

Unit 2 - 8086 INSTRUCTION SET AND ADDRESSING MODE

- 1. Define addressing mode.**

An addressing mode specifies how the operand of an instruction is accessed.
- 2. Name four addressing modes of 8086.**

Immediate, Register, Direct, and Indexed.
- 3. Which addressing mode uses both a base and an index register?**

Based-indexed addressing mode.
- 4. What does the instruction `MOV AX, [BX]` do?**

Moves the content of the memory location addressed by the register BX into the AX register.
- 5. What is the function of the `ADD` instruction?**

It performs the addition of two operands and stores the result in the destination operand.
- 6. Which instruction is used to divide two unsigned numbers?**

The `DIV` instruction.
- 7. What is the role of `DB` in MASM?**

It defines a byte of data in memory.
- 8. Mention the purpose of the `ORG` directive.**

It sets the starting address for the program.
- 9. Which directive is used to define a constant?**

The `EQU` directive.
- 10. What is the file extension of the source code file in MASM?**

.ASM.
- 11. What is the function of the linker in MASM programming?**

It combines object files into an executable file.
- 12. Mention the purpose of the `INT 21H` instruction.**

It is used to call DOS interrupt services.
- 13. Define modular programming.**

It is a programming approach where a program is divided into smaller modules or functions.
- 14. How are modules linked in MASM?**

Using the `EXTRN` and `PUBLIC` directives.
- 15. What is relocation in assembly programming?**

Relocation adjusts addresses in the code during linking to ensure proper execution in memory.
- 16. What is a stack in 8086?**

A stack is a data structure used to store data temporarily, operating on a Last-In-First-Out (LIFO) principle.
- 17. Name the two main instructions for stack operations in 8086.**

`PUSH` and `POP`.
- 18. Which register is used as a stack pointer in 8086?**

The SP (Stack Pointer) register.
- 19. Define a procedure in assembly language.**

A procedure is a subroutine or a block of code that can be called from the main program.

20. **Which instruction is used to return from a procedure?**

The RET instruction.

21. **What is the difference between a macro and a procedure?**

A macro is expanded inline by the assembler, while a procedure requires a call and return sequence during execution.

22. **How is a macro defined in MASM?**

Using the MACRO and ENDM directives.

23. **Name an instruction used for string manipulation in 8086.**

MOVSB (Move String Byte).

24. **What is the function of the STOSB instruction?**

It stores a byte from the AL register to the memory location pointed to by ES:DI.

25. **Mention one application of the CMPSB instruction.**

It is used to compare two strings byte by byte.