

PhD Entrance Test – 2025

Syllabus for Research Methodology

Course Structure

Unit 1: Foundations of Research

- 1.1 Introduction to Research: Definition, Purpose, and Types of Research
- 1.2 Research Problem, Hypothesis, and Research Questions
- 1.3 Epistemology, Ontology, and Theoretical Frameworks

Unit 2: Research Design and Sampling Techniques

- 2.1 Research Designs: Experimental, Descriptive, Exploratory, Longitudinal, and Cross-sectional
- 2.2 Sampling Methods: Probability and Non-Probability Sampling
- 2.3 Case Study Method, Survey Research, and Mixed Methods Research

Unit 3: Data Collection and Analysis

- 3.1 Data Collection Methods: Primary and Secondary Data
- 3.2 Measurement Scales, Questionnaire Design, and Interview Techniques
- 3.3 Qualitative and Quantitative Data Analysis: Coding, Thematic Analysis, and Statistical Tools

Unit 4: Research Ethics and Scientific Writing

- 4.1 Ethical Considerations in Research: Plagiarism, Informed Consent, and Data Privacy
 - 4.2 Report Writing and Research Publication: Structure, Referencing, and Peer Review
 - 4.3 Emerging Trends in Research: Big Data, AI in Research, and Open Access Publishing
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Textbook References:

1. Kothari, C.R. (2004). **Research Methodology: Methods and Techniques**. New Age International.

2. Creswell, J.W. (2018). **Research Design: Qualitative, Quantitative, and Mixed Methods Approaches**. Sage Publications.
3. Bryman, A. (2016). **Social Research Methods**. Oxford University Press.
4. Babbie, E. (2020). **The Practice of Social Research**. Cengage Learning.
5. Yin, R.K. (2018). **Case Study Research and Applications: Design and Methods**. Sage Publications.
6. Flick, U. (2018). **An Introduction to Qualitative Research**. Sage Publications