LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **PHYSICS**

FIFTH SEMESTER – NOVEMBER 2017

PH 5404 - ELECTRONICS - II

Date: 11-13-2017
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART A

Answer ALL questions   **(2x10 = 20 marks)**

1. Calculate the voltage gain of an inverting amplifier with feedback resistance 50 k and input resistance 25 k .

2. Sketch the operational amplifier based integrator.

3. What is meant by resolution and accuracy in a D/A converter?

4. What is virtual ground?

5. Write a short note on IC's.

6. State the difference between thick and thin films.

7. What is meant by addressing mode? Explain the indirect mode of addressing with an example.

8. What is the purpose of carry flag in microprocessor 8085?

9. Explain the significance of pins ALE and HLDA in microprocessor 8085.

10. Explain instructions MOV M,r and MVI M, data.

PART B

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

11. With a neat diagram explain an OPAMP based differentiator.

12. Explain the working of a A/D converter by counter method.

13. Discuss the classification of IC's based on their structure.

14. Write assembly language programs to add and subtract two 8 bit numbers by indirect mode of addressing in microprocessor 8085.

15. Write a short note on arithmetic and logical instructions in microprocessor 8085.

16. Explain the working of a low pass filter with a neat diagram.

PART C

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

17. Explain with a neat diagram the working of an OPAMP based astablemultivibrator.

18. What is D/A conversion? Explain the working of a R-2R ladder D/A converter using OPAMP.

19. Enumerate the various steps involved in manufacturing monolithic IC's

20. With a neat diagram explain the architecture of microprocessor 8085.

21. Write an assembly language program to find the largest number in an array of 10 numbers using microprocessor 8085.

22. Write assembly language programs a)to find the square root of a number b) to multiply two 8 bit numbers by indirect mode of addressing using microprocessor 8085.