



Research Office

Syllabus for Research Methodology – PhD. Admission Test

(Common for all Specializations)

Research and Types of Research: Meaning of Research- Objectives of Research- Motivation in Research. Research methods vs Methodology. Types of research - Descriptive vs. Analytical, Applied vs. Fundamental, Quantitative vs. Qualitative, Conceptual vs. Empirical Research Process. Criteria of good Research.

Research Formulation: Defining and formulating the research problem, Selecting the problem, Necessity of defining the problem, Importance of literature review in defining a problem, Literature review – Primary and secondary sources, reviews, treatise, monographs patents, web as a source, searching the web, Critical literature review, Identifying gap areas from literature review, Development of working hypothesis.

Data Collection and Analysis: Execution of the research - Observation and Collection of data - Methods of data collection – Modeling, Mathematical Models for research, Sampling Methods Data processing and Analysis strategies. Interpretation and report writing, Techniques of interpretation, Structure and components of scientific reports - Different steps in the preparation - Layout, structure and language of the report, Illustrations and tables, Types of report - Technical reports and thesis.

Writing Research Articles and Thesis: Data Presentation- Types of tables and illustrations, Guidelines for writing the abstract, introduction, methodology, results and discussion, conclusion sections of a manuscript. References – Styles and methods, Citation and listing system of documents. Plagiarism. Ethical considerations in Research.