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FIRST YEAR B.Sc. (DATA SCIENCE)
24DSC11105: Basics of Descriptive Statistics
(Semester I)

Program: BSc (BSc DS10)
Program Specific: BSc(Data Science)
Course Type: Major
Paper: V

Credits: 2
Time: 2 Hours
Max. Marks: 30
SET: A

Instructions to the candidate:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw a well labelled diagram wherever necessary.

Q1) Attempt ANY FIVE of the following: [5X 2 = 10]

- a) Obtain Karl Pearson's coefficient of skewness for the following data:
Mean = 50, Mode=55, Standatr d deviation= 10 and comment on your result.
- b) Define : i) Primary data
ii) Sample
- c) Compute harmonic and geometric mean for the following data:
10 , 12 , 14 , 16 , 18
- d) Write a equation of regression line Y on X and regression line X on Y.
- e) If $b_{yx}=0.5$ and $b_{xy} = 1.6$, calculate coefficient of correlation(r).
- f) Define:Nominal scale and ordinal scale.
- g) Compute combine mean for following Data
 $n_1 = 50$ $\bar{X}_1 = 55$
 $n_2 = 30$ $\bar{X}_2 = 70$

Q2) Attempt ANY THREE of the following: [3X 4 = 12]

- a) Compute the all three quartiles for the data given below:

Class	0-20	20-40	40-60	60-80	80-100
Frequencies	5	12	32	40	11

- b) Explain the types of correlation with an example.
- c) State the merits and demerits of median.

d) Find range, mean ,median and mode for following data :

15, 36, 15, 20, 41, 38, 15

e) Explain the term skewness and its types.

Q3) Attempt ANY TWO of the following:

[2 X 4 = 08]

a) The analyzed data of runs scored by players A and B in 5 test matches with size $n_1=50$, $n_2=50$ then which player is more consistent?

	Player A	Player B
Mean	53	45
Standard deviation	40	16

b) Write a short note on “Simple random sampling without replacement(SRSWOR)”

c) Explain following terms:

- i. Class mark
- ii. Range
- iii. Standard deviation
- iv. Class width

d) Let's say you have data on the ranks of students in two different subjects:

Student	A	B	C	D	E
Statistics Rank	1	2	3	4	5
English Rank	2	1	4	3	5

Calculate Spearman’s Rank correlation coefficient for above data and comment on it.
