

---

## STATISTICAL DESCRIPTION OF DATA

---

- **Introduction of Statistics:-**

The word statistics has been derived from the word.

Latin - Status

Italian - Statista

German - Statistik

French - Statistique

Each of which means a political state.

- **Meaning (Definition) of statistics:-**

i) Singular Sense : - (Method)

ii) Plural Sense: - (Data)

(i) **Singular Sense:-**

Scientific method that is employed for collecting; analysing and presenting data, Leading finally to drawing statistical inferences

(ii) **Plural Sense:-** Data qualitative as well as quantitative.

- **Application of Statistics:-**

(i) Economics

(ii) Business Managements

(iii) Industry

(iv) Commerce

**Limitations of Statistics:-**

1. Do not study qualitative phenomenon such as Beauty, Honesty, poverty etc.
2. It deals with groups and not with individuals.
3. Statistical laws are not exact. Statistical results are true only on averages.
4. It can be missued.

**Collection of Data:-****Primary Data****Secondary Data****1. Interview method****(i) Personal Interview**

- (a) Best method
- (b) Costly and time consuming

**(ii) Indirect interview**

- (a) Rail Accident
- (b) Not reliables

**(iii) Telephonic Interview**

- (a) quick and Non expensive)
- (b) non-responses is maximum

**2. Mailed questionnaire method:**

- (a) Covers wide area
- (b) Amount of non-responses is maximum

**3. Observation method:-**

- (a) Best method
- (b) time consuming
- (c) Labourious,
- (d) Covers only a small area

**4. Questionnaire sent by enumerators:-**

- (a) More reliable
- (b) costly and time consuming

**1. International Sources:-**

WHO, ILO, IMF, World Bank etc.

**2. Government Sources:-**

CSO, Indian Agricultural statistics by ministry of food and agriculture etc.

**3. Private and quasi government sources:-**

ISI, ICAR, NCERT etc.

**4. Unpublished Sources:-**

Various research institutes, researchers etc.

**Classification (Organisation) of Data**

- i) **Chronological or temporal or Time Series Data:**
- ii) **Geographical or spatial Series Data**
- (iii) **Qualitative or Ordinal Data**
- (iv) **Quantitative or Cardinal Data.**

Note:- (i) Qualitative or quantitative data belongs to frequency group.  
(ii) Time series data and geographical data belong to non-frequency group.  
(iii) Qualitative data is known as attribute.  
Eg.:- Nationality, drinking habit, beauty, intelligence, etc.

**Mode of Presentation of Data**

- (i) **Textual presentation**
  - (ii) **Tabular presentation**
  - (iii) **Diagrammatic presentation.**
- (i) **Textual presentation:-**

This method comprises presenting data with the help of paragraph or a number of paragraphs. The official report of an enquiry commission is usually made by textual presentation.

- (ii) **Tabular Presentation: -**

Tabulation may be defined as logical and systematic arrangement of statistical data in rows and columns. It is designed to simplify the presentation of data for the purposes of analysis and statistical inferences.

**Main parts of a table - (Five Parts):-**

- (a) **Caption:-** upper part of the table, describing the columns and sub-columns, if any.
- (b) **Box-head:-** The entire upper part of the table which includes columns and sub-column numbers, unit of measurement along with caption.
- (c) **Stub:-** The left part of the table providing the description of the rows.
- (d) **Body:-** Main part of the table that contains the numerical figures.
- (e) **Footnotes & Sources: -** Should be shown at the bottom part of the table.

Table Title & No.

Stub (Row-Heading)	Captions		
	Column Heading	Column Heading	Column Heading
Row-Heading Row-Heading Row-Heading	<p style="text-align: center;">             Numerical      ↑      Information              ←      BODY      →              ↓           </p>		

Footnotes and Sources:

**Note:**

Tabular method is the best method of presentation of data

**(iii) Diagrammatic presentation of data:-**

Most attractive representation of statistical data is provided by charts, diagrams and pictures.

**• Diagrammatic representation of data:-**

- (i) It is used for both the educated section and uneducated section of the society.
- (ii) Any hidden trend present in the given data can be noticed only in this mode of represents.
- (iii) Compared to tabulation, this is less accurate.

**• Types of diagrams:-**

1. Line Diagram or Historiogram
2. Bar Diagram
3. Pie Chart

I. **Line Diagram:-** When the data vary over time. We take recourse to line diagram. In a simple line diagram, we plot each pair of values of  $(t, y)$ . It representing the time series at the time point  $t$  in the  $t$ - $y$  plane. The plotted points are then joined successively by line segments and the resulting chart is known as line-diagram.

- When time series exhibit a wide range of fluctuation, we think of logarithmic or ratio chart.
- We use multiple line chart for representing two or more related time series data expressed in the same unit.
- We use multiple-axis chart in somewhat similar situations if the variables are expressed in different units.

**II Bar Diagrams:**

- (i) **Horizontal Bar Diagram:-** Used for qualitative data or data varying over space.
- (ii) **Vertical Bar Diagram:-** Used for quantitative data or time-series data.
- (iii) **Multiple or Grouped Bar Diagrams:-** Used to compare related series.
- (iv) **Component or Sub-divided Bar Diagrams:-** Used for representing data divided into a number of components.
- (v) **Divided Bar Charts or Percentage Bar Diagrams:-** For comparing different components of a variable and also the relating of the component to the whole.

