



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PHYSICS

FIFTH SEMESTER – APRIL 2016

PH 5401 - ELECTRONICS – II

(03th - 05th Batch)

Date: 29-04-2016
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

PART- A

Answer all the Questions:

(10x2=20)

1. What is meant by virtual ground?
2. Draw the circuit of an op-amp based integrator.
3. Mention the advantages of voltage to frequency A/D converter.
4. Find the analog output voltage of a 3 bit D/A converter for all possible inputs with reference voltage, $K=1$ V.
5. Differentiate between linear and non-linear ICs.
6. What is the difference between SSI and VLSI chips?
7. Write any two instructions from data transfer group of INTEL 8085 and explain their operation.
8. Write an assembly language program to add two 8-bit numbers.
9. Explain the function of HLDA (output) signal.
10. Write a note on control bus of 8085 microprocessor.

PART - B

Answer any FOUR questions:

(4x7.5 = 30)

11. Set up a circuit to solve the simultaneous equations, $2x + y = 4$; $x + 2y = 5$
12. Explain the functioning of counter type A/D converter.
13. Compare bipolar and MOS technologies.
14. Discuss the various types of addressing modes of 8085 microprocessor with suitable examples.
15. Draw and explain the timing diagram for memory write operation.

PART - C

Answer any four questions:

(4x12.5 = 50)

16. Explain the working of II order high pass and low pass filters.
17. With a neat circuit diagram, explain the working of R-2R ladder D/A converter,
18. Explain with neat diagrams how (i) a resistor, (ii) a transistor and (iii) a capacitor is fabricated in an integrated circuit.
19. With a neat block diagram, explain the architecture of 8085 microprocessor.
20. Write assembly language programs for
 - (i) multiplying two 8-bit numbers.
 - (ii) square root of a perfect square.

(5+7.5)
