Total No. of Questions – 8] [Total No. of Printed Pages – 2

BE-VI/6(A)

216715

COMPUTER ENGINEERING **COURSE NO. COM– 601**

(Advance Microprocessor)

Time Allowed – 3 Hours *Maximum Marks - 100*

Note: Attempt five questions in all selecting at least two questions from each section. Each question carries ***20*** marks.

Section – A

1. (a) Explain in detail the reasons behind the use of segmentation in 8086 microprocessor. Also explain segment over ride prefix with an example.

   (b) Describe the requirement for de-multiplexing of the address data bus. (15, 5)

2. (a) Write 8086 assembly language programs for moving a string from one location to another in memory and for comparing strings. (10)

   (b) Explain the following pairs of instructions in 8086:

   (i) CMPSB and SCASB
   (ii) LEA register, source and LDS register, memory address of first word.
   (iii) STD and CLD
   (iv) LODSB and STOSB. (10)

3. (a) Write 8086 assembly language program demonstrating 'backward' and 'forward' JMP. (10)

   (b) Explain three methods of parameter passing to a procedure. Give advantages and disadvantages of each method. (10)

[Turn Over

4. (a) Explain the interrupt types and interrupt priorities of the 8086 processor.

(b) Write a program that takes data samples from a part at 1ms intervals. Mask upper 4-bits of sample and put each masked sample in successive location in an array. (10, 10)

Section – B

5. With the help of appropriate diagram explain the architecture of numeric data processor NDP 8087 and what are different data that can be handled by NDP?

6. (a) Discuss the closely coupled and loosely coupled configuration using 8086 microprocessor.

(b) How does the CPU differentiate the 8087 instructions from its own instructions? (10, 10)

7. (a) Explain why the processor utilization rate can be improved in a multi-processor system by an instruction queue?

(b) What are the principal criteria involved in designing the memory? Discuss. Show the timing diagram for memory write and memory read. (10, 10)

8. Write notes on:

(a) Use of Code Cache in Pentium Processor and Control Unit.

(b) 80286 Processor.

----------^----------