Course Code: 16B22CI621   Max. Marks: 25

Course Name: Data Analysis and Simulation Techniques   Max. Time: 1.5 HRS

Course Credit: 4

Note: All questions are compulsory. Scientific calculator is allowed in the examination.

Q. No. 1   [CO-1]   **[5 Marks]**

Drive the Little's Law equations for M/M/1: Inf. Inf. Model.

Q. No. 2   [CO-3]   **[5 Marks]**

Five Dices were thrown 192 times and the number of times 4, 5 or 6 appeared were as follows-

No. of Dice Throwing 4, 5, 6	5	4	3	2	1	0
f	6	46	70	48	20	2

Calculate chi-square value. (Take assumption that we will not use chi-square test if the frequency of expected outcome is less than 10).

Q. No. 3   [CO-4]   **[5 Marks]**

The mean and variance of a Binomial Distribution are 4 and 4/3 respectively.
Find
(i) The probability of 2 successes.
(ii) The probability of more than 2 successes.
(iii) The probability of 3 or more than 3 successes.

Q. No. 4   [CO-3]   **[5 Marks]**

The students got the following percentage of marks in Principles of Economics and Statistics:

Roll No.	1	2	3	4	5	6	7	8	9	10
Marks in Economics	78	36	98	25	75	82	90	62	65	39
Marks in Statistics	84	51	91	60	68	62	86	58	53	47

Calculate the simple coefficient of correlation and Spearman Rank correlation coefficient.

Q. No. 5   [CO-3]   **[5 Marks]**

The following marks have been obtained by a class of students in Statistics (out of 100)

Paper I	45	55	56	58	60	65	68	70	75	80	85
Paper II	56	50	48	60	62	64	65	70	74	82	90

Find the equation of the line of regression.