

**Unit - I**

Research definition, Scientific research; Selection of the research problem, designing of research, observational, interventional, descriptive, analytical, qualitative and quantitative research.

**Unit – II**

Scientific documentation: Methods of literature collection, design, planning and execution of investigation, Preparation of scientific documents, general articles, research papers, review articles, editing of research papers, methods of citation, Plagiarism and copyright act. Presentation techniques.

**Unit - III**

Survey for field study, Sources of primary and secondary research data, Laboratory experiments and protocol, Field experiments, sample size & design, selection criteria of sampling sites, Methods of data collection and validation.

**Unit - IV**

Introduction to Biostatistics; Development, Definition, Characteristics, Importance and limitations, Preliminary concept (variables and constants, Testing hypothesis). Primary and secondary data, sources and presentation of data, Graphical representation, Mean, Mode and Median, standard deviation

**Unit - V**

Elementary knowledge of probability, Correlation and Linear regression, Measure of central tendencies. Distribution- Normal, Binomial and Poisson, Analysis of Variance, test of Significance: t-test, F- test and Chi-square test, ANOVA