

Business Mathematics & Statistics

Semester I	Subject Code: AC 11501	Lectures (Lects.): 48
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Objectives:

The syllabus aims in equipping students with -

1. Basic knowledge of Mathematical & Statistical concepts.
2. Strong logical and analytical thinking which can be applied to all walks of life.
3. Ability to carry out inter-disciplinary projects.
4. Wise decision making capacity regarding modern day concerns pertaining to investments, interests, purchasing, comparison of various schemes, time value of money, loans, installment plans etc.
5. Ability to interpret data intelligently through numerical means.
6. Capacity to detect errors in any system and formulate ways of eradicating or minimizing them.
7. Well known Mathematical problem solving methods such as substitution, elimination, simplification, approximation etc.

Unit 1 Commercial Arithmetic	20 Lects.
1. Shares and Dividend : Concept of share, Stock exchange, Face value, Market value, Dividend, Equity shares, Preferential shares, Bonus shares	5 5
2. Commission & Brokerage.	10
3. Simple interest, Compound interest (nominal and effective rate of interest), Equated monthly installments (EMI) by reducing balance and flat interest system	

Prof. Deepak Gujar

Prof. Ketki Kher

Mrs. Ashwini Chavan

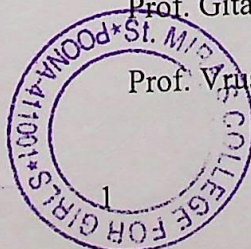
Ms. Pritika Kawade

Prof. Stella Ambrose

Prof. Ritu Bhargava

Prof. Gitanjali Phadnis

Prof. Vrushali Paranjpe



Unit 2 Statistics	20 Lects.
1. Definition of Statistics, Scope of Statistics in Economics, Management Sciences, Social Sciences and Industry, Concept of Population and Sample, Methods of Sampling(SRSWR, SRSWOR). Data Condensation and Representation: Raw data, Attributes, Variables, Classification, Frequency Distribution, Cumulative Frequency Distributions, Histogram and Ogive Curves.	6
2. Measures of Central Tendency : Mean, Median and Mode of grouped & ungrouped data.	6
3. Index Numbers : Concept of Index Number, Price Index Number, Price Relatives. Construction of Price Index Number : Weighted Index Number, Laspeyre's, Paasche's and Fisher's Method.	5
4. Time Series : Concept of Time Series, Business Cycle and Applications	3

Unit 3 Progressions	8 Lects.
1. Arithmetic and Geometric Progressions. Finding the n^{th} term and sum of n terms of A.P and G.P.	8
2. Applications of A.P and G.P.	

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Semester II	Subject Code: AC 21501	Lectures (Lects.): 48
Unit 1 Probability		12 Lects.
1. Permutations and Combinations – Fundamental Principle of Counting, Factorial Notation, Elementary problems on Permutations and Combinations.		6
2. Probability- Random Experiment and Finite Sample Space. Events, Types of Events. Mathematical Definition of Probability of an event. Combination of Events (through the Operations 'Or', ' And', 'Not'). Probability of these events.		6

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Unit 2 Statistics

**26
Lects.**

1. Measures of Dispersion :

Absolute and Relative Measures of Dispersion, Range, Coefficient of Range, Variance, S.D., Combined Mean and Combined S.D. for two Groups, Coefficient of Variation.

8

2. Correlation and Regression: (for Ungrouped Data only)

Correlation, Types of Correlation, Scatter Diagram, Karl Pearson's Coefficient of Correlation for Ungrouped Data, Spearman's Rank Correlation Coefficient, Regression, Lines of Regression for Ungrouped Data, Estimations using Lines of Regression, Regression Coefficients and their Properties.

10

3. Theory of Attributes – Attributes, Classes and Class Frequencies, Consistency of Data, Association of Attributes, Yule's Coefficient of Association.

8

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Unit 3 - Linear Programming

10
Lects.

Linear Programming Problems: (for two variables only) Definition and terms used in L.P.P, Formulation of L.P.P, Solution of L.P.P. by Graphical Method, Problems. 10

Recommended Books:

1. Business Mathematics- V. K. Kapoor (Sultan.Chand & Sons)
2. Practical.Business Mathematics – S.A Bari (New Literature Publishing)
- 3.Statistical Methods - S. P. Gupta, (Sultan.Chand & Sons)
- 4.Fundamentals of Statistics - S. C. Gupta (Himalaya Publishing House)
5. Basic Statistics by B.L Agrawal (New Age International Publishers)

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