

$$\underbrace{\begin{matrix} [sI-A]^{-1} & [sI-A] & X(s) \\ [n \times n] & [n \times n] & [n \times 1] \end{matrix}}_I = \underbrace{[sI-A]^{-1}}_{[n \times n]} \underbrace{B}_{[n \times 1]} U(s)$$

$$X(s) = [sI-A]^{-1} B U(s)$$

$$y(t) = Cx(t) + Du(t)$$

$$Y(s) = C X(s) + D U(s)$$

$$= \underbrace{C [sI-A]^{-1} B}_{[1 \times 1]} U(s) + \underbrace{D}_{[1 \times 1]} U(s)$$

$$= [C [sI-A]^{-1} B + D] U(s) = G(s) U(s)$$

Model Nisbakh Alih :

$$G(s) = [C [sI-A]^{-1} B + D]$$