FACULTY OF ENGINEERING

B.E. 3/4 (ECE) I – Semester (Old) Examination, May 2013

Subject : Microprocessors and Interfacing

Time : 3 hours   **Max. Marks : 75**

Note: Answer all questions from Part-A and answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. Distinguish between maximum mode and minimum mode of 8086 operation.

2. Compare the features of MOTOROLA & ZILOG CPU's.

3. Give the meaning of each of the following 8086 instructions.
   a) Test BL, AL
   b) Out DX, AL

4. Distinguish between a 'procedure' and a 'macro'.

5. List out string processing instructions of 8086.

6. Write different modes of 8253 timer.

7. What is meant by "hand shaking" operation in microprocessor based systems?

8. Write salient features of USART.

9. Explain briefly about assembler directions.

10. Explain protected mode of operation of 80386.

PART – B (50 Marks)

11.a) Explain various addressing modes that 8086 supports with examples.

   b) Explain how multi processing can be aliened in maximum mode operation of 8086.

12.a) Write an ALP to compute the average of any number of bytes stored in an array in memory. The number of bytes to be added is in the first byte of the array.

   b) Describe briefly what a recursive and reentrant procedures is.

13.a) Interface an 8-bit DAC through port A of 8255. Write an ALP to generate a square wave form of 100 sec time period.

   b) Explain how a seven segment LED display can be interfered to 8086.

14.a) Explain the functional aspects of 8251 USART chip with a neat block schematic diagram write an ALP to transfer 100 bytes of data starting from location SRC to location DEST.

   b) Write code segment initialization instructions.

15.a) Explain architectural features of 80286.

b) Explain the function of special registers of 80386.

16.a) Explain briefly about arithmetic and logical instructions of 8086.

b) Draw the interfacing diagram of ADC to 8086 and explain briefly about various signals of interface.

17. Write a short notes on any two of the following :
   a) DOS functions
   b) Debugging tools
   c) Numeric data processor

******