

SUB: MAE 3360

INSTRUCTOR: ALBERT Y. TONG

ASSIGNMENT # 04

DUE ON 02/20/08

QUESTIONS:

Solve the given d.e by Undetermined Coefficients.

(1) $16y'' + 81y = 27$

(2) $y'' + 2y' + 2y = 4x^2$

(3) $y'' + 2y' + y = x + e^{-x}$

(4) $y'' - y' - 2y = 40 \sin^2 x$

(5) $y'' + 2y' = 49e^x \sin 2x$

(6) Solve the given Initial Value Problem

$$y'' - y = 9xe^{2x} ; y(0) = 0 ; y'(0) = 7$$

Solve the given differential equation,

(7) $x^2 y'' + 3xy' + y = 0$

(8) $x^2 y'' + xy' + 16y = 0$

(9) $x^2 y'' - x(2m-1)y' + (m^2 + k^2)y = 0$

(10) $x^2 y'' + xy' - m^2 y = 0$

where m & k are positive constants in each case.