**Note:-** For this situation, we may also use Pie chart or Pie diagram or circle diagram.

**III. Pie Chart:-**

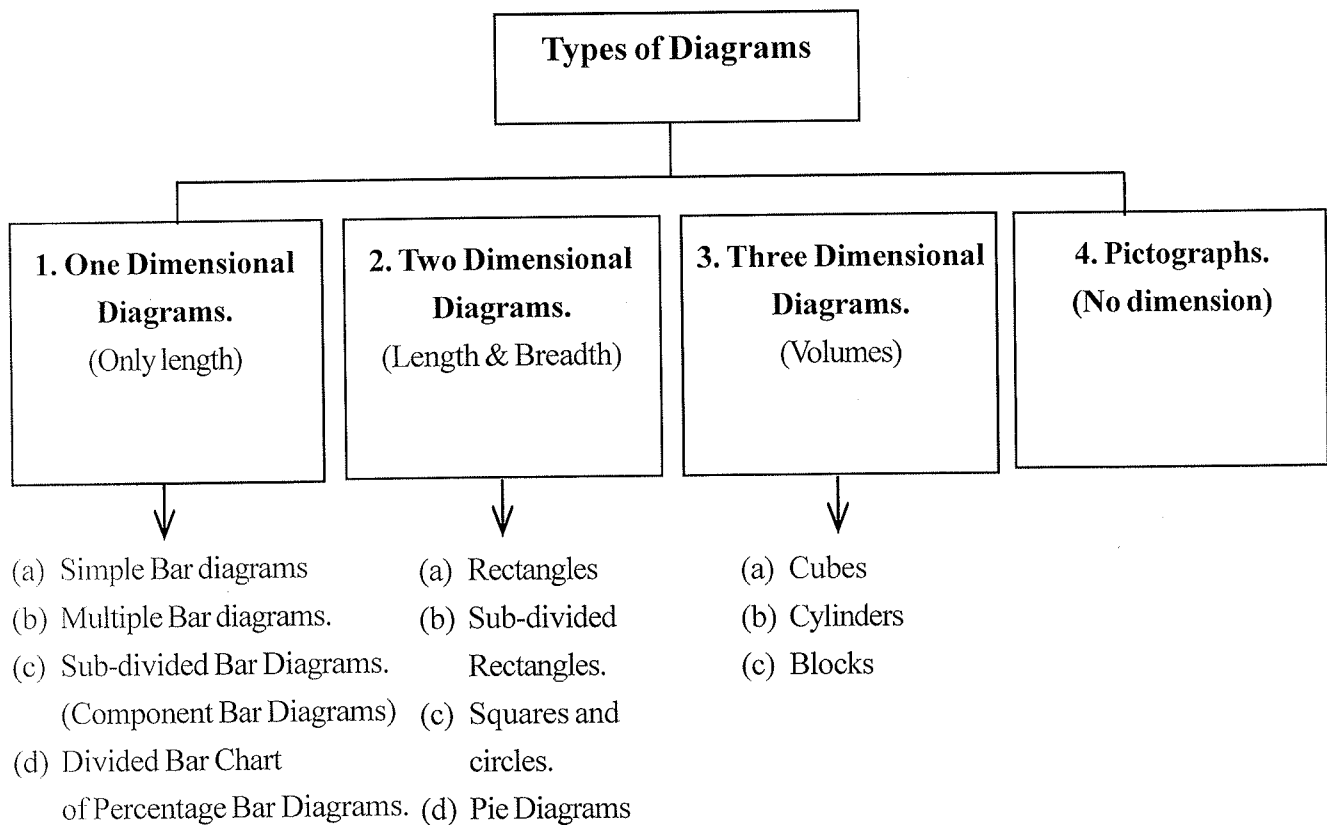
Pie chart is a circular diagram whose area is proportionately divided among the various components of a given variable.

- In order to make the data easily understandable, we tabulate the data in the form of tables or charts.

A table has three columns.

- (1) Variable            (2) Tally marks            (3) Frequency

- I. **Variable:-** Any character which can vary from one individual to another is called a variable. For e.g. age, income, height, intelligence etc.
- II. **Tally:-** It is a method of keeping count in blocks of five. For example. 1 = I, 2 = II, 3 = III; 4 = IIII ; 5 IIII ; 6 = IIII ... and so on.
- III. **Frequency:** The number of times an observation occurs in the given data is called the frequency of the observation.



### SCRUTINY OF DATA

Since the statistical analyses are made only on the basis of data, it is necessary to check whether the data under consideration are accurate as well as consistence. No hard and fast rules can be recommended for the scrutiny of data. One must apply his intelligence, patience and experience while scrutinising the given information.

Errors in data may creep in while writing or copying the answer on the part of the enumerator. A keen observer can easily detect that type of error. Again, there may be two or more series of figures which are in some way or other related to each other. If the data for all the series are provided, they may be checked for internal consistency. As an example, if the data for population, area and density for some places are given, then we may verify whether they are internally consistent by examining whether the relation.

## Frequency Distribution:-

A frequency distribution is the arrangement of the given data in the form of a table showing frequency with which each variable occurs.

### Some statistical Terms:-

- (i) **Range:-** It is the difference between the Largest and the smallest number in the given data.
- (ii) **Class:-** If the observations of a series are divided into groups and groups are bounded by limits, then each group is called a class.
- (iii) **Class Limit:** The end values of a class are called the class limit.
  - (a) **Lower Class Limit:-** The smaller value of the two limits is called the lower class limit. (LCL)
  - (b) **Upper Class Limit:-** The higher value of the same is called the upper limit of the class.
- (iv) **Class Interval:** The difference between the lower Limit and upper Limit of the class is known as class interval.  $I = U - L$ .  
i.e. Range of a class is called its class interval.
- (v) **Class Boundaries (Actual Class Limit):** The class boundaries are the limits up to which the two limits, (actual) of each class may be extended to fill up the gap that exists between the classes.
  - (a) **Lower Class Boundary:-** Lower Class Limit -  $\frac{1}{2}$  of the gap  $LCB = LCL - \frac{D}{2}$
  - (b) **Upper Class Boundary:-** Upper Class Limit +  $\frac{1}{2}$  of the gap  $UCB = UCL + \frac{D}{2}$where D is the difference between the LCL of the next class interval and UCL of the given class interval.
- (vi) **Class-mark or Mid Point or Mid Value:-** The central value of the class interval is called the mid point or mid-value or class mark.  
Mid Point or class mark =  $\frac{LCL+UCL}{2}$  or  $\frac{LCB+UCB}{2}$
- (vii) **Inclusive Series:-** When the class-intervals are so fixed that the upper Limit of the class is included in that class, it is known as inclusive method of classification. e.g. 0-5, 6-10, 11-15, 16-20.
- (viii) **Exclusive Series:-** In this series the upper limit of one class is the lower limit of the other class. The common point of the two classes is included in the higher class. For e.g. 10-15, 15-20, 20-25 ..... represent a continuous series. 15 is included in the class 15-20.

**Note:-** For overlapping classification or mutually exclusive classification the class boundaries coincide with the class limits.



**Conversion of a discontinuous series into continuous series:-****(Inclusive series to exclusive series).**

Step 1 Adjustment factor:- =

$$\frac{1}{2} [\text{Lower limit of second class} - \text{Upper limit of the first class}].$$

Step 2	Inclusive Form	Exclusive Form
	11 – 20	10.5 – 20.5
	21 – 30	20.5 – 30.5

- **Cumulative frequency distribution:-** Cumulative frequency corresponding to a class is the sum of all the frequencies upto and including that class. Cumulative frequency series are of two types:-

(i) less than type                      (ii) More than type.

- **Number of classes:-**

$$\text{No. of classes} = \frac{\text{Range}}{\text{Class Size}}$$

- **Frequency density of a class interval:-**

$$\text{Frequency density} = \frac{\text{Frequency of that class interval}}{\text{Class length}}$$

**Relative Frequency:-**

$$\text{Relative Frequency} = \frac{\text{Class Frequency}}{\text{Total frequency}}$$

**Percentage Frequency:-**

$$\text{Percentage Frequency} = \frac{\text{Class Frequency}}{\text{Total frequency}} \times 100.$$

**Graph of Frequency distribution:-****1. Histogram: (Area diagram) (Most Commonly used).**

A Histogram is a graph containing a set of rectangles, each being constructed to represent the size of the class interval by its width and the frequency in each class-interval by its height.

The area of each rectangle is proportional to the frequency in the respective class-interval and the total area of the histogram is proportional to the total frequency.

