

Indian Statistical Institute

Documentation Research and Training Centre  
M.S. (Library and Information Science)  
2nd Semester Mid-term Examination (2021-2023)

Paper 09: Elements of Mathematics and Statics

Time: 11.30 AM – 1 PM

Date: 10-03-2022

[Instruction: Read the question first then attempt.]

- 1) Define and explain the many types of function and relation. What makes them unique (with example)? [8+2]
- 2) Discuss the different types of data collection methods. What is data visualisation? Discuss and illustrate various graphical representation technique in detail. [5+2+8]
- 3) For a frequency distribution of variable  $x$ , mean and median are 32 and 30 respectively. Find the type of distribution it will be? Also explain the different possible conditions. [2+3]
- 4) Attempt two question (*a OR b*) and (*c OR d*) [5+5]
  - a) If  $A = \{1,3,5\}$ ;  $B = \{3,5,6\}$   $C = \{1,3,7\}$ . Verify that  $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$ .

OR

- b) Given that dataset named "population", list out the set of python commands for measuring central tendency.
- c) In a class of 120 students numbered 1 to 120 all even numbered students opt for Physics, whose numbers are divisible by 5 opt for Chemistry and those whose numbers are divisible by 7 opt for Maths. How many opt for none of the three subjects?

OR

- d) Difference between Mean Deviation and Standard Deviation.