



XII Std. Electronics Offline Test (March 2021)
Chapter-3: Specifications of Digital ICs

Max. Marks: 25

IMPORTANT NOTE:

1. All questions are compulsory.
2. Marks distribution of each question is shown as per the rules of HSC Board Exam.
3. **Solve it on paper and send the PDF copy of the same on our WhatsApp Group.**

Ques 1: Fill in the blanks: (1+1+1+1+1=5)

- 1) When bipolar transistors are used in a logic circuit, such circuit is called _____ logic circuit.
- 2) The term ECL stands for _____.
- 3) When NMOS & PMOS both are used in a logic circuit, it is called _____ logic circuit.
- 4) In a logic circuit, delay required to change the output from '1' to '0' is known as _____.
- 5) The unit of Figure of Merit of a digital circuit is _____.

Options: (CMOS, TTL, DCTL) (Emitter Coupled Logic, Emission Coupled Logic, Emitter Capacitor Logic)

(TTL, DTL, CMOS) ($t_{p_{LH}}$, $t_{p_{HL}}$, $t_{p_{LL}}$) (Joule, Watt, Pico Joule)

Ques 2: Compare CMOS and TTL with any 4 points. (1+1+1+1 =4)

Ques 3: Draw the circuit of TTL NOT gate and explain its working with truth table. (1+2=3)

Ques 4: Draw the circuit of TTL NOR gate and explain its working with truth table. (1+2+1=4)

Ques 5: Explain the working of CMOS NOT gate with detailed circuit diagram and truth table. (2+1+1=4)
