Name:_____QUIZ NO:4 Section 5 ID_____Points:10

Q1. Determine whether vectors $\underline{v}_1 = (2,1,0,0)$, $\underline{v}_2 = (3.0.1.0)$, and $\underline{v}_3 = (4,0,0,1)$ are linearly independent or linearly dependent.

Q2. Use method of variation of parameters to solve $y'' - 2y' + y = 2e^{2x}$.

Q3. Vectors $\{v_i\}$ are known to be linearly independent. Show that $\underline{u}_1 = \underline{v}_1, \underline{u}_2 = \underline{v}_1 + 2\underline{v}_2,$ and $\underline{u}_3 = \underline{v}_1 + 2\underline{v}_2 + 3\underline{v}_3$ are also linearly independent.

Q4. Solve the IVP: $2\frac{dy}{dx}+\frac{2}{x}y=\frac{e^x}{2x} \quad y(1)=2$