M.PHIL/Ph.D. Entrance Test – SYLLABUS

PART – I : RESEARCH METHODOLOGY

Unit – 1. Research Design & Methodologies
1.1 Basic Research Designing, Setting up Objectives of the Study and Hypotheses to be tested.
1.2 Setting up Experimental Design and Experimental Protocol
1.3 Setting up detailed methodologies, sampling methods, Strategies for execution of the protocols
1.4 Designing protocol for statistical validation.

Unit – 2. Scientific Documentation & Report Writing
2.1 Scientific literature collection: Types of research literature, Sources.
2.2 Documentation of collected literature, Reference Index, Database generation.
2.3 Basics of Bibliographic Citations, Different Bibliographic styles
2.4 Scientific Report Writing, Various aspects, Thesis, Report and Paper writing.

Unit – 3. Statistical analysis
3.1 Significance tests: Student's 't' test: Hypotheses, acceptance and rejections, significance levels.
3.2 Analysis of Variance: General principles, completely randomized and random-block design ANOVA.
3.3 Regression and correlation – biveriate analysis.
3.4 Chi-Square and its applications.

Unit – 4. Computer Applications
4.1 Use of different software packages. Important tools/software for research management.
4.2 Data Analysis: Data collection techniques, Sampling methods, Storage/management.
4.3 Graphics: representation of results by charts, graphs, tables…, drawing up conclusion
4.4 Microsoft Word, Excel and PowerPoint Presentations