

- Q.27 Write a note on counter & explain any one counter.
- Q.28 Write a short note on watch dog timer.
- Q.29 Explain about any two comparison instruction used in PLC's
- Q.30 Explain about the block diagram of DCS.
- Q.31 What is RTU & explain it.
- Q.32 Difference between DCS & SCADA.
- Q.33 Introduction about HMI & its brief advantages.
- Q.34 Write a short note on Real time clock.
- Q.35 Advantages of PLC over electromagnetic relay.

SECTION-D

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

- Q.36 What is Timer & explain all timer used in PLC's
- Q.37 Write about the applications of SCADA in the field of Inst. & control.
- Q.38 Attempt any two-
- i) Concept of DDC
 - ii) MOV instruction
 - iii) MCR

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Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 SFC stands for:-
- a) Series Flow charts
 - b) Sequential Function Charts
 - c) Sequential flow charts
 - d) None of these
- Q.2 Scan time refers to the amount of time:-
- a) To record the status of all inputs
 - b) To execute one cycle of total program
 - c) One 'rung' of Ladder logic takes to complete
 - d) The whole programme running time.
- Q.3 Which is non volatile memory:-
- a) RAM
 - b) ROM
 - c) Both
 - d) None
- Q.4 Convert Binary No. (10101011)₂ in decimal:-
- a) (170)₁₀
 - b) (171)₁₀
 - c) (172)₁₀
 - d) (173)₁₀

- Q.5 Convert Hexadecimal No. $(CBA)_{16}$ in Octal No.-
 a) $(6272)_8$ b) $(6273)_8$
 c) $(6472)_8$ d) $(6273)_8$
- Q.6 Which term is related to Ladder Logic:-
 a) Rung b) Rails
 c) Both d) None
- Q.7 An OR function implemented in ladder logic uses:-
 a) Normally closed contacts in series
 b) Normally open contacts in series
 c) A single normally closed contact
 d) Normally open contacts in parallel
- Q.8 "Greater then Equal" mnemonics is :-
 a) GEQ b) GENQ
 c) EQG d) None
- Q.9 Full form of DDC:-
 a) Direct digital control
 b) Dedicated digital control
 c) Direct Display Control
 d) Dedicated Display Control
- Q.10 Which of the following is an input device:-
 a) Motor b) Light
 c) Value d) Sensor

SECTION-B

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

- Q.11 Define the ROM.
- Q.12 HMI stands for
- Q.13 Draw symbol of TON Timer.
- Q.14 RTU stands for
- Q.15 Electromagnetic relays are better than PLC (True/False)
- Q.16 Draw the ladder diagram of OR gate & Note gate.
- Q.17 What is relay & how it is working.
- Q.18 Define EPROM
- Q.19 Define SCADA.
- Q.20 What is non-retentive timer.

SECTION-C

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

- Q.21 Explain Programming languages used in PLC's.
- Q.22 Explain the basic operation of PLC.
- Q.23 Explain all about the function block of PLC's
- Q.24 Write a short note on I/O structure.
- Q.25 Write a short note on basic operations of PLC.
- Q.26 What is scan cycle.