

$$2\epsilon \quad 2m^5 - 7m^4 + 12m^3 + 8m^2 = 0$$

$$m^2(2m^3 - 7m^2 + 12m + 8) = 0$$

$$m = 0 \text{ and } m = 0$$

$$m = -\frac{1}{2}$$

$$m = 2 \pm 2i = \alpha \pm \beta i$$

$$\alpha = 2$$

$$\beta = 2$$

$$y = c_1 + c_2 \boxed{t e^{0t}}$$

$$+ c_3 e^{-t/2}$$

$$+ c_4 \boxed{e^{\alpha t} \cos(\beta t)}$$

$$+ c_5 \boxed{e^{\alpha t} \sin(\beta t)}$$