Q.27 What is the function of self holding relay?

Q.28 List an 5 applications of DCS.

Q.29 Explain SCADA with its operation.

Q.30 Write a short note on RTC.

Q.31 What do you mean by watchdog timer?

Q.32 Differentiate between DCS and PLC.

Q.33 Explain retentive and non-retentive timer.

Q.34 Name any 5 manufactures of PLC.

Q.35 Write a short note on electric drive.

SECTION-D

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

Q.36 Explain timer and counter instructions of PLC.

Q.37 Differentiate between PLC, DCS and SCADA.

Q.38 Draw block diagram of DCS and explain function of each block.

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Sub.: Industrial Automation

Time : 3Hrs.   M.M. : 100

SECTION-A

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

Q.1 In PLC operation _____ checks the status at the output side.

a) Input scan   b) Program scan

c) Output scan   d) None

Q.2 The relay consist of

a) Control circuit   b) Load circuit

c) Both A & B   d) None

Q.3 _____ is connected to the PLC input

a) Lamp   b) Motor

c) Field sensors   d) None

Q.4 EQU, LES, LEQ instructions are example of which of the following instructions

a) Comparison   b) Sequencer

c) Data handling   d) Composite

Q.5 The _____ counter that counts the event that has happened and incremented the counted number by

one count

    a)   UP counter   b)   DOWN counter

    c)   Weekly counter   d)   Hourly counter

Q.6   In ladder logic, normally open contact in series are used to implement _____ function

    a)   AND   b)   OR

    c)   NOT   d)   NOR

Q.7   SCADA stands for _____

    a)   Supervisory control and data acquisition

    b)   Superior control and data acquisition

    c)   Supervisory control and distributed acquisition

    d)   None

Q.8   FBD stands for _____

    a)   Functional block division

    b)   Functional block diagram

    c)   First block division

    d)   None

Q.9   Which of the following is used to build an electric drive

    a)   Source   b)   Motor

    c)   Control Unit   d)   All of the above

Q.10   What are the elements of ladder logic

    a)   NO   b)   NC

    c)   Both A & B   d)   None

SECTION-B

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

Q.11   DCS stands for _____

Q.12   Draw the symbol of XIO

Q.13   RTC stands for _____

Q.14   Expand ROM

Q.15   List any one PLC language.

Q.16   What is relay?

Q.17   Expand HMI.

Q.18   PLC is more reliable than relay (True/False)

Q.19   List any one comparison instruction.

Q.20   What PLC scanning?

SECTION-C

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

Q.21   What is basic building block of PLC?

Q.22   Discuss any 5 advantages of PLC over relay.

Q.23   Write any 5 applications of SCADA.

Q.24   Explain PLC scanning operation.

Q.25   What is the I/O structure of PLC? Explain.

Q.26   Name any 5 types of comparison instructions used in PLC.