

Syllabus for MSc(CS) Entrance Examination

Department of Computer Science, SP Pune University

Major areas are Logical Reasoning, mathematics and general aptitude.

1. Set theory: Set operations, relations, functions.
2. Propositional logic: Formulation, deduction, evaluation, puzzles.
3. Linear Algebra: Solution of a system of linear equations. Determinant and inverse of a matrix, basic properties of matrices.
4. Co-ordinate Geometry and Conic Sections: Equations of lines and planes, vector products; definitions and properties of conic sections.
5. Trigonometry: Identities, computation of heights and lengths.
6. Differential Calculus: Total and partial differentiation, limit of a function.
7. Integral Calculus: Definite and indefinite integrals, solution of differential equations, computation of areas and volumes.
8. Series and sequences: sum, mean, convergence, limit.
9. Real and complex numbers: surds, solution of equations on complex domain.
10. Polynomials: solution of quadratic equations, properties of roots of polynomials with real coefficients, binomial expansion, Taylor series.
11. Permutations and Combinations.
12. Elementary Probability Theory: Computing probability from combinatorial reasoning, conditional probability.