TUTORIAL 3

1)From the following data ,find

i)two regression equation

ii)coefficient of correlation between the marks in economics and statistics.

iii)the most likely marks in statistics when marks in economics are 30

Marks in Economics	25	28	35	32	31	36	29	38	34	32
Marks in Statistics	43	46	49	41	36	32	31	30	33	39

2) The equation of two regression lines obtained by in a correlation analysis is as follows: 3x + 12y = 19 , 3y + 9x =46. (i) Calculate the correlation coefficient (ii) Mean value of X &Y

3)If X and Y are independent random variables with density function

f(x) $=\begin{cases} 1, & 1 \le x \le 2 \\ 0. & otherwise \end{cases}$ and f(y) $=\begin{cases} y/6, & 2 \le y \le 4 \\ 0. & otherwise \end{cases}$

find the density function of U=XY.

4)Given the joint density function of x and y as

F(x,y)$=\begin{cases} \frac{1}{2}xe^{-y} & : 0 < x < 2, y > 0. \\ 0 : & otherwise \end{cases}$ Find the distribution of X+Y.