九十六學年度研究所碩士班考試入學 環境工程學系碩士班 工程數學考科

第1頁,共1頁

Solve the following problems (20% for each problem):

1.
$$\frac{\partial u}{\partial x} + 2x \frac{\partial u}{\partial t} = 2x \quad \text{with} \quad u(x,0) = 1 \; ; u(0,t) = t$$

2.
$$y_1'' = y_1 + y_2'' = 2y_1 + y_1'' = 2y_1 + y_$$

3.
$$(D^2 - 2D + I)y = x^2 + x^{-1}$$

4.
$$4xy'' + 2y' + y$$

5.
$$y(3x^2 - ay)dx - x(3x^2 - 2ay)dy$$