Revised syllabus (2019 Pattern) B.Com. Degree course (CBCS) Syllabus for

First Year B.Com Semester – II

Subject Name: - Business Mathematics and Statistics - II

Subject Code: - 114(A) - II

Depth of the program – Basic Knowledge of Mathematics and Statistics

Objective of the Program

1. To introduce the basic concepts in Finance and Business Mathematics and Statistics
2. To familiar the students with applications of Statistics and Mathematics in Business
3. To acquaint students with some basic concepts in Statistics.
4. To learn some elementary statistical methods for analysis of data.
5. The main outcome of this course is that the students are able to analyze the data by using some elementary statistical methods

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	**Matrices and Determinants (up to order 3 only)**	Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix via Adjoint Matrix, Homogeneous System of Linear equations, Condition for Consistency of homogeneous system, Solution of Non-homogeneous System of Linear equations (not more than three variables), Applications in Business and Economics, Examples and Problems.	1. To understand the concept of matrices and determinants. 2. To understand the application of determinant in solving linear equations 3. To understand applications of matrices and determinants in business and economics.
2	**Linear Programming Problems (LPP) (for two variables only)**	Definition and terms in a LPP, formulation of LPP, Solution by Graphical method, Examples and Problems	1. To understand the concept of LPP and its application in business and decision making. 2. To understand graphical method to solve business optimization problems with two variables.

3	**Correlation and Regression**	Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship. Karl Pearson's coefficient of correlation for ungrouped data. Spearman's rank correlation coefficient. (with tie and without tie) Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties (without proof). Examples and problems.	1. To use correlation for knowing the relationship between two variables. 2. To use regression for prediction
4	**Index numbers**	Concept of index number, price index number, price relatives. Problems in construction of index number. Construction of price index number: Weighted index Number, Laspeyre's, Paasche's and Fisher's method. Cost of living / Consumer price index number: Definition, problems in construction of index number. Methods of construction: Family budget and aggregate expenditure. Inflation, Uses of index numbers, commonly used index numbers. Examples and problems.	1. To know different types index numbers and problems in their construction. 2. To know the applications of various index numbers.

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