Bachelor of Science (B.Sc.) Semester—V (C.B.S.) Examination

FUNDAMENTALS OF MICROPROCESSOR

Paper—2

(Electronics)

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

EITHER

1. (A) Draw a well labelled diagram of 8085 µP and explain the function of each block in brief. 10

OR

(B) Explain the operation of instruction cycle and machine cycle. What is address and data bus ? Explain the concept of multiplexing of bus in 8085 µP. 6+4

EITHER

2. (A) What is addressing mode ? Explain various addressing modes of 8085 µP with suitable examples. Write assembly language program to find the complement of given 8-bit number without using complement instruction. 6+4

OR

(B) Explain the following logical instructions with suitable example :

(i) ORA r, (ii) ANA r, (iii) XRi, data.

Write an assembly language program to check weather a given 8 bit number is odd or even. 6+4

EITHER

3. (A) What are unconditional and conditional jump instructions ? Explain instruction JNZ (addr) with suitable example. Explain CALL and RET instruction in brief. 6+4

OR

(B) What is subroutine ? How can it be called in main programme ? State its importance in programming. What is stack ? Explain PUSH and POP instructions. 6+4

EITHER

4. (A) What is interfacing ? Explain the different modes of data transfer in brief. What is DMA ? Explain burst mode of operation of DMA. 6+4

OR

(B) What is PPI ? Draw a block diagram of PPI 8255. Explain the control word format of PPI 8255 IC. 6+4

5. Solve any **TEN** :

(a) What is function of program counter register ?

(b) What is T-states ?

(c) Explain STA addr instruction.

(d) What is the effect of data transfer instruction on flags ?

(e) What is the output of following program ?

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MVI A, ffH
ADI 01H
HLT
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(f) What is function of IR & ID ?

(g) What is the purpose of STC instruction ?

(h) Differentiate between JZ and JNZ instruction.

(i) Give the instruction to read input from port 41H.

(j) What is BSR mode ?

(k) What is the purpose of start bit in data transfer ?

(l) What is ISS ? 1×10=10