Name of the Program: Bachelor of Commerce (B.Com)

Course Code: B.Com. 2.2

Name of the Course: BUSINESS MATHEMATICS

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	**4+0+0**	**56 Hrs**

Pedagogy: Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

1. Understand the number system and indices applications in solving basic business problems.
2. Apply concept of commercial arithmetic concepts to solve business problems.
3. Make use of theory of equation in solving the business problems in the present context.
4. Understand and apply the concepts of Set Theory, Permutations & Combinations and Matrices solving business problems.
5. Apply measurement of solids in solving simple business problems.

Module	Syllabus	Teaching Hours
I	**NUMBER SYSTEM AND INDICES:** Introduction - Meaning - Natural Numbers - Even & Odd Numbers - Prime, Rational Number and its Features & Irrational Numbers - Simple Problems on Finding Sum of Natural, Odd and Even numbers- HCF and LCM - Problems thereon; Indices - Introduction - Laws of Indices, Application of laws for Simplification, Simple problems.	12
II	**COMMERCIAL MATHEMATICS:** Introduction - Meaning of Simple and Compound Interest and Problems thereon – Annuities - Types & Problems on Present and Future Value of Annuity; Ratios and Proportions - Meaning and Problems thereon - Problems on Speed - Time and Work.	10
III	**THEORY OF EQUATION:** Introduction – Meaning - Types of Equations – Simple or Linear Equations and Simultaneous Equations (only two variables), Elimination and Substitution Methods only. Quadratic Equation - Factorization and Formula Method ($ax^2 + bx + c = 0$ form only). Simple problems-Application of equations to business.	12
IV	**SET THEORY, PERMUTATIONS & COMBINATIONS:** Introduction - Meaning & Types of Sets - Laws of Sets - Venn Diagram - Problems thereon; Meaning and problems on Permutations and Combinations.	12
V	**MATRICES AND DETERMINANTS**: Meaning – Types – Operation on Matrices – Additions – Subtractions and Multiplication of two Matrices – Transpose – Determinants – Minor of an Element – Co-factor of an Element –Inverse – Crammer's Rule in two Variables – Problems	10

Skill Developments Activities:

- Show the number of ways in which your telephone number can be arranged to get odd numbers.
- Visit any Commercial Bank in your area and collect the information about types of loans and the rates of interest on loans.
- Use Matrix principles to implement food requirement and protein for two families.
- Measure your classroom with the help of a tape and find the cost of the carpet for the floor area of the classroom.
- Any other activities, which are relevant to the course.

Reference Books:

1. Saha and Rama Rao, Business Mathematics, HPH.
2. S.N.Dorairaj, Business Mathematics, United Publication.
3. R. Gupta, Mathematics for Cost Accountants.
4. S. P. Gupta, Business Mathematics.
5. Madappa and Sridhara Rao, Business Mathematics.
6. Padmalochana Hazarika, Business Mathematics.
7. Dr.B.H.Suresh, Quantitative Techniques, Chetana Book House.
8. Dr. Padmalochan Hazarika, A Textbook of Business Mathematics, S. Chand, New Delhi, No. 4, 2016.
9. A. P. Verma, Business Mathematics, Asian Books Private Limited, New Delhi, No. 3, January 2007.
10. D. C. Sancheti & V. K. Kapoor, Business Mathematics, S. Chand, New Delhi, 2014
11. A Lenin Jothi, Financial Mathematics, Himalaya Publications, Mumbai, No. 1, 2009.
12. B. M. Aggarwal, Business Mathematics, Ane Books Pvt. Ltd., No. 5, 2015

Note: Latest edition of text books may be used.