NDA Syllabus 2015 UPSC NDA Entrance Exam Paper Pattern Download PDF

NDA Syllabus 2015

A notice about *NDA Syllabus 2015* has declared by Union Public Service Commission for those talented applicants who want to get admission to the Army Navy and Air Force wings of the NDA and for Indian Naval Academy Course (INAC). Candidates can *download Entrance Exam Paper & exam Pattern* in *PDF* form via online mode.

This Page Includes:

NDA is an entrance exam which held twice in a year in the month of March and august for the requirement of eligible applicants in Army, Navy and Air Force wings. Unmarried male applicants are eligible for applying.

Talented candidates need exam syllabus for preparing well and qualify in the exam. From the below section contenders will get the entire information related to thesyllabus and pattern.

Recruitmentresult.com is giving all correct information about **NDA Syllabus 2015** & pattern in the below section. This will prove helpful for better and timely preparation of exam.

NDA Exam Pattern

The papers in both the subjects will consist of objective type questions only.

Subject	Duration	Marks
Mathematics	2 hours 30 minutes	300
General Ability Test	2 hours 30 minutes	600
	Total Marks	900
SSB Test/Interview		900

NDA 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.

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.

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

Statistics and Probability:

- 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
- Complementary
- 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.

NDA General Ability Test Syllabus

Part A – English

- Grammar and usage
- Vocabulary
- Comprehension and cohesion in extended text to test the candidate's proficiency in English.

Part B – General Knowledge

Question paper on General Knowledge broadly covers the subjects:

- Physics
- Chemistry
- General Science
- Social Studies
- Geography

Important note:

The syllabus given below is designed to indicate the scope of these subjects included in this paper.

The topics mentioned are not as exhaustive and questions on topics of similar nature not specifically mentioned in the syllabus may also be asked.

Your answers are expected to show your knowledge and intelligent understanding of the subject.

Section A: 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.

Section B: 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.

Section C: General Science

- Difference between the living and non-living.
- Basis of Life – Cells Protoplasms 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.

Section D: History Freedom Movement etc.

- 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.

Section E: 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.

Section F: Current Events

- 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.