(Pages : 2) **4170**

Reg. No. : .....

Name : .....

First Semester M.Sc. Computer Science Degree Examination, July 2009
(I.D.E)
MICROPROCESSORS ARCHITECTURE AND PROGRAMMING

Time : 3 Hours Max. Marks : 80

Instructions: *1) Answer* ***any eight*** *full questions from Part* ***A****.*
2) ***All*** *questions carry* ***equal*** *marks.* **(8×4=32 Marks)**

PART – A

1. Fill in the blanks with suitable answer (s). **Each** question carries **1** mark.
   i) The 80386 can operate up to _____ million instructions per second.
   ii) The data storage in a memory of a 80386 based system is of _____ Indian style.
   iii) The minimum number of operands than can be used in 80386 assembly instruction is _____
   iv) The 80386 internal registers size is _____bits and external data bus size is _____ bits.
2. What are the modes of operation of 80386. Brief about them.
3. What are the two command words of 8259 A ?
4. How will you calculate effective address for a given 80386 assembly instruction ?
5. What is the difference between 80386EX, 80386SX and 80386DX ?
6. What is instruction decoder ? What is its purpose in 80386 processor ?
7. Explain the purpose the below instructions of 80386. Can they be used in 8086 ?
   i) MOVSX D,S
   ii) MOVZX D,S.

P.T.O.

8. What is the maximum value that can assigned to LIMIT in the global descriptor table register ?

9. What are the addressing modes used in 80386 instructions ?

10. What is Cache memory ? How is it connected to 80386 processor ?

11. What is page table entry in a 80386 processor memory system ?

12. Explain rotate and swap instruction in 80386.

PART – B

Answer **any six** full questions from Part **B**. **(6×8=48 Marks)**

13. Explain the Instruction stack mechanism in 80386.

14. Describe the memory address space partitions of 80386.

15. What is Global Descriptor Table in the 80386 memory management system ? Explain.

16. What is protected mode operation of 80386. How can it be used ?

17. Explain the complete internal register architecture of 80386.

18. Write a program to compare two numeric values and to display 'yes' if they are equal and 'no' if they are not equal.

19. What is the difference betwee 80386 and Pentium processor ? Describe in detail.

20. Write short notes on serial communication in 80386.

21. Draw and explain the
    i) memory read and
    ii) memory write bus cycles of 80386.

———————