

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**U.G. DEGREE EXAMINATION – ALLIED****THIRD SEMESTER – APRIL 2023****PH 3106 – APPLIED ELECTRONICS**

Date: 12-05-2023

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART – A**(10 x 2 = 20 Marks)**

Q. No	Answer ALL questions
1	What is a semiconductor?
2	Give any four applications of LED.
3	Mention any four characteristics of an ideal Op-Amp.
4	Define CMRR.
5	State de Morgan's theorem.
6	What is a multiplexer?
7	Simplify $Y = \bar{C} \bar{D} + \bar{C} D$.
8	What is a T-flip flop?
9	Write any four memory reference instructions.
10	What is a hard disk?

PART – B**(4 x 7.5 = 30 Marks)****Answer any FOUR questions**

11	With a neat diagram explain the characteristics of PN-junction diode.
12	Explain the working of a non-inverting Op- Amp with a neat sketch.
13	Show that NAND is a universal gate.
14	With a neat diagram and truth table, discuss the working of a 4-bit ring counter.
15	Explain computer register configuration.
16	What is a decoder? Explain the function of 2-4 decoder with a diagram. (2.5 + 5)

PART – C**(4 x 12.5 = 50 Marks)****Answer any FOUR questions**

17	With neat diagrams, explain the classification of semiconductors.
18	a) Explain the binary weighted resistor D/A convertor. (6.5) b) Discuss the shift right shift register with a neat diagram. (6)
19	Explain the full adder and full subtractor with necessary truth table and logic diagram.
20	With a neat diagram explain the working of a JK flip flop.
21	Discus the working principle of summing and difference amplifier using Op-Amp.
22	Write short notes on (a) RAM (b) ROM (c) cache memory. (4+4+4.5)

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