

# 10720EECS203002

## Ordinary Differential Equation 2st Midterm Exam – Home Test

姓名：

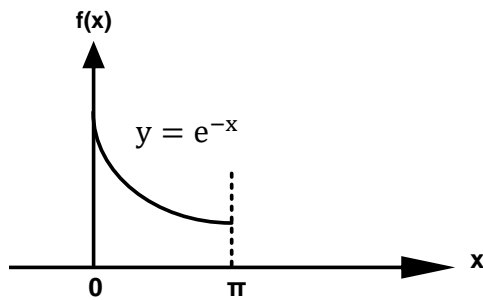
學號：

(1)  $y'' + \lambda y = 0$ ,  $y(0) = 0$ ,  $y'(\ell) = 0$  (15%)

(2)  $y'' + \lambda y = 0$ ,  $y'(0) = 0$ ,  $y(\ell) = 0$  (15%)

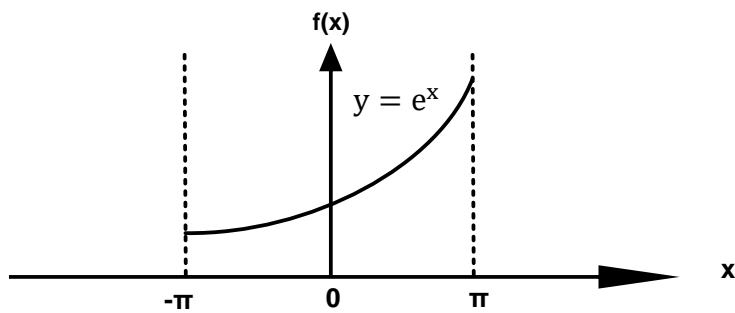
(3)  $y'' + \lambda y = 0$ ,  $y(-\ell) = y(+\ell)$ ,  $y'(-\ell) = y'(+\ell)$  (20%)

(4)



$0 \leq x \leq \pi$ , Expand  $f(x)$  by Fourier sine series (25%)

(5)



$-\pi \leq x \leq \pi$ , Expand  $f(x)$  by Fourier series (25%)