

Quantitative Analysis for Business Decision

Course Code	21BA1T5	Year	I	Semester	I
Course Category	Core	Branch	Business Administration	Course Type	Theory
Credits	4	L-T-P	4-0-0	Prerequisites	Nil
Continuous Internal Evaluation	30	Semester End Evaluation	70	Total Marks	100

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Apply the basic concepts of statistics and learn how to use these for finding the solutions to business problems.	L3
CO2	Analyse how we can use statistical tools in research and decision making areas of management.	L4
CO3	Make use of the basic concepts of probability, probability distributions and learn how to use these principles in problem solving situations.	L3
CO4	Apply the basic concepts of operations research for the decision making.	L3
CO5	Analyse how we can use the tools to find the solutions for the decision making related to the context for business.	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3-High, 2-Medium, 1-Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3	2	2	2	3	-	-	-	3	-	-	3	3
CO2	3	2	2	2	3	-	-	-	3	-	-	3	3
CO3	3	2	2	2	3	-	-	-	3	-	-	3	3
CO4	3	2	2	2	3	-	-	-	3	-	-	3	3
CO5	3	2	2	2	3	-	-	-	3	-	-	3	3

SYLLABUS

Unit No.	Contents	Mapped CO
I	Descriptive Statistics: Measures of central tendency - Mean, Median and Mode. Measures of dispersion. Skewness and Kurtosis. Correlation-Types- Karl Pearson and Spearman's Rank- Regression-Lines of Regression-Regression Equations- Regression Co-efficient.	CO1 CO2
II	Probability and Probability Distributions: Probability: Concepts of Probability- Binomial Distribution, Poisson Distribution and Normal Distribution.	CO3
III	Hypothesis Testing: Type I and Type-II Errors- Large Sample Tests, Mean Test-Difference between Two Means- Small Sample Tests: Mean Test-Difference between Means of Two Independent Samples - Difference between Two Dependent Samples or Paired Observations.	CO1 CO2
IV	Linear programming: Mathematical formulations of LP for product mix problems, graphical and simplex method of solving LP problems.	CO4 CO5

V	Transportation problems and Game theory: Transportation problems: Various methods of finding initial basic feasible solutions and optimal cost assignment problem. Game theory-concept of game, two-person zero sum game, pure and mixed strategy games, saddle point, odds method, dominance method and graphical method.	CO4 CO5
Case Study Compulsory. Relevant cases have to be discussed in each unit.		

Learning Resources	
Text Books:	
<ol style="list-style-type: none"> 1. Gupta S.C. and Kapoor V.K. (2020) “Fundamentals of Mathematical Statistics”, Twelfth edition, Sultan Chand & Sons, New Delhi. 2. Prem Kumar Gupta, D.S. Hira (2012), “Operations Research” S. Chand & Company limited., New Delhi. 	
Reference Books:	
<ol style="list-style-type: none"> 1. Vohra N.D (2017) “Quantitative Techniques in Management”, Tata McGraw Hill, New Delhi. 2. Srivastava U.K., Shenoy G.V, Sharma S.C. (2015), “Quantitative Techniques for Managerial Decisions” , Third Edition, New Age International Publications, New Delhi. 3. Dr. T.K.V. Iyengar, Dr. B. Krishna Gandhi (2021), “Probability and Statistics”, S.Chand Publishing House, New Delhi. 4. Sharma J.K (2010), “Quantitative methods Theory and Applications”, Macmillan publishing house, New Delhi. 5. Sharma J.K (2017), “Operations Research”, 6th Edition, Trinity Press(Laxmi Publications), New Delhi. 6. Gupta, S.C (2013)., “Business Statistics”, Second Edition, Himalaya Publishing House, Mumbai. 7. Levine, Krehbiel and Berenson (2009), “Business Statistics: A first Course”, Fifth edition, Pearson Education Asia. 8. Anand Sharma (2010), “Quantitative Techniques for Decision Making”, Third Edition, Himalaya Publishing House, New Delhi. 9. Sharma S.D., (2017), “Operations Research”, Eighteenth Edition, Kedarnath Ramnath Publications, Meerut. 	
e- Resources & other digital material:	
<ol style="list-style-type: none"> 1. https://nptel.ac.in/courses/111/106/111106150/ (Probability & Probability Distributions) 2. https://nptel.ac.in/courses/110/107/110107114/ (Business Statistics) 3. https://nptel.ac.in/courses/110/106/110106062/(Operations Research) 4. https://nptel.ac.in/courses/111/107/111107128/(Operations Research) 	