Exam Syllabus:

- Subjects: Mathematics and Science
- Based on: NCERT Curriculum
- Format: Objective Questions
- Total Marks: 100
- Monitoring: Under CCTV Surveillance
- **Negative Marking: 1/3 mark deduction**

Class 9 Mathematics Syllabus

1. Chapter 1: Number Systems
   - Real numbers
   - Irrational numbers
   - Representation of real numbers on the number line
   - Laws of exponents for real numbers

2. Chapter 2: Polynomials
   - Polynomials in one variable
   - Degree of a polynomial
   - Zeros of a polynomial
   - Remainder theorem and factor theorem

3. Chapter 3: Coordinate Geometry
   - Cartesian system
   - Plotting points in the plane
   - Distance formula
   - Section formula (internal division)

4. Chapter 4: Linear Equations in Two Variables
   - Introduction to linear equations
   - Graph of a linear equation in two variables
   - Equations of lines parallel to x-axis and y-axis

5. Chapter 5: Introduction to Euclid’s Geometry
   - Euclid's definitions, axioms, and postulates
   - Equivalent versions of Euclid's fifth postulate

6. Chapter 6: Lines and Angles

- Basic terms and definitions
- Pair of angles
- Parallel lines and transversal
- Angle sum property of a triangle

7. Chapter 7: Triangles
   - Congruence of triangles
   - Criteria for congruence (SSS, SAS, ASA, RHS)
   - Inequalities in a triangle

8. Chapter 8: Quadrilaterals
   - Properties of quadrilaterals
   - Types of quadrilaterals
   - Midpoint theorem and its converse

9. Chapter 9: Areas of Parallelograms and Triangles
   - Figures on the same base and between the same parallels
   - Parallelograms and triangles on the same base and between the same parallels

10. Chapter 10: Circles
    - Circle and its related terms
    - Angle subtended by a chord at the center
    - Perpendicular from the center to a chord
    - Cyclic quadrilaterals

11. Chapter 11: Constructions
    - Construction of bisectors of line segments and angles
    - Construction of triangles using given criteria

12. Chapter 12: Heron's Formula
    - Area of a triangle using Heron's formula
    - Application of Heron's formula in finding the areas of quadrilaterals

13. Chapter 13: Surface Areas and Volumes
    - Surface area and volume of cubes, cuboids, spheres, hemispheres, right circular cones, and right circular cylinders

14. Chapter 14: Statistics
    - Collection and presentation of data
    - Graphical representation of data (bar graph, histogram, frequency polygons)
    - Measures of central tendency (mean, median, mode)

15. Chapter 15: Probability
- Introduction to probability
- Simple problems on probability based on the occurrence of events

Class 9 Science Syllabus

1. Chapter 1: Matter in Our Surroundings
- Physical nature of matter
- States of matter and their properties
- Changes in states of matter
- Evaporation and factors affecting it

2. Chapter 2: Is Matter Around Us Pure?
- Types of substances (pure substances and mixtures)
- Solutions, suspensions, and colloids
- Separation techniques
- Physical and chemical changes

3. Chapter 3: Atoms and Molecules
- Laws of chemical combination
- Atoms and atomic mass
- Molecules and molecular mass
- Writing chemical formulae

4. Chapter 4: Structure of the Atom
- Charged particles in matter
- Thomson's, Rutherford's, and Bohr's models of an atom
- Valency, atomic number, and mass number
- Isotopes and isobars

5. Chapter 5: The Fundamental Unit of Life
- Cell theory
- Structure of plant and animal cells
- Functions of cell organelles (nucleus, mitochondria, ribosomes, etc.)

6. Chapter 6: Tissues
- Plant tissues (meristematic and permanent tissues)
- Animal tissues (epithelial, connective, muscular, and nervous tissues)

7. Chapter 7: Diversity in Living Organisms
   - Classification of organisms
   - Hierarchical classification (kingdom, phylum, class, order, family, genus, species)
   - Classification of plants and animals

8. Chapter 8: Motion
   - Distance and displacement
   - Speed and velocity
   - Acceleration
   - Graphical representation of motion
   - Equations of motion

9. Chapter 9: Force and Laws of Motion
   - Newton's laws of motion
   - Inertia and momentum
   - Force and its effects
   - Law of conservation of momentum

10. Chapter 10: Gravitation
   - Universal law of gravitation
   - Free fall and acceleration due to gravity
   - Mass and weight
   - Thrust, pressure, and buoyancy
   - Archimedes' principle and relative density

11. Chapter 11: Work and Energy
   - Work and its calculation
   - Energy and types of energy
   - Kinetic and potential energy
   - Law of conservation of energy

12. Chapter 12: Sound
   - Production and propagation of sound
   - Sound waves and their properties
   - Speed of sound in different media
   - Reflection of sound and echo

13. Chapter 13: Why Do We Fall Ill?
   - Health and its failure
   - Causes of diseases (infectious and non-infectious)
   - Prevention and treatment of diseases

- Principles of vaccination

14. Chapter 14: Natural Resources
    - Air, water, and soil as natural resources
    - Role of the atmosphere
    - Ozone layer and its depletion
    - Conservation of natural resources

15. Chapter 15: Improvement in Food Resources
    - Crop production and management
    - Animal husbandry
    - Sustainable agricultural practices
    - Green revolution and its impact