INTRODUCTION

Business mathematics is mathematics used by commercial enterprises to record and manage business operations. Commercial organizations use mathematics in accounting, inventory management, marketing, sales forecasting and financial analysis. The text book titled "Business Mathematics" comprises the topics like gaining and sacrificing ratio, proportion percentage, commission, discount and brokerage, stimulation equations, preparation of invoice, elementary matrices, logarithms and antilogarithms, averages, profit and loss, etc.

Ratio indicates how many times one number contains another. For example, if there are eight oranges and six lemons in a bowl of fruit, then the ratio of oranges to lemons is eight to six. The ratio is the number which can be used to express one quantity as a fraction of the other ones. The two numbers in a ratio can only be compared when they have the same unit. This unit includes various topics related to gaining and sacrificing ratio, proportion percentage, commission, discount and brokerage. Proportion is the equality between two or more ratios. If we express the fact that one ratio is equal to another ratio, then it forms a proportion. Quantities are said to be in continued proportion when the first is to the second, as the second is to the third, as the third is to the fourth and so on. The percentage difference between two values is calculated by dividing the absolute value of the difference between two numbers by the average of those two numbers. Percentage increase and decrease are calculated by computing the difference between two values and comparing that difference to the initial value. Mathematically, this involves using the absolute value of the difference between two values and dividing the result by the initial value, essentially calculating how much the initial value has changed.

The Simultaneous Equations includes the topics like meaning, characteristics, types and calculations of simultaneous equations and description about the preparation of invoice. An equation is a relation between two variables (two or more) and holds good only for certain values of the variables. Thus, it is clear that, in an equation, the equality holds for certain values of the variables. However, in case of the identities, the equality holds for any value of variables.

The equation of the form containing x^2 as the highest power of x is called an equation of the second degree in x or a quadratic equation. The quadratic equation has two and only two roots. These two roots may be equal or unequal. In Substitution method, the value of y (or x) is found in terms of x (or y) from an equation, and substituting this value in the other equation, we get a linear equation of one variable.

An elementary matrix is a matrix which differs from the identity matrix by one single elementary row operation. The elementary matrices generate the general linear group $GLn(F)$ when F is a field. Left multiplication (pre-multiplication) by an elementary matrix represents elementary row operations, while right multiplication (post-multiplication) represents elementary column operations. Elementary row operations are used in Gaussian elimination to reduce a matrix to row echelon