

Syllabi for Admission Cum Scholarship Test 2025

For Challenger Batch

Complete Syllabus of Class XII

For Medical Course			For Engineering Course		
Subjects	No. of questions	No. of Marks	Subjects	No. of questions	No. of Marks
Physics	1 to 40	40	Physics	1 to 40	40
Chemistry	41 to 80	40	Chemistry	41 to 80	40
Botany	81 to 115	35	Mathematics	81 to 130	50
Zoology	116 to 150	35			
Total	150	150	Total	130	130

For Class – XI :: (Based on Class X Course)

- 1. Mathematics (40 Marks):-** Number Systems, Polynomials, Pair of linear equation in two variable, Quadratic equation, Arithmetic Progression, Co-ordinate Geometry, Trigonometry up to Application, Probability, Triangle, Quadrilaterals, Circle, Mensuration, Statistics.
- 2. Science (60 Marks) ::**
 - a) Physics (20 Marks):-** Light reflection & Refraction, Electricity, Magnetic effects of electric current. Human eye & Colourful world, Sources of Energy.
 - b) Chemistry (20 Marks):-** Atoms & Molecules, Structure of the atom, reactions & Equations, Acids, Bases and Salts, Metals & Non-Metals, Carbon and Its Compounds, Periodic Classification of Elements.
 - c) Biology (20 Marks):-** Sexual Reproduction in plants and Humans (How do Organisms reproduce), Control & Coordination, Life Processes, Heredity & Evolution, Our Environment.
- 3. English (20 Marks):-** Tense, Voice, Vocabulary & Error Correction, Preposition, Tag Question, Article & Determiners and Parts of speech.
- 4. Mental Ability Test & Reasoning (30 Marks):-**
 1. Logical Reasoning:- Statements and Conclusions, Arguments and Assumptions, Syllogisms, Number Series and Patterns;
 2. Mathematical Reasoning:- Numbers and Operations, Algebraic Expressions and Equations, Geometry and Mensuration, Data Analysis and Interpretation;
 3. Non-Verbal Reasoning:- Visual Puzzles and Patterns, Mirror Images and Reflections, Cubes and Dice, Paper Folding and Cutting;
 4. Verbal Reasoning:- Analogies and Relationships, Word Formation and Patterns, Coding and Decoding, Classification and Categorization;
 5. Critical Thinking:-, Identifying Bias and Assumptions, Evaluating Arguments and Evidence, Making Inferences and Drawing Conclusions, Resolving Moral or Ethical Dilemmas.

For Class – IX :: (Based on Class VIII Course)

- 1. Mathematics (40 Marks):-** Linear equation in one variable, Number System, Quadrilaterals (All type) with properties, Data handling, Comparing Quantities, Algebraic expression and identities, Mensuration, Factorisation, Introduction to graph.
- 2. Science (60 Marks)::**
 - a) Physics (20 Marks):-** Kinematics- The concept of Scalar and vector quantities, Distance and displacement, Speed, Velocity, acceleration, Equations of motion; Newton's law of motion- Concept of force, Newton's 1st, 2nd and 3rd law; Friction: NCERT; Sound: NCERT; Light: Reflection of light.
 - b) Chemistry (20 Marks):-** Metals and non metals, Combustion and flame, Coal and Petroleum, Synthetic fibre and plastics.
 - b) Biology (20 Marks):-** Crop production: types of crops, uses and importance of manures and different type of fertilizers, cropping processes; About microorganisms: its types, usefulness and harmfulness, about fermentation, Pasteurization, vaccine and its working process, antibiotics, antibodies – antigens, diseases caused by microorganisms and its prevention, nitrogen cycle; Conservation of wildlife: Its importance, and the methods of conserving of wildlife; Basic concept of cell: types of cells, different cell organelles and their functions, gene, animal cell and plant cell difference; Basic concept of Reproduction in Animals: About male reproductive organ and female reproductive organs, process of fertilization, types of reproduction; Concept of Adolescence: Changes during adolescence, Hormones and their functions during adolescence, concept of sex determination in a baby; About population and its Harmfulness: soil pollution, air pollution, water pollution, Global warning, acid rain, what can be done to minimize pollution.
- 3. English (20 Marks):-** Tense, Determiner, Preposition, Voice change, Tag questions, Vocabulary (Synonyms and Antonyms).
- 4. Mental Ability Test & Reasoning (30 Marks):-** 1. Logical Reasoning:- Statements and Conclusions, Arguments and Assumptions, Syllogisms, Number Series and Patterns; 2. Mathematical Reasoning:-Numbers and Operations, Algebraic Expressions and Equations, Geometry and Mensuration, Data Analysis and Interpretation; 3. Non-Verbal Reasoning:- Visual Puzzles and Patterns, Mirror Images and Reflections, Cubes and Dice, Paper Folding and Cutting; 4. Verbal Reasoning:- Analogies and Relationships, Word Formation and Patterns, Coding and Decoding, Classification and Categorization; 5. Critical Thinking:-, Identifying Bias and Assumptions, Evaluating Arguments and Evidence, Making Inferences and Drawing Conclusions, Resolving Moral or Ethical Dilemmas.