- Note:** (i) When the class-intervals are unequal the heights of rectangles are made proportional not to the class frequencies, but to the frequency densities.
- (ii) In construction of histogram the class intervals should be in exclusive form.
- (iii) We can find mode graphically by histogram.

**2. Frequency Polygon:-** If we mark the mid-points of the top horizontal sides of the rectangles in a histogram and join them by straight lines, the figure so formed is called a frequency polygon.

A frequency polygon is useful in comparing two or more frequency distribution.

**Frequency polygon can be drawn in two ways:**

- (a) By preparing histogram first.
- (b) Direct method.

**3. Cumulative frequency curve or ogive:-**

A graph which represents the data of a cumulative frequency distribution is called ogive curve.

Ogive is a line diagram.

**There are two types of ogives:-**

- (i) **Less than ogive:-** If the cumulative frequencies are plotted at the upper limit of the class interval, it is a less than ogive.
- (ii) **More than ogive:** Cumulative frequencies are plotted against the lower class boundaries of the respective class, intervals.

**Note:** Median can be obtained from ogive

**4. Frequency Curve:-** A frequency curve is drawn by smoothing the frequency polygon. It is smoothed in such a way that the sharp turns are avoided.

A frequency curve can be regard as a limiting form of frequency polygon or histogram.

There exist four type of frequency curves:-

- (i) **Bell Shaped Curves:** Most of the commonly used distributions are bell shaped curves. The distribution of height, marks, profit etc. belongs to this category. On a bell shaped curves, the frequency starting from a rather low value gradually reaches the maximum value and then gradually decreases to reach its lowest value at the other extremity frequency is maximum at central part.
- (ii) **U-Shaped Curve:** Frequency is minimum near the central part and the frequency reaches maximum at the two extremities.
- (iii) **J-Shaped Curve:** J shape curves starts with minimum frequency at one extremity and reaches maximum at other extremity.
- (iv) **Mixed Curve:-** Combination of above curve is known as mixed curves.

**False Base Line:-** The false base line graph technique is useful from two point of views:-

- (i) To magnify the minor fluctuation in time series data.
- (ii) To economic the space.

**Exercise - I**

1. **Which of the following statements is false ?[SM]**
  - (a) Statistics is derived from the Latin word 'Status'
  - (b) Statistics is derived from the Italian word 'Statista'
  - (c) Statistics is derived from the French word 'Statistik'
  - (d) None of these
2. **Statistics is defined in terms of numerical data in the [SM]**
  - (a) Singular sense
  - (b) Plural sense
  - (c) Either (a) or (b)
  - (d) Both (a) and (b)
3. **Statistics is applied in[SM]**
  - (a) Economics
  - (b) Business management
  - (c) Commerce and industry
  - (d) All these
4. **Statistics is concerned with[SM]**
  - (a) Qualitative information
  - (b) Quantitative information
  - (c) (a) or (b)
  - (d) Both (a) and (b)
5. **An attribute is [SM]**
  - (a) A qualitative characteristic
  - (b) A quantitative characteristic
  - (c) A measurable characteristic
  - (d) All these
6. **Nationality of a student is [SM]**
  - (a) An attribute
  - (b) A continuous variable
  - (c) A discrete variable
  - (d) (a) or (c)
7. **Drinking habit of a person is [SM]**
  - (a) An attribute
  - (b) A variable
  - (c) A discrete variable
  - (d) A continuous variable
8. **Data collected on religion from the census reports are[SM]**
  - (a) Primary data
  - (b) Secondary data
  - (c) Sample data
  - (d) (a) or (b)
9. **The data collected on the height of a group of students after recording their heights with a measuring tape are[SM]**
  - (a) Primary data
  - (b) Secondary data
  - (c) Discrete data
  - (d) Continuous data
10. **The primary data are collected by [SM]**
  - (a) Interview method
  - (b) Observation method
  - (c) Questionnaire method
  - (d) All these
11. **The quickest method to collect primary data is [SM]**
  - (a) Personal interview
  - (b) Indirect interview
  - (c) Telephone interview
  - (d) By observation
12. **The best method to collect data , in case of a natural calamity is [SM]**
  - (a) Personal interview
  - (b) Indirect interview
  - (c) Questionnaire method
  - (d) Direct observation method
13. **In case of a rail accident , the appropriate method of data collection is by**
  - (a) Personal interview
  - (b) Direct interview
  - (c) Indirect interview
  - (d) All these

14. Which method of data collection covers the widest area ?[SM]
- (a) Telephone interview method (b) Mailed questionnaire method  
(c) Direct interview method (d) All these
15. The amount of non-responses is maximum in[SM]
- (a) Mailed questionnaire method (b) Interview method (c) Observation method (d) All these
16. Some important sources of secondary data are[SM]
- (a) International and Government sources (b) International and primary sources  
(c) Private and primary sources (d) Government sources

PARAS

**Exercise - II**

1. **Internal consistency of the collected data can be checked when [SM]**
  - (a) Internal data are given
  - (b) External data are given
  - (c) Two or more series are given
  - (d) A number of related series are given
2. **The accuracy and consistency of data can be verified by [SM]**
  - (a) Internal checking
  - (b) External checking
  - (c) Scurtiny
  - (d) Both (a) and (b)
3. **The mode of presentation of data are [SM]**
  - (a) Textual , tabulation and diagrammatic
  - (b) Tabular , internal and external
  - (c) Textual , tabular and internal
  - (d) Tabular , textual and external
4. **The best method of presentation of data is [SM]**
  - (a) Textual
  - (b) Tabular
  - (c) Diagrammatic
  - (d) (b) and (c)
5. **The most attractive method of data presentation is [SM]**
  - (a) Tabular
  - (b) Textual
  - (c) Diagrammatic
  - (d) (a) or (b)
6. **For tabulation , 'caption' is [SM]**
  - (a) The upper part of the table
  - (b) The lower part of the table
  - (c) The main part of the table
  - (d) The upper part of a table that describes the column and sub-column.
7. **'Stub' of a table is the [SM]**
  - (a) Left part of the table describig the columns
  - (b) Right part of the table describing the columns
  - (c) Right part of the table describing the rows
  - (d) Left part of the table describing the rows.
8. **The entire upper part of a table is known as [SM]**
  - (a) Caption
  - (b) Stub
  - (c) Box head
  - (d) Body
9. **The unit of measurement in tabulation is shown in [SM]**
  - (a) Box head
  - (b) Body
  - (c) Caption
  - (d) Stub
10. **In tabulation source of the data , if any , is shown in the [SM]**
  - (a) Footnote
  - (b) Body
  - (c) Stub
  - (d) Caption
11. **Which of the following statements is untrue for tabulation ? [SM]**
  - (a) Statistical analysis of data requires tabulation
  - (b) It facilitates comparison between rows and not columns
  - (c) Complicated data can be presented
  - (d) Diagrammatic representation of data requires tabulation

