

系級:\_\_\_\_\_ 姓名:\_\_\_\_\_ 學號:\_\_\_\_\_ 考試範圍-常微分方程式

**國立臺灣海洋大學河海工程學系 2002 工程數學 (一) 第一次作業小考**

Answer	Differential Equation	Solution	Explicit	Implicit
( )	(1). $\frac{dy}{dx} = \frac{-2xy}{x^2-y^2}$	(a). $y = -3e^{-4x} + c$	( )	( )
( )	(2). $\frac{d^2y}{dx^2} + 4y = \sin(x)$	(b). $y = -1 - \frac{3}{2}(\cos(x) + \sin(x))$	( )	( )
( )	(3). $\frac{dy}{dx} - y = 1 + 3\sin(x)$	(c). $y = \cos(2x) + \sin(2x) + \frac{1}{3}\sin(x)$	( )	( )
( )	(4). $\sin(y)dx + \cos(y)dy = 0$	(d). $e^x \sin(y) = c$	( )	( )
( )	(5). $\frac{dy}{dx} + 4y = 0$	(e). $x^2y - \frac{y^3}{3} = c$	( )	( )

Where  $c$  is a constant and  $y(x)$  is function of  $x$ .