

Documentation Research and Training Centre  
Indian Statistical Institute, Bangalore – 560059

MS(LIS) (2019-20), Second Semester

Mid-Semester Examination

Paper 8: Elements of Statistics and Research Methodology

Time: 90 Min.

Maximum Marks: 40

Note: Read the instructions carefully. The question paper consists of two parts A and B. Scientific Calculator is allowed.

Part A: Attempt all the questions. Q.1 and Q.2 are MCQs while other questions are descriptive.

1. The limit of the coefficient of skewness is 1
  - a.  $\pm 1$
  - b.  $\pm 2$
  - c.  $\pm 3$
  - d.  $\pm \infty$
  
2. Which measure of central tendency is suitable to compare a distribution having outliers 1
  - a. Arithmetic Mean
  - b. Median
  - c. Mode
  - d. Geometric Mean
  
3. If the tangent of the angle between the lines of regression of Y on X and X on Y is 0.6, and the S.D. of Y is twice that of X, find the correlation coefficient between X and Y. 2
  
4. Write a short note on Pareto Diagram. 2
  
5. What is *Narrative Citation*? Give an example of a narrative citation. 2
  
6. In short, write the differences between *Reference* and *Bibliography*. 3
  
7. Which measurement scale can measure the following phenomena 4
  - a. Military ranks
  - b. Zip Code
  - c. Temperature measured on the Kelvin scale
  - d. Number of passengers in a bus

**Part B: Attempt any 5 questions**

8. What is the scientific method? Draw a flowchart for the steps of the scientific method. 1+ 4
9. Research is not just data collection but also.....  
Complete the statement with proper explanations and examples. 5
10. A researcher wants to see if the sunlight has any effect on the growth of a plant.  
Identify *Independent, Dependent and Extraneous Variables*. Justify. 5
11. What is the hypothesis? How is it different from theory and prediction? Explain with examples. 1+3+1
12. Briefly discuss, why and when references are used in scholarly communication. 5
13. Which measure of central tendency is most stable. Justify. 5
14. What is the coefficient of variation? Calculate Pearson's coefficient of correlation for the heights (in inches) of fathers(X) and their sons(Y), given: 1+4

X	65	66	67	67	68	69	70	72
Y	67	68	65	68	72	72	69	71