GIRTON SUMMER PROGRAMME
MATHEMATICS FOR ENGINEERING

HOMEWORK ANSWERS

NAME=…………………………… Guanlin Jiang (David)

QUESTION	ANSWER(S)	
VECTOR-1	8 / 7 = 1.142857	
VECTOR-2	The margnitude of cross product "r x n" = The margnitude of the scalar a	
VECTOR-3	**(i)** a x n != 0	
	(ii) a * b + c != 0	
MATRIX-1	**(i)** $\begin{bmatrix} 1 & 0 & -(2/3) \\ 0 & (1/2) & 0 \\ 0 & 0 & (1/3) \end{bmatrix}$	
	(ii) don't exist	
MATRIX-2	**(i)** A: $\begin{bmatrix} 1/2(a + b) & 1/2(a - b) \\ 1/2(a - b) & 1/2(a + b) \end{bmatrix}$ Xo: $\begin{bmatrix} c \\ d \end{bmatrix}$	
	(ii) ab	
	(iii)	
NUMERICAL-1	$X_{(n + 1)} = 2/3\ X_n + b\ /\ (3 * (X_n ^\wedge 2))$	
NUMERICAL-2	$\mid \varepsilon_x + \varepsilon_y + \varepsilon_x \varepsilon_y \mid$	
NUMERICAL-3	13/36	
STATISTICS-1	**range:** (870, 890)	
	Machine B needs attention? No	
STATISTICS-2	$\sigma_{max}=$ 0.1 / √5	
DATA-1	$\mu=$ 2.48	$\sigma=$ 1.75
DATA-2	$t_{scale}=$	$n=$ $t_{delay}=$

Once completed (for all five homeworks) please uploaded as 1 page ".pdf"