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[4262]-214

S.E. (Information Technology) (II Sem.) EXAMINATION, 2012

PROCESSOR ARCHITECTURE AND INTERFACING

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

- N.B. :—** (i) 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.
- (ii) Answers to the two Sections should be written in separate answer-books.
- (iii) Neat diagrams must be drawn wherever necessary.
- (iv) Figures to the right indicate full marks.
- (v) Assume suitable data, if necessary.

SECTION I

1. (a) Draw and explain functional block diagram of 80386 in detail. [10]
- (b) Differentiate between Memory mapped I/O and I/O mapped I/O. [8]

P.T.O.

Or

2. (a) Explain different Control Registers of 80386 Microprocessor in detail. [10]
- (b) Explain Memory Segmentation of 80386 Microprocessor in Real mode. [8]
3. (a) What are the components of MS-DOS ? Explain different DOS function with suitable examples. [8]
- (b) Draw and explain Programmable Peripheral Interface in detail. [8]

Or

4. (a) What do you mean by Assembler Directives ? How is it different from Instruction ? Explain with examples. [8]
- (b) Differentiate between : [8]
- (i) FAR and NEAR procedure
- (ii) .EXE and .COM.
5. (a) Draw and explain how 80386 Microprocessor translates Logical address into Linear address. [10]
- (b) Write a short note on Virtual Memory of 80386 Microprocessor. [6]

Or

6. (a) Draw and explain how 80386 Microprocessor translates Linear address into Physical address. [10]
- (b) What is TLB ? Why is it necessary ? Explain with the help of diagram. [6]

SECTION II

7. (a) What is TSS ? What are the contents of it ? Discuss its use in Multitasking. [8]
- (b) Explain I/O Permission bit Map. [6]
- (c) Differentiate between Real Mode and Virtual 8086 Mode. [4]

Or

8. (a) How are Interrupts handled in Protected mode ? Explain with the help of neat diagram. [8]
- (b) Explain CALL Gate mechanism in detail. [6]
- (c) What do you mean by Exception ? [4]
9. (a) Describe Internal and External Data Memory organization of 8051 Microcontroller in detail. [8]
- (b) What are different sources of Interrupts in 8051 Microcontroller ? Explain Interrupts handling mechanism of 8051 Microcontroller. [8]

Or

10. (a) Draw and explain Architecture of 8051 Microcontroller. [8]
(b) Explain register set of 8051 Microcontroller. [8]
11. (a) Describe Serial Prot of 8051 Microcontroller with the help of
SCON. [10]
(b) Describe the features of Texas MSP 430. [6]

Or

12. (a) Explain Timer Structure of 8051 Microcontroller and SFRs used
in Timer Programming. [12]
(b) Describe the features of PIC16F8XX Microcontroller. [4]