B.A./B.Sc. (Statistics) Semester—I (C.B.S.) Examination
STATISTICS
(Descriptive Statistics—I)

Optional Paper—2

Time : Three Hours]   [Maximum Marks : 50

N.B. :— All questions are compulsory and carry equal marks.

1. (A) Define with suitable examples :
    (i)   Qualitative data and Quantitative data
    (ii)   Frequency and non-frequency data
    (iii) Time-series and cross-section data
    (iv)   Nominal and ordinal data
    (v)   Discrete and continuous data.   10

OR

    (E) State and explain different scales for measurement of data. State their merits and demerits.
                                                                                          10

2. (A) What is population census ? What are the different methods used for conducting population census ? Explain these methods. Which method is used in India ?   10

OR

    (E) What is meant by consistency of data with respect to dichotomous classification using 'n' attributes. Also derive the conditions for consistency when n = 3.

    (F) Define Yule's coefficient of association (Q) and coefficient of colligation (Y) and show that

$$Q = \frac{2Y}{1 + Y^2} .$$

    State the cases when Q and Y are equal.   5+5

3. (A) What is meant by :
    (i)   Inclusive classification
    (ii)   Exclusive classification ?

    State the type of data for which inclusive classification is adequate and data for which exclusive classification is necessary. How are the class boundaries determined for inclusive and exclusive classification ?

    (B) Explain :
    (i)   Relative frequency
    (ii)   Frequency density
    (iii) Cumulative frequency of less than and greater than type with respect to frequency distribution of continuous variable.

    Which one of the above three cannot be computed for open end classes ? State how class limits are associated with less than and greater than type of cumulative frequencies.   5+5

OR

    (E) Explain various parts of a table. State the requisites of good table and also give the advantages of tabular representation of data. Prepare a blank table that can present data on classification of university teachers according to gender, age and stream (Science, Arts and Commerce) they are associated with.   10

4. (A) What are the various kinds of graphs used for representing a frequency distribution ? Explain the construction of histogram for class-intervals of unequal width. Also explain the construction of 'less than' and 'greater than' type ogives. 10

OR

(E) Write advantages of diagrammatic representation of data and explain the construction of various bar diagrams. 10

5. Solve any **TEN** questions :

(A) A study involves, a small group spread over different States in India, what will be most suitable method to collect information of this group.

(B) What care should be taken while using secondary data ?

(C) What is pilot survey conducted for ?

(D) What is meant by fundamental set with respect to classification using attributes ?

(E) If in usual notation, (A) = 60, (B) = 40 and N = 80 then find (AB) under the assumption that A and B are independent.

(F) What is meant by chronological data ?

(G) State one advantage and one disadvantage of grouped frequency distribution.

(H) Express $(A\beta v)$ in terms of positive class frequencies.

(I) State the limits for relative frequency and what will be their sum ?

(J) State an important limitation of diagrammatic representation.

(K) Which diagram could be an option for multiple bar diagram ?

(L) For a frequency distribution giving income of 600 workers working in a factory, what will be the y-co-ordinate of the point of intersection of two ogives ? 1×10=10