

3. (a) What is the purpose of segment register in 8086 up ?
(b) Draw the block-diagram of 80186 up and explain its various features ?
4. What is MDS ? How can it be used in trouble shooting of up base system ? Explain in details.
5. Write short notes on any **three** of the following :
(a) RISC Processor
(b) Bit-Sliced processor
(c) Addressing Modes of 8086 up
(d) Segment and base registers of 8086 up
6. Discuss basic DMA operation with the help of suitable diagram.
7. (a) Explain cache structure of pentium.
(b) What is BIST and how is it activated ?
8. How is the memory system of the pentium organised ? Describe parity checking and generation indicating the signal pins.
9. What are the five groups of interrupts supported on 8086 CPU ?

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2015

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)

Answer all questions.

1. Choose the correct answer of the following :
 $2 \times 10 = 20$
(a) The register that keeps the track of program during execution is :
(i) Address register
(ii) Data register
(iii) Program counter
(iv) Instruction register

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- (b) The cycle required to fetch and execute information is :
- (i) Clock-cycle
 - (ii) Instruction cycle
 - (iii) Memory cycle
- (c) The 32-bit up carries data from or to the memory on 32-number of :
- (i) Address line
 - (ii) Data-lines
 - (iii) Control-lines
 - (iv) Input-lines
- (d) The up after completing the execution returns to :
- (i) Halt state
 - (ii) Fetch-state
 - (iii) Execute-state
 - (iv) Interrupt state
- (e) The 8086 is a :
- (i) 8-bit up
 - (ii) 16-bit up
 - (iii) 32-bit up
 - (iv) 4-bit up
- (f) How many I/O addresses can the 80386 up access ?
- (i) 256
 - (ii) 1K
 - (iii) 64K
 - (iv) 1M

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(2)

Contd.

- (g) Which up supports L-2 cache ?
- (i) 8086
 - (ii) 80286
 - (iii) 80386
 - (iv) None of these
- (h) The $A_0 - A_3$ address-lines of 8257 DMA controller are :
- (i) Inputs
 - (ii) Outputs
 - (iii) Bi-directional
 - (iv) None of these
- (i) The 8086 up has the total address lines of :
- (i) 16-bit
 - (ii) 20-bit
 - (iii) 24-bit
 - (iv) None of these
- (j) How many physical memory locations can the 80286 up have ?
- (i) 1 MB
 - (ii) 16 MB
 - (iii) 1 GB
 - (iv) 2-GB

Group - B

(Long-answer type Questions)

Answer any four questions of the following :

15x4 = 60

2. (a) Explain the architecture of Intel 8086 up.
- (b) Explain the PIN-description of 8086 up for the maximum mode ?

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(3)

(Turn over)