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| **SESSION** | **MaRCH 2023** |
| **PROGRAM** | **BACHELOR of business administration (BBA)** |
| **SEMESTER** | **III** |
| **course CODE & NAME** | **DBB2102 – QUANTITATIVE TECHNIQUES for Management** |
| **CREDITS** | **2** |
| **nUMBER OF ASSIGNMENTS & Marks** | **02**  **30 Marks each** |

**Set – 1**

**1. (a) Discuss limitations of Statistics. Also summarize how Statistics is useful in accountancy and auditing.**

**Ans 1(a)**

The statistical methods, though, widely used in different areas of human knowledge, has its own limitations as far as its application is concerned. Some of these important limitations are as follows:

**Statistics does not deal with individual values:** Statistical studies are undertaken to study the characteristics of a group rather than individuals. It only deals with the aggregate values. For example, the Its Half solved only

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**(b) Calculate the mean of the following frequency distribution:**

**X 2 4 6 8 10**

**f 1 4 6 4 1**

**Ans 1b.**

To calculate the mean of a frequency distribution, you need to multiply each value (X) by its corresponding frequency (F), then sum up the products, and finally divide the sum by the total number of observations.

**Let's calculate the mean using**

**2. (b) Demonstrate the uses of Regression Analysis? Give five examples where the use of regression analysis can beneficially be made.**

**Ans 2(b)**

The term “regression” is used to denote estimation or prediction of the average value of one variable for a specified value of the other variable. The estimation is done by means of suitable equations, derived on the basis of available bivariate data. Such an equation is known as regression equation and its geometrical representation is called regression curve. In simple linear regression, a

**3 (a) Explain various methods of Secular Trends.**

**Ans 3(a)**

**There are four possible methods of secular trend which are the following:**

* **Linear Trend:** The linear trend method assumes that the underlying trend follows a straight line over time. It involves fitting a linear regression model to the historical data and using the estimated coefficients to project future values. This method works well when the trend is relatively stable and does not exhibit significant deviations.
* **Exponential**

**3(b) How many types of sampling schemes exists describe them in brief.**

**Ans:**

**Types of Sampling Schemes:**

**Simple Random Sampling:** In this sampling scheme, each element in the population has an equal chance of being selected, and the selection of one element does not affect the selection of others. It is the basic sampling method where every possible sample of a given size has an equal

**Set – 2**

**Q1. Interpret the meaning of tabulation? Illustrate the requisites of a standard table and analyse the main purposes of tabulation?**

**Ans:**

**Meaning of tabulation**

Tabulation refers to the systematic arrangement of data in the form of tables. It involves organizing and presenting data in rows and columns to facilitate easy comprehension and analysis. Tabulation plays a crucial role in data presentation and analysis in various fields such as statistics,

**Q2. Discuss the meaning of Time Series? Also, Describe the various methods of Secular Trends.**

**Ans 2.**

**Time Series**

An arrangement of statistical data in accordance with the time of occurrence or in chronological order is called a time series. In other words, the observations in numerical form obtained at regular intervals of time is known as time series. The time frame of the observations or the recorded data may be taken at an interval of an hour, a day, a week, a month, a year depending upon the type of event the data refer to. Time series analysis is used to detect patterns of change in statistical information over regular intervals of time. Then the predictions or forecast is

**3.(a) Discuss the problems that are involved in construction of index numbers.**

**Ans 3a.**

Construction of index numbers is a complex process and it is not without its share of problems and challenges. Here are some of the key issues involved:

* **Choice of Base Year:** The base year is a critical aspect in constructing index numbers, as all future comparisons are made relative to this year. If the base year is not properly

**3 (b) Describe acceptance of sampling plan.**

**Ans 3(B)**

Acceptance sampling is a sampling procedure for estimating the quality level, in terms of fraction of defectives, of a produced lot of items for inspection. The statistical sampling procedure purports to answer questions such as: i) Are the supplier’s goods to be accepted or rejected? ii) if accepted, what kind of risk do we incur in terms of bad quality? Since we are talking about mass-scale procurement of raw materials and of mass scale shipment of finished goods, and hence the use of statistical sampling procedure in answering the accept/reject question. It refers to the process of randomly inspecting a certain number of items from a lot