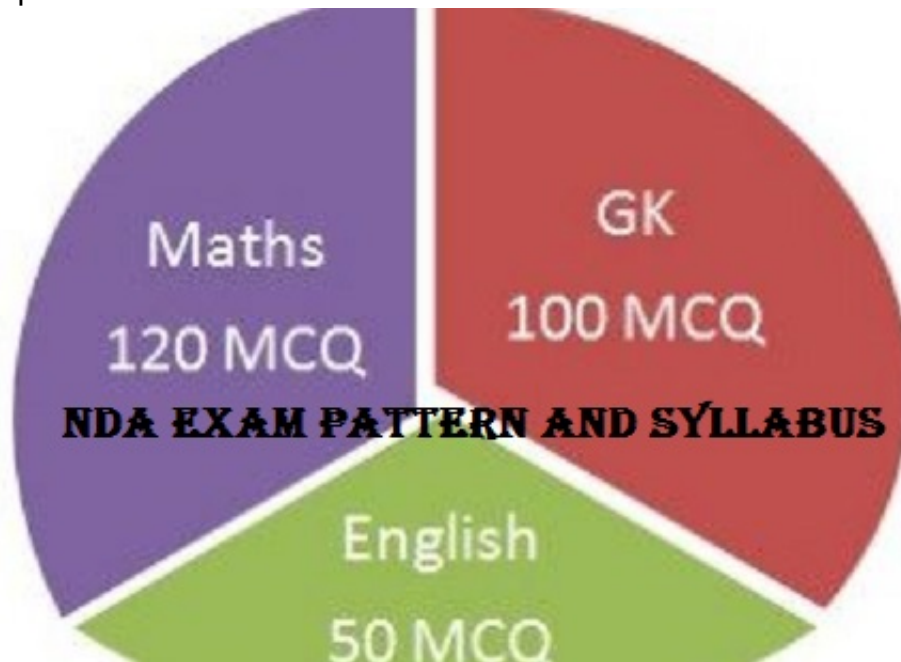


NDA Exam pattern and syllabus 2018 - National Defense Academy

NDA exam pattern and syllabus: Dear NDA aspirants, it is very much essential to know the background of the exam and its question pattern, before taking it up. To appear in the exam you should be aware and prepared enough with the syllabus, question pattern, general awareness and previous year papers.



NDA exam pattern and syllabus 2018

In this segment, we will update with a wholesome information on National Defence Academy, NDA exam pattern and syllabus from which the questions are asked.

About NDA Exam

National Defence Academy(NDA) is a military academy which was established on 7th of December, 1954. The campus location is in Pune, Maharashtra, India. The motto of NDA is "Service before self".

The NDA exam is held after 10+2 examination. Union Public Service Commission(UPSC) conducts this exam twice a year. Through this national level entrance exam, you can get to serve in Indian

Defence Services. It provides opportunity for entrance in Indian Army, Indian Navy and Indian Air Force. Once the cadet clears this examination, They need to undergo a training of three years in the Academy. This training is in sync with the graduation with BA/BSc or BCs (Computer Science) degree of Jawaharlal Nehru University.

Besides academic training, the candidates are also equipped with outdoor skills like drilling, physical training and games. NDA always puts more stress on character building, esprit-de-corps, mental and physical flexibility and rigidity, leadership and a sense of observation.

Official website: [Click here](#)

Checkout [NDA selection process](#) and [NDA eligibility criteria](#)

NDA exam question pattern

Find here all the information on NDA exam pattern and syllabus.

NDA Question paper consists of two papers- Mathematics and General Ability.

- Each paper is of 2 hours 30 minutes.
- Mathematics question paper contains 120 questions of total 300 marks. Each question is of 2.5 marks. For each incorrect response 0.83 marks is deducted.
- General ability paper is of 600 marks consisting of 150 questions. This paper includes English and General Knowledge. English is of 200 marks with 50 questions and General Knowledge paper has 100 questions of 400 marks. 1.33 marks will be reduced for marking incorrect answer.
- Time management and efficiency will definitely help you in clearing the exam with good scores.

The cadets who manage to clear the NDA written exam are called for SSB interview. This follows with intelligence, personality, physical and medical test.

NDA exam syllabus

NDA exam pattern and syllabus includes the following subjects:

1. Mathematics
2. English
3. General Ability includes Physics, Chemistry, General Science, History Geography, Current affairs

Mathematics syllabus

Algebra-

Concept of a set, Operations on sets, Venn diagrams, De Morgan laws, Cartesian product relation, Equivalence relation, Representation of real numbers on a line, Complex numbers – basic properties, Modulus argument, Cube roots of unity, Binary system of numbers, Conversion of a number in decimal system to binary system and vice-versa, Arithmetic, Geometric and Harmonic progressions, Quadratic equations with real coefficients, Solution of linear inequations of two variables by graphs, Permutation and Combination, Binomial theorem and its application, Logarithms and their applications.

Matrices and Determinants

Types of matrices, Operations on matrices, Determinant of a matrix, Basic properties of determinants, Adjoint and inverse of a square matrix, Applications – Solution of a system of linear equations in two or three unknowns by Cramer's rule and by Matrix Method.

