



DECCAN INSTITUTE
SANGLI

NATA Syllabus for General Aptitude

The aptitude test will comprise 125 questions that could be of the Multiple-Choice type (MCQ), Multiple Select types (MSQ), Preferential Choice type (PCQ), and Numerical Answer type (NAQ).

You will be tested on the following topics in the general aptitude section.

Diagrammatic Reasoning	Tests the ability of logical reasoning, using diagrams and scenarios
Numerical Reasoning	Tests mathematical ability through simple problems
Verbal Reasoning	Assesses the ability to assess verbal logic
Inductive Reasoning	Tests the ability to see patterns and analyze given data
Situational Judgment	Tests problem-solving ability
Logical Reasoning	Tests ability to recognize patterns, sequences, or relationships between shapes and imagery
Abstract Reasoning	Will assess general knowledge and ability to utilize knowledge in new situations

Other Topics from NATA Syllabus

You can also expect questions from the following topics in the National Aptitude Test in Architecture 2022.

- Mathematics
- Physics and Geometry
- Language and interpretation
- Elements and principles of design
- Aesthetic sensitivity
- Colour theory
- Lateral thinking and logical reasoning

- Visual perception and cognition
- Graphics and imagery
- Building anatomy and architectural vocabulary
- Basic techniques of building construction and knowledge of material
- General knowledge and current affairs

NATA Maths Syllabus

You should focus more on topics like Coordinate Geometry, Algebra, Permutation and Combination, Statistics and Probability, Matrices, and logarithms to score good marks in mathematics.

Topics	Sub-topics
Algebra	Definitions of A. P. and G.P.; General term; Summation of first in-terms of series $\sum n$, $\sum n^2$, $\sum n^3$; Arithmetic/Geometric series, A.M., G.M. and their relation; Infinite G.P. series and its sum.
Logarithms	Definition; General properties; Change of base.
Matrices	Concepts of $m \times n$ ($m \leq 3$, $n \leq 3$) real matrices, operations of addition, scalar multiplication, and multiplication of matrices. Transpose of a matrix. The determinant of a square matrix. Properties of determinants (statement only). The minor, cofactor, and adjoint of a matrix. Non-singular matrix. The inverse of a matrix. Finding the area of a triangle. Solutions of system of linear equations. (Not more than 3 variables).
Trigonometry	Trigonometric functions, addition and subtraction formulae, formulae involving multiple and sub-multiple angles, and the

	<p>general solution of trigonometric equations. Properties of triangles, inverse trigonometric functions, and their properties.</p>
Coordinate geometry	<p>Distance formula, section formula, area of a triangle, condition of collinearity of three points in a plane. Polar coordinates, are the transformation from Cartesian to polar coordinates and vice versa. Parallel transformation of axes, the concept of the locus, elementary locus problems. The slope of a line. The equation of lines in different forms, angle between two lines. The condition of perpendicularity and parallelism of two lines. The distance of a point from a line. The distance between two parallel lines. Lines through the point of intersection of two lines. The equation of a circle with a given center and radius. A condition that a general equation of second degree in x, y may represent a circle. The equation of a circle in terms of endpoints of a diameter Equation of tangent, normal, and chord. Parametric equation of a circle. The intersection of a line with a circle. An equation of common chord of two intersecting circles.</p>
3-Dimensional Co-ordinate geometry	<p>Direction cosines and direction ratios, the distance between two points and section formula, the equation of a straight line, the equation of a plane, and a distance of a point from a plane.</p>
Theory of Calculus	<p>Functions are the composition of two functions and inverse of a function, limit, continuity, derivative, chain rule, derivatives of implicit functions, and functions defined parametrically. Integration is a reverse process of differentiation, an indefinite integral of</p>

	<p>standard functions. Integration by parts. Integration by substitution and a partial fraction. A definite integral is a limit of a sum with equal subdivisions. Fundamental Theorem of integral calculus and its applications. Properties of definite integrals. Formation of ordinary differential equations, a solution of homogeneous differential equations, separation of variables method, linear first-order differential equations.</p>
Application of Calculus	<p>Tangents and normals, conditions of tangency. Determination of monotonicity, Maxima, and minima. Differential coefficient as a measure of rate. Motion in a straight line with constant Acceleration. Geometric interpretation of definite integral as an area, calculation of area bounded by elementary curves and Straight lines. The area of the region is included between two elementary curves.</p>
Permutation and combination	<p>Permutation of n different things taken r at a time ($r \leq n$).</p>
Statistics and Probability	<p>A measure of dispersion, mean, variance and standard deviation, and frequency distribution. Addition and multiplication rules of probability, conditional probability and Bayes' Theorem, independence of events, repeated independent trails, and Binomial distribution.</p>

NATA Drawing Syllabus

- Conceptualization and Visualization through structuring objects in memory.
- Understanding of scale and proportion of objects, geometric composition, shape, building forms and elements, aesthetics, color texture, harmony, and contrary. Drawing of patterns - both geometrical and abstract.
- Form transformations in 2D and 3D like union, subtraction, rotation, surfaces, and volumes.
- Generating plan, elevation, and 3D views of objects. Creating 2D and 3D compositions using given shapes and forms. Perspective drawing, Sketching of urbanscape and landscape, Common day-to-day life objects like furniture, equipment, etc., from memory.