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Instructions – (1) All Questions are *Compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicates full marks.

(4) Assume suitable data, if necessary.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1.   **Attempt any FIVE of the following:**   **20**

a) List any eight features of 80386 processor.

b) Distinguish between LDTR and GDTR (4 points)

c) List any eight saliant features of Pentium.

d) Describe fire state pipelining mechanism of Pentium with neat diagram.

e) What is RISC ? Explain in brief.

f) List any eight features of sun ultra sparc processor.

g) Describe maskable and non maskable interrupts of X86 processor.

2.   **Attempt any TWO of the following:**   **16**

a) Describe paging mechanism with suitable diagram in 80386 processor, with TLB.

b) Draw the block diagram of Pentium system architecture and explain each block in it.

c) Explain Dos function 01 H (Keyboard Input with echo) and O2 H (display a character on screen) of INT21 H with suitable example.

Marks

3. Attempt any FOUR of the following: **16**

  a) Draw and explain the format of CRO register of 80386.

  b) Explain branch prediction in Pentium processor.

  c) Explain any four floating point exceptions in Pentium processor.

  d) Describe hybrid architecture of microprocessor in brief.

  e) Describe Interrupt Vector Table (IVT) of X86 processor with suitable diagram.

4. Attempt any TWO of the following: **16**

  a) Draw the architecture of 80386 and explain any two units in detail.

  b) Describe Intel MMX architecture with register set and new data types.

  c) Write interrupt processing sequence of X86 processors in detail.

5. Attempt any FOUR of the following: **16**

  a) Describe the segment descriptor cache registers with suitable diagram, in 80386 microprocessor.

  b) List any eight special features of Pentium Pro-processor.

  c) Explain any two design issues of RISC processor.

  d) Distinguish between .com and .exe program in DOS. (Any four points)

  e) Compare 80386 processor with Pentium processor. (Any four points)

6. Attempt any TWO of the following: **16**

  a) Describe the function of following pins of 80386 processor.

    (i) $B\overline{E}_3$

    (ii)   PEREQ

    (iii) $\overline{LOCK}$

    (iv) $\overline{BUSY}$

  b) Describe address generation in PVAM mode of 80386 with suitable diagram.

  c) Explain any two DOS functions of INT21 H for file processing with suitable example.

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