12. **Hidden trend , if any , in the data can be noticed in [SM]**  
(a) Textual presentation (b) Tabulation (c) Diagrammatic representation (d) All these
13. **Classification is of [SM]**  
(a) four (b) three (c) two (d) five kinds.
14. **The most accurate mode of data presentation is [SM]**  
(a) Diagrammatic method (b) Tabulation (c) Textual presentation (d) None of these
15. **The chart that uses logarithm of the variable is known as [SM]**  
(a) Line chart (b) Ratio chart (c) Multiple line chart (d) Component line chart
16. **Multiple line chart is applied for [SM]**  
(a) Showing multiple charts  
(b) Two or more related time series when the variables are expressed in the same unit  
(c) Two or more related times series when the variables are expressed in different unit  
(d) Multiple variations in the time series
17. **Multiple axis line chart is considered when [SM]**  
(a) There is more than one time series (b) The units of the variables are different  
(c) (a) or (b) (d) (a) and (b)
18. **Horizontal bar diagram is used for [SM]**  
(a) Qualitative data (b) Data varying over time (c) Data varying over space (d) (a) or (c)
19. **Vertical bar diagram is applicable when [SM]**  
(a) The data are qualitative (b) The data are quantitative  
(c) When the data vary over time (d) (a) or (c)
20. **Divided bar chart is considered for [SM]**  
(a) Comparing different components of a variable  
(b) The relation of different components to the whole  
(c) (a) or (b) (d) (a) and (b)
21. **In order to compare two or more related series , we consider [SM]**  
(a) Multiple bar chart (b) Grouped bar chart (c) (a) or (b) (d) (a) and (b)
22. **Pie-diagram is used for [SM]**  
(a) Comparing different components and their relation to the total  
(b) Nepresenting qualitative data in a circle  
(c) Representing quantitative data in circle  
(d) (b) or (c)

23. A frequency distribution[SM]  
(a) Arranges observations in an increasing order  
(b) Arranges observations in terms of a number of groups  
(c) Relates to measurable characteristic  
(d) All of these
24. The frequency distribution of a continuous variable is known as [SM]  
(a) Grouped frequency distribution (b) Simple frequency distribution (c) (a) or (b) (d) (a) or (b)
25. The distribution of shares is an example of the frequency distribution of [SM]  
(a) A discrete variable (b) A continuous variable (c) An attribute (d) (a) or (c)
26. The distribution of profits of a blue-chip company relates to [SM]  
(a) Discrete variable (b) Continuous variable (c) Attributes (d) (a) or (b).
27. Cost of sugar in a month under the heads Raw Materials , labour , direct production and others were 12 , 20 , 35 and 23 units respectively . What is the difference between the central angles for the largest and smallest components of the cost of sugar ?[SM]  
(a)  $72^\circ$  (b)  $48^\circ$  (c)  $56^\circ$  (d)  $92^\circ$
28. The number of accidents for seven days in a locality are given below :
- |                  |   |    |    |    |    |   |   |   |
|------------------|---|----|----|----|----|---|---|---|
| No. of accidents | : | 0  | 1  | 2  | 3  | 4 | 5 | 6 |
| Frequency        | : | 15 | 19 | 22 | 31 | 9 | 3 | 2 |
- What is the number of cases when 3 or less accidents occurred ?[SM]  
(a) 56 (b) 6 (c) 68 (d) 87
29. The following data relate to the incomes of 86 persons :
- |                |   |         |           |           |           |
|----------------|---|---------|-----------|-----------|-----------|
| Income in Rs.  | : | 500-999 | 1000-1499 | 1500-1999 | 2000-2499 |
| No. of persons | : | 15      | 28        | 36        | 7         |
- What is the percentages of persons earning more than Rs. 1500 ?[SM]  
(a) 50 (b) 45 (c) 40 (d) 60
30. The following data relate to the marks of a group of students :
- |                 |   |          |          |          |          |          |
|-----------------|---|----------|----------|----------|----------|----------|
| Marks           | : | Below 10 | Below 20 | Below 30 | Below 40 | Below 50 |
| No. of students | : | 15       | 38       | 65       | 84       | 100      |
- How many students got marks more than 30 ?[SM]  
(a) 65 (b) 50 (c) 35 (d) 43



31. Find the number of observations between 250 and 300 from the following data :[SM]

Value	: More than 200	More than 250	More than 300	More than 350
No. of observations:	56	38	15	0

(a) 56 (b) 23 (c) 15 (d) 8

32. Graph is a [SM]

(a) Line diagram (b) Bar diagram (c) Pie diagram (d) Pictogram

33. Details are shown by [SM]

(a) Charts (b) Tabular presentation (c) both (d) none

34. The relationship between two variables are shown in [SM]

(a) Pictogram (b) Histogram (c) Bar diagram (d) Line diagram

35. In general the number of types of tabulation are [SM]

(a) two (b) three (c) one (d) four

36. A table has ----- parts[SM]

(a) four (b) two (c) five (d) none

**Exercise - III**

1. **The curve obtained by joining the points, whose x-coordinates are the upper limits of the class-intervals and y-coordinates are corresponding cumulative frequencies is called.[SM]**  
(a) Ogive                      (b) Histogram                      (c) Frequency Polygon                      (d) Frequency Curve
2. **Mutually inclusive classification is usually meant for [SM]**  
(a) A discrete variable    (b) A continuous variable    (c) An attribute                      (d) All these
3. **Mutually exclusive classification is usually meant for [SM]**  
(a) A discrete variable    (b) A continuous variable    (c) An attribute                      (d) Any of these.
4. **The LCL is [SM]**  
(a) An upper limit                      (b) A lower limit                      (c) (a) and (b)                      (d) (A) or (b)
5. **The UCB is [SM]**  
(a) An upper limit to UCL    (b) A lower limit to LCL    (c) Both (a) and (b)    (d) (a) or (b)
6. **An Ogive can be prepared in ..... different ways.[SM]**  
(a) 2                      (b) 3                      (c) 4                      (d) none.
7. **For a particular class boundary , the less than cumulative frequency and more than cumulative frequency add up to [SM]**  
(a) Total frequency                      (b) Fifty per cent of the total frequency  
(c) (a) or (b)                      (d) None of these
8. **Frequency density corresponding to a class interval is the ratio of[SM]**  
(a) Class frequency to the total frequency                      (b) Class frequency to the class length  
(c) Class frequency to the class frequency                      (d) Class frequency to the cumulative frequency
9. **Relative frequency for a particular class[SM]**  
(a) Lies between 0 and 1                      (b) Lies between 0 and 1 , both inclusive  
(c) Lies between -1 and 0                      (d) Lies between -1 to 1.
10. **Mode of a distribution can be obtained from[SM]**  
(a) Histogram                      (b) Less than type ogives                      (c) More than type ogives                      (d) None of these
11. **Median of a distribution can be obtained from[SM]**  
(a) Frequency polygon                      (b) Histogram                      (c) Less than type ogives                      (d) None of these
12. **A comparison among the class frequencies is possible only in [SM]**  
(a) Frequency polygon                      (b) Histogram                      (c) Ogives                      (d) (a) or (b)
13. **Frequency curve is a limiting form of [SM]**  
(a) Frequency polygon                      (b) Histogram                      (c) (a) or (b)                      (d) (a) and (b)

