

Q.1 A) Select the most appropriate option and rewrite the statement.**[4M]**

- Which of the following single instruction of 8085 MPU is NOT used to clear the content of Reg. A
a) ANI 00H b) SUB A c) XRA A d) ADI 00H
- Stack Pointer of 8085 holds _____
a) 8 bit address b) 16-bit data c) 8-bit data d) 16-bit address
- _____ is used to store 8 bit opcode in 8085.
a) IR b) PC c) SP d) Accumulator
- In 8085 Microprocessor _____ pin is used for demultiplexing of address/data bus.
a) HOLD b) ALE c) TRAP d) HLDA

B) Attempt ANY TWO of the following.**[6M]**

- Explain register direct and implied addressing modes of 8085 microprocessor with an example of each.
- Explain the following registers in Intel 8085 microprocessor
a) Program Counter (PC) b) Instruction Decoder
c) Accumulator
- List any three primary functions of the CPU of a microcomputer.

Q.2 A) Attempt ANY TWO of the following.**[6M]**

- For the following instructions. Write the addressing mode, instruction group (depending on function) and length/size of the instruction(in terms of bytes)
a) ADD M b) JNZ D051_H c) SBI 0F_H
- Explain the function of ALU with a block diagram.
- Explain the following characteristics of the transmission media.
a) Bandwidth b) Band Usage c) Attenuation

B) Attempt ANY ONE of the following.**[4M]**

- Define the bit pattern of flag register and explain the significance of each flag bit.
- Explain the working of following 8085 instructions with suitable examples
a) JNC C014H b) SBB M c) LDA D031H d) STC

Q.3 A) Attempt ANY TWO of the following.**[6M]**

- Explain the working of following 8085 instructions with suitable examples
a) XCHG b) STAX c) SHLD
- The accumulator of 8085 microprocessor contains data 2B_H and register B contains 3D_H. What will be the content of the accumulator after execution of each of the following instructions independently?

OPCODE	OPERAND	AFTER EXECUTION OF INSTRUCTION
SUB	B	
CMA		
XRI	4F _H	

- Explain the Three System buses of 8085 MPU.

B) Attempt ANY ONE of the following.**[4M]**

- 1) Explain the following instructions of Intel 8085 microprocessor with an example.
 - a) DAA
 - b) CMP
- 2) What is the bit-size of an 8085 microprocessor? Draw and explain the programming model of 8085 MPU.

Q.4 A) Attempt ANY TWO of the following.**[6M]**

- 1) Give any six features of Intel 8085 microprocessor
- 2) Write appropriate instruction for each of the following tasks
 - a] Add contents of DE pair to itself
 - b] Rotate contents of accumulator towards left with carry bit
 - c] Load the content of Accumulator at memory location C001H
- 3) Explain Any Three Difference between ADD and DAD instruction of 8085 microprocessor

B) Attempt ANY ONE of the following.**[4M]**

- 1) Write a short note on Evolution of microprocessor giving one example of each generation. (ANY 4 generations)
- 2) Explain the following instructions with diagram and an example
 - a) RRC
 - b) RAR

Q.5 Attempt ANY TWO of the following.**[10M]**

- 1) A block of data is stored in memory location from D051_H. Length of the block is stored at D050_H. Write an assembly language program that counts the occurrence of data byte 4F_H 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 C031_H to C037_H in reverse order to another block which begins from D031_H
- 3) A block of data is stored in memory locations from C031H to C035H. Write an assembly language program to find the number of even numbers in the given block. Store the result immediately after the end of the block.

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 address C032H as result.
 - 2) A block of data is stored in memory location from D051_H. Length of the block is stored at D050_H. Write an assembly language program that counts the occurrence of data byte 4F_H in the given block. The program must store the result in Reg. B.
 - 3) A block of data is stored in memory location from C031H. The length of block is stored at C030H. Write an assembly language program that searches for the first occurrence of the data byte B4H in the given block. Store the address of this occurrence in HL pair. If number is not found, then the HL pair must contain FFFFH.
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