LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **COMPUTER SCIENCE**

SECONDSEMESTER – APRIL 2018

PH 2107- MICROPROCESSOR

Date: 28-04-2018 Dept. No. Max. : 100 Marks
Time: 01:00-04:00

PART A

Answer **ALL** Questions (10×2=20)

1. What is the function of a microprocessor in a system?
2. What is ALE?
3. Define PROC directive
4. What are the interrupts of 8086?
5. What is an interrupt in I/O?
6. What is PIC 8259?
7. Distinguish between ROR and RCR. Give example
8. Define modular programming.
9. Differentiate between INTR & NMI
10. Write the general form of a segment directive.

PART B

Answer any **FOUR** questions (4×7.5=30)

11. Explain the various addressing modes of microprocessor 8086 with an example.
12. Write a program to add two 8 bit numbers named NUM 1 & NUM 2 using MASM.
13. Explain the function of the following pins of 8086
    a) M/$\overline{IO}$ b) $\overline{RD}$ c) $\overline{BHE}$ d) $\overline{INTR}$
14. Identify the signal lines of 8086 that are for minimum mode and maximum mode.
15. a) What are the steps to be monitored when the CPU switches from one running process to another?
    b) Write a note on common procedure sharing. (3+4.5)
16. Draw the flow chart of programmed input operation and explain.

PART C

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

17. Describe the functions of the BUS interface unit (BIU) and execution unit with a functional block diagram.
18. a)Write a MASM program to divide a 32 bit number by a 16 bit number
    b) Discuss the use of stack in 8086 (8+4.5)

19. Explain how priority may be assigned using Daisy chain with a diagram.
20. What are the different status flags and control flags in µP 8086? When they are set or reset?
21. Draw the internal block diagram of the priority interrupt controller 8259 A & describe its architecture. Explain how it is connected to the µP 8086.

22.(a) Explain the 8086 minimum mode bus timing.

(b) Explain with a neat diagram the three states of a multi programming system.

(5+7.5 marks)

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