

# Combined Defence Services Examination

## Syllabus

### ❖ Mathematics

The topics are Algebra, Arithmetic, Geometry, Trigonometry, Mensuration and Statistics.

Algebra  	Basic Operations, Simple factors, Remainder Theorem, HCF/LCM, Theory of polynomials, 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 inequations 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
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, 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 and use of logarithmic tables
Geometry	Lines and angles, Plane and plane figures, Theorems on Properties of angles at a point, Parallel lines, Sides and angles of a triangle, Congruence of triangles, Similar triangles, Concurrence of medians and altitudes,

	Properties of angles, Sides and diagonals of a Parallelogram, Rectangle and square, Circles and its properties including tangents and normals and Loci
Trigonometry	Sine $x$ , cosine $x$ , Tangent $x$ when $0^\circ < x < 90^\circ$ Values of $\sin x$ , $\cos x$ and $\tan x$ , for $x = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and $90^\circ$ Simple trigonometric identities Use of trigonometric tables Simple cases of heights and distances
Statistics	Collection and tabulation of statistical data, Graphical representation frequency polygons, Histograms, Bar charts, Pie charts, etc., Measures of central tendency
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



# SSBPsych

❖ English

1. Antonyms
2. Sentence improvement
3. Comprehension
4. Synonyms
5. Word substitution
6. Ordering of sentences
7. Spotting Errors
8. Selecting Words
9. Ordering of words in a sentence

## ❖ General Knowledge

- History: Ancient, Medieval and Modern
- Geography
- Indian Polity
- Economics
- Science: Physics, Chemistry and Biology
- Current Affairs
- Miscellaneous



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