

**Course Name: Quantitative Techniques in Management**

**Course Code-MS 104**

**Course Credits: 6**

**Course Objective:** The objective of this course is to provide students the knowledge of quantitative tools and their application in various decision making situations.

**Block I Introduction to Statistics**

**Unit I Introduction to Statistics**

Business Statistics- Concept, Significance and Limitations

**Unit II Data-Types and Classification**

Primary and Secondary Data, Classification and Tabulation

**Unit III Frequency Distribution and Graphical Representations**

**Unit IV Measures of Central Tendency**

Mean, Median, Mode and Quartile

**Unit V Measures of Dispersion**

Range, Mean Deviation, Standard Deviation.

**Block II Measurement of Variation, Correlation & Regression**

**Unit VI Measures of Skewness, Kurtosis and Moments**

**Unit VII Correlation**

Correlation - Karl Pearson and Rank Correlation-Partial-Multiple

**Unit VIII Regression Analysis and Properties of Regression Coefficients**

Properties of Regression Coefficients and Relationship between Regression and Correlation

**Unit IX Times Series Analysis**

**Block III Probability & Distribution**

**Unit X Probability- Definition and Classification**

Probability Definition and Classification of Probability

**Unit XI Laws of Probability**

Additive Law, Distribution and Multiplication Law, Joint Probability

**Unit XII Probability Distribution**

Probability Distribution, Discrete and Continuous Distribution

**Unit XIII Binomial Distribution**

**Unit XIV Normal and Poisson Distribution**

**Block IV Operations Research**

**Unit XV Linear Programming**

Graphical Solution Method- Simplex Method-Duality-Bounded Variables LP Problems-Parametric-Integer-Goal Programming

**Unit XVI Transportation Problem**

**Unit XVII Assignment Problem**

**Unit XVIII Queuing Theory and Decision Theory**

**Unit XIX Replacement Theory and Sequencing Problems**

**Unit XX PERT and CPM**

**Suggested Readings-**

- 1- N.K. Chaddha, "Statistics for Behavioral and Social Sciences", Reliance Publishing House, New Delhi.
- 2- S.P. Gupta and N.P.Gupta-, "Business Statistics", Sultan Chand and Sons, New Delhi.
- 3- A.S. Narang, "Linear Programming and Decision Making", Sultan Chand and Sons, New Delhi.
- 4- K.S. Nagar, "Statistics", Meenakshi Publisher, Meerut.
- 5- C B Gupta "An Introduction to Statistical Methods", Vikas Publishing House Pvt Ltd , 1995
- 6- R.I. Levin & D.S. Rubin ,Statistics for Management , Prentice Hall/ Pearson Education
- 7- John E Freund, Mathematical Statistics, Prentice Hall.