

2014

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Objective-type Questions)

1. Choose the correct answer of the following : $2 \times 10 = 20$
- (a) Which one of the following memory devices loses its contents when power to the device fails ?
- (i) ROM
 - (ii) RAM
 - (iii) Flash memory
 - (iv) ROM and RAM both

(b) Which of the following operations is performed by microprocessor to write data into memory device ?

- (i) I/O Read
- (ii) I/O Write
- (iii) Memory Read
- (iv) Memory Write

(c) 8086 microprocessor is a :

- (i) 8 bit processor
- (ii) 16 bit processor
- (iii) 32 bit processor
- (iv) 64 bit processor

(d) The number of pins in 8086 microprocessor is :

- (i) 24
- (ii) 28
- (iii) 40
- (iv) 64

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(2)

Contd.

(e) How many physical memory locations can the 80286 microprocessor have :

- (i) 1 MB
- (ii) 16 MB
- (iii) 1 GB
- (iv) 2 GB

(f) How many I/O addresses can the 80386 microprocessor access ?

- (i) 256
- (ii) 1 K
- (iii) 64 K
- (iv) 1 M

(g) Which one of the following microprocessor supports L1 cache ?

- (i) 8086
- (ii) 80286
- (iii) 80386
- (iv) 80486

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(3)

(Turn over)

(h) Which of the following microprocessors is developed exclusively for multimedia applications ?

- (i) Pentium
- (ii) Pentium-MMX
- (iii) Pentium Pro
- (iv) None of these

(i) The A3 - AO address lines of 8237 DMA Controller are :

- (i) Inputs
- (ii) Outputs
- (iii) Bidirectional
- (iv) None of these

(j) How many I/O spaces in the I/O map are required for interfacing the DMA controller 8237 to 8086 ?

- (i) 4
- (ii) 8
- (iii) 16
- (iv) 64

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(4)

Contd.

Group - B

(Long-answer Type Questions)

Answer any four questions of the following :

2. (a) What are the different functional units of 8086 microprocessor ? Explain each unit. 8
- (b) Discuss different operating modes of 8086 microprocessor. 7
3. (a) Differentiate between register addressing mode and memory addressing mode in 8086 microprocessor with suitable examples. 8
- (b) Explain PUSH and POP instruction in 8086 microprocessor. 7
4. Discuss basic DMA operation with the help of suitable diagram. 15
5. (a) Explain the following interrupts in 8086 microprocessor. 10
- (i) Predefined interrupts

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(5)

(Turn over)

- (ii) Software interrupts
 - (iii) Hardware interrupts
- (b) Make a priority list of 8086 interrupts. 5
6. With appropriate timing diagram, explain the non-burst and burst read cycle of 80486 microprocessor. 15
7. (a) Describe, in detail, operation of Universal Serial Bus (USB). 9
- (b) Compare RISC and CISC. 6
8. Explain internal structure of pentium-pro with neat block diagram. 15
9. (a) Explain special registers of 80386 microprocessor. 8
- (b) Describe salient features of 80486 microprocessor. 7

