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**5th Sem./ Electrical Engineering**  
**Subject : Programmable Logic Controllers**  
**& Microcontrollers**

Time : 3 Hrs.

M.M. : 100

**SECTION-A**

**Note: Multiple type Questions. All Questions are compulsory. (10x1=10)**

- Q.1 \_\_\_\_\_ is designed to operate in noisy industrial environment.
- a) PID                                      b) PLC  
c) Micro processor                      d) Micro Controller
- Q.2 PLC was invented in
- a) 1968                                      b) 1980  
c) 1990                                      d) 1950
- Q.3 CPU is called \_\_\_\_\_ of PLC.
- a) Long                                      b) Heart  
c) Brain                                      d) Kidney
- Q.4 There are \_\_\_\_\_ timers in PLC
- a) 8    b) 4  
c) 12    d) 6
- Q.5 Horizontal lines in ladder diagram are called
- a) Rung                                      b) Rail  
c) Rack                                      d) Chasis

- Q.6 In SCADA, D Stands for
- a) Data                                      b) Discrete  
c) Display                                      d) Dual
- Q.7 SCADA is a \_\_\_\_\_.
- a) Software                                      b) Process  
c) System                                      d) Hard ware
- Q.8 In 8051 there are \_\_\_\_\_ 16 bit registers
- a) 0    b) 1  
c) 2    d) 3
- Q.9 8051 has \_\_\_\_\_ number of pins
- a) 20    b) 40  
c) 80    d) 50
- Q.10 There are \_\_\_\_\_ number of ports in 8051
- a) 2    b) 3  
c) 4    d) 5

**Section-B**

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

- Q.11 Define ALU.
- Q.12 Define output scan
- Q.13 What is assembler.
- Q.14 What is PSU?
- Q.15 ROM stands for \_\_\_\_\_.
- Q.16 What is RTC?
- Q.17 Define DPTR.

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- Q.18 Define Interrupt.
- Q.19 Define PLC.
- Q.20 Expand LCD.

### Section-C

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

- Q.21 Discuss the limitations of relays.
- Q.22 Explain Power Supply section of PLC.
- Q.23 Write short note on RTC.
- Q.24 Discuss Room automation application of PLC.
- Q.25 Write short note on SACDA system.
- Q.26 Compare between micro processor and micro controller.
- Q.27 Draw the Pin diagram of 8051.
- Q.28 Compare CISC and RISC technology.
- Q.29 Write down 5 applications of micro controller.
- Q.30 Discuss stepper motor interface of micro controller.
- Q.31 Discuss times operation of Micro Controller.
- Q.32 Write short note on I/O port structure of microcontroller.
- Q.33 Discuss washing machine application of PLC.
- Q.34 Discuss various interrupts of micro controller.
- Q.35 What are Input/output operations of assembly language programming.

### Section-D

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

- Q.36 Draw the building blocks of PLC and also explain functions of each block.
- Q.37 What is ladder programming? Discuss its use in PLC field.
- Q.38 Discuss the 7 segment inter face of micro controller.