

## PhD 2024 - General Science Syllabus

### **Numerical Ability:**

Number and Simplification, LCM and HCF Average, Quadratic Equations, Sequence and Series, Surds and Indices, Logarithms, Percentage, Profit and Loss, Simple Interest, Compound Interest, Ratio, Proportion and Variation, Partnership, Alligation, and Mixture. Time Speed and Distance, Time and Work, Permutations and Combinations, Probability, Geometry, Mensuration, Trigonometry, etc.

### **Analytical Reasoning:**

Series Formation, Coding-Decoding, Distance and Directions, Calendar and Clock, Ranking and Arrangement, Puzzles, etc. Verbal Reasoning, Non-verbal Reasoning. Deduction and induction, Analogy, Numerical relations, and reasoning Data Interpretation and Graphical Analysis.

### **Data Analytics:**

Mean, Median, Mode, Measures of Dispersion, Graphical Analysis: Bar Graph, Line Graph, Pie-Chart, Tabulation. Measures of location and dispersion. Measures of skewness and kurtosis. Correlation and regression. Sampling and non-sampling errors. Conventional sampling techniques (SRSWR/SRSWOR, stratified random sampling, systematic sampling). Ratio and regression methods of estimation.

### **Basics of Programming:**

Computational thinking, Concepts of Logical Thinking and Algorithms, Objectives of Problem-Solving, Defining a problem, and devising solutions. Data Base Management Systems (DBMS), Data Communication and Computer Networks