

Course 2E2 2007-08 (SF Engineers & MSISS & MEMS)**S h e e t 8**

Due: at the end of the tutorial

Exercise 1

Find the rank and the nullity of the matrix:

(i) $(3 \quad -1 \quad 0)$;

(ii) $\begin{pmatrix} 3 & -1 & 0 \\ 1 & 1 & 1 \\ 1 & -3 & -2 \end{pmatrix}$.

Exercise 2

Find the subset of the vectors that forms a basis of their span:

(i) $\mathbf{u}_1 = (1, -1, 1)$, $\mathbf{u}_2 = (-2, 2, -2)$.

(ii) $\mathbf{u}_1 = (3, -1, 0)$, $\mathbf{u}_2 = (1, 1, 1)$, $\mathbf{u}_3 = (1, -3, -2)$.