LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – COMPUTER SCIENCE

SECOND SEMESTER – APRIL 2016

PH 2107 - MICROPROCESSOR

Date: 26-04-2016   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

PART-A

Answer ALL questions   (10 x 2 = 20)

1. State any two differences between MIN and MAX modes of operation of µP 8086.

2. What is modular programming?

3. Define semaphore. Name the operators.

4. What is a process?

5. What is programmed I/O?

6. List two features of PIC 8259.

7. What are internal and external identifiers in a module?

8. What is the difference between the instructions SUB BX, CX and CMP BX, CX?

9. Define DUP and PTR operators

10. Explain the use of XCHG instruction.

PART- B

Answer any Four Questions.   (4×7.5=30)

11. Distinguish between ROR and RCR. Give examples.

12. Write a program to subtract two 8 bit numbers named NUM 1 & NUM 2 using MASM.

13. Explain with a neat diagram the three states of a multi programming system.

14. With a neat diagram explain how priority may assigned using Daisy chain.

15. Explain the function of the following pins of 8086

    (a) ALE   (b) INTR (c) $DT/\bar{R}$ (d) $\overline{\text{RD}}$

PART –C

Answer any FOUR questions   **(4×12.5=50)**

16. Explain the internal architecture of µP8086 with a functional block diagram.

17. (a)Develop an MASM program to multiply two 16 bit numbers and to get a 32 bit result.   **(8marks)**

    (b) Determine the content of AL after the following instructions are executed.   **(4 .5marks)**

          i. MOV AL,4CH

            ADD AL,05H

            MOV CH,0AH

            ADD AL,CH

18. Describe the process states of Irmx 86 with a neat diagram.

19. Discuss the operation and function of the interrupt controller 8259.

20. (a). Name the different addressing modes available in 8086 with an example.   **(8.5 marks)**

    (b) Explain the following instructions   (i) STOSB   (ii) CMP   **(4 marks)**

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