

Total No. of Questions : 12]

SEAT No. :

P646

[Total No. of Pages : 3

[4457] - 124

S.E. (Information Technology) (Semester - II)
PROCESSOR ARCHITECTURE AND INTERFACING
(2008 Course)

Time : 3 Hours]

[Max. Marks :100

Instructions to the candidates:

- 1) Answer Question 1 or 2, 3 or 4 and 5 or 6 from Section - I and Question 7 or 8, 9 or 10 and 11 or 12 from Section - II.*
- 2) Answers to the two Sections should be written in separate answer books.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right indicate full marks.*
- 5) Assume suitable data if necessary.*

SECTION - I

- Q1)** a) Explain different Control Register set of 80386 Microprocessor in detail. [10]
b) Differentiate between [8]
i) Memory mapped I/O and I/O mapped I/O.
ii) 8086 and 80386.

OR

- Q2)** a) Draw and explained non pipelined read cycle of 80386 Microprocessor. [10]
b) Explain the significance of following signals of 80386 Microprocessor [8]
i) $\overline{BE3}-\overline{BE0}$ ii) D/\overline{C}
iii) \overline{ADS} iv) RESET

- Q3)** a) Explain any four Addressing modes of 80386 with suitable examples.[8]
b) Draw and Explain Programmable Peripheral Interface in detail. [8]

OR

P.T.O.

- Q4)** a) What are the components of MS-DOS? Explain any four DOS function with suitable examples. [8]
b) Differentiate between [8]
i) Macro and Procedure
ii) .EXE and .COM

- Q5)** a) Explain the process of Linear to Physical address translation for 4KB pages. Also name and draw the formats of descriptors and registers used for translation. [10]
b) Write down the Process of switching from RM to PM. [6]

OR

- Q6)** a) What is TLB? Describe its use in 80386 Microprocessor. [8]
b) How pages can be protected in 80386 Microprocessor? Explain in details. [8]

SECTION - II

- Q7)** a) How interrupts are handled in Virtual mode? Explain in detail. [6]
b) What is back link? Where it is situated? Explain its use in 80386 Microprocessor. [6]
c) What are different classes of exception in 80386. [6]

OR

- Q8)** a) What is multitasking? Explain registers and descriptors are involved to support this feature in 80386. [10]
b) How interrupts are handled in protected mode? Explain with the help of neat diagram. [8]

- Q9)** a) What are the different addressing modes of 8051 microcontroller? Explain with suitable examples. [8]
b) Explain MOVC and MOVX instructions of 8051 microcontroller with examples. [4]
c) What is the function of EA and $\overline{\text{PSEN}}$ pins of 8051 microcontroller. [4]

OR

- Q10)**a) Explain how I/O pins can be both input and output in 8051 micro controller. [6]
- b) Describe Internal and External memory organization for Program and Data memory in 8051 micro controller. [6]
- c) What are the features of 8051 microcontroller? [4]
- Q11)**a) Describe Timer Mode1 and Mode2 of 8051 microcontroller with the help of TMOD and TCON. [10]
- b) Describe features of Texas MSP 430. [6]

OR

- Q12)**a) Describe Serial port in 8051 along with different modes, specify baud rate in each mode. [10]
- b) Describe the features of PIC 16F8XX Microcontroller. [6]

