**SUDHRASAN COLLEGE OF ARTS AND SCIENCE, PERUMANADU, PUDUKKOTTAI.**

**BUSINESS TOOLS FOR DECISION MAKEING**

**CLASS: II B.COM SUBJECT CODE:16CCCCM8**

 **SECTION – A ( 10X2 =20)**

**Answer all the questions (UNIT-I)**

1. **Define ‘Statistics’**.

“Statistics are numerical statement of facts in any department of enquiry, placed in relation to each other”.

### What Is Frequency Distribution?

Frequency distribution is a representation, either in a graphical or tabular format, that displays the number of observations within a given interval. The interval size depends on the data being analyzed and the goals of the analyst.

1. **What is ‘Tabulation’?**

Tabulation is a systematic & logical presentation of numeric data in rows and columns, to facilitate comparison and statistical analysis. It facilitates comparison by bringing related information close to each other and helps in further statistical analysis and interpretation.

1. **What is classification?**

Classification is the process of arranging data into groups of classes according to the common characteristics possessed try the individual items.

1. **What is a tally mark in statistics?**

A **tally** chart is one method of collecting data with **tally marks**. **Tally marks** are frequencies, occurrences, or total numbers being measured for a specific category in a data set. **Tally** charts are used throughout the world and are great visual representations of group observations.

1. **What is ‘Bar Diagram’?**

A **bar graph** is a **chart** that uses **bars** to show comparisons between categories of data. The **bars** can be either horizontal or vertical.

1. **What is meant by ‘Pie diagram’?**

Pie Diagram consists one or more circles which are divided into a number of sectors .

1. **What is class interval?**

This is an interval of values which constitutes a class or group. In the example data under quantitative classification, the class-intervals have been taken as 3-39, 40-49,50-59.

1. **Define Arithmetic mean.**

Arithmetic mean is total of the values of the items divided by their number.

1. **Define Median.**

Median is the value of the Middle most item when all the items are in the order of magnitude.

1. **Define Mode.**

Mode is the value which has the greatest frequency density.

**5 MARKS**

1. **Explain the various stages of statistics.**
2. **Collection of Data:**

It is the first stage of investigation and is regarding collection of data. It is determined that which method of collection is needed in this problem and then data are collected.

1. **Organisation of Data:**

It is second stage. The data are simplified and made comparative and are classified according to time and place.

1. **Presentation of Data:**

In this third stage, organised data are made simple and attractive. These are presented in the form of tables diagrams and graphs.

1. **Analysis of Data:**

Forth stage of investigation is analysis. To get correct results, analysis is necessary. It is often undertaken using Measures of central tendencies, Measures of dispersion, correlation, regression and interpolation etc.

1. **Interpretation of Data:**

In this last stage, conclusions are enacted. Use of comparisons is made. On this basis, forecasting is made.

1. **What are the rules for tabulation?**
* A serial number should be allotted to the table, in addition to the self explanatory title.
* The statistical table is required to be divided into four parts, i.e. Box head, Stub, Caption and Body. The complete upper part of the table that contains columns and sub-columns, along with caption, is the Box Head. The left part of the table, giving description of rows is called stub. The part of table that contains numerical figures and other content is its body.
* Length and Width of the table should be perfectly balanced.
* Presentation of data should be such that it takes less time and labor to make comparison between various figures.
* Footnotes, explaining the source of data or any other thing, are to be presented at the bottom of the table.
1. **Explain the Charateristics of classifications?**

**(i) Unambiguous**

Classification of data must be unambiguous. Various classes should be so defined that there is no room for doubt for confusion.

**(ii) Exhaustive and mutually exclusive**

Classification should be done in such a manner that each and every item belongs to only one class. This implies that different classes should not overlap.

**(iii) Suitability**

Classification should conform to the object of enquiry. For example, if an enquiry is conducted to study the economics condition of the workers of Charge Chrome project at Bhadrak it is of no use of classifying them on the basis of their caste or religion.

**(iv) Stability**

Date are classified generally on the basis of some criterion. Once such criterion is fixed, it should be retained for other related matters.

