

Exam.Code:0934  
Sub. Code: 6763

2062  
B.E. (Electrical and Electronics Engineering)  
Fourth Semester  
PC-EE-404: Microprocessor and Microcontroller

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Part.

x-x-x

- 1 (a) What is the difference between Microprocessor and Microcontroller?
- (b) Define machine cycle.
- (c) How many address lines are necessary to address two megabytes (32K) of memory ?
- (d) How is Data Pointer different from Program Counter in 8051?
- (e) What is the function of Register B in 8051?

(5X2)

**PART A**

- 2 (a) Draw the Timing Diagram for the instruction MVI A 5FH in 8085
  - (b) Write an assembly language program for 8085 to separate odd and even numbers in a string of 20 data bytes.
- (4,6)
- 3 (a) A string of 16 data bytes is stored starting from memory location 3000H.  
Write an assembly language program to ignore all blanks (00), and relocate the remaining bytes at address 3200H
  - (b) Discuss the various addressing Modes of 8085 giving examples
- (5,5)
- 4 (a) Discuss SIM and RIM in 8085
  - (b) On loading Register pair BC with 234FH, calculate the loop delay  $T_L$  if the system Clock frequency is 2MHz.

(4,6)

P.T.O.

(2)

PART B

5. (a) Give block diagram of Programmable Peripheral interface 8255  
(b) Discuss the control word for BSR and I/O Modes

(5,5)

6. (a) Discuss Memory organization of 8051  
(b) Design a schematic for interfacing a memory 4096 x 8 with 8085  
Using a 74LS138 (3 to 8 decoder) ,thereby generating address range for the  
Memory IC A000H to AFFFH

(5,5)

7. Write short notes on any three of the following :
- (a) Data Framing
  - (b) Interrupts Priority in 8085
  - (c) CALL & RET vs PUSH & POP
  - (d) RS232C

(4,4,2)

x-x-x