NKT/KS/17/6051–C

Bachelor of Arts (B.A.) Part—1 First Semester Examination

STATISTICS

(Descriptive Statistics—I)

Optional Paper—II

Time : Three Hours] [Maximum Marks : 50

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

1. (A) Differentiate between primary and secondary data. Also state their relative merits and demerits.

   (B) Explain interview method and questionnaire method of data collection. Also, compare the two methods. 5+5

OR

   (E) Explain, giving suitable examples :

   (i) Qualitative data

   (ii) Quantitative data

   (iii) Nominal data

   (iv) Ordinal data

   The employees in an office are classified according to (i) gender, (ii) post in the office (Officer/ Clerk/Peon) (iii) Educational qualification (post graduate / graduate / Matriculate), (iv) Length of service in years, (v) Age in years. In each of the above classification criterion, state the data type that the observations will generate. 10

2. (A) In a dichotomous classification of n attributes, derive the total number of class frequencies of :

   (i) order r

   (ii) ultimate classes

   (iii) positive classes

   (iv) all orders.

   What is meant by consistency of data ? Why do the conditions for consistency check whether all the ultimate class frequencies are non-negative ? Derive the conditions for consistency of data on three attributes. 10

OR

(E) Explain controlled experiments and observational studies giving suitable examples of each.

(F) Explain De facto method of conducting population census. Also, state its disadvantages. Explain the difference between 'Householder method' and 'Canvasser method'. 5+5

3. (A) Giving suitable examples, explain (i) Geographical, (ii) Chronological, (iii) Qualitative classifications. Prepare a blank table to present the classification of families in two localities according to the pet animal they have and the family residence being an independent house or a flat. 10

OR

(E) Define a continuous variable. Explain the use of Sturge's rule and tally marks in quantitative classification.

Differentiate between :

(i) Relative frequency and frequency density

(ii) Class limits and class boundaries

(iii) Cumulative frequencies of leas than type and greater than type. 10

4. (A) Explain the construction of diagrams that can be used to represent time-series data. Can these diagrams be used to present cross-sectional data ?

State use and limitations of diagrammatic representation of data. 10

OR

(E) Explain the construction of histogram when a frequency distribution has :

(i) Class intervals of equal widths

(ii) Class intervals of unequal widths.

Also, explain the construction of frequency polygon. What is a frequency curve ? How can it be constructed ? 10

5. Answer any **ten** of the following questions :

(A) What mathematical operations are not meaningful if the observations are measurements on interval scale ?

(B) What is a pilot survey ?

(C) Give an example where numerical observations are nominal scale measurements.

(D) Define Yule's coefficient of association.

(E) State the limits of Yule's coefficient of association.

(F) When are the attributes said to be independent, in case of dichotomous classification of two attributes ?

(G) State the various parts of a table.

(H) Prepare a stem and leaf chart from the following data :

23, 38, 49, 25, 28, 31, 41, 43, 42, 35, 43, 41

36, 33, 37, 51, 45, 55, 53, 52, 26, 35, 46

(I) Fill in the blanks :

Cumulative frequencies of less than type are _____ and cumulative frequencies of greater than type are _____ .

(J) What is a pictogram ?

(K) What is the y-coordinate of the point of intersection of two cumulative frequency diagrams ?

(L) If p is the percentage of a category, then what is the angle to be drawn at the centre if one wants to draw a pie diagram ? 1×10=10