

**P.G. DEPARTMENT OF STATISTICS
UTKAL UNIVERSITY**



**SYLLABUS
FOR
Ph.D. COURSE WORK (STATISTICS)
EXAMINATION**

SYLLABUS FOR Ph.D. COURSE WORK

DEPARTMENT OF STATISTICS

PAPER-I (100 Marks)

RESEARCH METHODOLOGY

Introduction- Meaning, Importance, Characteristics and objectives, Research Approaches, Types of Research, Qualities of a Researcher, Significance of Research, Research Process, Research Proposal and Its Evaluation, Research Design.

Selecting a Sample Design – Sampling Distribution, Principles of Sample Survey, Sampling and Non-Sampling Errors, Types of Sampling, Choice of an Appropriate Sampling Design, Selection of Sample Size, Types and Collection of Data, Precautions in the use of Secondary Data, Secondary Analysis, Process of Getting Information: Survey, Measurement in Research-Types of Measurement Scales, Reliability and Validity, Attitude Measurement and its Limitations, Different Scaling Techniques.

Tools and Techniques of Data Collection- Questionnaire, Pretest (Pilot Test), Field Study, Data Preparation and Processing of Data, Classification and Tabulation, Presentation of Data, Frequency Distribution and Its Characteristics, Probability Theory, Random Variable and Its Distributions.

Correlation – Simple, Multiple and Partial, Regression Analysis, Test of Significance- small sample and Large Sample Test, Cross Tabulation, ANOVA, Multidimensional Scaling Technique, Discriminant Analysis, Factor Analysis, Cluster Analysis, Conjoint Analysis, Neural Networks, Nonparametric test.

Report Writing – Framework and Types of a Report, Essentials of a Good Report, Presentation of a Report.

PAPER-II (100 Marks)

COMPUTER APPLICATION

Computer: An Overview, Operating Systems, Working with MS Office.

Programming Languages, Object Oriented Programming Language, Programming using C++, Data Types, Variables and Constants, Operators and Expressions, Control Structure, Array and String Operations, Functions, Standard header files and library files, Pointer and Structure, Classes and Objects, Solution of statistical problems using C++ Program.

Statistical Packages – Solution of statistical problems using MATLAB, SPSS, MINITAB, EXCEL.

PAPER-III (100 Marks)
REVIEW OF LITERATURE

- a) Preparation of Essay/Report -50 Marks
- b) Presentation before SRC – 50 Marks

PAPER-IV (Marks-100)
SEMINAR