120962/105864/31065A

6th Sem. / Electrical Engg.

Subject : PLC's and Microcontrollers

Time : 3 Hrs.   M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts.   (15x2=30)

Q.1 a) Write the name of programming language for PLC.

b) What is PLC.

c) Write two limitations of Relays.

d) Write two advantages of PLC over relays.

e) Write basic instruction for latch relay.

f) What is retentive timer?

g) Write any two arithmetic instruction of PLC.

h) What is real time clock function?

i) What is ladder diagram?

j) Write two applications of PLC in assembly.

k) 8051 microcontroller has _____ memory.

l) 8051 microcontroller is _____ pin IC.

m) Write names of any two SFR's.

n) What is SCON?

o) What is Bus?

p) What is assmbler directive?

q) What is PSW?

r) What is microcontroller?

SECTION-B

Note: Short answer type questions. Attempt any ten parts   10x4=40

Q.2 i) Write advantages of PLC over relays.

ii) Explain I/o structure of PLC.

iii) Explain real time clock function.

iv) Explain comparision instruction of PLC like equal, not equal, greater and greater than.

v) Write the names of assembler directives.

vi) Explain two timer instructions with the help of example.

vii) Explain D/A interfacing with micro controller

viii) Explain any two SFR of 8051.

ix) Write two applications of micro controller.

x) Explain the railing of power supply for PLC.

xi) Compare assembler and compiler.

xii) Explain programming terminal for PLC.

xiii) What is the difference between microprocessor, micro computer & micro controller?

xiv) Explain the operation of RTC instruction.

xv) Explain the various contacts in ladder diagram of PLC.

SECTION-C

Note: Long answer type questions. Attempt any three questions.   3x10=30

Q.3 Draw block diagram of PLC and explain function of each block in detail.

Q.4 Explain interfacing of keypad with 8051 micro controller.

Q.5 Explain any one application of PLC with ladder diagram.

Q.6 Explain pin diagram of 8051 micro controller.

Q.7 Write short note (any two)

i) Memory structure of PLC.

ii) PLC micro controller.

iii) Basic instructions of timer in PLC.

iv) 8051 interrupts.