

CREST – 2026 EXAM SYLLABUS

I. MATHEMATICS SYLLABUS

1) NUMBER SYSTEM

- a. Natural numbers
- b. Integers
- c. Rational numbers
- d. Irrational numbers
- e. Real numbers and their decimal expansion
- f. Operation on Real numbers
- g. Laws of exponents for real numbers
- h. The fundamental theorem of Arithmetic
- i. Arithmetic Progression and its General Term

2) POLYNOMIALS

- a. Polynomial in one variable: Terms, coefficient, zero polynomial degree of the polynomial, Zeroes of a polynomial
- b. Factorization of polynomials
- c. Factor theorem – Statement and application, checking whether a factor exists, finding factors, Factorisation using factor theorem.
- d. Algebraic Identities – Identity I, II, III, & IV
- e. Geometrical meaning of the zeroes of a polynomial
- f. Relationship between Zeroes and co-efficient of a polynomial

3) LINEAR EQUATIONS

- a. Solution of a Linear Equations
- b. Graphical method of solution of a pair of Linear Equations
- c. Algebraic methods of solving a pair of Linear Equations
- d. Substitution method
- e. Elimination method
- f. Consistent and Inconsistent systems applications.

4) QUADARTIC EQUATIONS

- a. Introduction: Definition, Standard form, Identifying quadratic equations, Formation of Quadratic equations
- b. Solving Quadratic Functions: Factorization method, Splitting the middle term, problem involving fractions.
- c. Nature of Roots: Discriminant, Distinct real roots, Equal roots, No real roots
- d. Relationship between Roots and Coefficients: Sum of roots, Product of roots, Forming Quadratic equations form given roots, Finding Unknown Parameters

5) COORDINATE GEOMETRY

- a. Artesian Plane: Co-ordinate axes, Origin, X-Coordinate, Y-Coordinate ordered pairs, Plotting points.
- b. Quadrants: Identification of quadrants, Signs of Co-ordinates, Points on axes , Reflection of points
- c. Distance formula: Distance between two points, Distance from Origin, Applications.
- d. Section Formula: Internal division, Co-ordinates of dividing point, Ratio-based problems.

6) LINES & ANGLES

- a. Basic Concepts: Point Line, Line-segment, Ray, Plane, Type of Angles.
- b. Angle Relationships: Complementary angles, Supplementary angles, Adjacent angles, Linear pair, Vertically Opposite angles.
- c. Parallel Lines: Transversal, Corresponding angles, Alternate interior and exterior angles.

7) TRIANGLES

- a. Classification: Scalene triangle, Isosceles triangle, Equilateral triangle, Acute angled triangle, right angled triangle, Obtuse angled triangle.
- b. Basic Properties: Angle sum property, Exterior angle problems, Relationship between sides and angles
- c. Congruence: Meaning of Congruence, SSS, SAS, ASA, AAS, RHS, Corresponding parts of Congruent triangles.
- d. Similarity of Triangles: Basic Proportionality theorem (Thales's theorem)
- e. Criteria for similarity of triangles: AAA, SSS, AA, SAS.

8) QUADRILATERALS

- a. Types: Quadrilateral, Trapezium, Parallelogram, Rectangle, Rhombus, Square, Kite.
- b. Properties: Angle sum, Opposite sides, Opposite angles, Adjacent angles, Diagonals.
- c. Parallelogram: Properties, Diagonals, Condition for a quadrilateral to be parallelogram, Applications.
- d. Rectangle: Properties, Diagonal Properties, Applications.
- e. Rhombus: Properties, Diagonal properties, Applications.
- f. Square: Properties, Diagonals, Relationship with rectangle and rhombus
- g. Trapezium: Properties, Parallel sides, Isosceles Trapezium, Applications.
- h. Mid-Point Theorem: Midpoint theorem, Converse, Applications, Problems involving parallel lines and triangles.

II. PHYSICS SYLLABUS

1) MOTION

- a. Distance and Displacement
- b. Average Speed and Velocity
- c. Average Acceleration
- d. Position - Time and Velocity - Time graphs
- e. Kinematic Equations:
 - i. $v = u + at$
 - ii. $v^2 = u^2 + 2ax$
 - iii. $x = ut + \frac{1}{2}at^2$

2) FORCES

- a. Newton's First Law
- b. Newton's Second Law
- c. Newton's Third Law
- d. Friction

3) WORK, ENERGY & POWER

- a. Work done by Constant Force
 - i. ($W = \text{Force} \times \text{Displacement}$)
- b. Work being Positive, Negative and Zero
- c. Kinetic Energy and Potential Energy
- d. Conservation of Mechanical Energy
- e. Power

4) SOUND

- a. Propagation of Sound
- b. Amplitude, Wavelength & Frequency of Sound (R)
- c. Velocity of Sound

5) LIGHT & OPTICS

- a. Laws of Reflection
- b. Image Formation by Convex and Concave Mirrors
- c. Sign Convention
- d. Mirror Equation
- e. Magnification
- f. Refraction and its applications
- g. Refractive Index
- h. Image Formation by Lens
- i. Thin Lens Equation
- j. Power of Lens
- k. Dispersion of Light by Prism

III. CHEMISTRY SYLLABUS

1. ATOMS AND MOLECULES

- ✓ Definition – Atoms, molecules and compounds
- ✓ Physical and Chemical Changes
- ✓ Classification of matter – Pure substances and mixtures
- ✓ Symbols of atoms of different elements
- ✓ Atomic mass, molecular mass and Formula mass
- ✓ Writing chemical formulae

2. STRUCTURE OF THE ATOM

- ✓ Discovery of sub-atomic particles
- ✓ Atomic models
 - i) Thomson model of an atom
 - ii) Rutherford's model of an atom
 - iii) Bohrs model of an atom
- ✓ Distribution of electrons in orbits (Shells)
- ✓ Atomic number, Mass number and Valency
- ✓ Isotopes and Isobars

3. CHEMICAL REACTIONS AND EQUATIONS

- ✓ Characteristics of chemical reactions
- ✓ Balancing of chemical equations
- ✓ Types of chemical reactions
 - i) Combination reaction
 - ii) decomposition reactions
 - iii) displacement reactions
 - iv) double displacement reactions
- ✓ Oxidation and reduction reactions
- ✓ Corrosion

4. ACIDS, BASES AND SALTS

- ✓ Understanding the chemical properties of acids and bases
- ✓ Reactions of Acids and Bases with Metals.
- ✓ Reactions of metal carbonates and metal hydrogen carbonates with Acids
- ✓ Acid – Base neutralisation reaction
- ✓ Reaction of metallic oxides with acids
- ✓ Reaction of Non - metallic oxides with base
- ✓ Strength of Acidic and Basic solutions – pH scale
- ✓ Preparations, properties and Uses of
 - i) Sodium hydroxide
 - ii) Baking soda

IV. BIOLOGY SYLLABUS

1. THE FUNDAMENTAL UNIT OF LIFE
2. TISSUES
3. LIFE PROCESSES
4. HOW DO ORGANISMS REPRODUCE?

