Name: _____

Student ID: _____

Quiz 5

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Let $S = \{1,2,3,4,5\}$.

   a. *(1 mark)* Give two permutations of the set S.

   b. *(2 marks)* Is $(5,2,1,3,4,5)$ a permutation of the set S, justify.

   c. *(2 marks)* Determine the parity of the permutation $(5,2,1,3,4)$ of the set S.

Question 2. *(5 marks)* If

$$A = \begin{bmatrix} 2 & 1 & -2 & 1 & 0 \\ 3 & 2 & 0 & 0 & 0 \\ 0 & 2 & 0 & -2 & 1 \\ 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 1 & 2 \end{bmatrix}$$

then compute $\det(A)$ using a cofactor expansion.