**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD**
B. Tech III Year I Semester Examinations, June/July - 2014
**MICROPROCESSORS AND INTERFACING**
(Computer Science and Engineering)

Time: 3 hours                                                                 Max. Marks: 75

**Answer any five questions**
**All questions carry equal marks**
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1.a)    Discuss any five assembler directives of 8086 microprocessor with examples.
   b)    Write an assembly language program to reverse the nibbles of the given byte

2.      Explain the difference between procedures and macro's. Write a recursive procedure to calculate the factorial of number N, where N is a two-digit Hex number?

3.      State the need for DMA and explain the functioning of DMA with a neat sketch.

4.      With a neat block diagram explain the interfacing of analog to digital (A/D) converter with 8086 processor.

5.a)    Discuss about DOS and BIOS interrupts. Give necessary examples.
   b)    Explain the 8251 USART architecture with neat diagram.

6.a)    What is the difference between 20mA current loop and RS232-C standard?
   b)    List out various signals in IEEE 488 and their purpose.

7.a)    Write a function to generate 100µs delay using Timer0.
   b)    Write an 8051 program to convert ASCII digits of '4' and '7' to packed BCD and display them on P1.

8.      Explain the memory organization of 8051 microcontroller with necessary diagrams.

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