For Class – VIII :: (Based on Class VII Course)

- 1. Mathematics (40 Marks):-** Fractions and Decimal, Simple equation, Comparing quantities, Rational numbers, Perimeter and Area, Algebraic expressions, Exponent and Power.
- 2. Science (60 Marks)::**
 - a) Physics (20 Marks):-** Electric Current and its effects, Light, Motion and Time.
 - b) Chemistry (20 Marks):-** Fibre to fabric, Acids, Bases and Salts, Physical and Chemical changes.
 - c) Biology (20 Marks):-** Food, Components of food, Digestive system in human, Respiratory system in humans, Respiration and Breathing, Transportation of food and water in plants, Human circulatory system, Human excretory system, Types of reproduction in plants, Vegetative reproduction in plants, Reproductive organs in plants.
- 3. English (20 Marks):-** Tense, Voice, Preposition, Article, Affirmative-Interrogative-Negative Sentences & Vocabulary.
- 4. Mental Ability Test & Reasoning (30 Marks):-** 1. Logical Reasoning:- Patterns and Series, Analogies and Relationships, Coding and Decoding, Blood Relations, Syllogisms; 2. Mathematical Reasoning:-Numbers and Operations, Basic Algebra, Geometry and Mensuration, Data Analysis and Interpretation; 3. Non-Verbal Reasoning:- Visual Puzzles and Patterns, Mirror Images and Reflections, Cubes and Dice, Paper Folding and Cutting; 4. Verbal Reasoning:- Word Formation and Patterns, Classification and Categorization, Word Analogies, Logical Completion of Sentences; 5. Critical Thinking:- Identifying Bias and Assumptions, Evaluating Arguments and Evidence, Making Inferences and Drawing Conclusions, Identifying next numbers in a series, Solving simple logic grids, Understanding basic geometric shapes, Solving simple algebraic equations, Identifying mirror images and reflections, Completing word patterns, Solving simple syllogisms.

For Class – VII (Seven) :: (Based on Class VI Course)

1. Mathematics (40 Marks):- Linear equation in one variable, Rational number, Understanding quadrilateral, Probability, Square and square roots, Cube and cube roots, Algebraic expressions, Mensuration, Exponents and powers, Proportions, Factorisation, Graphs, Comparing quantities, Lines and angles, Triangle and its properties.

2. Science (60 Marks):- Electricity And Circuits, Measurement & Motion, Light Shadows & Reflection, Magnetism, Food Sources & Its Componenets, Fibres To Fabric, Plants Around us, Movement In Animals, Habitats And Adaptations, Sorting Materials, Seperation of Substances, Changes around us.

3. English (20 Marks):- Synonym, Antonym, Parts of Speech, Jumbled Words, Types of Sentences, and Vocabulary.

4. Mental Ability Test & Reasoning (30 Marks):- 1. Logical Reasoning:- Patterns and Series, Analogies and Relationships, Coding and Decoding, Blood Relations, Syllogisms; 2. Mathematical Reasoning:-Numbers and Operations, Basic Algebra, Geometry and Mensuration, Data Analysis and Interpretation; 3. Non-Verbal Reasoning:- Visual Puzzles and Patterns, Mirror Images and Reflections, Cubes and Dice, Paper Folding and Cutting; 4. Verbal Reasoning:- Word Formation and Patterns, Classification and Categorization, Word Analogies, Logical Completion of Sentences; 5. Critical Thinking:- Identifying Bias and Assumptions, Evaluating Arguments and Evidence, Making Inferences and Drawing Conclusions, Identifying next numbers in a series, Solving simple logic grids, Understanding basic geometric shapes, Solving simple algebraic equations, Identifying mirror images and reflections, Completing word patterns, Solving simple syllogisms.

For Class – VI (Six) :: (Based on Class V Course)

1. Mathematics (40 Marks):- Number and number names, Indian and international numeration system, Roman numerals, Making numbers with repetition of digits, Operation on numbers, Estimation, Factors and multiples, Test of divisibility , Prime factorisation, L.C.M and H.C.F, Fraction, Decimals, Basic geometrical concepts, Symmetry.

2. Science (60 Marks):- Reproduction In Plants, Adaptation In Animals, Bones And Muscles, Nervous System, Nutrition And Health, Matter, Rocks , Minerals & Soil, Simple Machine, Air & Water, Sun , Moon & Planets, Natural Disasters.

3. English (20 Marks):- Synonym, Antonym, Parts of Speech, Jumbled Words, and Vocabulary (choose the right meaning).

4. Mental Ability Test & Reasoning (30 Marks):- 1. Logical Reasoning:- Patterns and Series, Analogies and Relationships, Coding and Decoding, Blood Relations, Syllogisms; 2. Mathematical Reasoning:- Numbers and Operations, Basic Algebra, Geometry and Mensuration, Data Analysis and Interpretation; 3. Non-Verbal Reasoning:- Visual Puzzles and Patterns, Mirror Images and Reflections, Cubes and Dice, Paper Folding and Cutting; 4. Verbal Reasoning:- Word Formation and Patterns, Classification and Categorization, Word Analogies, Logical Completion of Sentences; 5. Critical Thinking:- Identifying Bias and Assumptions, Evaluating Arguments and Evidence, Making Inferences and Drawing Conclusions, Identifying next numbers in a series, Solving simple logic grids, Understanding basic geometric shapes, Solving simple algebraic equations, Identifying mirror images and reflections, Completing word patterns, Solving simple syllogisms.