

## PhD Admissions January - June 2023

### Syllabus for testing research/ analytical/ comprehension/ logical /quantitative aptitude

#### Verbal Reasoning

- The verbal reasoning section assesses your ability to analyze and evaluate written material and synthesize information and draw conclusions from it.
- This section comprises of:
  - Reading Comprehension: Understanding and analyzing written passages and answering questions based on them.
  - Text Completion: Filling in the blanks with the appropriate word from the given options.
  - Sentence Equivalence: Choosing two correct answers out of the given options for a given sentence.

#### Quantitative Reasoning

- The quantitative reasoning section measures your ability to understand, interpret and analyze quantitative information.
- This section includes:
  - Arithmetic: Integer properties, factorization, and operations.
  - Algebra: Factoring, simplifying algebraic expressions, and solving linear and quadratic equations, Graphical interpretation.
  - Geometry: Lines, angles, triangles, circles, and polygons.
  - Data Analysis: Descriptive statistics, probability, and distributions.

#### Analytical Writing

- The analytical writing section requires you to articulate complex ideas clearly and effectively, and to support your ideas with relevant and compelling examples.
- This section includes:
  - Issue task: Presenting your views on a topic and supporting it with reasons and examples.
  - Argument task: Analyzing an argument and pointing out its strengths and weaknesses.

#### Research Aptitude

- Research: Meaning, Types, and Characteristics, Positivism and Post-positivistic approach to research.
- Methods of Research: Experimental, Descriptive, Historical, Qualitative, and Quantitative methods.
- Steps of Research: Identification of Research Problem, Review of Literature, Formulation of Hypothesis, Research Design, Sample Design, Data Collection, Data Analysis, and Research Report Writing.
- Thesis and Article Writing: Format and styles of referencing.
- Application of ICT in research: E-governance, E-commerce, and E-learning.

- Research Ethics: Publication Ethics, Copyright, and Intellectual Property Rights, Plagiarism, and Research Misconduct.
- Research and Statistics: Measures of Central Tendency, Dispersion, Probability, and Sampling.
- Emerging Trends in Research.

## Logical reasoning

Key concepts and topics that may be covered in logical reasoning:

- Critical thinking: Ability to analyze and evaluate arguments and evidence
- Verbal and non-verbal reasoning: Ability to understand and analyze patterns and relationships between words, shapes, and symbols
- Decision-making skills: ability to make informed decisions based on available information and logical reasoning
- Propositional logic and predicate logic: Ability to evaluate and manipulate complex logical statements using symbolic notation.
- Topology and geometry: ability to analyze properties of geometric shapes and spaces using concepts such as continuity, connectedness, and convergence.