

***B.Tech Degree V Semester Examination
December 2004***

**EC/EB 503 ADVANCED MICROPROCESSORS AND
MICROCONTROLLERS
(2002 Admissions)**

Time: 3 Hours

Maximum Marks: 100

- I. (a) Detail the flag register of 8086 and the purpose of each flag bit. (10)
(b) Describe how memory is accessed using real mode memory addressing techniques. (10)
OR
- II. (a) Describe the different addressing modes of 8086. (14)
(b) Compare and contrast 8086 and 8088 processors. (6)
- III. (a) With the help of a neat flow chart and necessary comments write an 8086 assembly language program to check whether the given string of length 'n' is a palindrome or not. (10)
(b) Explain the function performed by the following instructions : (10)
(i) XLAT (ii) SCAS
(iii) LODS (iv) AAA
(v) TEST
- OR**
- IV. (a) Differentiate a DOS function call from a BIOS function call. (6)
(b) Briefly describe the different program development tools. (14)
- V. (a) Describe the operation of 80386 memory paging mechanism. (10)
(b) Explain the functions performed by 80386 descriptors. Draw the format of 80386 segment and system descriptors. (10)
- OR**
- VI. (a) Explain the functions of special registers of 80386. (12)
(b) Contrast 80486 with 80386 microprocessor. (8)
- VII. (a) Describe the operation of the branch prediction logic in Pentium. (6)
(b) Explain how the superscalar architecture improve the performance of Pentium. (6)
(c) Explain the memory system of the Pentium microprocessor. (8)
- OR**
- VIII. (a) Detail the improvements in the Pentium. Pro when compared with the Pentium. (10)
(b) Compare the properties of RISC and CISC systems. (10)
- IX. (a) With a diagram, explain the architecture of 8051 microcontroller. (12)
(b) Describe 8051 data types. (8)
- OR**
- X. (a) Describe the different addressing modes of 8051. (10)
(b) Write short notes on the following : (10)
(i) RS 232 (ii) IEEE 488

