Uniform PLC

b) Modular, uniform PLC

c) Fixed and modular PLCs

d) None of the above

Q.7 How many steps does the Programmable Logic Controller have?

a) One b) Two

c) Three d) Four

Q.8 The SCADA system performs following function

a) Data presentation b) Data acquisition

c) Both A & B d) Programming

Q.9 _____ is not a component of SCADA system

a) Sparyer controller b) Database server

c) Output system d) None of the above

Q.10 What does DCS stands for

a) Distributed control system

b) Digital control system

c) Distributed code system

d) Distributed communications system.

Section-B

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

Q.11 The second generation SCADA systems were developed or designed in _____?

Q.12 In SCADA system how many control systems are there?

Q.13 Automation is _____.

Q.14 Expand PLC.

Q.15 Define Uniform Programmable Logic Controller.

Q.16 The Industries used _____ before the PLC invention.

Q.17 Expand SCADA.

Q.18 Define DCS.

Q.19 Relays work as switches. (True/False)

Q.20 A fieldbus is _____.

Section-C

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

Q.21 Write the applications of SCADA.

Q.22 Explain MOV instruction with example.

Q.23 Explain any one SCADA system component.

Q.24 Write short note on HART.

Q.25 Explain the foundation field bus.