14. Most of the commonly used frequency curves are[SM]  
 (a) Mixed (b) Inverted J-shaped (c) U-shaped (d) Bell-shaped
15. The distribution of profits of a company follows[SM]  
 (a) J-shaped frequency curve (b) U-shaped frequency curve  
 (c) Bell-shaped frequency curve (d) Any of these.
16. Out of 1000 persons , 25 per cent were industrial workers and the rest were agricultural worker. 300 persons enjoyed world cup matches world cup matches on TV. 30 perent of the people who had not watched world cup matches were industrial workers. What is the number of agricultural workers who had enjoyed world cup matches on TV ?[SM]  
 (a) 260 (b) 240 (c) 230 (d) 250
17. A sample study of the people of an area revealed that total number of women were 40% and the percentage of coffee drinker were 45 as a whole and the percentage of male coffee drinker was 20. What was the percentage of female non-coffee drinker ?[SM]  
 (a) 10 (b) 15 (c) 18 (d) 20
18. In Histogram , the class are taken [SM]  
 (a) overlapping (b) non-overlapping (c) both (d) none
19. For overlapping class-intervals the class limit & class boundary are[SM]  
 (a) same (b) not same (c) zero (d) none
20. For the overlapping classes 0-10 , 10-20 , 20-30 etc. the class mark of the class 0-10 is[SM]  
 (a) 5 (b) 0 (c) 10 (d) none
21. For the non-overlapping classes 0-19 , 20-39 , 40-59 the class mark of the class 0-19 is[SM]  
 (a) 0 (b) 19 (c) 9.5 (d) none
22. Class : 0-10 10-20 20-30 30-40 40-50  
 Frequency : 5 8 15 6 4
- For the class 20-30 , cumulative frequency is [SM]  
 (a) 20 (b) 13 (c) 15 (d) 28
23. The number of error in Statistics are[SM]  
 (a) one (b) two (c) three (d) four
24. The number of “Frequency distribution” is [SM]  
 (a) two (b)one (c) five (d) four
25. (Class frequency) / (Width of the class) is defined as [SM]  
 (a) Frequency density (b) Frequency distribution (c) both (d) none
26. Tally marks determines[SM]  
 (a) class width (b) class boundary (c) class limit (d) class frequency

27. **Diagrammatic representation of the cumulative frequency distribution is [SM]**  
(a) Frequency Polygon (b) Ogive (c) Histogram (d) none
28. **To find the number of observations less than any given value [SM]**  
(a) Single frequency distribution (b) Grouped frequency distribution  
(c) Cumulative frequency distribution (d) none is used
29. **An area diagram is [SM]**  
(a) Histogram (b) Frequency Polygon (c) Ogive (d) none
30. **When all classes have a common width [SM]**  
(a) Pie Chart (b) Frequency Polygon (c) Both (d) none is used
31. **An approximate idea of the shape of frequency curve is given by [SM]**  
(a) Ogive (b) Frequency Polygon (c) both (d) none
32. **Ogive is a [SM]**  
(a) line diagram (b) Bar diagram (c) both (d) none
33. **The value exactly at the middle of a class interval is called [SM]**  
(a) class mark (b) mid value (c) both (d) none
34. **The graphical representation of a cumulative frequency distribution is called [SM]**  
(a) Histogram (b) Ogive (c) both (d) none
35. **The most common form of diagrammatic representation of a grouped frequency distribution is [SM]**  
(a) Ogive (b) Histogram (c) Frequency Polygon (d) none
36. **Vertical bar chart may appear somewhat a like [SM]**  
(a) Histogram (b) Frequency Polygon (c) Both (d) none
37. **The number of types of cumulative frequency is [SM]**  
(a) one (b) two (c) three (d) four
38. **Classes with zero frequencies are called [SM]**  
(a) Negative class (b) empty class (c) class (d) none
39. **For determining the class frequencies it is necessary that these classes are [SM]**  
(a) mutually exclusive (b) not mutually exclusive (c) independent (d) none
40. **The number of observations falling within a class is called [SM]**  
(a) density (b) frequency (c) both (d) none
41. **Difference between the lower and the upper class boundaries is [SM]**  
(a) width (b) size (c) both (d) none

42. In the construction of a frequency distribution , it is generally preferable to have classes of [SM]  
(a) equal width (b) unequal width (c) maximum (d) none
43. Frequency density is used in the construction of [SM]  
(a) Histogram (b) Ogive  
(c) Frequency Polygon (d) none when the classes are of unequal width.
44. "Cumulative Frequency" refers to the [SM]  
(a) less - than type (b) more-than type (c) both (d) none
45. Upper limit of any class is ..... from the lower limit of the next class [SM]  
(a) same (b) different (c) both (d) none
46. Upper boundary of any class coincides with the lower boundary of the next class. [SM]  
(a) true (b) false (c) both (d) none
47. Excepting the first and the last , all other class boundaries lie midway between the upper limit of a class and the lower limit of the next higher class. [SM]  
(a) true (b) false (c) both (d) none
48. A representative value of the class interval for the calculation of mean , standard deviation, mean deviation etc. is [SM]  
(a) class interval (b) class limit (c) class mark (d) none
49. For the construction of grouped frequency distribution from ungrouped data we use [SM]  
(a) class limit (b) class boundaries (c) class width (d) none
50. When one end of a class is not specified ,the class is called [SM]  
(a) closed-end class (b) open-end class (c) both (d) none
51. Class limit should be considered to be the real limits for the class interval. [SM]  
(a) true (b) false (c) both (d) none
52. Difference between the maximum & minimum value of a given data is called [SM]  
(a) width (b) size (c) range (d) none
53. In Histogram if the classes are of unequal width then the heights of the rectangles must be proportional to the frequency densities. [SM]  
(a) true (b) false (c) both (d) none
54. When all classes have equal width, the heights of the rectangles in Histogram will be numerically equal to the [SM]  
(a) class frequencies (b) class boundaries (c) both (d) none
55. Consecutive rectangles in a Histogram have no space between [SM]  
(a) true (b) false (c) both (d) none

- 
56. Histogram emphasizes the widths of rectangles between the class boundaries.[SM]  
(a) false (b) true (c) both (d) none
57. To find the mode graphically[SM]  
(a) Ogive (b) Frequency Polygon (c) Histogram (d) none may be used
58. When the width of all classes is same , frequency polygon has not the same area as the Histogram.[SM]  
(a) True (b) false (c) both (d) none
59. For obtaining frequency polygon we join the successive points whose abscissa represent the corresponding class frequency .....[SM]  
(a) True (b) false (c) both (d) none
60. The breadth of the rectangle is equal to the length of the class-interval in[SM]  
(a) Ogive (b) Histogram (c) both (d) none

