

FOUR YEAR B.Sc. HONOURS DEGREE EXAMINATION,

JUNE/JULY-2024

CHOICE BASED CREDIT SYSTEM

SECOND SEMESTER - MINOR

PART - II : STATISTICS

PAPER - 3 : DESCRIPTIVE STATISTICS

(Under CBCS New Regulation w.e.f. the academic year 2023-24)

Time : 3 Hours

Max. Marks : 75

SECTION - A

Answer any **FIVE** of the following questions. Each question carries equal marks. (5×5=25)

1. Write about the origin and limitations of statistics.
2. Write about the different types of tabulation.
3. Write about the different type of scales.
4. Give the properties of an ideal measure of averages.
5. Three groups of observation contain 8, 7 and 5 observations their Geometric means are 8.5, 10.12 and 7.75 respectively. Find the Geometric mean of 20 observation in the single group formed by pooling the three groups.
6. In a moderate asymmetrical distribution the value of median is 42.8 and mode is 40. Find mean.
7. Write about the measure of Skewness.
8. Define dispersion. Write about the measures of dispersion.
9. Define the probability, sample space and conditional probability.
10. For any two events A and B, $P(A \cap B) \leq P(A) \leq P(A \cup B) \leq P(A) + P(B)$.

SECTION - B

Answer **All** the following questions. Each question carries equal marks. (5×10=50)

11. a) Explain the importance and scope of statistics.

(OR)

- b) Define collection of data. Explain the different types of collecting data with advantages and disadvantages.

12. a) What is meant by Diagrammatic Representation? List out the essentials of a good diagram.

(OR)

- b) The following data shows the students in millions on rolls at school stage in India according to different class groups and sex for the year 1970-71.

Stage	Boys	Girls	Total
Class I to V	35.74	21.31	57.05
Class VI to VIII	9.43	3.89	13.32
Class IX to XI	4.87	1.71	6.58
University/College	2.17	0.64	2.81

Represent the data by component bar and multiple bar diagram.

13. a) Find the value of mean and mode for the following data.

Weight	93-97	98-102	103-107	108-112	113-117	118-122	123-127	128-132
No. of students.	3	5	12	17	14	6	3	1

(OR)

- b) Define central tendency. Explain the measures of central tendency with merits and demerits.

14. a) Calculate quartile deviation and its coefficient.

Income	Less than 50	50-70	70-90	90-100	110-130	130-150	Above 150
Persons	54	100	140	300	230	125	51

(OR)

- b) Calculate Bowley's coefficient of skewness.

Profit	Below 10	10-20	20-30	30-40	40-50	Above 50
Companies	5	12	20	16	5	2

15. a) State and prove the Addition theorem of 'n' events on probability.

(OR)

- b) The contents of urns I, II and III are as follows.

1 White, 2 Black and 3 Red Balls, 2 White, 1 Black and 1 Red balls, 4 White, 5 Black and 3 Red Balls. One urn is chosen at random and two balls drawn from it. They happen to be white and red. What is the probability they come from urns I, II and III?