



M.B.A. Semester I
PM01CMBA52: QUANTITATIVE TECHNIQUES FOR MANAGEMENT –I

Course Code	PM01CMBA52	Title of the Course	QUANTITATIVE TECHNIQUES FOR MANAGEMENT -I
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	<ul style="list-style-type: none">• To develop Basic skills for quantitative application in business situations.• To familiarise students with statistical tools and their applications.• To enable students to use statistical software applications to solve business problems.
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Course Content- 30 sessions		
Unit	Description	Weightage (%)
1.	Mathematics: Elements of Calculus – Functions; concept of limit and continuity, Differentiation; Partial Differentiation; Maxima and Minima of a single variable, two variables and n-variables; Constrained maximization under inequality constraints –'Khun – Tucker' approach. Application of Calculus to management Problems.	25
2.	Matrix Algebra: Addition, subtraction, and multiplication of matrices; Concept of Determinants and Cramer's Rule; Transposed and Adjoint matrix; Inverse and Rank of a matrix; Application of Matrices to the solution of simultaneous equations and management situations. Algebra: Algebra of sets. Statistics: Measures of Central tendency and dispersions	25
3.	Introduction to Probability, Methods of assigning Probability, Structure of Probability, Marginal, Joint and Conditional Probabilities, Addition laws, Multiplication Laws, Probability distributions; Binomial, Poisson, Exponential and Normal Distributions. Correlation- concept, Karl Pearson's correlation coefficient and Spearman's rank correlation,	25



SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))
Syllabus with effect from the Academic Year 2021-2022

4.	Introduction to Simple linear regression analysis, determining the lines of regression, Multiple Linear Regression Analysis, Coefficient of determination. Assumptions of Multiple Linear Regression Analysis. Time-series Analysis – Introduction to forecasting, Smoothing techniques. Testing Hypothesis, One sample test, two-sample test, ANOVA, Non-Parametric tests. Statistical software applications	25
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Teaching-Learning Methodology	Class sessions, Lab sessions for a software demonstration, Assignments, Presentations, Discussion, Quiz
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination	30%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance	30%
3.	University Examination	40%
Course Outcomes: Having completed this course, the learner will be able to		
1.	Apply basic mathematics for solving relevant business problems.	
2.	Select appropriate statistical techniques to summarize and analyse statistical data to solve practical business-related problems.	
3.	Interpret the relevance of statistical findings for decision making.	
4.	Communicate the results of statistical analysis in the context of a business problem.	
5.	Enhance employability.	



Suggested References:	
Sr. No.	References
1.	Richard I. Levin and David S. Rubin, Statistics for Management, Pearson publications, latest edition.
2.	Ken Black, Business Statistics: Contemporary Decision Making, Wiley publications, latest edition.
3.	Naval Bajpai, Business Statistics, Pearson Publications, Latest Edition.
4.	Styne and Foster, Statistics for Business: Decision making and analysis Pearson Publications, latest edition.
5.	R.S Bhardwaj, Business Mathematics Excel Books. New Delhi, Latest Edition.
6.	Sancheti, D.C. and Kapoor, V.K., Business Mathematics S. Chand & Sons, the latest edition.

Online Resources	
NPTEL course on Business Statistics https://nptel.ac.in/courses/110/107/110107114/	
Business Statistics by Naval Bajpai, Online Student Resources https://www.pearsoned.co.in/prc/book/naval-bajpai-business-statistics-2e--2/9788131797006	
Digital	Library resources from http://www.spuvvn.edu/administration/service_centres/library/digital_library.php