**MAT 204 Assignment**

Name: Johnson Victor

Matric number: **18/SCI01/045**

**Question 1**

1. A **linear transformation** is a function from one vector space to another that respects the underlying (linear) structure of each vector space. A linear transformation is also known as a linear operator or map.
2. The **rank** of a matrix is defined as (a) the maximum number of linearly independent *column* vectors in the matrix or (b) the maximum number of linearly independent *row* vectors in the matrix.

**QUESTION 2**

**= 1 - 4+9**

**= 1(21-30) – 4(6-40) + 9(12-56)**

**= -9 -4(35) + 9(-44)**

**= -9 -140+396**

**= -149 + 396**

**= 247**

The vector is non-singular, since it’s not equals to zero

Question 3

E 2

F 4

G 6

H 8

I 10

J

K

T

X Y

T(e) = 2

T(g)= 4

T(h)=6

T(j)=8

T(k)=10