Syllabus for Combined Defence Services Examination

STANDARD AND SYLLABUS OF THE EXAMINATION

STANDARD

The standard of the papers in Elementary Mathematics will be of Matriculation level.

The standard of papers in other subjects will approximately be such as may be expected of a graduate of an Indian University.

SYLLABUS

ENGLISH (CODE No. 01)

The question paper will be designed to test the candidates' understanding of English and workmanlike use of words.

GENERAL KNOWLEDGE (Code No. 02)

General Knowledge including knowledge of current events and of such matters of everyday observation and experience in their scientific aspects as may be expected of an educated person who has not made a special study of any scientific subject. The paper will also include questions on History of India and Geography of a nature which candidate should be able to answer without special study.

ELEMENTARY MATHEMATICS (Code No. 03)

ARITHMETIC

Number System-Natural numbers, Integers, Rational and Real numbers. Fundamental operations addition, subtraction, multiplication, division, Square roots, Decimal fractions.

Unitary method-time and distance, time and work, percentages, applications to simple and compound interest, profit and loss, ratio and proportion, variation.

Elementary Number Theory- Division algorithm. Prime and composite numbers. Tests of divisibility by 2,3,4,5,9 and 11. Multiples and factors. Factorisation Theorem. H.C.F. and L.C.M. Euclidean algorithm, Logarithms to base 10, laws of logarithms, use of logarithmic tables.

ALGEBRA

Basic Operations, simple factors, Remainder Theorem, H.C.F., L.C.M. Theory of polynomials, solutions of quadratic equations, relation between its roots and coefficients (Only real roots to be considered). Simultaneous linear equations in two unknowns-analytical and graphical

solutions. Simultaneous linear equations in two variables and their solutions. Practical problems leading to two simultaneous linear equations or inequations in two variables or quadratic equations in one variable & their solutions. Set language and set notation, Rational expressions and conditional identities, Laws of indices.

TRIGONOMETRY

Sine x, cosine x, Tangent x when $0^0 \leq$

$x \leq 90^0$ Values of sin x, cos x and tan x, for x = 0^0, 30^0, 45^0, 60^0 and 90^0

Simple trigonometric identities.

Use of trigonometric tables.

simple cases of heights and distances.

GEOMETRY

Lines and angles, Plane and plane figures, Theorems on (i) Properties of angles at a point (ii) Parallel lines, (iii) Sides and angles of a triangle, (iv) Congruency of triangles, (v) Similar triangles, (vi) Concurrence of medians and altitudes, (vii) Properties of angles, sides and diagonals of a parallelogram, rectangle and square (viii) Circles and its properties including tangents and normals, (ix) Loci.

MENSURATION

Areas of squares, rectangles, parallelograms, triangle and circle. Areas of figures which can be split up into these figures (Field Book), Surface area and volume of cuboids, lateral surface and volume of right circular cones and cylinders, surface area and volume of spheres.

STATISTICS

Collection and tabulation of statistical data, Graphical representation frequency polygons, histograms, bar charts, pie charts etc. Measures of central tendency.

INTELLIGENCE AND PERSONALITY TEST

In addition to the interview the candidates will be put to Intelligence Tests both verbal and non-verbal, designed to assess their basic intelligence. They will also be put to Group Tests such as group discussions, group planning, outdoor group tasks, and asked to give brief lectures on specified subjects. All these tests are intended to judge the mental calibre of a candidate. In broad terms, this is really an assessment of not only his intellectual qualities but also his social traits and interests in current affairs.

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