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Roll No. .....

4th Semester/Electrical
Subject: PLC & Microcontrollers

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 What does PLC stand for? (CO1)

a) Power Line Controller
b) Programmable Logic Controller
c) Programmable Light Control
d) Process Logic Circuit

Q.2 Which instruction is used for creating delay in PLC programming? (CO2)

a) Relay b) Counter
c) Timer d) Comparator

Q.3 Which of the following is not a feature of 8051 microcontroller? (CO4)

a) 16 bit CPU b) On-chip RAM
c) Serial port d) Timers

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Draw and explain the architecture of PLC with suitable diagrams. (CO1)

Q.24 Write and explain a ladder program to control traffic light system. (CO3)

Q.25 Explain the interfacing of LCD with 8051 microcontroller. (CO5)

Q.4 What is the use of special Function Registers (SFRs) in8051? (CO4)

a) Power supply b) I/O control

c) Arithmetic d) Timer

Q.5 Which register is used for serial communication in 8051? (CO5)

a) TMOD b) PCON

c) SBUF d) DPTR

Q.6 Which port of 8051 is primarily used for interfacing LCD? (CO5)

a) P1 b) P2

c) P3 d) P0

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 The main function of the CPU in a PLC is _____. (CO1)

Q.8 _____ instruction is used for comparison in PLC. (CO2)

Q.9 A typical 8051 microcontroller has _____ bytes of on-chip RAM. (CO4)

Q.10 The 8051 microcontroller has_____ I/O ports. (CO4)

Q.11 _____ instruction is used to count events in PLC. (CO3)

Q.12 The key instruction to handle arithmetic in PLC is _____. (CO2)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Define PLC. Write any four advantages of PLC. (CO1)

Q.14 Draw and explain the block diagram of PLC. (CO1)

Q.15 Explain ON-Delay and OFF-delay timer with ladder diagrams. (CO2)

Q.16 What are comparison instructions in PLC? Give examples. (CO2)

Q.17 Compare microcontroller and microprocessor. (CO4)

Q.18 Define Interrupt and its types. (CO4)

Q.19 Explain the pin diagram of 8051 micro controller. (CO4)

Q.20 Describe internal memory structure of 8051. (CO5)

Q.21 Explain the working of Up and Down counters with example ladder programs. (CO2)

Q.22 Write short notes on:

a) Keypad interface

b) 7 segment display (CO5)