K26FY1257 Pages: 2 Reg No:.....
Name:.....

Second Semester FYUGP Degree (Reg/Sup/Imp) Examination
April 2026
KU2DSCSTA102 - DESCRIPTIVE STATISTICS
2024 Admission onwards

Time : 2 hours Maximum Marks : 70

Section A

Answer any 6 questions. Each carry 3 marks.

1. Distinguish between raw and central moments.
2. What is the significance of the second central moment?
3. Define simple correlation with an example.
4. How does rank correlation differ from Pearson's correlation?
5. Define partial and multiple correlations with examples.
6. Distinguish between correlation and regression.
7. Define line of regression.
8. Find b_{yx} if $2x + 4y - 5 = 0$ is the equation of y on x.

Section B

Answer any 4 questions. Each carry 6 marks.

9. Compute the Pearson correlation coefficent for the following data

X	2	4	6	8	10
Y	3	6	9	12	15

10. Explain the merits and demerits of the Scatter diagram method.
11. Discuss about rank correlation.
12. From the data given below obtain the regression equation of x on y

x:	2	3	7	8	10
y:	10	9	11	8	12

13. The following table shows the mean and standard deviation of the price of two shares in a stock exchange.

Share	Mean (in Rs)	Standard deviation (in Rs.)
A Ltd.	39.6	10.8
B Ltd.	47.5	16.0

If the coefficient of correlation between the prices of two shares is 0.42. Find the most likely price of share of A corresponding to a price of Rs.55 observed in the case of share B.

14. From the following results, estimate the yield of crops when the rainfall is 22 cms and the rainfall when the yield is 600 kgs.

	Yield in kgs	rainfall in cms
Arithmetic mean:	508.4	26.7
Standard deviation:	36.8	4.6

Coefficient of correlation between yield and rainfall is 0.52.

Section C

Answer any 2 questions. Each carry 14 marks.

15. a)Fit a curve of the best fit of the type $y = ae^{bx}$ to the following data.

X	1	2	3	4
Y	1.65	2.7	4.5	7.35

b) Fit a curve of the best fit of the type $y = ax^b$b to the following data.

X	2	3	4	5	6
Y	8.3	15.4	33.1	65.2	126.4

16. a) Explain the principle of least squares for fitting a second-degree curve of the form $y = a + bx + cx^2$ for n pairs of observations.
b)Fit a parabola for the following data:

X	-2	-1	0	1	2	3	4
Y	5	2	1	2	5	10	17

17. a) company tracks the daily sales of a product for 7 days : 12, 15, 14, 10, 18, 16, 20. Compute the mean and variance using the first and second raw moments.
b)Using the data above .compute the third central moment and interpret the skewness of sales distribution.