

Q.1 A) Select the most appropriate option and rewrite the statement.**(4)**

- 1) In MOV A, M instruction, _____ is used to point the memory location,
a) SP b) HL c) PC d) PSW
- 2) After execution of an arithmetic instruction, the flag register of 8085 microprocessor contains 04H. This means that the result is _____.
a) Negative b) Positive c) Floating d) None of these
- 3) The invalid register pair for 8085 microprocessor is _____.
a) BC b) DE c) SP d) HL
- 4) _____ instruction in 8085 microprocessor, would not affect the zero flag.
a) XRA A b) SUB A c) MVI A, 00H d) CMP A

B) Attempt ANY TWO of the following.**(6)**

- 1) List any three primary functions of CPU of microcomputer.
- 2) Explain the significance of the following in 8085 microprocessor
a) Accumulator b) Instruction Register c) Instruction decoder
- 3) Explain Implied and Immediate addressing modes of 8085 microprocessor.

Q2 A) Attempt ANY TWO of the following.**(6)**

- 1) Mention two instructions for each:
a) 1-byte instruction b) 2-byte instruction c) 3-byte instruction.
- 2) Considering following points explain the instruction **INX rp**
i) Addressing mode
ii) Flags affected
iii) Meaning of instruction
- 3) Write appropriate instructions of 8085 microprocessor for each of the following tasks:
i) Add contents of DE pair to register pair
ii) Store the contents of accumulator to memory location pointed by BC pair
iii) Rotate contents of accumulator towards left with carry bit

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) Draw and Explain Programming Model of 8085 Microprocessor.

Q.3 A) Attempt ANY TWO of the following.**(6)**

- 1) What is multiplexed address/data bus? State the significance of ALE pin in it.
- 2) Write following points for the instruction LXI H, C050H of 8085 microprocessor,
i) Interpretation of Mnemonics
ii) Addressing mode
iii) Number of byte(s)
- 3) Consider (A) = E6_H and (CY)=1. What will be the contents of the Accumulator after the execution of the below instructions individually.
a) RAR b) RLC

B) Attempt ANY ONE of the following.**(4)**

- 1) The accumulator of 8085 microprocessor contains data AB_H and register D contains 54_H . What will be the content of the accumulator (in hexadecimal) after execution of each of the following instructions one after the other?

	OPCODE	OPERAND	AFTER EXECUTION OF INSTRUCTION
i)	ANA	D	_____
ii)	CMA		_____
iii)	CMP	D	_____
iv)	ANI	$00H$	_____

2) Define bit pattern of flag register and explain the significance of each flag bit.

Q.4 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) List any six characteristics of transmission media.
- 3) Explain the organization of ALU with the help of block diagram.

B) Attempt ANY ONE of the following.**(4)**

- 1) List any four single instructions which make accumulator content clear i.e. 00_H .
- 2) List all conditional jump instructions of 8085 microprocessor with the condition of flag, in each.

Q.5 Attempt ANY TWO of the following.**(10)**

- 1) A block of data is stored in memory location from $C051H$. Length of the block is stored at $C050H$. 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. C.
- 2) A block of data is stored in memory locations from $C031H$ to $C035H$. 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.
- 3) Write an assembly language program to find one's (1's) complement of a number stored at memory location $D000H$ without using CMA instruction and store result at memory location $D001H$.

OR

- 1) Write an assembly language program that subtracts the number stored in $C030H$ from the number stored in $C031H$. Store the absolute difference in memory location $C032H$ 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) Write an assembly language program to copy the contents of a block of memory which is from $C001H$ to $C007H$ in reverse order to another block which begins from $D001H$.