

# Veer Narmad South Gujarat University, Surat.

## M.COM.- I

### Quantitative Methods for Finance - Paper - 2

#### (To Come in force from 2009-10)

#### Course Contents

1. Basic Calculus for Finance  
Introduction, functions and graphs, equations and Roots, differentials and Integration, Analysis of financial Returns, functions of several variables, Taylor Expansion.
2. Essential Linear Algebra for Finance  
Matrix algebra and its mathematical applications, eigenvectors and Eigen values. Applications to linear portfolio, matrix decomposition, principal component analysis
3. Probability and Statistics  
Basic Concepts, univariate distributions, multivariate distribution, introduction to statistical inference, maximum likelihood estimation, stochastic process in discrete and continuous time.
4. Introduction to Linear Regression  
Simple linear regression, ordinary least squares, properties of error process, ANOVA and goodness of fit, properties of ols estimators, violations of assumptions and remedial measures. Applications of linear regression in Finance
5. Numerical Methods in Finance  
Iteration, interpolation and Extrapolation, optimization, Finite difference approximation, monte carlo simulation.

#### REFERENCES:

1. Anderson, Sweeney and Williams (2007), Statistics for Business and Economics, Thomson south-western, India.
2. Black Ken (2004), Business Statistics for Contemporary Decision Making, Wiley student Edition, India.
3. Brooks(2008), *Introductory Econometrics for Finance*, Cambridge University Press.
4. Doane and Seward(2007), Applied Statistics in Business and Economics, Tata Mcgraw Hill, New Delhi.
5. Gujarati (2004), Basic Econometrics, Tata Mcgraw Hill, India.
6. Keller(2007), Statistics for Management and Economics, Thomson south-western, India.
7. Lee, Lee and Lee(2000), *Statistics for Business and Financial Economics*, World Scientific, India.
8. Swift and Piff(2005), Quantitative Methods For Business, Management And Finance, Palgrav Macmillan
9. Teall and Hasan(2002), *Quantitative methods for Finance and Investment*, Wiley- Blackwell.
10. Terry and Keith{1996}, Quantitative methods for Finance, Cengage Learning Business Press

