

# Mittal Classes MSAT 2023 Syllabus and Exam Pattern

## CLASS VII SYLLABUS

Chemistry – Physical and Chemical Changes, Acid, Bases and Salts

Biology – Nutrition in Plants, Nutrition in Animals, Respiration in Organisms, Transportation in Animals and Plants

Physics – Heat, Motion and Time, Electric Current and its Effects

Math – Integers, Fractions and Decimals, Data Handling, Simple Equations, Lines and Angles, The Triangle and its Properties, Congruence of Triangles, Comparing Quantities

Mental Ability – Direction Sense, Blood Relation, Number Series, Letter Series, Mathematical Operation, Missing Term In Figure, Mirror Images And Water Images

## CLASS VIII SYLLABUS

Chemistry – Synthetic fibres And Plastics, Metals And Non-metals, Coal & Petroleum

Biology – Crop Production & Management, Micro-Organism Friend and Foe, Conservation of Animals and plants, Cellular level of organization

Physics – Force & Pressure, Friction, Sound, Chemical Effects of Electric Current

Math – Rational Numbers, Linear Equation in one Variable, Understanding Quadrilaterals, Data Handling, Squares and Square Roots, Cube and Cube Roots, Comparing Quantities, Algebraic Expressions

Mental Ability – Direction Sense, Blood Relation, Calendar, Seating Arrangement, Number Series, Missing Term in Figure, Letter Series, Mathematical Operation, Mirror images and Water images, Figure Completion

## CLASS IX SYLLABUS

Chemistry – Matter in Our Surrounding, Is Matter around us Pure, Atoms and Molecules

Biology – The Fundamental Unit of Life, Tissues

Physics – Motion, Force and Laws of Motion, Gravitation

Math – Number System, Polynomials, Coordinate Geometry, Linear Equation in Two Variables, Lines and Angles, Triangles, Heron's Formula

Mental Ability – Direction Sense, Blood Relation, Calendar, Seating Arrangement, Number Series, Missing Term in Figure, Letter Series, Mathematical Operation, Mirror images and Water images, Figure Completion

## CLASS X SYLLABUS

Chemistry – Chemical Reaction and Equations, Acid Bases and Salts, Metals and Non-Metals

Biology - Life Processes, Control and Coordination, How do Organisms Reproduce?

Physics – Light – Reflection and Refraction, Human Eye and Colourful World, Electricity

Math – Real Numbers, Polynomials, Pair of Linear Equations in Two Variables, Quadratic Equations, Arithmetic Progressions, Triangles, Coordinate Geometry, Introduction to Trigonometry, Some Applications of Trigonometry

Mental Ability – Direction Sense, Blood Relation, Calendar, Seating Arrangement, Number Series, Missing Term in Figure, Letter Series, Mathematical Operation, Mirror images and Water images, Figure Completion

## CLASS XI SYLLABUS

Chemistry – Some Basic Concept of Chemistry, Atomic Structure, Periodic Properties, Chemical Bonding, States of Matter, Thermodynamics

Physics – Physical World and Measurement, Motion in a Straight Line, Motion in a Plane, Laws of Motion, Work Energy and Power, System of Particles and Rotational Motion

Biology – The Living World, Biological Classification, Plant Kingdom, Morphology of Flowering Plants, Structural Organisation in Animals, Biomolecule, Digestion and Absorption, Breathing and Exchange of Gases

Math – Sets, Logarithm, Trigonometry, Quadratic Equation, Progression and Series, Straight Lines

## CLASS XII SYLLABUS

Chemistry – Solid State, Solutions, Chemical Kinetics, Electrochemistry, Haloalkane & Haloarene, Alcohol Phenol & Ethers, Aldehyde Ketone & Carboxylic Acid, Nitrogen containing Organic Compounds

Physics – Electric Charges and Fields, Electrostatics Potential and Fields, Current Electricity, Moving Charges and Magnetism, Magnetism and Matter, Electromagnetic Induction, Alternating Currents

Biology – Sexual Reproduction in Flowering Plants, Human Reproduction, Reproductive Health, Principles of Inheritance and Variation, Molecular Basis of Inheritance, Evolution, Human Health and Disease

Math – Relation and Functions, Inverse Trigonometric Functions, Matrices, Determinants, Continuity and Differentiability, Application of Derivatives, Integral Calculus

## Pattern of Exam

Foundation (Class VII, VIII, IX & X)	MEDICAL (CLASS XI & XII)	ENGINEERING (CLASS XI & XII)
Total No. of Questions: 75	Total No. of Questions: 120	Total No. of Questions: 60
Physics: 15	Physics: 30	Physics: 20
Chemistry: 15	Chemistry: 30	Chemistry: 20
Biology: 15	Biology : 60	Math: 20
Math: 15		
Mental Ability: 15		

There will be multiple choice questions with Marking scheme: +4 for correct answer & -1 mark for wrong answer.

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