

- 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-

  - Concept of DDC
  - MOV instruction
  - MCR

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**6th Sem / IC, EI**  
**Subject:- PLC, DCS and SCADA/Micro-Contr & PLC  
Based Instr.**

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) Sequencial Function Charts
  - c) Sequencial 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 demand:-

  - a)  $(170)_{10}$
  - b)  $(171)_{10}$
  - c)  $(172)_{10}$
  - d)  $(173)_{10}$

Q.5 Convert Hexadecimal No. (CBA)<sub>16</sub> in Octal No.-

- a) (6272)<sub>8</sub>
- b) (6273)<sub>8</sub>
- c) (6472)<sub>8</sub>
- d) (6273)<sub>8</sub>

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 than 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.