Implementation of Boolean Logic in Arduino using ICs

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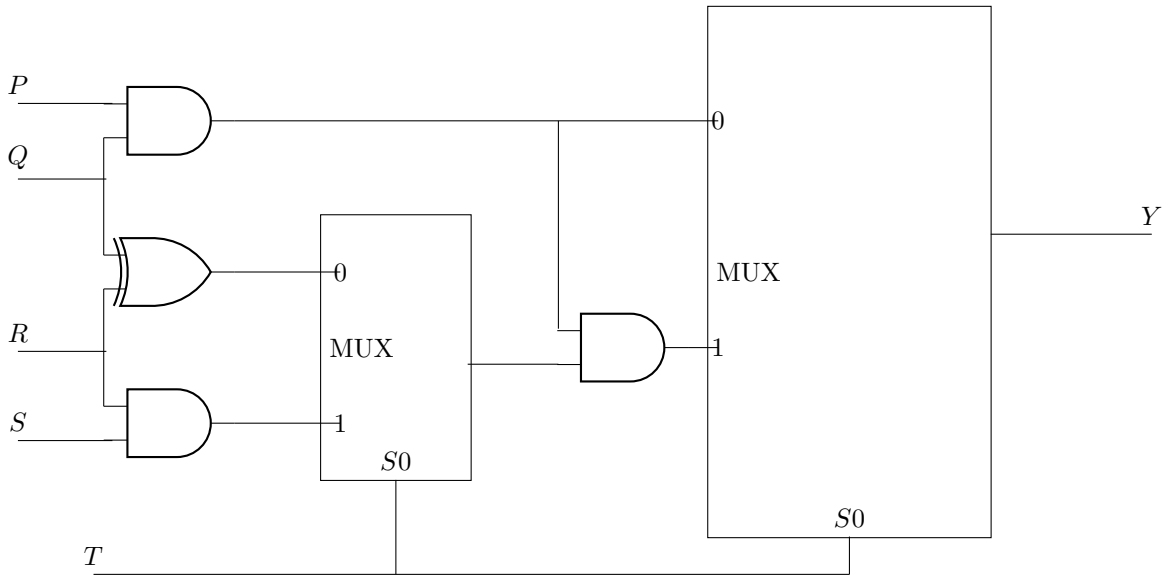
1 Problem

(Gate EC-2021)
Q.31. The propogation delays of the XOR gate, AND gate and multiplexer (MUX) in the circuit shown in the figure are 4 ns, 2 ns and 1 ns, respectively.


P
Q
R
S
T
0
MUX
1
S0
0
MUX
1
S0
Y

If all the inputs P, Q, R, S and T are applied simultaneously and held constant, the maximum propogation delay of the circuit is

1. 3 ns
2. 5 ns
3. 6 ns
4. 7 ns