# CUET PG MCA Mathematics Syllabus

CUET PG MCA syllabus for Mathematics includes Set theory, Probability and Statistics, Algebra, Coordinate Geometry, Calculus, Vectors, and Trigonometry. The details about the syllabus are explained in detail below:

- **Set theory:** Concept of sets – Union, Intersection, Cardinality, Elementary counting, permutations and combinations.
- **Probability and Statistics:** Basic concepts of probability theory, Averages, Dependent and independent events, frequency distributions, measures of central tendencies, and dispersions.
- **Algebra:** Fundamental operations in algebra, expansions, factorization, simultaneous linear /quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, determinants, and matrices.
- **Coordinate Geometry:** Rectangular Cartesian coordinates, distance formulae, equation of a line, and the intersection of lines, pair of straight lines, circle equations, parabola, ellipse, and hyperbola.
- **Calculus:** Limit of functions, continuous function, differentiation of function, tangents, and normals, simple examples of maxima and minima. Integration of functions by parts, substitution, partial fraction, definite integrals, and applications of definite integrals to areas.
- **Vectors:** Position vector, addition and subtraction of vectors, scalar and vector products, and their applications to simple geometrical problems and mechanics.
- **Trigonometry:** Simple identities, trigonometric equations, properties of triangles, solutions of triangles, heights, and distances, general solutions of trigonometric equations.