

- Q.27 Gave Brief idea about the selection of PLC for an industrial demand.
 - Q.28 What is timer & why they are used in PLC's explain any one of them.
 - Q.29 Write the Ladder diagram of any two arithmetic instruction in PLC.
 - Q.30 Write a note on watch dog timer.
 - Q.31 Write a short note on Master Control self holding relay.
 - Q.32 Draw the block diagram of DCS & explain about its all levels.
 - Q.33 Write a note on DDC.
 - Q.34 What is HMI & write down its advantages.
 - Q.35 Explain MOV instruction in PLC's.

SECTION-D

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

- Q.36 What is SCADA system & explain its all function & draw the diagram also.

Q.37 Explain about the counter in PLC & brief about all types of counter used in PLC's

Q.38 Attempt any two.

 - i) RTC
 - ii) Any two comparison instruction Ladder diagram.
 - iii) RTO

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6th Sem./ Branch : Instrumentation & Control Engg. . EI

Subject:- PLC, DCS & 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 Full form Of DCS is :-

 - a) Data Control system
 - b) Distributed Control system
 - c) Dedicated Control system
 - d) Display Control system

Q.2 Full form of FBD :-

 - a) Functional Back Diagram
 - b) Full Body Diagram
 - c) Functional Block Diagram
 - d) Full Black Diagram

Q.3 Which one is not module of PLC?

 - a) Input Module b) O
 - c) CPU d) R

Q.4 Convert Binary No..(1101101)₂ in

 - a) (108)₁₀ b) (1
 - c) (110)₁₀ d) (1

Q.5 Convert Hexadecimal No. $(ABC)_{16}$ in Octal no:-

- a) $(5274)_8$
- b) $(5373)_8$
- c) $(4274)_8$
- d) $(5324)_8$

Q.6 OSR stands for :-

- a) One shot response
- b) One shot rising
- c) Over series response
- d) Over short rising

Q.7 AN AND 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 “Not equal” instruction mnemonics is:-

- a) (NE)
- b) (NEQ)
- c) (NQ)
- d) (Both a & b)

Q.9 Which is volatile memory:-

- a) RAM
- b) ROM
- c) Both
- d) None

Q.10 PLC consists of

- a) Input Module
- b) Output Module
- c) CPU
- d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. $(10 \times 1 = 10)$

Q.11 Write full form of RTU.

Q.12 Write two advantage of PLC

Q.13 Full form of EEPROM

Q.14 Draw ladder diagram of AND Gate

Q.15 What is Retentive timer.

Q.16 Write full form of SCADA.

Q.17 Write down any two advantages of DCS

Q.18 Two advantages of PLC.

Q.19 Explain about greater than equal’ instruction.

Q.20 Draw symbol of Time-ON instruction.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. $(12 \times 5 = 60)$

Q.21 What is PLC & draw the block diagram.

Q.22 Explain about different programming language used in PLC's programming.

Q.23 Write any eight PLC's manufacture.

Q.24 Write a short note on Scan cycle in PLC's.

Q.25 Write any five limitation of relays over PLC's.

Q.26 Explain about the memory structure of PLC's