

**D 20917**

Name.....

Reg. No.....

**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION,  
OCTOBER 2011**

**AI 09 501—ADVANCED MICROPROCESSORS AND MICROCONTROLLERS**

(2009 Admissions)

Time : Three Hours

Maximum : 70 Marks

**Part A**

1. What is an overflow ?
2. Is  $Mov ES, DS$  a legitimate instruction or not ?
3. What is superscalar technology ?
4. How B-register of 8051 is used ?
5. Write a program to SWAP the nibbles of the accumulator. (5 × 2 = 10 marks)

**Part B**

6. Explain about Macro and procedures.
7. Explain about Branch prediction logic.
8. Write a program to find the minimum value in a set of 20 numbers.
9. Write a program to toggle only bit P1.5 continuously every 50 ms.
10. Write a program using interrupts to get data from P1 and send it to P2.
11. Write a program to access a byte of data. Which is in data ROM, divide it by 2 and save the quotient in the data RAM. (4 × 5 = 20 marks)

**Part C**

12. Explain the working of 8086 with the functional block diagram.  
*Or*
13. Explain briefly about 8087 architecture.
14. Explain about MMU and superscalar architecture.  
*Or*
15. Discuss briefly about Pentium.
16. Explain the working of 8051.  
*Or*
17. Discuss about addressing modes of 8051.
18. Explain the interface of 8255 PPI with 8051. Write a program to support the model operation.  
*Or*
19. Explain the different modes of operation of timer of 8051. (4 × 10 = 40 marks)