K21U 2143

Reg. No. : .....

Name : .....

III Semester B.C.A. Degree (CBCSS – Sup./Imp.) Examination, November 2021
(2015 – '18 Admissions)
Core Course
3B07BCA : INTRODUCTION TO MICROPROCESSORS

Time : 3 Hours Max. Marks : 40

SECTION – A

1. **One** word answer. **(8×0.5=4)**

a) Intel 8085 has _____ basic instructions.

b) _____ holds the address of the top element of the data stored in stack.

c) _____ pin decides the operating modes of 8086.

d) _____ is a prefix which is used to make an instruction of 8086 non interruptable.

e) _____ is a statement to give direction to the assembler to perform the task of assembly process.

f) BIOS stands for _____

g) _____ is a programmable DMA controller.

h) The instruction, MOV AX, 1234H is an example of _____ addressing mode.

P.T.O.

SECTION – B

Short notes on **any seven** of the following questions. **(7×2=14)**

2. Define microprocessor.

3. Specify :
   a) Bus cycle
   b) Machine cycle
   c) Instruction cycle.

4. State the difference between memory mapped and I/O mapped organization.

5. Discuss the following terminology :
   1) Program counter
   2) Flag register
   3) Instruction Register.

6. What is ALE ?

7. Write 8086 instructions to
   a) Load 000H to accumulator
   b) Decrement accumulator
   c) Display the answer.

8. Define the type of branching operations.

9. What are macros ?

10. What are the modes of data transfer ?

11. What are the signals used by the DMA controller ?

SECTION – C

Answer **any four** of the following questions. **(4×3=12)**

12. Differentiate vectored and non vectored interrupts of 8085.

13. Explain the following instructions :
    a) LHLD and SHLD
    b) XCHG and XTHL.

14. List and explain the string instructions of 8086.

15. Classify 'instruction set' for 8086 microprocessor and give an example for each instruction type.

16. List the sequence of operations carried out in DMA.

17. Write an assembly program to add two numbers.

SECTION – D

Write an essay on **any two** of the following questions. **(2×5=10)**

18. Explain the architecture of 8086 microprocessor.

19. Explain instruction cycle with timing diagram.

20. Explain assembler directives.

21. Draw the block diagram of the 8259 and explain.