

worst paths for both GT and EQ are highlighted in orange

$$\text{GT worst delay} = 12 + 2 \times 12 + 2 \times 12 = 65$$

$$\text{EQ worst delay} = 12 + 12 + 12 + 7 = 43$$

Question 5) the timing of TCS gates sometimes can be better because they're slicing the inputs, but the whole circuit's timing depends on the overall path which in our question is bigger for the TCS gates. Therefore TCS gates (in here) have more delay.

The two circuits are doing the same thing so their operations are the same

Pros: ✓ Normally has better timing and is more efficient
✓ is more comprehensible

Cons: ✗ cascading can sometimes be hard and inefficient
for example if we have odd number of inputs
✗ we need to implement a new circuit everytime we need one and we can't use predefined gates

YASHA