Q.P. Code : 581201

(3 Hours)   [Total Marks : 100

N.B. : (1)   Question No.1 is **compulsory**.
    (2)   Answer **any four** questions from **Q.No.2** to **Q.No.7**.
    (3)   **Figures** to the **right** indicate **full marks**.
    (4)   Assume suitable **data** if **required**.

1. (a) What is memory segmentation? State advantages of memory segmentation.   5
   (b) What is GDT? Explain structure of GDT.   5
   (c) Explain integer pipeline of Pentium processor?   5
   (d) Briefly explain string instructions of 8086.   5

2. (a) Design 8086 based system for following requirements :   10
      (i)   Clock frequency 5 MHz
      (ii) 512 KB RAM using 32 KB x 8
      (iii) 256 KB ROM using 32 KB x 8
   (b) Draw and explain block diagram of 8253.   10

3. (a) Explain DMA data transfer modes in brief.   10
   (b) Explain, with neat diagram, address translation mechanism implemented   10
      on 80386DX.

4. (a) Explain, with neat diagram, cache memory organization is supported by   10
      Pentium processor.
   (b) Draw and explain block diagram of Pentium processor.   10

5. (a) Draw and explain block diagram of SuperSparc processor.   10
   (b) Explain interrupt structure of 8086.   10

6. Write short note on :
    (a) Mixed language programming   5
    (b) Virtual 86 mode of 80386DX   5
    (c) Branch prediction logic   5
    (d) Control registers of 80386DX   5

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