LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. & B.C.A. DEGREE EXAMINATION – **COMPUTER SCIENCE & APPLI.**

THIRD SEMESTER – NOVEMBER 2015

PH 3210 - MICROPROCESSOR

Date : 12/11/2015 Dept. No. Max. : 100 Marks

Time : 09:00-12:00

PART-A

Answer ALL questions **(10 x 2 = 20 marks)**

1. What are the modes in which 8086 operates?
2. Explain the function of $M/\overline{IO}$
3. Calculate the physical address for CS=$1B00_H$ and IP = $2254_{H.}$
4. Define ASSUME directive
5. What is semaphore? Name the operators.
6. Differentiate between software interrupts and hardware interrupts.
7. What is Interrupt I/O?
8. What is a process?
9. Define MACRO.
10. What is the role of interrupt service routine?

PART- B

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

11. Discuss the different addressing modes available in 8086 with an example.
12. Write a program to subtract two 8 bit numbers named NUM 1 & NUM 2 using MASM.
13. State the reasons for breaking a program into small parts.
14. Explain common procedure sharing.
15. Explain the function of the following pins of 8086
    (a) $\overline{RD}$ (b)INTR (c $READY$ (d) $\overline{BHE}$
16. Discuss the interrupt related instructions in detail.

PART –C

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

17. Explain the internal architecture of µP8086 with a functional block diagram.
18. (a)Develop an MASM program to divide 32 bit number by 16 bit result. **(8.5 marks)**
    (b)Define the directives: (i) DD (ii) PROC. **(4 marks)**
19. Explain the creation and execution of a program with the block diagram.
20. Draw the internal block diagram of PIC 8259 and describe its architecture.
21. (a)What are the different status flags in 8086? When are they set or reset?
    (b) MOV AL, 2BH
        a. MOV BL, C2H
        b. XOR AL, BL

    Find the output for the above sequence of instructions.
22. Describe the process states of iRMX 86 with a neat diagram.

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