

North South University  
Mat-350, Sec-7+8+16, Fall-2021  
Quiz-2, Total Marks-15, Time-25 mins

Name: \_\_\_\_\_ Id# \_\_\_\_\_ Date# 11/12/2021

**Q1. Solve the following system of linear differential equations:**

$$\begin{aligned}\frac{dx}{dt} &= (k+1)x + (k+1)y + k \\ \frac{dy}{dt} &= kx + (k+2)y + k + 1\end{aligned}$$

**[Here  $k \neq 0$  is the 7<sup>th</sup> digit of your student Id# . If  $k = 0$  then choose  $k = 1$ .]**