Academic Council

Item No: _____

Devrukh Shikshan Prasarak Mandal's

NYA. TATYASAHEB ATHALYE ARTS, VED. S.R. SAPRE COMMERCE & VID. DADASAHEB PITRE SCIENCE COLLEGE, DEVRUKH

[AN AUTONOMOUS COLLEGE AFFILIATED TO UNIVERSITY OF MUMBAI]

Syllabus for Second Year Bachelor of Arts

Program: S. Y. B. A. Applied Component (Economics)

Semester III & IV

Course Title: Elementary Quantitative Techniques

Credit Based Semester and Grading System

w. e. f. Academic Year 2020-2021

Second Year of Bachelor of Arts

Revised Syllabus under Autonomy

Semester	Paper Code	Paper	Lectures /Practicals	Evaluation Weightage			Credits
				External	Internal	Total	
Semester III	UAEEQT30	Elementary Quantitative Techniques I Introductory Statistics	45	70	30	100	02
Semester IV	UAEQT40	Elementary Quantitative Techniques I Introductory Mathematics	45	70	30	100	02

Semester III			
Learning Objectives After completing the Elementary Quantitative Techniques, I Course the student will be able to understand ➢ The concept of Data, the data sources and the representation of data ➢ To describe the data with representative figures ➢ The concepts of **Correlation and Regression** ➢ The concepts of probability and it's calculation			
Course Code	**Title**	**Lectures**	**Credits**
UGEQT30	**Introductory Statistics**	**45**	**02**
Module I	**Understanding the Data** • Data- Concept, Qualitative and Quantitative Data • Data sources -primary and secondary sources • Frequency distribution-univariate and cumulative. • Graphical representation of Frequency Distributions-Histogram, Frequency Polygon and Ogive	09	
Module II	**Describing the Data** • Averages -- Objectives, Requisites of a good average, Mean, Median and Mode • Dispersion- Significance, Properties of a good measure of variation- Methods of studying dispersion- Absolute and Relative	12	
Module III	**Correlation and Regression** • Measures of Correlation -- Spearman's and Karl Pearson's • Measures of Regressions- Regression Lines and their Equations	12	
Module IV	**Probability and Counting Rules** • Probability-Concepts: sample space, independent and dependent events, Classical Probability, Calculation • Counting Rules- The Fundamental Counting Rule, Factorial Notation, Permutations, Combinations • Calculation of probability using permutation and combination	12	

References

1. Gupta S.P.: Statistical Methods, S. Chand, New Delhi, 2008.

2. Sancheti, D. C and V.K. Kapoor : Statistics: Theory, Methods and Applications, Sultan Chand & Sons, New Delhi, 2007.

3.Guha A.: Quantitative Aptitude ,Tata McGraw-Hill, New Delhi,2005

4. Bluman A. G. : Elementary Statics: A Step by Step Approach, McGraw-Hill, 2006

Semester IV

Learning Objectives

After completing the Business Economics II Course, the student will be able to understand

- The concepts of Function, Limits and Continuity and their application in Economics
- The concept of derivatives and it's application in Economics
- The concept of Matrix and the basic operations on matrices

Course Code	Title	Lectures	Credits
UGEQT40	**Introductory Mathematics**	**45**	**02**
Module I	**Functions, Limit and Continuity** • Function – Concepts, graphing of functions (constant, linear, quadratic, cubic), and their applications in economics. • Limits- Concept, ordinary, two-sided limits, one-sided limits, infinite limits and limits at infinity, Calculation of Limit • Continuity and Discontinuity of Functions, Examples	12	
Module II	**Derivatives and it's application** • Derivatives and rules of differentiation-constant function, linear function, power function, sum and difference, product and quotient. • Second order derivatives and economic applications- marginal cost, marginal revenue, profit maximization	12	
Module III	**Matrix algebra** • Matrix -definition and types of matrices. • Algebraic operations of addition, subtraction, scalar multiplication, and multiplication of matrices {2x2 only}.	09	
Module IV	**LPP and Financial Mathematics** • Linear Programming- formulation of the objective function and the constraints, graphical solution • Financial Mathematics-arithmetic progression, geometrical progression, sum of n terms, series.	12	

References:

1. Dowling Edward T.: Introduction to Mathematical Economics, Schaum's Outline Series, Tata McGraw-Hill, New Delhi, 2004.

2. Guha A.: Quantitative Aptitude, Tata McGraw-Hill, New Delhi, 2005

3. Dinwiddy C.: Elementary Statistics For Economists, OUP, New Delhi, 2002.

Expected Learning Outcomes

Course Outcomes:

After completing the Elementary Quantitative Techniques Course, the student will be able to understand

- The basic statistical and mathematical techniques and their application in economics.

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