

Course 2E1 2005-06 (SF Engineers & MSISS & MEMS)

S h e e t 19

Due: in the tutorial sessions next Wednesday/Thursday

Exercise 1

Use the Gram-Schmidt process to transform the given basis into orthogonal one:

- (i) $\mathbf{u}_1 = (1, 2)$, $\mathbf{u}_2 = (-1, 2)$;
- (ii) $\mathbf{u}_1 = (1, 0, 1)$, $\mathbf{u}_2 = (1, 1, 0)$, $\mathbf{u}_3 = (1, 0, 2)$;
- (iii) $\mathbf{u}_1 = (1, 0, 1, 0)$, $\mathbf{u}_2 = (1, 1, 0, 0)$, $\mathbf{u}_3 = (1, 0, 2, 0)$, $\mathbf{u}_4 = (1, 0, 0, 1)$;