

MAY 2014

P/ID 40014/PPHP

Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

1. How large is the 8086's memory space?
2. List the elements of the execution unit.
3. What is an operand? Give two types.
4. Which flags are tested by the various conditional jump instructions?
5. What are LEA and LDS instructions?
6. What are the functions of a assembler directives?
7. What are the function registers used for the serial data communications?
8. What are flags that are stored in the PSW?
9. What is non-maskable interrupt?
10. Name any two pointer registers.

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

All questions carry equal marks.

11. (a) Describe the micro-architecture of the 8086 microprocessor.
Or
(b) Briefly describe the minimum-mode interface signals.
12. (a) Elucidate the *stack* operation.
Or
(b) Explain the data transfer instructions.
13. (a) Explain the bus cycles and time states of 8086.
Or
(b) Explain the flag control instructions.
14. (a) Describe the functions of memory-mapped input / output ports.
Or
(b) Explain subroutine and subroutine handling instructions.
15. (a) Explain the software interrupts.
Or
(b) Explain interrupt vector table.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

All questions carry equal marks.

16. (a) Describe the software model of the 8086 microprocessor.

Or

(b) Describe the functions of the internal registers of 8086 microprocessor.

17. (a) Explain the functions of various groups of instruction set of 8086.

Or

(b) Describe assembly language programming using MASM with an example.

18. (a) Describe RAM interface instruction cycle, machine cycles and T-states.

Or

(b) Describe the DMA interface for the 8088-based microcomputer using 8237.

19. (a) Describe the keyboard interface circuit with necessary block diagram.

Or

(b) Describe the serial communication interface techniques.

20. (a) Describe the block diagram of the 8259 Programmable Interface Controller with its Pin layout.

Or

- (b) Describe the internal architecture and functions of 8151A USART.
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