Roll No. .....

BCA–305(O)

B. C. A. (Third Semester)
EXAMINATION, Dec., 2012

(Old Course)

Paper Fifth

MICROPROCESSOR

Time : Three Hours] [*Maximum Marks : 75*

Note : Section A is compulsory. Attempt any *seven* questions from Section B and *one* question from Section C.

Section – A 15

(Numerical/Analytical/Problematic Questions)

1. Draw the block diagram of 8085 bus structure and explain the four basic operations performed by microprocessor.

2. (a) Calculate the address lines required for 4098×16 memory chip.

   (b) If the memory chip size is 2048×8 bits, how many chips are required to make up 16 k memory.

   (c) If the memory address of last location of 16 K byte memory chip is given FBFF, specify the starting address.

P. T. O.

Section – B

42

(Short Answer Type Questions)

3. Differentiate the following terms :
   (i) SRAM and DRAM
   (ii) PROM and flash memory

4. What are tri-state logic device ? Explain latches with suitable example.

5. Specify the register content in the flag status as the following instructions are executed :

A	00
B	FF
S	0
Z	1
CY	0

```
MVI     A, F2H
MVI     B, 7AH
ADD     B
OUT     PORT O
HLT
```

6. What is Register ? Explain the description of the following registers in detail :
   (i) Accumulator
   (ii) Flag register
   (iii) General purpose register

7. What is Addressing Modes ? Explain different types of addressing modes in detail.

8. Draw the block diagram of internal architecture of 8085.

9. Explain how many times the following loop will be excuted :

```
        LXI B, 0009H
LOOP :  DCX B
        MOV A, B
        ORA C
        JNZ LOOP
```

10. Draw a schematic diagram to generate Read/Write control signals for memory.

11. Explain the following terms :
    (i) Program counter (ii) Stack pointer

12. Write a program in 8085 assembly language to sum first n natural numbers.

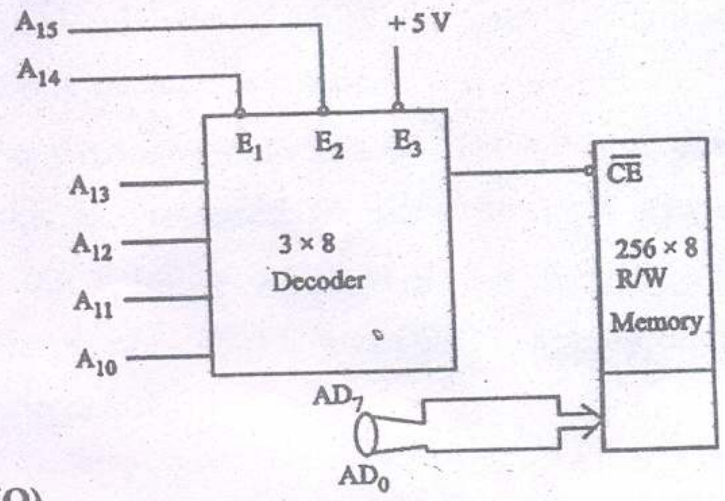
Section – C

18

(Long Answer Type Questions)

13. Explain various types of I/O Interfacing with suitable example.

14. Find the entire range of memory address from the following fig. Explain the significance of don't care address line on memory address :



50