

Parindee Talent Search Scholarship Exam - 2026

College Entrance Exam For Science Stream (Bsc, B.Tech, MBBS, BDS, etc)

Nature	Section	Subject	Questions	Marks	Time
Compulsary	Section A	Physics	35	70	3:00 hours
	Section B	Chemistry	35	70	
	Section C	English	20	40	
	Section D	Reasoning	20	40	
Choice Based (Any One)	Section E	Mathematics	40	80	
		Biology			
Total			150	300	

Note :

1. There will be one question paper for the examination.
2. The question paper will contain 150 multiple-choice questions(MCQs).
3. The examination will be for a total of 300 marks.
4. There will be negative marking in the evaluation of answers. For every incorrect answer, one third($\frac{1}{3}$) of the marks prescribed for that specific question will be deducted.
5. The question paper must be returned to the examiner after the examination.

Detailed Syllabus

► PHYSICS

- **Mechanics (11th):** Kinematics (Motion in 1D & 2D), Newton's Laws of Motion, Friction, Work-Energy Theorem, Collision, Center of Mass, Rotational Dynamics (Moment of Inertia, Torque).

- **Properties of Bulk Matter:** Elasticity, Viscosity, Surface Tension, Bernoulli's Principle.
- **Thermodynamics & Heat:** Laws of Thermodynamics, Heat Engines, Calorimetry, Kinetic Theory of Gases.
- **Electrostatics & Electricity (12th):** Coulomb's Law, Electric Field & Potential, Gauss's Law, Capacitors, Kirchhoff's Laws, Wheatstone Bridge, Potentiometer
- **Magnetism:** Moving Charges (Lorentz Force), Biot-Savart Law, Ampere's Law, Magnetic properties of materials, Faraday's Law of EMI, Lenz's Law, AC Circuits (LCR).
- **Optics:** Spherical Mirrors, Lens Maker's Formula, Total Internal Reflection, Interference (Young's Double Slit), Diffraction, Polarisation.
- **Modern Physics:** Photoelectric Effect, Bohr's Model of Atom, Radioactivity (Half-life), Nuclear Fission/Fusion, Semi-conductor Diodes (PN Junction, Logic Gates).

► CHEMISTRY

♦ Physical Chemistry:

- **Basics:** Mole Concept, Stoichiometry.
- **States of Matter:** Ideal Gas Equation, Dalton's Law.
- **Atomic Structure:** Quantum Numbers, Heisenberg's Principle, Orbitals.
- **Thermodynamics:** Enthalpy, Entropy, Gibbs Free Energy.
- **Equilibrium:** Chemical and Ionic Equilibrium (pH, Buffer solutions).
- **12th Topics:** Solutions (Raoult's Law, Colligative Properties), Electrochemistry (Nernst Equation), Chemical Kinetics (Order of Reaction).

♦ Inorganic Chemistry:

- **Periodic Table Trends** (Electronegativity, Ionization Enthalpy).
- **Chemical Bonding:** VSEPR Theory, Hybridization, Molecular Orbital Theory (MOT).
- **Coordination Compounds:** IUPAC Naming, Werner's Theory, Isomerism.
- P-block, D-block, and F-block elements.

♦ Organic Chemistry:

- **Basics:** IUPAC Nomenclature, Isomerism, Inductive & Electromeric effects.
- **Reactions:** Nucleophilic Substitution (S_N1 , S_N2), Electrophilic Addition.
- **Named Reactions:** Reimer-Tiemann, Kolbe's, Aldol Condensation, Cannizzaro Reaction.
- **Polymers & Biomolecules:** DNA/RNA structures, Proteins, Natural Rubber.

► MATHEMATICS

♦ Calculus :

- Limits, Continuity & Differentiability.
- Applications of Derivatives (Maxima & Minima, Tangents).
- Integration (Substitution, By Parts, Partial Fractions).
- Definite Integrals (Area under curves).
- Differential Equations (Variable separable & Linear).

♦ Algebra:

- Matrices and Determinants (Cramer's Rule, Inverse).
- Complex Numbers (Argand Plane, Square root).
- Permutations & Combinations.
- Probability (Bayes' Theorem, Binomial Distribution).

♦ Coordinate Geometry:

- Circles, Parabola, Ellipse, Hyperbola (Standard equations and properties).

♦ Vectors & 3D:

- Scalar & Vector products, Shortest distance between lines, Equations of Planes.

♦ Trigonometry:

- Multiple and Sub-multiple angles, Inverse Trigonometric functions.

► **BIOLOGY**

- **Cell Biology:** Cell Structure, Organelles (Mitochondria, Ribosomes), Cell Cycle (Mitosis & Meiosis).
- **Genetics & Evolution:** Mendelian Genetics, DNA Replication, Transcription, Translation, Human Evolution.
- **Human Physiology (Deep Study):**
 1. Circulatory System (Heart structure, ECG).
 2. Nervous System (Brain, Reflex action, Nerve impulse).
 3. Endocrine System (Hormones & their functions).
 4. Excretory System (Nephron structure).
- **Plant Physiology:** Photosynthesis (Light & Dark reactions), Plant hormones (Auxins, Gibberellins), Transpiration.
- **Reproduction:** Human Reproduction (Gametogenesis, Menstrual Cycle) and Sexual Reproduction in Flowering Plants.
- **Biotechnology:** Recombinant DNA Technology, PCR, Applications in Medicine & Agriculture.
- **Ecology:** Food chains, Biodiversity Hotspots, Environmental Issues.

► **English Language:**

- Reading Comprehension
- Synonyms & Antonyms, One Word Substitution, Idioms & Phrases
- Tenses: Past Present and Future, Active & Passive Voice, Direct & Indirect Speech, Articles & Prepositions, Error Spotting.

► **Logical Reasoning:**

- Number & Alphabet Series, Coding-Decoding, Blood Relations, Direction Sense Test, Analogy, Image Patterns, Mirror Images, Odd One Out, Syllogism, Ranking & Seating Arrangement