

solve all questions

4	<p>Construct A Study of prices of rice at Chennai and Madurai gave the following data : Also the coefficient of correlation between the two is 0.8 . Estimate the most likely price of rice (a) at Chennai corresponding to the price of 18 at Madurai and (b) at Madurai corresponding to the price of 17 at Chennai.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th><th style="text-align: center;">Chennai</th><th style="text-align: center;">Madurai</th></tr> </thead> <tbody> <tr> <td>Mean</td><td style="text-align: center;">19.5</td><td style="text-align: center;">17.75</td></tr> <tr> <td>S.D.</td><td style="text-align: center;">1.75</td><td style="text-align: center;">2.5</td></tr> </tbody> </table>		Chennai	Madurai	Mean	19.5	17.75	S.D.	1.75	2.5	10	5	A	2.1.3
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5	<p>Solve the L.P.P. by Using Penalty (Big-M) Method Minimise $Z = 2x_1 + 3x_2$ Subject to Constraints $x_1 + x_2 \geq 5$ $x_1 + 2x_2 \geq 6$ $x_1, x_2 \geq 0$</p>	10	6	A	2.1.3									

Q.3	<p>Organize the Samples of two types of electric bulbs were tested for length of life and the following data were obtained. Test at 5% level of significance whether the difference in the sample means is significant. [Tabulated value at 5% level of significance is 2.16]</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th><th style="text-align: center;">Type I</th><th style="text-align: center;">Type II</th></tr> </thead> <tbody> <tr> <td>Number of samples:</td><td style="text-align: center;">9</td><td style="text-align: center;">8</td></tr> <tr> <td>Mean of the samples(in hours):</td><td style="text-align: center;">1164</td><td style="text-align: center;">1004</td></tr> <tr> <td>Standard deviation(in hours):</td><td style="text-align: center;">65</td><td style="text-align: center;">50</td></tr> </tbody> </table>		Type I	Type II	Number of samples:	9	8	Mean of the samples(in hours):	1164	1004	Standard deviation(in hours):	65	50	5	4	A	
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b.	<p>Develop Theory predicts that the proportion of beans in the four groups A,B,C,D should be 9:3:3:1.In an experiment among 1600 beans the numbers in the four groups were 882, 313, 287, and 118. Does the experimental results support the theory? [Tabulated value of χ^2 at 5% level of significance is 7.81]</p>	5	4	A													

Q.3	<p>a. Find: If X and Y are independent Poisson variates such that $P(X=1) = P(X=2)$ and $P(Y=2) = P(Y=3)$, find the variance of $2X-3Y$.</p>	5	2	
	<p>OR</p> <p>b. Build In a factory an article is produced on three machines. Their respective productions are 300 units by A, 250 units by B and 450 units by C. It is found that the percentages of defective articles for A, B and C are 1, 1.2 and 2 respectively. An article is randomly selected from a day's production (which are mixed), then find the probability that the selected article is defective.</p>	5	1	A

Find the following values of the demand & the corresponding price of a commodity , the degree of Correlation between the demand & price by computing Karl Pearson's coefficient of correlation.

a

Demand in Quintals	65	66	67	67	68	69	70	72
Price in Paise per kg	67	68	65	68	72	72	69	71

5 5 R

OR

Solve the rank correlation coefficient from the following data relating to the ranks of 10 students in English & Mathematics.

b.

Student Number	1	2	3	4	5	6	7	8	9	10
Rank in English	1	3	7	5	4	6	2	10	9	8
Rank in Mathematics	3	1	4	5	6	9	7	8	10	2

5 5 A