## Question Bank

1. **The quickest method to collect primary data is:** [N-06]  
(a) Personal interview (b) Indirect interview  
(c) Mailed Questionnaire Method (d) Telephonic Interview
2. **Which of the following statement is true?** [N-06]  
(a) Statistics is derived from the French word 'Statistik'  
(b) Statistics is derived from the Italian word 'Statista'  
(c) Statistics is derived from the latin word 'Statistique' (d) None of these
3. **In indirect oral investigation:** [J-08]  
(a) Data is not capable of numerical expression  
(b) Not possible or desirable to approach informant directly  
(c) Data is collected from the books  
(d) None of these
4. **Which of the following is a statistical data?** [D-08]  
(a) Ram is 50 years old  
(b) Height of Ram is 5'6" and of Shyam and Hari is 5'3" and 5'4" respectively  
(c) Height of Ram is 5'6" and weight is 90kg  
(d) Sale of A was more than B and C.
5. **Nationality of a person is:** [D-09]  
(a) Discrete variable (b) An attribute (c) Continuous variable (d) None
6. **The data obtained by the internet are** [D-10]  
(a) Primary data (b) Secondary data (c) Both (a) and (b) (d) None of these
7. **In tabulation, source of data, if any, is shown in the :** [F-07]  
(a) Stub (b) Body (c) Caption (d) Footnote
8. **Divided bar chart is good for:** [F-07]  
(a) Comparing various components of a variable (b) Relating the different components to the whole  
(c) (a) and (b) (d) (a) or (b)
9. **A table has \_\_\_\_\_ parts:** [A-07]  
(a) Four (b) Two (c) Five (d) None
10. **Cost of sugar in a month under the heads raw materials, labour, direct production and others were 12,20,35 and 23 units respectively, what is the difference between the central angles for the largest and smallest components of the cost of sugar?**  
(a) 72° (b) 48° (c) 56° (d) 92°

11. **Circular - diagrams are always:** [J-08]  
(a) One-dimensional (b) Two-dimensional (c) Three-dimensional (d) Cartograms
12. **The column headings of a table are known as:** [J-08]  
(a) Body (b) Stub (c) Box - head (d) Caption
13. **Some important sources of secondary data are \_\_\_\_\_:** [J-08]  
(a) International and Government sources (b) International and primary sources  
(c) Private and primary sources (d) Government sources
14. **Arrange the dimensions of diagram; Pie, Cubic and Simple bar diagram.** [D-09]  
(a) 1,2,3 (b) 2,1,3 (c) 2,3,1 (d) 3,2,1,
15. **The most appropriate diagram to represent the data relating to the monthly expenditure on different items by a family is** [D-10]  
(a) Histogram (b) Pie-diagram (c) Frequency polygon (d) Line graph
16. **The Chronological classification of data are classified on the basis of:** [J-11]  
(a) Attributes (b) Area (c) Time (d) Class Interval
17. **Arrange the following dimension wise: pie-diagram, bar-diagram and cubic diagram.** [J-11]  
(a) 1,2,3 (b) 3,1,2 (c) 3,2,1 (d) 2,1,3
18. **Which of the following is not a two dimensional diagram?** [D-11]  
(a) Square diagram (b) Line diagram (c) Rectangular diagram (d) Pie-chart
19. **A pie diagram is used to represent the following data :** [J-13]
- | Source:                | Customs | Excise | Income Tax | Wealth Tax |
|------------------------|---------|--------|------------|------------|
| Revenue in Million rs. | 120     | 180    | 240        | 180        |
- The central angles in the pie diagram corresponding to income tax and wealth tax respectively :**
- (a) (120°, 90°) (b) (90°, 120°) (c) (60°, 120°) (d) (90°, 60°)
20. **The most appropriate diagram to represent the five - year plan outlay of India in different economic sectors is:** [D-14]  
(a) Pie diagram (b) Histogram (c) Line-Graph (d) Frequency Polygon
21. **100 persons are classified into male/female and graduate/non- graduate classes. This data classification is:** [D-14]  
(a) Cardinal data (b) Ordinal data (c) Spatial Series data (d) Temporal data



22. The number of observations between 150 and 200 based on the following data is: [J-15]
- |                       |               |               |               |               |
|-----------------------|---------------|---------------|---------------|---------------|
| Value                 | More than 100 | More than 150 | More than 200 | More than 250 |
| Number of Observation | 70            | 63            | 28            | 05            |
- (a) 46 (b) 35 (c) 28 (d) 23
23. Number of accidents 0 1 2 3 4 5 6 7 [J-15]
- |           |    |   |    |    |   |   |   |   |
|-----------|----|---|----|----|---|---|---|---|
| Frequency | 12 | 9 | 11 | 13 | 8 | 9 | 6 | 3 |
|-----------|----|---|----|----|---|---|---|---|
- In how many cases 4 or more accidents occur?
- (a) 32 (b) 41 (c) 26 (d) 18
24. Classification is of \_\_\_\_\_ kinds : [D-15]
- (a) One (b) two (c) three (d) four
25. Find the number of observation between 250 and 300 from the following data : [D-15]
- |            |               |               |          |          |
|------------|---------------|---------------|----------|----------|
| Value      | more than 200 | more than 250 | M.T. 300 | M.T. 350 |
| No. of obs | 56            | 38            | 15       | 0        |
- (a) 56 (b) 23 (c) 15 (d) 8
26. Data collected on religion from the census reports are: [J-16]
- (a) Primary data (b) Secondary data (c) Sample data (d) (a) or (b)
27. In collection of data which of the following interview methods : [D-16]
- (a) Personal interview method (b) Telephone interview method  
(c) Published data (d) (a) and (b)
28. Profits made by XYZ Bank in different years refer to : [D-16]
- (a) An attribute (b) A discrete variable (c) A continuous variable (d) None of these
29. Mode of presentation data [D-16]
- (a) Textual presentation (b) Tabulation (c) Oral presentation (d) (a) and (b)
30. The following data relates to the income of 90 persons: [N-06]
- |                |           |           |           |           |
|----------------|-----------|-----------|-----------|-----------|
| Income in Rs.  | 1500-1999 | 2000-2499 | 2500-2999 | 3000-3499 |
| No. of Persons | 13        | 32        | 20        | 25        |
- What is the percentage of persons earning more than Rs. 2,500?
- (a) 45 (b) 50 (c) 52 (d) 55
31. Relative frequency for a particular class lies between: [M-07]
- (a) 0 and 1 (b) 0 and 1, both inclusive (c) -1 and 0 (d) -1 and 1

