B. Tech Degree V Semester Special Supplementary Examination June 2012

CS/EB 506 MICROPROCESSOR BASED SYSTEM DESIGN

(2006 Scheme)

Time : 3 Hours Maximum Marks : 100

PART A

(Answer ***ALL*** questions)

(8 x 5 = 40)

I. (a) What is meant by assembler directives? Give examples.

(b) What is meant by segmentation?

(c) List the difference between 8086 and 8088 microprocessor.

(d) What is the fan-out from the 8086 to the following devices?
(i) 74XXXTTL (ii) 74ALSXXXTTL (iii) 74HCXXXCMOS

(e) Compare RISC and CISC architecture.

(f) Explain the Dual-core architecture.

(g) Compare a microcontroller with a microprocessor.

(h) Discuss the register set of MCS-51 family of microcontrollers.

PART B

(4 x 15 = 60)

II. Explain various addressing modes of 8086 microprocessor. Also explain the physical address formation in different addressing modes. (15)

OR

III. (a) Draw and explain the architecture of 8086 microprocessor. (9)

(b) 'A single instruction may use more than one addressing mode or some instructions may not require any addressing mode'. Explain with example. (6)

IV. (a) Bring out the difference between static and dynamic RAM interfacing. (10)

(b) Explain various modes of DMA operation in detail. (5)

OR

V. (a) Explain minimum mode and maximum mode configuration of processor 8086 with the help of neat diagram. (9)

(b) Explain the methods of interfacing I/O devices. (6)

VI. (a) Explain the physical address formation in real address mode of 80386. (5)

(b) Draw and discuss the paging mechanism of 80386 in detail. (5)

(c) What are the differences between logical address, linear address and physical address? (5)

OR

VII. (a) Draw and explain the internal structure of Pentium IV. (10)

(b) Enlist the advantages and features of RISC architecture. (5)

VIII. Discuss the following signal descriptions of 8051: (15)
(i) ALE/PROG (ii) $\overline{EA}/V_{pp}$ (iii) $\overline{PSEN}$ (iv) RXD (v) TXD

OR

IX. (a) Enlist the salient features of 8051 family microcontroller. (8)

(b) How does 8051 differentiate between the external and internal program memory? (7)

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