LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034
B.Sc. DEGREE EXAMINATION – PHYSICS
FIFTH SEMESTER – APRIL 2016
PH 5404 - ELECTRONICS – II
(09th – 11th Batch)

Date: 29-04-2016   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

PART- A

Answer **all** questions: (10×2=20marks)

1. What are high pass and low pass filters?

2. Give a note on instrumentation amplifier?

3. What is the disadvantage of parallel A/D converter?

4. Draw a R – 2R ladder network for 4 bit.

5. Differentiate linear and nonlinear IC?

6. What are the limitations of IC?

7. Explain the operation of the following instructions when they are executed.

     (i)   STA 9050H   (ii) ADD B   (iii) DCR M   (iv) JNC 9000H

8. Mention the addressing modes of the following instructions.

     (i)   MOV A,B   (ii) MVI C,FFH   (iii) LXI H,2500H   (iv) RAL

9. Write an assembly language program for add two 8 – bit numbers.

10. Explain the function of program counter (PC) in 8085 microprocessor.

PART- B

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

11. With a neat circuit, explain the functioning of (i) integrator and (ii) differentiator

12. Explain A/D conversion using voltage to frequency converter.

13. Write note on monolithic and thin film process used in the fabrication of IC's.

14. Discuss the various instructions in data transfer and arithmetic groups of 8085 microprocessor.

15. Write an assembly language program for multiplying two 8 – bit numbers.

PART- C

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

16. Draw the circuit of an astable multivibrator using operational amplifier and explain its working.

17. With a neat circuit diagram, explain the working of a weighted resistor D/A converter.

18. (a) Compare bipolar and MOS technology.   **(6.5)**

     (b) Explain the IC fabrication of transistor.   **(6)**

19. Draw and explain the architecture of 8085 microprocessor.

20. Write assembly language program for

     (i)   Picking smallest number in an array.   **(6.5)**

     (ii)   Finding square root of a perfect square.   **(6)**

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