//2024//

1. Write the Zero address instructions to evaluate the arithmetic statement X= (A + B) ^ * (C+D)

2. Write the difference between Minimum Mode and Maximum Mode in 8086 Microprocessor.

Minimum mode	Maximum mode
There can be only one processor.	There can be multiple processors.
Performance is slower.	Performance is faster.
The circuit is simple.	The circuit is complex.
Multiprocessing cannot be performed.	Multiprocessing can be performed.
MN/MX is 1 to indicate the minimum mode.	MN/MX is 0 to indicate the maximum mode

3. Explain with example any four addressing modes available in 8086 microprocessors.

>> 1**. Immediate Addressing Mode**

- In **Immediate Addressing Mode**, the operand is specified directly in the instruction. The operand is a constant value or immediate data that is part of the instruction itself.

Example:

MOV AX, 10h

- **Explanation**: In this instruction, the value 10h (hexadecimal value 16) is directly moved into the AX register. The value 10h is the immediate operand.

2. Register Addressing Mode

- **In Register Addressing Mode, the operand is stored in a register, and the instruction specifies which register to use. The data is direct accessed from the register.**

Example:

MOV BX, AX

- **Explanation: This instruction moves the contents of the AX register into the BX register.**

3. Direct Addressing Mode

- In **Direct Addressing Mode**, the operand is located at a specific memory address, which is given directly in the instruction. The operand is accessed from the memory location specified by the instruction.

Example:

MOV AX, [2000h]

- **Explanation**: In this instruction, the contents of the memory location 2000h are moved into the AX register.

4. Indexed Addressing Mode

- In **Indexed Addressing Mode**, the operand's address is obtained by adding an offset to a base address. This is particularly useful when accessing arrays or data structures.

Example:

MOV AX, [BX + 2000h]

4. Write the different cache mapping techniques and explain it.(2021)

5. What is biased exponent of floating-point number?

>>In floating-point representation, the **biased exponent** is a method used to store the exponent in a way that eliminates the need for handling both positive and negative exponents explicitly.

6. Describe the concept of Pipeline and its types?********