Q.P. Code : 581200

(3 Hours)   [Total Marks : 80

N.B. : (1)   Question No.1 is **compulsory**.
     (2)   Answer **any four** (Three) questions from Q.No.2 to Q.No.6.
     (3)   **Figures** to the **right** indicate **full marks**.
     (4)   Assume suitable **data** if **required**.

1. (a) What is purpose of maximum mode of 8086? Give suitable example.   5
   (b) Explain flag register of 80386DX.   5
   (c) Compare Pentium, Pentium II and Pentium III processors.   5
   (d) List different addressing modes 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) Draw and explain interfacing of math coprocessor (8087) with 8086.   10
   (b) Explain data segment descriptor with neat diagram.   10

4. (a) Explain, in brief, branch prediction mechanism is on Pentium processor.   10
   (b) Explain, with neat diagram, cache memory organization is supported by Pentium processor.   10

5. (a) Explain, in brief, data formats supported by SuperSparc processor.   10
   (b) Explain the need of DRAM controller for interfacing DRAM with 8086. Draw and explain interfacing of DRAM controller with 8086.   10

6.   Write short note on :
     (a) Mixed language programming   5
     (b) Virtual 86 mode of 80386DX   5
     (c) 82888 Bus Controller   5
     (d) Control registers of 80386DX   5