MAY 2012 **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. Mention and explain the modes in which 8086 can operate.

2. What is the purpose of CLK signal in an 8086 system?

3. List the various control flags available in 8086.

4. How many data lines and address lines are available in 8086?

5. Explain the concept of direct memory access (DMA).

6. What is interfacing?

7. What is a stack? Explain the use and operation of stack pointer?

8. Contrast a memory-mapped I/O system with an isolated I/O system.

9. How many interrupt lines does 8086 have?

10. Which interrupts are generally used for critical events?

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

All questions carry equal marks.

11. (a) Explain the differences between minimum and maximum modes of 8086?

Or

(b) Draw the architectural block diagram of 8086 and explain.

12. (a) What, do you mean by addressing mode? What are the different addressing modes supported by 8086?

Or

(b) Describe any four assembler directives used in 8086 assembly language programming.

13. (a) Explain the function of DMA controller 8237.

Or

(b) Write down the various registers present in 8086 and indicate their function.

14. (a) Explain the purpose of bus interface unit of a 16 bit microprocessor.

Or

(b) Discuss the procedure for addressing memory locations for the purpose of write operation.

15. (a) With the help of block diagram explain in detail the various modes of operation of 8259.

Or

(b) Describe the use of CAS0, CAS1 and CAS2 lines in a system with a cascaded 8259's.

PART C — ($5 \times 10 = 50$ marks)

Answer ALL questions.

All questions carry equal marks.

16. (a) Draw and explain a block diagram showing 8086 in maximum mode configuration. What are the advantages of the multiprocessor system?

Or

(b) Explain in detail the 8088 processor. What are the differences between 8086 and 8088. microprocessor architecture.

17. (a) Draw the structure, of 8086 flag register and explain the function of each flag with suitable examples.

Or

(b) Explain stacks and subroutines and the instructions related to them.

18. (a) Explain the concept of segmented memory? What are its advantages?

Or

(b) Discuss the minimum mode interfacing of ROM and RAM.

19. (a) Explain the D/A converter interfacing with a block diagram.

Or

(b) Describe in detail the memory mapped I/O and I/O mapped I/O. Also distinguish I/O mapped I/O and memory mapped I/O.

20. (a) Draw the block diagram of programmable interrupt controller and explain its operations.

Or

(b) Explain in detail the interrupt structure of 8086 processor.

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