

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter 2019 -20 Examination

Semester:3
 Subject Code: 203106207
 Subject Name: Analog & Digital Electronics

Date:02/12/2019
 Time:02:00 pm to 04:30pm
 Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions (Each of one mark)**(15)**

1. Convert Decimal Number Into 10's Complements:- 739
2. The NOR gate output will be high if the two inputs are _____.
3. A latch is _____ sensitive.
4. Binary to Decimal Number:- $(1001011)_2 = ()_{10}$
- 5 Hexadecimal into Decimal :- $(A3BH)_{16} = ()_{10}$
6. A Boolean function can be transformed into logical _____.
7. 1 Kilo bits are equal to _____ bits.
8. Which logic family provide minimum power dissipation.
 (a) TTL (b) CMOS (c) ECL (d) JFET
9. OR operation is equivalent to _____
 (a) Division (b) Union (c) Intersection (d) Both B & C
10. A digital circuit that can store one bit is a _____.
 (a) XOR Gate (b) Gate (c) Flip Flops (d) Resistor
11. Truth table is used to express
 (a) Boolean expression (b) Boolean map (c) Boolean matrix (d) Boolean addition
12. The difference between the diagram of a NOR and OR gate is
 (a) OR has got a bubble at its output terminal (b) NOR has got a bubble at its output terminal
 (c) OR is more squared than NOR (d) OR is more oval than NOR
13. EBCDIC is abbreviated as _____.
14. All the integers and decimal numbers are represented by _____.
15. Full form of TTL _____.

Q.2 Answer the following questions. (Attempt any three)**(15)**

- A) Explain Input offset current of an Op-Amp.
- B) Explain an Ideal OP- Amp.
- C) Explain current Sinking with Suitable diagram.
- D) Explain SR Flip-Flop in details with diagram.

Q.3 A) Explain BCD to Seven Segment Decoder in Details.**(07)**

- B) Explain Parallel Adder with suitable diagram.

(08)**OR**

- B) Explain Two Inputs TTL NAND gate with suitable diagram.

(08)**Q.4** A) Explain 16 to 1 Multiplexer in Details with suitable diagram.**(07)****OR**

- A) Explain asynchronous sequential counters. Explain applications of counters.

(07)

- B) Explain Block Diagram of IC 555. Also Explain Monostable Multivibrator of IC555.

(08)