



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc.DEGREE EXAMINATION – PHYSICS

SECOND SEMESTER – APRIL 2018

PH 2810- MICROPROCESSOR & MICRO CONTROLLERS

Date: 19-04-2018
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part A

Answer **ALL** Questions.

(10x2=20)

1. Write a note on the AD bus of $\mu P8086$.
2. State the use of the queue of $\mu P8086$.
3. Explain the role of the “AAM” instruction of $\mu P8086$.
4. Develop a program segment for $\mu P8086$ to multiply two bytes in memory.
5. Develop a program for $\mu P8086$ to find the number of 0s in the number in AX.
6. Write a note on “ALE” signal of $\mu P8086$.
7. Define a macro which stores in BL the square root of the number in AL.
8. State the differences between the “REP” and “REPE” instructions.
9. Write a note on the register banks of $\mu C8051$.
10. Explain the role of the “JNB” instruction of $\mu C8051$.

Part B

Answer any **FOUR** Questions

(4x7.5=30)

11. With a sample instruction for each, explain the addressing modes of data in $\mu P8086$.
12. Develop an ASM program for $\mu P8086$ to find the factorial of a byte in memory.
13. Develop an ASM program for $\mu P8086$ to capitalize an array of lower case alphabets.
14. With a block diagram, explain bus buffering and latching in $\mu P8086$ operated in maximum mode.
15. With an example each, explain the various branch instruction of $\mu C8051$.
16. Discuss in detail, the ports and the related instructions available in $\mu C8051$.

Part C

Answer any **FOUR** Questions

(4x12.5=50)

17. With a neat block diagram, explain the internal architecture of $\mu P8086$.
18. Develop an ASM program for $\mu P8086$ to solve $Q = A*B + C*D$, where A, B, C and D are bytes in memory. Use relative indexed mode of addressing for data.
19. Develop an ASM program for $\mu P8086$ to pick the largest of a word array in memory.
20. With a block diagram explain the DMA data transfer.
21. Develop an interface and an ASM program for $\mu C8051$ to turn “ON” eight LEDs connected to port P0, if the switch connected to P1.0 is “OFF”, else turn the LEDs “OFF”
22. With a neat block diagram, explain the internal architecture of $\mu C8051$.