32. Find the number of observations between 350 and 400 from the following data: [M-07]
- | Value:               | More than<br>200 | More than<br>350 | More than<br>400 | More than<br>450 |
|----------------------|------------------|------------------|------------------|------------------|
| No. of observations: | 48               | 25               | 12               | 0                |
- (a) 13 (b) 15 (c) 17 (d) 19
33. When the width of all classes is same, frequency polygon has not the same area as the histogram: [M-07]
- (a) False (b) True (c) Both (d) None
34. The graphical representation of a cumulative frequency distribution is called: [M-07]
- (a) Histogram (b) Ogive (c) Both (d) None
35. Frequency density corresponding to a class interval is the ratio of: [A-07]
- (a) Class Frequency to the Total Frequency (b) Class Frequency to the Class Length  
(c) Class Length to the class Frequency (d) Class Frequency to the cumulative Frequency
36. An area diagram is ; [N-07]
- (a) Histogram (b) Ogive (c) Frequency Polygon (d) None of these
37. The lower class boundary is: [F-08]
- (a) An upper limit to lower class limit (b) A lower limit to lower class limit  
(c) Both (a) & (b) (d) None of these
38. The distribution of profits of a company follows: [F-08]
- (a) J - shaped frequency curve (b) U - shaped frequency curve  
(c) Bell - shaped frequency curve (d) Any of these
39. Out of 1000 persons, 25 per cent were industrial workers and the rest were agricultural workers. 300 persons enjoyed world cup matches on T.V. 30 per cent of the people who had not watched world cup matches were industrial workers. What is the number of agricultural workers who had enjoyed world cup matches on TV? [F-08]
- (a) 230 (b) 250 (c) 240 (d) 260
40. Median of a distribution can be obtained from: [F-08]
- (a) Histogram (b) Frequency polygon (c) less than type ogives (d) None of these
41. From the following data find the number class intervals if class length is given as 5. [D-08]  
73,72,65,41,54,80,50,46,49,53.
- (a) 6 (b) 5 (c) 7 (d) 8
42. The method of representing Household Expenditure is: [D-08]
- (a) Histogram (b) Pie Diagram (c) Line Diagram (d) Ogive

43. Sales of XYZ Ltd. for 4 months is: [D-08]
- | Months | Sales  |
|--------|--------|
| Jan.   | 10,000 |
| Feb.   | 15,000 |
| May    | 18,000 |
| April  | 9,000  |
- The above data represents:
- (a) Discrete (b) Continuous (c) Individual (d) None of these
44. Mid value are also called \_\_\_\_\_ [J-09]
- (a) Lower limit (b) Upper limit (c) Class mark (d) None
45. Less than type ogive and more than ogive meet at a point known as: [J-09]
- (a) Mean (b) Medians (c) Mode (d) None
46. Histogram is used to find \_\_\_\_\_ [D-09]
- (a) Mean (b) Median (c) Mode (d) None of these
47. If we plot less than and more than type frequency distribution then the graph plotted is \_\_\_\_ [D-09]
- (a) Histogram (b) Frequency curve (c) Ogive (d) None of these
48. Using Ogive curve we can determine [J-10]
- (a) Median (b) Quartile (c) Both (a) and (b) (d) None
49. With the help of histogram one can find [J-10]
- (a) Mean (b) Median (c) Mode (d) First Quartile
50. Mode can be obtained from [D-10]
- (a) Frequency polygon (b) Histogram (c) Ogive (d) All of the above
51. When the two curves of ogive intersect, the point of intersection provides: [J-11]
- (a) First Quartile (b) Second Quartile (c) Third Quartile (d) Mode.
52. Frequency Density can be termed as: [J-11]
- (a) Class frequency to the cumulative frequency
- (b) Class frequency to the total frequency
- (c) Class frequency to the class length
- (d) Class length to the class frequency.

53. The frequency of class 20-30 in the following data is [D-11]
- |       |      |      |      |      |      |
|-------|------|------|------|------|------|
| Class | 0-10 | 0-20 | 0-30 | 0-40 | 0-50 |
| CF    | 5    | 13   | 28   | 34   | 38   |
- (a) 5 (b) 28 (c) 15 (d) 13
54. The Graphical representation by which median is calculated is called [D-11]
- (a) Ogive Curve (b) Frequency Curve (c) Line diagram (d) Histogram
55. From which graphical representation, we can calculate partition values? [J-12]
- (a) Lorenz curve (b) Ogive curve (c) Histogram (d) None of the above.
56. Cost of Sugar in a month under the heads raw materials, labour, direct production and others were 12,20,35 & 23 units respectively. The difference between their central angles for the largest & smallest components of the cost of Sugar is [J-12]
- (a)  $92^\circ$  (b)  $72^\circ$  (c)  $48^\circ$  (d)  $56^\circ$
57. An exclusive series is? [D-12]
- (a) In which, both upper and lower limits are not included in class frequency  
 (b) In which lower limit is not included in class frequency  
 (c) In which upper limit is not included in class frequency  
 (d) None of these
58. For a data on frequency distribution of weights 70, 73, 49, 57, 56, 44, 56, 71, 65, 62, 60, 50, 55, 49, 63 and 45 If we assume class length as 5, the number of class intervals will be: [D-12]
- (a) 5 (b) 6 (c) 7 (d) 8
59. Difference between the maximum and minimum value of a given data is called [D-13]
- (a) Width (b) Size (c) Range (d) Class
60. If class intervals is 10-14 , 15-19 , 20-24 , then the first class is [D-13]
- (a) 10 - 15 (b) 9.5 - 14.5 (c) 10.5 - 15.5 (d) 9 - 15
61. The difference between the upper and lower limit of a class is called ..... [D-13]
- (a) Class Interval (b) Mid Value (c) Class boundary (d) Frequency
62. There were 200 employees in an office in which 150 were married. total male employees were 160 out of which 120 were married. what was the number of female unmarried employees? [J-14]
- (a) 30 (b) 10 (c) 40 (d) 50
63. "The less than Ogive" is a: [J-14]
- (a) U-Shaped Curve (b) J-Shaped Curve (c) S-Shaped (d) Bell Shaped Curve

64. The following data relates to the marks of a group of students. [J-14]
- | Marks         | No. of Students |
|---------------|-----------------|
| More than 70% | 07              |
| More than 60% | 18              |
| More than 50% | 40              |
| More than 40% | 60              |
| More than 30% | 75              |
| More than 20% | 100             |
- How many students have got marks less than 50%?
- (a) 60 (b) 82 (c) 40 (d) 53
65. To draw Histogram, the frequency distribution should be : [J-14]
- (a) Inclusive type (b) Exclusive type (c) Inclusive and Exclusive type (d) None of these.
66. If the fluctuations in the observed value are very small as compared to the size of the item, it is presented by: [D-14]
- (a) Z chart (b) Ogive curve (c) False base line (d) Control Chart
67. For constructing a histogram, the class-intervals of a frequency distribution must be. [D-14]
- (a) equal (b) unequal (c) equal or unequal (d) None of these
68. The curve obtained by joining the points, whose x-coordinates are the upper limits of the class-intervals and y coordinates are the corresponding cumulative frequencies is called [J-15]
- (a) Ogive (b) Histogram (c) Frequency Polygon (d) Frequency Curve
69. Histogram is used for the presentation of the following type of series. [J-15]
- (a) Time series (b) Continuous frequency series (c) Discrete series (d) Individual series
70. The perpendicular line drawn from the intersection of two ogives which touches at \_\_\_ point in X-axis. [J-15]
- (a) Median (b) Mode (c) Third quartile (d) First quartile
71. Which is most common diagrammatic representation for grouped frequency distribution. [D-15]
- (a) Histogram (b) Ogive (c) Both (a) and (b) (d) None of these
72. The chart that use Logarithm of the variable is known as : [D-15]
- (a) Line Chart (b) Ratio chart (c) Multiple line chart (d) Component line chart
73. For constructing a histogram the class intervals of a frequency distribution must be of the following type: [D-15]
- (a) Equal (b) Unequal (c) Equal or Unequal (d) None of these

