KNT/KW/16/5058

Bachelor of Science (B.Sc.) Semester—I (C.B.S) Examination

STATISTICS

Compulsory Paper—2

(Descriptive Statistics—I)

Time : Three Hours] [Maximum Marks : 50

Note :— ALL questions are compulsory and carry equal marks.

1. (A) Explain various scales of measurement. Give an example of each. 10

OR

(E) Distinguish between primary and secondary data. Explain the interview method of data collection. State its merits and demerits. Also, explain the personal observation method of data collection. 10

2. (A) Define a population and a sample. Distinguish between a population survey and a sample survey giving their relative merits and demerits. Give one example where population survey cannot be conducted.

(B) Explain controlled experiments and observational studies with suitable example of each. 5+5

OR

(E) In a dichotomous classification of two attributes, define independence of the two attributes.

Also, define Yule's coefficient of association and coefficient of colligation. Develop the relationship between them.

(F) Explain the two methods of conducting population census. What is meant by Canvasser method ? 5+5

3. (A) Explain :

(i) Textual representation and

(ii) Tabular representation of data. Give the advantages of tabular representation. Also, explain the parts of a table and give requisites of a good table. What is meant by classification ? Explain any two types of classification. Suggest suitable example in each type. 10

OR

(E) Define :

(i) A variable

(ii) A discrete variable

(iii) A continuous variable

Give an example of each. Also, state the steps in construction of a frequency distribution of a continuous variable. Explain the use of tally marks and Sturge's rule in this context.

(F) Explain inclusive and exclusive classification and the role of class boundaries in classification. Also, define cumulative frequencies of less than type and greater than type. How are these obtained ? 5+5

4. (A) Explain the construction of simple bar diagram, multiple bar diagram and subdivided bar diagram. Give suitable examples where these diagrams can be used. 10

OR

(E) Explain the construction of all the graphs that are used to represent a frequency distribution of a discrete variable. 10

5. Solve any **TEN** of the following :

(A) What is a pilot survey ?

(B) State two requisites of a good questionnaire.

(C) A college conducts an examination of 1000 students. Identify the data type and the scale of measurement if the college announces the results of students as follows :

(i) Pass/Fail

(ii) Marks secured.

(D) Define manifold classification with respect to an attribute giving an example.

(E) Derive the conditions for checking consistency of data on dichotomous classification of two attributes.

(F) In a dichotomous classification of two attributes w.r.t. n attributes, calculate the total number of class frequencies of all orders.

(G) In drawing a pie diagram, derive the angle to be drawn at the centre if one wants to represent p % area.

(H) Define frequency density.

(I) What is a pictogram ?

(J) What is a stem and leaf diagram ?

(K) What are frequency curves ?

(L) Define relative frequency. What is the sum of all relative frequencies equal to ? 1×10