

2

$$T_{min} = \frac{1}{f_{max}} = \frac{1}{200 \cdot 10^6 \text{ Hz}} = 5 \text{ ns}$$

$$f_{max} (200 \cdot 10^6 \text{ Hz})$$

$$T_{combin} = T_{logic} + T_{Fios}$$

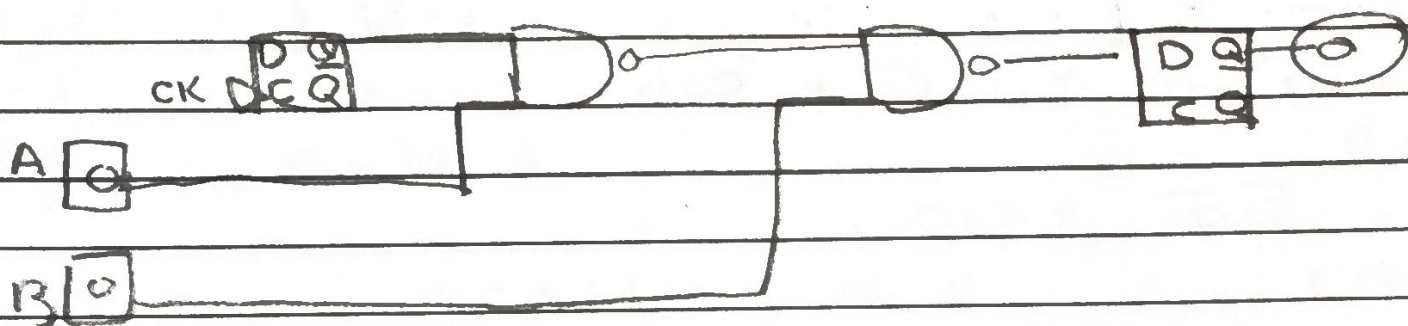
$$T_{logic} + 1 \text{ ns} \leq 5 \text{ ns}$$

$$T_{logic} \leq 4 \text{ ns}$$

$$T_{logic} = T_{NAND1} + T_{NAND2} = 2 \text{ ns} + 2 \text{ ns} = 4 \text{ ns}$$

$$T_{combin} = 4 \text{ ns (logic)} + 1 \text{ ns (fios)} = 5 \text{ ns}$$

CLK



b)

Combiner Longo:

$$T_{total} = 10 \text{ ns}$$

$$T_{logic} = T_{total} - T_{Fios} = 10 \text{ ns} - 1 \text{ ns} = 9 \text{ ns}$$

Combiner Auto:

$$T_{total} = 6 \text{ ns}$$

$$T_{logic} = T_{total} - T_{Fios} = 6 \text{ ns} - 1 \text{ ns} = 5 \text{ ns}$$