74. The intersection point of less than ogive and more than ogive gives [J-17]  
 (a) Mean (b) Mode (c) Median (d) None

75. Which of the following diagram is appropriate to represent the various heads in total cost? [J-17]  
 (a) Bar graph (b) Pie chart (c) Multiple line chart (d) Scatter plot

76. Frequency density corresponding to a class interval is the ratio of \_\_\_\_\_ : [J-17] [D-17]  
 (a) Class frequency to the class length  
 (b) Class frequency to the total frequency  
 (c) Class length to the class frequency  
 (d) Class frequency to the cumulative frequency

77. Stub of a table is the: [D-17]  
 (a) Right part of the table describing the columns  
 (b) Left part to the table describing the columns  
 (c) Right part of the table describing the row  
 (d) Left part of the table describing the rows

78. Pie diagram is used for : (J-18)  
 (a) Comparing different components and their relation to the total  
 (b) Representing quantitative date in circle  
 (c) Representing qualitative date in a circle  
 (d) Either (b) or (c)

79. Find the number of observations between 250-300 from the following data:(J-18)

Value	More than 200	More than 250	More than 300	More than 350
No of observation	56	38	15	0

(a) 38 (b) 23 (c) 15 (d) None the above

80. The graphical representation of median can be found by using:(J-18)  
 (a) Frequency polygon (b) Histogram (c) Ogives (d) Frequency curve

81. The followings frequency distribution (N-18)

X :	12	17	24	36	45
F :	2	5	3	8	9

is Classified as

(a) Continuous distribution (b) Discrete distribution  
 (c) Cumulative frequency distribution (d) None of these

82. Histogram is useful to determine graphically the value of (N-18)

(a) Arithmetic mean (b) Median (c) Mode (d) None of the above

83. Data are said to be \_\_\_\_\_ if the investigator himself is responsible for the collection of the data.(N-18)  
 (a) Primary data (b) Secondary data  
 (c) Mixed of primary and secondary data (d) None of the above
84. A suitable graph for representing the portioning of total into sub parts in statistics is(N-18)  
 (a) A Pie chart (b) A pictograph (c) An ogive (d) Histogram
85. The number of times a particular items occurs in a class interval is called its(N-18)  
 (a) Mean (b) Frequency (c) Cumulative frequency (d) None of the above
86. An ogive is a graphical representation of(N-18)  
 (a) Cumulative frequency distribution (b) A frequency distribution  
 (c) Ungrouped data (d) None of the above
87. Class : 0-10 10-20 20-30 30-40 40-50  
 Frequency: 4 6 20 8 3  
 For the class 20-30 cumulative frequency is(N-18)  
 (A) 10 (b) 26 (c) 30 (d) 41
88. \_\_\_\_\_ series is continuous. [J-19]  
 (a) Open ended (b) Exclusive (c) Close ended (d) Unequal
89. Which of the following graph is suitable for cumulative frequency distribution? [J-19]  
 (a) Ogives (b) Histogram (c) G.M (d) A.M
90. Histogram is used for finding [J-19]  
 (a) Mode (b) Mean (c) First Quartile (d) None
91. Ogive graph is used for finding [J-19]  
 (a) Mean (b) Mode (c) Median (d) None
92. Histogram can be shown as [J-19]  
 (a) Ellipse (b) Rectangle (c) Hyperbola (d) Circle
93. Histogram is used for presentation of the following type of series. [N-19]  
 (a) Time Services (b) Continuous Frequency Series  
 (c) Discrete Series (d) Individual Series
94. The graphical representation of cumulative frequency distribution is called- [N-19]  
 (a) Histogram (b) Pie Chart (c) Frequency Polygon (d) Ogive

No. of Accidents	0	1	2	3	4	5	6	7
Frequency	36	27	33	29	24	27	18	9

95.

In how many cases 4 or more accidents occur? [N-19]

- (a) 96 (b) 133 (c) 78 (d) 54

96. The difference between upper limit and lower limit of a class is called:[N-19]  
(a) Class Interval (b) Class Boundaries (c) Mid-Value (d) Frequency
97. Sweetness of a sweet dish is- [N-20]  
(a) An attribute (b) A discrete variable  
(c) A continuous variable (d) A variable
98. Five auditors of your firm had reported their incomes. You computed their average and obtained Rs. 67,000 per month. You now state that the average income per month of all the auditors of your firm is Rs. 67,000. This is an example of \_\_\_\_\_ statistics. [N-20]  
(a) Descriptive (b) Inferential (c) Detailed (d) Non detailed
99. Statistics cannot deal with \_\_\_\_\_ data. [N-20]  
(a) Quantitative (b) Qualitative (c) Textual (d) Attribute
100. The numbers of times city had mild, medium and heavy rains, respectively are 17,10 and 5, which of the following represent it ? [N-20]  
(a) (17,10,5) (b) Quantitative (c) Continuous (d) Average
101. When data are classified according to one criterion, then it is called \_\_\_\_\_ classification [N-20]  
(a) Quantitative (b) Qualitative (c) Simple (d) Factored
102. A cricketer's run scores of last ten test matches are available. Statistics cannot be used to find the [N-20]  
(a) Least score (b) Largest score (c) Best score (d) Median score
103. Census reports used as a source of data is \_\_\_\_\_ data. [N-20]  
(a) Primary (b) Secondary (c) Organized (d) Confidential



[CH-14][STATISTICAL DESCRIPTION OF DATA]									
EXERCISE - I									
1	c	5	a	9	a	13	c		
2	b	6	a	10	d	14	b		
3	d	7	a	11	c	15	a		
4	d	8	b	12	a	16	a		
EXERCISE -II									
1	d	9	a	17	d	25	a	33	b
2	c	10	a	18	d	26	b	34	d
3	a	11	b	19	b	27	d	35	a
4	b	12	c	20	d	28	d	36	c
5	c	13	a	21	c	29	a		
6	d	14	b	22	a	30	c		
7	d	15	b	23	d	31	b		
8	c	16	b	24	a	32	a		
EXERCISE -III									
1	a	13	c	25	a	37	b	49	a
2	a	14	d	26	d	38	b	50	b
3	b	15	c	27	b	39	a	51	b
4	b	16	a	28	c	40	b	52	c
5	a	17	b	29	a	41	c	53	a
6	a	18	a	30	b	42	a	54	a
7	a	19	a	31	b	43	a	55	a
8	b	20	a	32	a	44	c	56	b
9	a	21	c	33	c	45	c	57	c
10	a	22	d	34	b	46	a	58	b
11	c	23	b	35	b	47	a	59	b
12	b	24	a	36	a	48	c	60	b





