# Bachelor of Arts (B.A.) First Semester 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) 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

## OR

- (E) Define a population and a sample. Compare a population survey and a sample survey.
- (F) Explain interview method and questionnaire method of data collection. Also, compare the two methods. 5+5
- 2. (A) Define Yule's coefficient of association (Q) and coefficient of colligation (Y) and show that :

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

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

## OR

- (E) In a dichotomous classification of two attributes, define :
  - (i) Stochastic independence
  - (ii) Positive Association
  - (iii) Negative Association.

Define Yule's coefficient of association and coefficient of colligation. Develop a relationship between them. Define perfect association and find the value of Yule's coefficient of association when there is perfect positive association and perfect negative association between the attributes.

## 3. (A) Distinguish between :

- (i) Class limits and class boundaries
- (ii) Inclusive and exclusive classification
- (iii) Cumulative frequencies of less than type and greater than type
- (iv) Discrete and continuous variable
- (v) Relative frequency and frequency density.

Give appropriate examples in each of the above cases.

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OR

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(E) Explain tabular representation of data giving various parts of a table. Give requisites of a good table. State the advantages and disadvantages of tabular presentation.

Prepare a blank table that can present the year-wise and gender-wise classification of admissions in a school under the RTE Scheme of Govt. of India. 10

4. (A) Differentiate between diagrammatic and graphical presentation of data. Explain the construction of simple bar diagram, multiple bar diagram and subdivided bar diagram. 10

#### OR

- (E) Explain the construction of the following graphs to present the frequency distribution of a continuous variable :
  - Histogram (i)
  - Cumulative frequency diagrams (ii)
  - (iii) Frequency polygon
  - (iv) Frequency curves.
- 5. Solve any **TEN** of the following questions :
- ine.com (A) Which Mathematical operations are not meaningful if the observations are measurements on

  - (B) What care should be taken while using secondary data 30. Hull
    (C) A study involves, a small group are involved. (C) A study involves, a small group spread over different States in India, what will be most suitable method to collect information of this group?
  - (D) Define manifold classification with respect to an attribute giving an example.
  - (E) Define odds ratio.
  - (F) When will the next census of India, be held?
  - (G) What is meant by chronological data?
  - (H) Define frequency density and give one use of it.
  - State one advantage and one disadvantage of grouped frequency distribution. (I)
  - (J) What are pictograms?
  - (K) Which are the diagrams suitable to represent the values of two related variables given for different time periods ?
  - (L) State an important limitation of diagrammatic representation.  $1 \times 10 = 10$

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