FACULTY OF ENGINEERING
B.E. 3/4 (ECE) I Semester (Suppl.) Examination, June 2012
MICROPROCESSORS AND INTERFACING

Time : 3 Hours]   [Max. Marks : 75

Note : *Answer **all** questions from Part **A**.*
*Answer **any five** questions from Part **B**.*

PART – A   (25 Marks)

1. Explain the function of pin READY on 8086 processor.

2. Explain the functions of control flags of 8086.

3. Write instruction format of 8086 with all fields.

4. Explain the following alignment directions of 8086.

    1) EVEN   2) ORG

5. Compare minimum mode and maximum mode operation of 8086.

6. Write an assembly language program to interface DAC to 8086.

7. Draw the Block diagram of 8251.

8. What is the difference between 8085 and 8086 ? Explain DMA interfacing concept.

9. List and describe in general terms the steps an 8086 will take when it responds to an interrupt.

10. Why are the port lines of programmable port devices automatically put in input mode when the device is first powered up or reset ?

PART – B   (50 Marks)

11. Explain the following instructions with suitable examples :   10
    a) XLAT   b) LES
    c) LEA   d) LDS
    e) LAHF

12. a) Write an assembler macro which will restore in the correct order. The registers sound by the macro PUSH-ALL in the following order :

    1) Flag reg.   2) AX

    3) BX   4) DX

    5) BP   6) SI   · 5

    b) Explain about command and mode instruction of 8251.   5

13. Explain operational modes of 8255.   10

14. Draw the block diagram of keyboard and display controller and explain in detail.   10

15. Draw the 7-segment display interface mechanism diagram with 8086 and explain with ALP.   10

16. Draw the block diagram of 80286 and explain briefly the function of 4 major processing units.   10

17. Write **any two** of the following :   (5×2)

    a) Differentiate between a UART and USART.

    b) Describe how the 8087 and 8088 work together to load a long -real data item from memory to 8087 ST.

    c) Write an ALP to convert a packed BCD byte to the ASCII characters for the two BCD digits in the byte.

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