

6. Find the Coefficient of Correlation and the two lines of Regression between the two variables. [15]

x	50	50	55	60	65	65	65	60	60	60
y	11	13	14	16	16	15	15	14	13	13

7. The customers arrive at the first class ticket counter of a theatre at a rate of 12 per hour. There is one clerk servicing the customers at the rate of 30 per hour.
- What is the probability that there is no customer at the counter?
 - What is the probability that there are more than 2 customers at the counter?
 - What is the probability that there is no customer in the waiting to be served?
 - What is the probability a customer is being served and nobody is waiting? [15]
8. A study of passage of English text to find a vowel followed by a vowel or a consonant or a consonant followed by a consonant or a vowel reveal the following transition probability matrix.

$$\begin{matrix} & \begin{matrix} v & c \end{matrix} \\ \begin{matrix} v \\ c \end{matrix} & \begin{bmatrix} 0.12 & 0.88 \\ 0.54 & 0.46 \end{bmatrix} \end{matrix}$$

Find the percentage of letters in the text book which are expected to be vowels. [15]

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