

$$3.1(1) T_{\text{pipe}} = 2.1 \text{ ns}$$

$$(2) S \approx \frac{T_{\text{cycle}}}{T_{\text{pipe}}} = \frac{7}{2.1} = 3.33$$

$$(3) T_{\text{pipe}} > T_{\text{register}} = 0.1 \text{ ns}, \quad (4) S_{\text{max}} = \frac{T_{\text{cycle}}}{T_{\text{register}}} = \frac{7}{0.1} = 70$$