Trigonometry

Angles and their measures in degrees and in radians, Trigonometrical ratios, Trigonometric identities Sum and difference formulae, Multiple and Sub-multiple angles, Inverse trigonometric functions, Applications – Height and distance, Properties of triangles, NDA Coaching Institute

Analytical Geometry of two and three dimensions:

Rectangular Cartesian Coordinate system, Distance formula, Equation of a line in various forms, Angle between two lines, Distance of a point from a line, Equation of a circle in standard and in general form, Standard forms of parabola, Ellipse and hyperbola, Eccentricity and axis of a conic

Differential Calculus

Concept of a real valued function – domain, range and graph of a function, Composite functions, Derivative of function at a point, Derivatives of sum, Product and quotient of functions, Derivative of a function with respect of another function, Derivative of a composite function, Second order derivatives, Increasing and decreasing functions, Application of derivatives in problems of maxima and minima, NDA Eligibility Criteria

Integral Calculus and Differential Equations

Integration as inverse of differentiation, Integration by substitution and by parts, Standard integrals involving algebraic expressions, Trigonometric, Exponential and hyperbolic functions, General and particular solution of a differential equation

Vector Algebra

Vectors in two and three dimensions, Magnitude and direction of a vector, Unit and null vectors addition of vectors, Scalar multiplication of vector

Analytical Geometry of two and three dimensions

Rectangular Cartesian Coordinate system, Distance formula, Equation of a line in various forms, Angle between two line, Distance of a point from a line, Equation of a circle in standard and in general form, Standard forms of parabola, ellipse and hyperbola, Eccentricity and axis of a conic, Point in a three dimensional space, distance between two points, Direction Cosines and direction ratios, Equation of a plane and a line in various forms, Angle between two lines and angle between two planes, Equation of a sphere

Statistics

Classification of data, Frequency distribution, Cumulative frequency distribution – examples, Graphical representation – Histogram, Pie Chart, Frequency Polygon – examples, Measures of Central tendency – Mean Median and Mode, Variance and standard deviation – determination and comparison, Correlation and regression

Probability

Random experiment, Outcomes and associated sample space, Events, Mutually exclusive and exhaustive events, Impossible and certain events, Union and Intersection of events, elementary and composite events, Conditional probability, Bayes' theorem – simple problems, Random variable as function on a sample space, Binomial distribution, Examples of random experiments giving rise to Binominal distribution.

English

- Grammar and Application
- Vocabulary
- Comprehension and Cohesion

General Ability

Physics

Physical Properties and States of Matter, Mass, Weight, Volume, Density, Specific Gravity, Principle of Archimedes, Pressure Barometer, Motion of objects, Velocity and Acceleration, Newton's Laws of Motion, Force and Momentum, Parallelogram of Forces, Stability and

Equilibrium of bodies, Gravitation, elementary ideas of work, Power and Energy, Effects of Heat, Measurement of temperature and heat, change of State and Latent Heat, Modes of transference of Heat, Sound waves and their properties, Simple musical instruments, Rectilinear propagation of Light, Reflection and refraction, Spherical mirrors and Lenses, Human Eye, Natural and Artificial Magnets, Properties of a Magnet, Earth as a Magnet, Static and Current Electricity, conductors and Non-conductors, Ohm's Law Simple Electrical Circuits, Heating, Lighting and Magnetic effects of Current, Measurement of Electrical Power, Primary and Secondary Cells, Use of X-Rays

Chemistry

Physical and Chemical changes, Elements Mixtures and Compounds Symbols Formulae, simple Chemical Equations Law of Chemical Combination (excluding problems), Properties of Air and Water, Preparation and Properties of Hydrogen Oxygen Nitrogen and Carbondioxide Oxidation and Reduction, Acids bases and salts, Carbon – different forms, Fertilizers – Natural and Artificial, Material used in the preparation of substances like soap Glass Ink Paper Cement Paints Safety Matches and Gun-Powder, Elementary ideas about the Structure of Atom Atomic Equivalent and Molecular Weights Valency

General Science

Difference between the living and non-living, Basis of Life – Cells Protoplasm and Tissues, Growth and Reproduction in Plants and Animals, Elementary knowledge of human Body and its important organs, Common Epidemics their causes and prevention, Food – Source of Energy for man. Constituents of food Balanced Diet, The Solar System – Meteors and Comets Eclipses, Achievements of Eminent Scientists, General Science Quiz

History

Broad survey of Indian History with emphasis on Culture and Civilisation, Freedom Movement in India, Elementary study of Indian Constitution and Administration, Elementary knowledge of Five Year Plans of India, Panchayati Raj Co-operatives and Community Development, Bhoodan Sarvodaya National Integration and Welfare State Basic Teachings of Mahatma Gandhi, Forces shaping the modern world, Renaissance Exploration and Discovery, War of American Independence, French Revolution Industrial Revolution and Russian Revolution, Impact of Science and Technology on Society, Concept of one World United Nations Panchsheel Democracy, Socialism and Communism, Role of India in the present world

Geography

Earth its shape and size Latitudes and Longitudes Concept of time, International Date Line, Movements of Earth and their effects, Origin of Earth, Rocks and their classification, Weathering, Mechanical and Chemical Earthquakes and volcanoes, Ocean Currents and Tides, Atmosphere

and its composition, Temperature and Atmospheric Pressure Planetary Winds cyclones and Anti-cyclones, Humidity, Condensation and Precipitation, Types of Climate, Major Natural regions of the World, Regional Geography of India, Climate Natural vegetation, Mineral and Power resources, Location and distribution of agricultural and industrial activities, Important Sea ports and main sea land and air routes of India, Main items of Imports and Exports of India, World Geography Questions and Answers

Current Affairs

- Knowledge of Important events that have happened in India in the recent years.
- Current important world events.
- Prominent personalities – both Indian and International including those connected with cultural activities and sports.

This is the complete information of the NDA exam pattern and syllabus. If you go through the previous year papers, you will get an idea of which topics cover majority questions. This will ease the process of preparation for the exam.

For any queries on **NDA exam pattern and syllabus 2018**, feel free to comment below.