Slide 12:

System: $\tau \dot{y} + y = ku$

Total response = Complementary function + Particular integral = $Ce^{-t/\tau} + Ak$

Substitute IC $y = y_0$ to determine the constant of integration C

➔ $y_{step} = y_0 e^{-t/\tau} + Ak(1 - e^{-t/\tau})$