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Student ID: ..... **Section:** ..... **Department:** ..... **Quiz:** .....

Course Code: ..... **Course Title:** ..... **Date:** .....

Answer the following questions: **Total Marks: 15**

Time: 40 Minutes

1.	Given the following two matrices: $\boldsymbol{A} = \begin{bmatrix} 1 & 7 & -2 \\ 3 & 0 & 4 \\ -1 & 5 & 2 \end{bmatrix}, \boldsymbol{B} = \begin{bmatrix} 2 & 1 & 0 \\ 1 & -1 & 3 \end{bmatrix}$. Determine whether the multiplications $\boldsymbol{AB}$ and $\boldsymbol{BA}$ are mathematically possible by analyzing their dimensions. For the combination that is possible, compute the resulting matrix.	**5**
2.	Find the inverse of the matrix $\boldsymbol{C}$ using the Cofactors method. You must show the cofactor matrix and the determinant in your steps. $\boldsymbol{C} = [-1, 2, 0; 3, -4, 0; 0, 1, 1]$.	**5**
3.	Determine the rank of matrix $\boldsymbol{D}$ by reducing it to its Row Echelon Form (REF). $\boldsymbol{D} = [1, -1, 2, 1; 2, 1, -1, 3; 3, 0, 1, 4; 0, -3, 5, -1]$.	**5**

Start writing from here