**STATISTICS**

I Semester Syllabus

**DESCRIPTIVE STATISTICS AND PROBABILITY**

**U n i t - I**

Introduction to Statistics: Concepts of Primary and Secondary data. Methods of collection and editing of primary data, Secondary data. Designing a questionnaire and a schedule. Measures of Central Tendency - Mean, Median, Mode, Geometric Mean and Harmonic Mean.

**U n i t - I I**

Measures of dispersion: Range, Quartile Deviation, Mean Deviation and Standard Deviation. Descriptive Statistics - Central and Non-Central moments and their interrelationship. Sheppard's correction for moments. Skewness and kurtosis.

**U n i t - I I I**

Introduction to Probability: Basic Concepts of Probability, random experiments, trial, outcome, sample space, event, mutually exclusive and exhaustive events, equally likely and favourable outcomes.

III Semester Syllabus

**B.Sc. STATISTICS**

**STATISTICAL METHODS**

Unit-I

Correlation: Def.,scatter diagram ,its coefficient and its properties., scatter diagram, computation of correlation coefficient for ungrouped data. spearman's rank correlation coefficient, properties of spearrman's correlation coefficients and problems.

Unit-II

Regression: simple linear regression, properties of regression coefficients. Regression lines, Concept of Correlation ratio, partial and multiple correlation coefficients, correlation verses regression and their problems.

Unit – III

Curve fitting: Method of least square - Fitting of linear, quadratic equations and their problems.

**Semester-V**

**Paper – V(A) : Sampling Techniques and Design of Experiments**

**Unit-I**

**Sampling Theory**: Principle steps in a sample survey, Censes versus sample survey,sampling and Non-sampling errors. Types of sampling - subjective, probability and mixed sampling methods.

**Unit-II**

**Simple Random Sampling** : Meaning of Samples and methods to draw, estimation ofpopulation mean, variances in SRSWR& SRSWOR. Advantages and Disadvantages of these methods.

**Unit-III**

**Stratified Random sampling**: Proportional and optimum allocation of sample sizesin stratification. Variances of these methods. Comparison of their relative efficiencies. Advantages and Disadvantages of stratified sampling.

**Paper – V (B) Quality and Reliability**

**Unit-I :**Importance of SQC in industry, statistical basis of shewart control charts, usesof control charts., control limits, Natural tolerance limits and specification limits. concept of six-sigma

**Unit – II**

**Variable Control Chart**: Construction of mean , R ,s.d,charts for variables,Interpretation of control charts

**Attribute control charts**- nP, P charts, C chart, Interpretation of control charts. **Unit-III**

**Acceptance sampling plans**: Scope, Producer’s risk and consumer’s risk .