



# Tolani College of Commerce (Autonomous)

## तोलानी वाणिज्य महाविद्यालय (स्वायत्त)

**Knowledge is Supreme**

(Sponsored and Managed by Tolani Education Society, Mumbai - 400 021)  
(Recognised Linguistic (Sindhi) Minority Institution, Affiliated to University of Mumbai)

Re-Accredited (3<sup>rd</sup> Cycle) by N.A.A.C. with 'A' Grade (CGPA 3.03)

150-151, SHER-E-PUNJAB SOCIETY,  
GURU GOBIND SINGH ROAD,  
ANDHERI (EAST), MUMBAI-400 093.

Tel. : (022) 6153 5455  
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E-mail : tcc@tolani.edu  
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<b>Name of the Department/ Programme</b>	<b>Department of Business Mathematics</b> 1) Bachelor of Management Studies / 2) B.Com. in Accounting and Finance / 3) B.Com. in Banking and Insurance / 4) B.Com. in Financial Markets / 5) B.Sc. in Information Technology						
<b>Name of the Course</b>	<b>Open Elective Courses: Business Statistics</b>						
<b>Semester</b>	<b>I</b>						
<b>Number of Credits</b>	<b>2</b>						
<b>Number of lectures</b>	<b>30</b>						
<b>Lecture Duration</b>	<b>60 minutes</b>						
<b>Distribution of marks</b>	<b>CE</b>	<b>20</b>	<b>SEE</b>	<b>30</b>	<b>Total</b>	<b>50</b>	

### Learning Objectives of the Course

Sr. No.	Objectives
1	To understand the basic concepts of probability, correlation, regression
2	To learn the definitions of the terms used in probability
3	To understand the applications of arithmetic mean, standard deviation, correlation, regression.

### Learning Outcomes of the Course

Sr. No	Outcomes
1	Understand the foundations of mathematics and statistics
2	Be able to perform basic computations in higher mathematics.
3	Develop and maintain problem-solving skills



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Module Number	Syllabus in Details	Number of Lectures
I	<b>Measures of Central Tendencies:</b> Definition of Average, Types of Averages: Arithmetic Mean, Median, and Mode for grouped as well as ungrouped data. Quartiles, Deciles and Percentiles. <b>Measures of Dispersions:</b> Concept and idea of dispersion. Various measures Range, Quartile Deviation, Mean Deviation, Standard Deviation, Variance, Combined Variance.	10
II	<b>Probability Theory:</b> Concept of random experiment/trial and possible outcomes; Sample Space and Discrete Sample Space; Events their types, Algebra of Events, Mutually Exclusive and Exhaustive Events, Complimentary events. Classical definition of Probability, Addition theorem (without proof), conditional probability. Independence of Events: $P(A \cap B) = P(A) P(B)$ . Simple examples	10
III	<b>Correlation:</b> Meaning, types of correlation, determination of correlation, scatter diagram, Karl Pearson's method of correlation coefficient (excluding Bivariate Frequency Distribution Table) and Spearman's Rank Correlation Coefficient <b>Regression:</b> Meaning, Concept of Regression Equations, Slope of Regression Line and its interpretation of Regression Coefficients (excluding Bivariate Frequency Distribution Table) Relationship Between Coefficient of Correlation and Regression Coefficients, Finding the Equations of Regression Lines by Method of Least Squares.	10

### Reference Books:

- 1) Business Statistics By D. C. Sancheti and V. K. Kapoor, Sultan Chand & Sons,
- 2) Mathematics for Business Economics: By J. D. Gupta, P. K. Gupta and Man Mohan, Tata Mc-Graw Hill Publishing Co. Ltd
- 3) Quantitative Methods- By S. Saha and S. Mukerji, New Central Book Agency,
- 4) Statistical Methods - S.G. Gupta
- 5) Statistics for Management - Lovin R. Rubin D.S.
- 6) Business Mathematics & Statistics: B Aggarwal, Ane Book Pvt. Limited



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### Scheme of Evaluation Pattern

#### Table 1A: Scheme of Continuous Evaluation (CE)

#### Scheme of Evaluation Pattern

Sub-components	Maximum Marks	Conditions for passing
1) Written assignment	10	a) A learner must be present for each of the sub-components. b) The subtotal of both sub-components must be minimum 08 marks
2) MCQ Based Test	10	
Total	20	

### Table 1B: Scheme of Semester End Examination (SEE) Evaluation

#### Question Paper Pattern for Semester End Examination (SEE)

**Maximum Marks:30      Minimum Marks to Pass:12      Duration:1 Hour**

Note: All questions are compulsory. Each question has an internal choice.

Question Number	Nature of Questions	Maximum Marks	
1)	Attempt any 2 of the following: (From Module I)	10	
	a)		
	b)		
	c)		
2)	Attempt any 2 of the following: (From Module II)	10	
	a)		
	b)		
	c)		
3)	Attempt any 2 of the following: (From Module III)	10	
	a)		
	b)		
	c)		