B. Tech Degree IV Semester Examination April 2011

IT 402 MICROPROCESSOR ARCHITECTURE AND SYSTEM DESIGN

(*2006 Scheme*)

Time : 3 Hours Maximum Marks : 100

PART – A

(Answer ***ALL*** questions)

(8 x 5 = 40)

I. (a) Mention the various registers in 8085 along with its size.
(b) List 5 different addressing modes supported by 8085.
(c) Distinguish between instruction cycle, machine cycle and T state. Also mention the basic machine cycles supported by 8085.
(d) Briefly explain the program status word (PSW) of 8085.
(e) Differentiate between Hardware and Software interrupts.
(f) Explain the three modes of operation of Intel 8255.
(g) Mention in brief the internal units of Pentium Pro architecture.
(h) Explain the specific function of ALE and IO/$\overline{M}$ signals of 8085 microprocessor.

PART – B

(4 x 15 = 60)

II. Draw the architecture and pin diagram of 8085 microprocessor and explain. (15)

OR

III. Draw and explain the timing diagram for MVI A,08. (15)

IV. Discuss on the programmable interrupt controller 8259. (15)

OR

V. (a) Compare memory mapped I/O and I/O mapped I/O . (7)

(b) Differentiate between programmed data transfer scheme and DMA data transfer scheme. (8)

VI. With a neat diagram explain the functional features of a 8279 keyboard interface processor. (15)

OR

VII. With a neat diagram explain the functional features of 8257 DMA controller. (15)

VIII. (a) Compare Pentium II, Pentium III and Pentium IV. (3)
(b) With a neat block diagram explain the internal architecture of Pentium processor. (12)

OR

IX. Differentiate between RISC and CISC systems. (15)

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