1. ALGEBRA

Concept of set, operations on sets, Venn diagrams. De Morgan laws, Cartesian product, relation, equivalence relation.


2. 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.

3. 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.

4. ANALYTICAL GEOMETRY OF TWO AND THREE DIMENSIONS.


5. DIFFERENTIAL CALCULUS


6. 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. Evaluation of definite integrals – determination of areas of plane regions bounded by curves – applications. Definition of order and degree of a differential equation, formation of a differential equation by examples. General and particular solution of a differential equations, solution of first order and first degree differential equations of various types – examples. Application in problems of growth and decay.

7. VECTOR ALGEBRA

Vectors in two and three dimensions, magnitude and direction of a vector. Unit and null vectors, addition of vectors, scalar multiplication of a vector, scalar product or dot product of two vectors. Vector product or cross product of two vectors. Applications – work done by a force and movement of a force and in geometrical problems.
8. STATISTICS AND PROBABILITY


PAPER – II
GENERAL ABILITY TEST
(Code No. 02)
(Maximum Marks – 600)

Part 'A' – ENGLISH (Maximum Marks – 200)
The question paper in English will be designed to test the candidate's understanding of English and workman like use of words. The syllabus covers various aspects like: Grammar and usage, Vocabulary, Comprehension and Cohesion in extended text to test the candidate's proficiency in English

Part 'B' – GENERAL KNOWLEDGE (Maximum Marks – 200)
The question paper on General Knowledge will broadly cover the subjects: Physics, Chemistry, General Science, Social Studies, Geography and Current Events.

The syllabus given below is designed to indicate the scope of these subjects included in this paper. The topics mentioned are not to be regarded as exhaustive and questions on topics of similar nature not specifically mentioned in the syllabus may also be asked. Candidate's answers are expected to show their knowledge and intelligent understanding of the subject.

Section 'A' (Physics)

Section 'B' (Chemistry)


Section 'C' (GENERAL SCIENCE)

Section 'D' (History, Freedom Movement etc).

A broad survey of Indian History, with emphasis on Culture and Civilisation.


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)

The 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.

NOTE : Out of maximum marks assigned to part 'B' of this paper, questions on Sections 'A', 'B', 'C', 'D', 'E' and 'F' will carry approximately 25%, 15%, 10%, 20%, 20% and 10% weightages respectively.

Intelligence and Personality Test

The SSB procedure consists of two stage selection process – Stage I and Stage II. Only those candidates who clear the stage I are permitted to appear for Stage II. The details are :

(A) Stage I comprises of Officer Intelligence Rating (OIR) tests are Picture Perception * Description Test (PP&DT). The Candidates will be short listed based on combination of performance in OIR Test and PP&DT.

(B) Stage II Comprises of Interview, Group Testing Officer Tasks, Psychology Tests and the Conference. These tests are conducted over 4 days. The details of these tests are given on the website joinindianarmy.nic.in.

The personality of a candidate is assessed by three different assessors viz. The Interviewing Officer (IO), Group Testing Officer (GTO) and the Psychologist. There are no separate weight age for each test. The mks are allotted by assessors only after taking into consideration the performance of the candidate holistically in all the test. In addition, marks for Conference are also allotted based on the initial performance of the Candidate in the three technique and decision of the Board. All these have equal weightage.

The various tests of IO, GTO and Psych are designed to bring out the presence / absence of Officer Like Qualities and their train ability in a candidate. Accordingly candidates are Recommended or Not Recommended at the SSB.