**Parul Institute of Technology(PIT),PU**

**Mechatronics Engg. Dept.**

**SEM:3 Date:2/01/2024**

**Sub: COMA(203124210)**

**ASSIGNMENT-1**

**MCQ/ 1 sentence**

Q.1 Define Microprocessor and explain difference between microprocessor and microcontroller.

a. Define: bit, nibble, byte, word and instruction

b. What is meaning by 8-bit processor?

c. What is Mnemonics?

d. Define: Assembly language, machine language, high level language

e. What is an Assembler?

f. What is a Compiler?

g. Which information given by address line?

h. Data bus is always bidirectional True/False

i. Microcontroller is faster than Microprocessor justify the statement.

j. Why do we need clock in microprocessor?

k. What are the advantages of an assembly language in comparison with high level language?

l. Write full name of: RAM, ROM, ALU, SSI, MSI, VLSI, and ASCII.

m. What is bus?

n. What do mean by peripherals?

o. How much memory access by 8085 microprocessor?

p. ALU stand for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

q. What is purpose of Control Unit of Microprocessor?

r. Justify “ Microprocessor is a programmable device”

s. Justify “The direction of address bus is unidirectional”

t. What is difference between 4 bit microprocessor and 8 bit microprocessor?

u. What is difference between assembly language and machine language?

v. What is use of Registers in microprocessor?

w. What stand for CISC and RISC?

x. What is Op-code?

y. What is Operand?

z. What is difference between general purpose microprocessor and special purpose microprocessor?

**Q.1 Answer the following Questions (1/2 Marks questions)**

1. How many maximum memory locations and I/O devices can be addressed by an 8085 Microprocessor?

2. Explain the use of HOLD and HLDA pins of 8085 microprocessor.

3. State the difference between op-code fetch (OF) and memory read (MR) cycles.

4. State the importance of X1 and X2 pins of an 8085 microprocessor.

5. What is an interrupt? Enlist the hardware interrupt sources (pins) available on the 8085 Microprocessor chip.

6. Explain the use of READY pin of an 8085 microprocessor.

7. Explain RESETIN AND RESETOUT pin of an 8085 microprocessor.

8. What is Instruction Cycle?

9. What is Machine Cycle?

10. What is T-state? What is the time period of crystal which generated 5MH frequency in Microprocessor?

11. Which interrupt has the highest priority of 8085 Microprocessor?

12. Explain the function of the ALE and IO/M signal of the 8085 microprocessor.

13. Define: Assembly language, machine language, high level language

14. Define : Assembler, Compiler, Mnemonics, Instruction.

15.Define Microprocessor and explain difference between microprocessor and microcontroller.

16. If the clock frequency if 5Mhz, how much time is required to execute an instruction of 18T States?

**Q.2 Describe the following questions. (3/4/5 Marks questions)**

1. Explain Bus organisation / bus structure of 8085 Microprocessor.

2. Explain Flag Register of 8085 Microprocessor.

3. Explain the Programming model / Registers of 8085.

4. Explain Controlling signals generating logic circuit. / Generation of Control signals in 8085.

5. Explain the De-multiplexing of data and address bus (AD7-AD0) with neat diagram.

6. Explain the different addressing modes of 8085 microprocessor.

7. Classify **/ E**xplain the types instructions based on no. of bytes / word/ size.

**Q.3 Describe the following questions. (7-8 Marks).**

1. Draw the functional block diagram / Architecture of 8085 and explain its working.

2. Draw the Pin diagram of 8085 Microprocessor and explain each pin.

3. Explain the categories of 8085 instructions that manipulate data with suitable examples.

OR

Explain the different types of instructions in 8085 depending on function.

4. Draw the 4K RAM and 4K byte memory interfacing circuit with 8085 microprocessor .

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