

# Savitribai Phule Pune University

## Department of Technology

### B.Tech Data Science (Entrance Exam Syllabus)

#### Section A

#### **Aptitude (Logical & Analytical Ability)**

**Quantitative Aptitude:** Percentages, Ratio & Proportion, Profit & Loss, Simple & Compound Interest, Time & Work, Time-Speed-Distance, Averages, Number System, Data Interpretation (tables, graphs)

**Logical Reasoning:** Number & Alphabet Series, Coding-Decoding, Blood Relations, Direction Sense, Venn Diagrams, Analytical puzzles

#### Section B

#### **Physics**

Units & Measurements, Motion in One & Two Dimensions, Laws of Motion, Work, Energy & Power, Rotational Motion, Gravitation, Thermodynamics & Kinetic Theory, Oscillations & Waves, Electrostatics, Current Electricity, Magnetic Effects of Current, Electromagnetic Induction, Optics (Ray & Wave), Modern Physics

#### **Chemistry**

Basic Concepts of Chemistry, Atomic Structure, Chemical Bonding, States of Matter, Thermodynamics, Equilibrium, Redox Reactions, Periodic Table & Properties, Organic Chemistry (Basic Principles, Hydrocarbons), Solutions, Electrochemistry, Environmental Chemistry, Mole Concept, Chemical Kinetics, Surface Chemistry.

#### **Mathematics**

Algebra (Linear, Quadratic Equations), Trigonometry, Coordinate Geometry (Straight Line, Circle), Functions & Relations, Limits & Continuity, Differentiation & Applications, Integration, Differential Equations, Matrices & Determinants, Vector Algebra & 3D Geometry, Probability, **Basic Statistics:** Mean, Median, Mode, Binomial Theorem, Sequence & Series, Logarithms, Permutation & Combination.