Code: A-C730124-M

I SEMESTER EXAM – 2023-24

2 x 185

Std.: XII | Sub: COMPUTER SCIENCE-II | Marks: 50

Date: 08/11/2023 | Roll No.: _____ | Time: 3 Hrs.

Q1 A. Select the most appropriate option and rewrite the statement. 4

1. _____ flag bit is reset, when flag register content is D4H

   a. S b. Z c. CY d. AC

2. ACC contents remain unchanged on execution of _____ instruction.

   a. LDAX rp b. MOVA,B c. CMA d CMP B

3. The invalid register pair for 8085 microprocessor is _____ .

   a. BC b. DE c. SP d. HL

4. In 8085 microprocessor, flag register is not affected after the execution of instruction.

   a. INRr b. DCR r c. ADD r d. INX rp

Q1 B. Attempt ANY TWO of the following. 6

1. Enlist any six features of 8085 microprocessor.
2. Explain the significance of the following in 8085 microprocessor

   a) Accumulator b) Program Counter c) Stack Pointer
3. Explain Register Indirect and Immediate addressing modes of 8085 microprocessor.

Q2 A. Attempt ANY TWO of the following. 6

1. Draw and Explain Programming Model of 8085 Microprocessor.
2. The accumulator of 8085 microprocessor contains data $A9_H$ and register D contains $6C_H$. What will be the content of the accumulator after execution of each of the following instructions one after the other?

OPCODE	OPERAND	AFTER EXECUTION OF INSTRUCTION
SUB	D	_____
INR	A	_____
ORA	D	_____

3. Mention four instructions each which are:

   a) 1-byte instruction b) 2-byte instruction c) 3-byte instruction.

Q2. B Attempt ANY ONE of the following. 4

1. Write a short note on Evolution of microprocessor giving one example of each generation (ANY 4 generations).
2. Explain Any Four Data Transfer Instructions of 8085.

Q3 A. Attempt ANY TWO of the following. 6

1. What is multiplexed address/data bus? State the significance of ALE pin in it.
2. Differentiate between ADD and DAD instruction of 8085
3. Explain the following instructions of 8085 microprocessor.

   a) RAR b) RLC

   Consider that the Accumulator ie reg. A contains $E6_H$. What will be the contents of the Accumulator after the execution of the above instructions individually.

P.T.O

Q3 B. Attempt ANY ONE of the following. 4

1. Explain the following instructions of Intel 8085 microprocessor with an example.
   a) DAA b) CMP B
2. Define bit pattern of flag register and explain the significance of each flag bit.

Q4 A. Attempt ANY TWO of the following. 6

1. Explain the following system buses of 8085 microprocessor.
   a) Control Bus b) Data Bus c) Address Bus
2. Define the term 'Opcode' in an 8085 microprocessor. List any four instructions which make accumulator content clear ie 00_H.
3. Explain the working of following 8085 instructions with suitable examples
   a) STC b) XRA c) INX

Q4 B. Attempt ANY ONE of the following. 4

1. Define the term 'Microprocessor'. List any three functions of microprocessor.
2. Define Branching Instruction. Explain any six conditional branching instructions of 8085 microprocessor.

Q5. Attempt ANY TWO of the following. 10

1. A block of data is stored in memory location from D051H. Length of the block is stored at $D050_H$. Write an assembly language program that counts the occurrence of data byte A2H in the given block. The program must store the result in Reg. B
2. Write an assembly language program to copy the contents of a block of memory which is from C001H to C007 H in reverse order to another block which begins from D001H.
3. A block of data is stored in memory locations from C051H to C055H. Write an assembly language program to find even numbers in the given block. Store the results immediately after the end of the block.

OR

1. Write an assembly language program that subtracts the number stored in C050H from the number stored in C051H. Store the absolute difference in memory location C052H as result.
2. A block of data is stored in memory locations from C031H. The length of the block is stored at C030H. Write an assembly language program that searches for the first occurrences of the data byte B8H in the given block. Store the address of this occurrence in the HL pair. If the number is not found, then HL pair must contain FFFFH.
3. A block of data is stored in memory locations from C031H to C035M. Another block of data having the same length is stored in memory locations starting from D031H. Write a program to exchange the contents of these two blocks.