VIT Bhopal University

Kotri Kalan,Bhopal, Madhya Pradesh, 466114

Applied Linear Algebra(MAT3002)
Surprise Test

Time: 60 minutes   **20 marks**

INSTRUCTIONS

- *Don't Copy*

- *Each right answer will secure you 5 marks.*

- *There is no negative marking.*

Question 1: Compute a singular value decomposition of the matrix

$$\begin{bmatrix} 2 & 3 \\ 0 & 2 \end{bmatrix}$$

.   *(10 mark)*

Question 2: Calculate QR decomposition of the matrix

$$\begin{bmatrix} 6 & 7 \\ -1 & 5 \end{bmatrix}$$

(5 mark)

Question 2: Find out a collection of orthonormal basis from the following vectors using Gram-Schmidt process

$$(-1, 3, 2), (-2, 1, 0), (1, -3, 2)$$

(5 mark)