



XII Std. Electronics Offline Test (March 2021)
Chapter-4: Combinational Logic Circuits

Max. Marks: 20

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=5)

- 1) The 32:1 Mux can be designed with _____ select lines. (32, 5, 4)
- 2) The number of OR gates required in a 4-bit Encoder circuit will be _____. (8, 3, 4)
- 3) The IC used in a 7-segment decoder circuit is _____. (IC7408, IC7432, IC7447)
- 4) The circuit which has many outputs but only one input is called as _____. (Mux, Demux, Encoder)
- 5) $Y = D\bar{S}_0 + DS_0$ will be equation of _____ Multiplexer. (4:1, 3:2, 2:1)

Ques 2: Draw a neat circuit diagram of 4:1 line Mux and explain how it selects a data line with truth table. (1+2=3)

Ques 3: Explain the working of 7-segment Decoder with neat diagram and truth table. (3+1=4)

Ques 4: How decimal to binary Encoder circuit works? Explain with circuit diagram. (3+1=4)

Ques 5: Draw neat circuit diagram of 1:8 line Demultiplexer and write down its all output equations. (2+2=4)
