



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc.DEGREE EXAMINATION – COMPUTER SCIENCE

THIRD SEMESTER – APRIL 2017

PH 3106- APPLIED ELECTRONICS

Date: 03-05-2017
09:00-12:00

Dept. No.

Max. : 100 Marks

PART A

Answer ALL questions

(10 x 2 = 20)

1. Define Fermi level.
2. What is a solar cell?
3. State any two characteristics of an ideal OP-AMP.
4. Define CMRR.
5. Draw the logic symbol and truth table of D-Flip flop.
6. Define Half Adder with diagram.
7. Differentiate between main memory and virtual memory.
8. Find the complement of $AB+CD$
9. What is cache memory?
10. What is a multiplexer?

PART B

Answer any FOUR questions

(4 x 7.5 = 30)

11. Write short notes on (i) intrinsic semiconductor (ii) extrinsic semiconductor
12. Describe the working of an inverting amplifier with a diagram.
13. Explain the shift right shift register with a diagram.
14. Draw the block diagram and explain the various components in memory hierarchy.
15. State and Prove De Morgan's theorem.

PART C

Answer any FOUR questions

(4 x 12.5 = 50)

16. Describe the operation of a PNP transistor in common emitter mode. Obtain the input and output characteristics for the same.
17. Explain with circuit diagram the working of an op-amp based 4 bit R-2R ladder D/A converter.
- 18(a). Explain NAND as a universal building block (8 marks)
(b) Simplify using K-map $F(A,B,C) = \Sigma(2,3,4,5)$ (4.5 marks)
19. With a neat circuit explain the working of a JK Flip flop.
20. (a) Explain various types of ROM. (7 marks)
(b) What are the various registers used in a basic computer? (5.5 marks)

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