

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Com.**  
**Semester: I**  
**Syllabus with Effect From: June-2018**

<b>Paper Code: UB01CCOM23</b>	<b>Total Credit: 3</b>
<b>Title Of Paper: Business Mathematics &amp; Statistics - I</b>	

**Objective:** 1. To enhance analytical ability in students for processing data  
2. To Familiarize students with applications of Statistical techniques in business decision making.

Unit	Description of Detail	Weighting(%)
<b>I</b>	<b>Set Theory, Determinants</b> Set Theory: Sets, Subsets, equality of two sets, null set, universal set, power set, complements of a set, union and intersection of sets, difference of two sets. Venn Diagram (Concept only), Laws of algebra of sets, De’Morgan laws and Cartesian Product of two sets. Determinants: Meaning, Determinants and their basic properties of determinant (without Proof, without examples), Cramer’s Method (For two equations)	<b>25%</b>
<b>II</b>	<b>Matrix</b> Types of matrices: Square, null, identity, transpose of Matrices, Symmetric, skew symmetric, Singular, Non Singular, inverse, adjoin of matrix. Matrices –scalar multiplication, Addition, Subtraction, Multiplication. Solution of a system of two and three linear equations using matrix.	<b>25%</b>
<b>III</b>	<b>Mathematics in Finance</b> Compound interest, nominal and effective rates of interest, continuous compounding, Concept of Present value and amount of a sum, Annuity (only for a fixed period of time), present value of annuity, sinking funds (with equal payments and equal time intervals)	<b>25%</b>
<b>IV</b>	<b>Interpolation and Extrapolation</b> Meaning of interpolation and Extrapolation, Assumptions, Importance and uses of interpolation and Extrapolation, Operators $\Delta$ , E and D (without proof), methods of interpolation and extrapolation; 1. Newton’s Method 2. Binomial expansion method 2. Lagrange’s method, Simple examples on these methods.	<b>25%</b>

**Basic Text & Reference Books:-**

- Sancheti & Kapoor: Statistics: Theory, Methods and Applications, Sultan Chand & sons, New Delhi
- Kapoor, V.K.: Business Mathematics, Sultan Chand and Sons, New Delhi
- Soni, R.S.: Business Mathematics, Pitamber Publishing Ho