班級：_____學號：_____姓名：_____

國立台灣海洋大學河海工程研究所 BEM2004 第 5 次作業

1. In the course, we have derived the fundamental solution of

$$\frac{d^2U(x,s)}{dx^2} - q^2U(x,s) = \delta(x-s), \quad -\infty < x < \infty$$

by using Fourier transform, inverse Fourier transform, residue theorem, and limiting process of $q \to 0$. W also derived the solution by using the same methods and setting $q = 0$ in the beginning.

Please extend the second order ODE to fourth order ODE.

$$\frac{d^4U(x,s)}{dx^4} = \delta(x-s), \quad -\infty < x < \infty$$