Ph.D. Entrance Test – 2024

Syllabus

Part A Research Methodology

Group I

Subject
Chemistry, Earth Science (Geology /Remote Sensing), Environmental Chemistry, Mathematics, Physics, Bio Chemistry, Biotechnology, Botany, Microbiology, Zoology, Computer Science, Pharmacy

Note : Part-A Research Methodology shall be of generic nature, intended to assess the research aptitude of the candidate. It will primarily be designed to test reasoning ability, data interpretation, and quantitative aptitude of the candidate.

Nature and objectives of research, Methods of research, Historical, descriptive and experimental, research process, research approaches, criteria for good research, meaning of research design, need of research design, features of good design, different research designs & basic principles of experimental designs, designs of experiments.

Types of data, methods and techniques of data collection, primary and secondary data, meta analysis, historical methods content analysis, devices used in data collection, pilot study and pretest of tools, choice of data collection method.

Measures of Central Tendency, Measures of Dispersion, Measures of Variation, Measures of Central Tendency vs Measures of Dispersion, Normal Distribution, Measures of Skewness and Interpretation, Correlation and Regression, Types and Applications.

Significance of difference in means: Standard deviation and standard error, Z-test, 't' test and Chi-square test: purpose and use, Analysis of variance.

Basic concept of paper/ thesis writing and report generation, writing Research Abstract, Introduction, Review of Literature, Results, Conclusion, Concepts of Bibliography and References, significance of Report Writing, Types of Research Reports, Methods of presentation of Reports, Formats of publication in Research Journals.

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30/1/24

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02/01/24

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Ishan Patra