

**Bachelor of Science (B.Sc.) Semester—I Examination****STATISTICS (DESCRIPTIVE STATISTICS—I)****Optional Paper—2**

Time : Three Hours]

[Maximum Marks : 50

**Note :—** All questions are compulsory and carry equal marks.

1. (A) Describe the interval and ratio scales of measurement with suitable examples.
- (B) Differentiate between primary and secondary data. Explain 'Personal Interview' method of data collection with its merits and demerits. 5+5

**OR**

- (E) Distinguish between time-series data and cross-sectional data.
- (F) Prepare a questionnaire for collecting data on type of mobile hand sets, number of apps downloaded, number of mobile calls made and received on a day from college students.
- (G) What is meant by Pilot Survey ? Explain its importance in questionnaire method.
- (H) Differentiate between a questionnaire and a schedule.  $2\frac{1}{2} \times 4 = 10$
2. (A) What is meant by Population Census ? Explain two methods of conducting population census. Differentiate between canvasser method and householder method. 10

**OR**

- (E) Write short notes on :—
- (i) Controlled experiments
- (ii) Scrutiny of data.
- (F) What is meant by independence of attributes ? Obtain a criterion for independence of Attributes A and B.
- (G) What is meant by consistency of class frequencies ? Obtain the conditions for consistency in case of two attributes.
- (H) In the context of data on qualitative characteristic, explain the term 'manifold' and 'dichotomous' classification. Give an example of each type.  $2\frac{1}{2} \times 4 = 10$
3. (A) Explain the need for classification of data. Describe briefly the four types of classification. State the general rules of classification. 10

**OR**

- (E) Distinguish between :—
- (i) Discrete variable and continuous variable.
- (ii) Inclusive and exclusive series.
- (iii) Relative frequency and frequency density.

Explain the concept of ungrouped and grouped frequency distribution with examples. Describe a procedure for forming a grouped exclusive type frequency distribution. 10

4. (A) Explain the advantages and limitations of diagrammatic representation of data. Explain the construction of diagrams representing percentages. Also explain pictogram. 10

**OR**

- (E) Explain a line diagram with an example. Differentiate between line diagram and Multiple bar diagram. Explain the construction of multiple bar diagram and subdivided bar diagram. 10

5. Answer any ten of the following questions :—

- (A) Define coefficient of colligation.  
(B) What is meant by perfect association between two attributes ?  
(C) State the limits of Yule's coefficient of association.  
(D) Numerical observations are always measurements on \_\_\_\_\_ or \_\_\_\_\_ scale.

(Fill in the blanks and rewrite the sentence)

- (E) Give one example where nominal scale of measurement is used.  
(F) State two precautions while using secondary data.  
(G) Differentiate between class limits and class boundaries.  
(H) Define cumulative frequencies.  
(I) Write different parts of a table.  
(J) Explain the utility of ogives.  
(K) Distinguish between diagrammatic and graphical representation of data.  
(L) What is a frequency curve ?

1×10=10