



B. Tech Degree V Semester (Supplementary) Examination May 2006

EC/EB 503 ADVANCED MICROPROCESSORS AND MICROCONTROLLERS

(2002 Admissions onwards)

Time : 3 Hours

Maximum Marks : 100

- I. (a) List the differences between 8085 and 8086 microprocessor. (4)
 (b) Draw the internal architecture of 8086 processor and explain each block. (10)
 (c) Explain different types of interrupts in 8086 microprocessor. (6)
- OR**
- II. (a) Neatly draw block diagram showing maximum mode configuration of 8086 microprocessor. Explain the organization in detail. (10)
 (b) With suitable examples explain various addressing modes for the 8086 instructions. (10)
- III. (a) Explain various flow control instruction in 8086 microprocessor. (10)
 (b) Write a program to check whether a number is prime or not. (10)
- OR**
- IV. (a) Explain the following instructions : (10)
 (i) SCASB (ii) AAS
 (iii) LEA (iv) TEST
 (v) XLAT
 (b) Describe the following program development tools : (10)
 (i) Linker (ii) Locator
 (iii) Debugger (iv) Emulator.
- V. (a) Explain how the virtual addresses are translated to physical addresses by 80386 processor. (10)
 (b) Describe the architecture of an 80486 microprocessor. What is the enhancement in a cache memory system in 80486 compared to 80386? (10)
- OR**
- VI. (a) What is descriptor? Explain different types of descriptors in 80386 processor. (10)
 (b) How are tasks in 80386 protected from each other? (10)
- VII. (a) Explain the working of different functional units of the Pentium Processor. (10)
 (b) Give architectural differences between Pentium – III and Pentium – IV microprocessors. (4)
 (c) Explain different properties of RISC processors. (6)
- OR**
- VIII. (a) How dynamic branch prediction is implemented in Pentium Processor? (10)
 (b) Explain the use of instruction and data caches in Pentium. (4)
 (c) Compare Pentium and Pentium Pro architecture. (6)
- IX. (a) Explain the following instructions : (8)
 (i) XCHD (ii) XRL
 (iii) SWAP (iv) DJNZ
 (b) Explain the different types of interrupts in MCS – 51. (6)
 (c) Briefly explain the USB. (universal serial bus) (6)
- OR**
- X. (a) Explain with examples the various addressing modes available in the 8051 micro controller. (10)
 (b) Explain how an LCD can be interfaced with the 8051 micro controller. (10)