



SARDAR PATEL UNIVERSITY
VallabhVidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))
Syllabus with effect from the Academic Year 2017-18

(Master of Business Administration) (Management)
POSTGRADUATE DEPARTMENT OF BUSINESS MANAGEMENT
(MBA) (Management) Semester I

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| Course Code | PM01CQTT01 | Title of the Course | QUANTITATIVE TECHNIQUES FOR MANAGEMENT -I |
| Total Credits of the Course | 04 | Hours per Week | 04 |

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| Main Focus of the Course outcomes | Employability | Skill Development | Entrepreneurship |
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| 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 |



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| 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 |
| 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 | | |
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| 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. | |



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| 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