**(v) Flexibility**

A good classification should be flexible. It should have the capacity to accommodate with the new situation. Stability of classification does not mean rigidity of classes. The term stability is used in a relative sense. No classification can be stable for ever. Changes here and there become necessary with charge in time and other changed circumstances. An ideal classification should be such that it can adjust itself to these changed and yet retain its stability.

1. **Explain the types of diagram**

The diagrams and the maps is of following types:

1. One-dimensional diagrams such as line graph, poly graph, bar diagram, histogram,age, sex, pyramid, etc.;
2. Two-dimensional diagram such as pie diagram and rectangular diagram;
3. Three-dimensional diagrams such as cube and spherical diagrams

The most commonly drawn diagrams and maps are:

 • Line graphs

 • Bar diagrams

• Pie diagram

• Wind rose and star diagram

• Flow Charts

1. **Explain the uses of statistics.**

# [Functions or Uses of Statistics](https://www.emathzone.com/tutorials/basic-statistics/functions-or-uses-of-statistics.html)

**(1)** Statistics helps in providing a better understanding and exact description of a phenomenon of nature.

**(2)** Statistics helps in the proper and efficient planning of a statistical inquiry in any field of study.

**3)** Statistics helps in collecting appropriate quantitative data.

**(4)** Statistics helps in presenting complex data in a suitable tabular, diagrammatic and graphic form for easy and clear comprehension of the data.

**(5)** Statistics helps in understanding the nature and pattern of variability of a phenomenon through quantitative obersevations.

**(6)** Statistics helps in drawing valid inferences, along with a measure of their reliability about the population parameters from the sample data.

1. **What are the objectives of tabulation?**

The principal objectives of tabulation are stated below:

**(i) To make complex data simple:**

When data are arranged systematically in a table, such data become more meaningful and can be easily understood

**(ii) To facilitate comparison:**

When different data sets are presented in tables it becomes possible to compare them.

**(iii) To economise space:**

A statistical table furnishes maximum information relating to the study in minimum space.

**iv) To make data fit for analysis and interpretation:**

Tabulation serves as a link between the collection of data on the one hand and analysis of such data on the other. In other words, after tabulating the data, it becomes possible to find out their averages, dispersion and correlation. Such statistical measures are necessary for their interpretation.

**(v) To provide reference:**

A statistical table can be used as a source of reference for other studies of similar nature.

1. **What are the difference between Tabulation and Classification?**

The paramount differences between classification and tabulation are discussed in the points given below:

1. The process of arranging data into different categories, on the basis of nature, behavior, or common characteristics is called classification. A process of condensing data and presenting it in a compact form, by putting data into statistical table, is called tabulation.
2. Classification of data is done after data collection process is completed. On the other hand, tabulation follows classification.
3. Data classification is based on similar attributes and variables of the observations. Conversely, in tabulation the data is arranged in rows and columns, in a systematic way.
4. Classification of data is performed with the objective of analysing data in order to draw inferences. Unlike tabulation, which aims at presenting data, to ensure easy comparison of various figures.
5. In classification, data is bifurcated into categories and sub-categories while in tabulation data is divided into headings and sub-headings.

**(UNIT-II)**

2 Marks

**1.What is skewness?**

Skewness is the degree of asymmetry or departure from symmetry, of a distribution.

**2.What is meant by Mean Deviation?**

Mean deviation is the arithmetic mean of the absolute deviations of the values about their arithmetic mean or median or mode.

**3.What is ‘Range’?**

Range is the difference between the greatest (largest) and the smallest of the values.

**4.What is ‘Quartile Deviation’?**

Quartile Deviation is half of the difference between the first and the third quartile. Hence it is called semi inter quartile range

1. **What is mean by ‘Standard Deviation’?**

Standard Deviation is the root mean square deviation of the values from their arithmetic mean.

**6.Whar are the types of measuring skewness?**

In a skewed distribution, values of mean, median and mode would not coincide. The values of mean and mode are pulled away and the value of median will be at the centre.

**7.Write the meaning of Co-efficient of variation?**

The **coefficient of variation** represents the ratio of the standard deviation to the **mean**, and it is a useful statistic for comparing the degree of **variation** from one data series to another, even if the means are drastically different from one another.

**(UNIT-III)**

**2 Marks**

1. **What is simple correlation?**
2. **Write a short note on ‘ Regression Eauation**