LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **PHYSICS**

FIRSTSEMESTER – APRIL 2018

PH 1813- ELECTRONICS

Date: 25-04-2018 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

Part – A

Answer **ALL** Questions. (10x2=20)

1. Obtain an expression for the output of an inverting operational amplifier.
2. Write any two properties of an ideal Op-Amp.
3. State the role of the "Carry Flag" of µP8085.
4. Explain the function of "LDA 4500" instruction of µP8085.
5. Write any two instructions of µP8085 which clears the register 'A'.
6. Explain the role of the "DAA" instruction of µP8085.
7. Discuss the function of the "READY"line of µP8085.
8. Write a note on the "SIM" instruction ofµP8085.
9. Explain the use of "EXX"instruction of µPZ80.
10. Explain the use of the index registers of µP Z80.

Part – B

Answer any **FOUR** Questions (4x7.5=30)

11. Draw a neat circuit diagram ofan Op-amp basedintegrator andderive an expression for the output voltage.
12. With an example for each, explain any eight arithmetic instructionsofµP8085.
13. Develop an ASM program for µP8085 to multiply 08h with 05h.
14. Write notes on any three hardware interrupts of µP8085.
15. With a neat block diagram, explain the internal architecture of µPZ80.

Part – C

Answer any **FOUR** Questions (4x12.5=50)

16. Solve the simultaneous equations, X + Y = 4 and X - Y = 2, using Op-amps.
17. With a neat block diagram, explain the internal architecture of µP8085.
18. With two sample instructions for each, explain all the addressing modes in µP8085.
19. Develop a program for µP8085 to find the factorial of a byte in memory.
20. Develop a program for Z80 to sort an array of FFh bytes in memory.