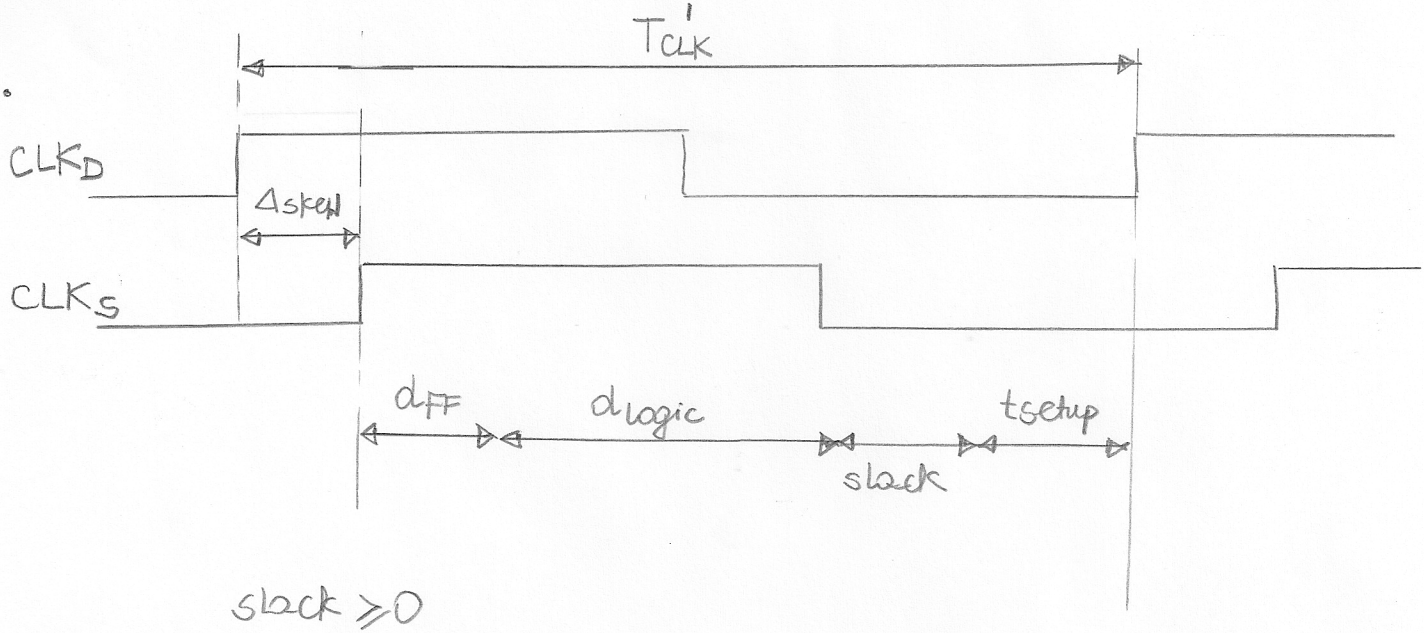
A.

$$\text{Latency} = (r+1) \cdot T_{CLK} = 65 \cdot 12.5\,ns = \underline{812.5\,ns}$$

$$\text{Thr} = \frac{2 \cdot W}{r \cdot T_{CLK}} = \frac{2 \cdot 32}{64 \cdot 12.5\,ns} = \underline{80\ \text{Mbit/s}}$$

C.



$$slack \geq 0$$

$$T_{CLK}' \geq \Delta_{skew} + d_{FF} + d_{logic} + t_{setup}$$

$$T_{CLK_{min}}' = \Delta_{skew} + T_{CLK_{min}} = 15\,ns$$

$$\text{Latency}' = (r+1) \cdot T_{CLK}' = 65 \cdot 15\,ns = \underline{975\,ns} \nearrow$$

$$\text{Thr}' = \frac{2W}{r \cdot T_{CLK}'} = \frac{2 \cdot 32}{64 \cdot 15\,ns} = \underline{66.67\ \text{Mbit/s}} \searrow$$