Symbiosis College of Arts and Commerce

(An Autonomous College Affiliated to University of Pune)

Subject code		Semester	I	II	III	IV	V	**VI**	M.Com.	I	II	III	IV
Title of Subject For Approval of BOS		**Statistics for Economics: Theory and Applications** **T.Y.BA Semester VI Special Paper 8**											

Objectives	
	1. The course aims to strengthen fundamental knowledge and understanding of the principles and nature of statistics. 2. The course enables students to develop the skills to select, apply and use a wide variety of statistical and quantitative techniques in economic analysis and in the real-world context. 3. The course enables students to be able to identify and analyze economic problems and opportunities and formulate recommendations for courses of action.

Detailed syllabus

Unit	Contents of the syllabus	Number of Lectures
1.	**Measures of Central Tendency**	**10**
	1.1 Classification and Tabulation of Data 1.2 Graphical Representation of Data	
	1.3 Computation of the three measures of Central tendency: a) For an individual series b) for discrete series c) for a continuous series	
	1.4 Computation of Quartiles, Deciles and Percentiles	
	1.5 Selection of a Suitable Average	
	1.6 Practical Applications of Mean, Median and Mode	
2.	**Measures of Dispersion**	**10**
	Contents:	
	2.1 Absolute and relative measures of Dispersion	
	2.2 Computation of Mean Deviation, Quartile Deviation & Standard deviation	
	2.3 Relation between various measures of Dispersion	
	2.4 Concept of Lorenz Curve	
	2.5 Concept of Skewness and Kurtosis	
3.	**Correlation and Regression**	**16**
	3.1 Meaning of Correlation Analysis	
	3.2 Computation of Correlation through: a) Karl Pearson's correlation coefficient b) Rank Correlation	
	3.3 Meaning of Regression Analysis	
	3.4 Properties of Linear Regression	
	3.5 Line of Best Fit	
	3.6 Derivation of Regression Equations	

4.	**Probability Theory**	**10**
	4.1 Concept of Probability	
	4.2 Types of Events	
	4.3 Theorems of Probability: a) Addition Theorem b) Multiplication Theorem	
5	**Association of Attributes**	**08**
	5.1 Notation and Terminology	
	5.2 Yule's coefficient of association	
	Total No. of lectures	**54**

Learning Outcomes:

- To develop an outlook of logical, critical and creative thinking in problem-solving.
- To apply statistical concepts to economic theory and analysis.
- To acquire practical insights of various statistical concepts.

Suggested References:

- S.C Gupta (2018), 'Fundamentals of Statistics', Himalaya Publishing House, Mumbai.
- S. N. Dey (2015), Business Mathematics and Statistics, Chhaya Prakashani Publishers
- S. Baruah (2011), 'Basic Mathematics and its Application in Economics', Macmillan
- S. Chand (2010), 'Business Statistics', S.Chand & Company Ltd., New Delhi.
- J. Chakrabarti (2008), 'Advanced Business Mathematics and Statistics', Dey Book Concern
- David Freedman, Robaert Pisani and Roger Purves (Fourth Edition) (2007), 'Statistics', Viva Books.
- J. Medhi (2007), 'Statistical Methods -An Introductory Text',New Age International Publishers.
- J. E. Freund and Benjamin Perles (12th Edition) (2007),'Modern Elementary Statistics'
- Akhilesh and Balasubrahmanyam, 'Mathematics and Statistics for Management', (Vikash Publishing House Pvt.Ltd.)
- Murray Spiegel and Larry Stephens, 'Schaum's Easy Outline of Statistics'.
- Case Studies - http://www.stat.ucla.edu/cases/