PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY (Autonomous) Kanuru, Vijayawada – 520 007 (AICTE approved, NBA accredited and ISO 9001:2008 certified Institution) (Permanent affiliation to JNTUK, Kakinada) (Effective for students admitted into first year MBA in 2012-13)

BA1T5 -Quantitative Techniques for Business Decisions

- Unit 1- Matrics, Differentiation, Permutations and Descriptive Statistics: Matrices Solving system of equations with matrix methods - Differentiation and integration of simple functions and their applications- Permutations and Combinations - Measures of central tendency: Mean, Median and Mode. Measures of dispersion.
- Unit 2- Probability and Probability Distributions: Probability: Concepts of Probability-Additive and Multiplicative Laws-Discrete and continuous random variables. Probability Distributions: Binomial, Poisson and Normal Distribution.
- Unit 3- Sampling Theory and Tests of Significance: Sampling: Concept of Sampling- Reasons for Sampling-Types of Samples- Estimation-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.
- Unit 4- Linear programming: Mathematical formulations of LP iortae for product mix problems, graphical and simplex method of solving LP problems, sensitivity analysis, duality. Transportation Problem: Various method of finding initial basic feasible solution and optimal cost Assignment problem.
- **Unit 5-** Game theory-Concept of game, two person zero sum game, pure and mixed strategy games, saddle point, odds method, dominance method and graphical method for solving mixed strategy game.

Relevant cases have to be discussed in each unit

Text Books

- 1. Sharma, "Quantitative Techniques for Managerial Decisions", Macmillan India Ltd., Chennai, 2006.
- 2. Sivaiah K.V.& Satya Rao K., "Business Mathematics", S.Chand & Company, New Delhi.

Reference Books

- 1. Gupta S.C., "Business Statistics", Himalaya Publishing House, Bombay.
- 2. Levin, Krehbiel and Berenson, "Business Statistics: A first Course", Pearson Education Asia.
- 3. Misra, "Quantitative Techniques for Management", Excel Books, New Delhi.
- 4. Nagar, Das, "Basic Statistics", Oxford University Press.
- 5. Sanheli D.C.and Kapoor V.K., "Business Mathematics", Sultan Chand, New Delhi.
- 6. Sarma K.V., "Statistics Made Simple", Prentice Hall of India, New Delhi.
- 7. Vohra N.D., "Quantitative Techniques in Management", Tata McGraw Hill, New Delhi.