QUIZ NO: 4 Name:_____ ID:_____ Section_____

Q1. (3 points) Solve the IVP: $y'' + 6y' + 9y = 0$ with $y(0) = 0; \quad y'(0) = 1$.

Q2.(2 point) $y_1 = \cos 2x$ and $y2 = \sin 2x$ are two solutions of a second order differential equation. Check if the solutions are linearly independent or linearly dependent.?

Q3.(3 points) Guess y_p for the differential equation $y''' + 4y' = e^x \sin x + \sin 2x - 1$. The solution of the associated homogeneous equation are : $y_{1c} = 1$, $y_{2c} = \cos 2x$ $y_{3c} = \sin 2x$,

Q4. (2 points) The solutions of the associated homogeneous differential equation $y'' - y = -1$ are $y_{1c} = e^x$ and $y_{2c} = e^{-x}$. Using variation of parameters method find y_p .