



DAYANAND SCREENING TEST SYLLABUS - 2027

CBSE BOARD

Chapter Name	Description / Key Topics	No. of Questions
SUBJECT: PHYSICS (25 Questions)		
Light – Reflection and Refraction	Reflection of light by curved surfaces, spherical mirrors (concave and convex mirrors), center of curvature, principal axis, principal focus, focal length, mirror formula, sign convention, magnification, ray diagrams for image formation by concave and convex mirrors, laws of refraction, refractive index, refraction of light through a rectangular glass slab, refraction by spherical lenses (convex and concave lenses), image formation by lenses using ray diagrams, lens formula, magnification, power of a lens.	10
Electricity	Electric current, circuit diagram conventions, electric potential, potential difference, Ohm's law, resistance, factors affecting resistance (length, cross-sectional area, resistivity), resistors in series, resistors in parallel, heating effect of electric current, Joule's law of heating, practical applications of heating effect (electric fuse, heater, filament bulb), electric power, commercial unit of energy (kWh).	7
Magnetic Effects of Electric Current	Magnetic field, field lines around a bar magnet, field lines due to a current-carrying straight conductor, circular loop, and solenoid, Right-Hand Thumb Rule, force on a current-carrying conductor in a magnetic field, Fleming's Left-Hand Rule, domestic electric circuits (live wire, neutral wire, earth wire, fuse, overloading, shortcircuiting).	5
The Human Eye and the Colourful World	Structure and working of the human eye, power of accommodation, defects of vision (myopia, hypermetropia, presbyopia) and their correction, refraction of light through a glass prism, dispersion of white light by a glass prism, spectrum, recombination, rainbow formation, atmospheric refraction, twinkling of stars, early sunrise, delayed sunset, scattering of light, Tyndall effect, blue color of the sky.	3
SUBJECT: CHEMISTRY (25 Questions)		
Chemical Reactions and Equations	Chemical reactions; Chemical equations; Balanced chemical equations; Combination reaction; Decomposition reaction; Displacement reaction; Double displacement reaction; Precipitation reaction; Exothermic and endothermic reactions; Oxidation and reduction	6
Acids, Bases and Salts	Indicators; Neutralisation; pH scale; Preparation and Uses of Sodium hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris	6
Metals and Non-metals	1) Physical and Chemical properties of metals & non metals 2) Reactivity series; Ionic compounds; Corrosion	6
Carbon and Its Compounds	Covalent bonding; Saturated and unsaturated hydrocarbons; Homologous series; Alkanes, alkenes and alkynes; Halogens, alcohols, ketones and aldehydes; Combustion, oxidation, addition and substitution reactions; Ethanol and ethanoic acid (preparation and properties, uses); Soaps and detergents	7
SUBJECT: MATHEMATICS (25 Questions)		
Real Numbers	The fundamental theorem of arithmetic; HCF and LCM; Prime numbers	1
Polynomials	Zeros of a polynomial; Relationship between zeros and coefficient of a polynomial; Division of Polynomial	1
Pair of Linear Equations in Two Variables	Graphical method of solving linear equations in two variables; Cramer's Rule; Application of simultaneous equations	2
Quadratic Equations	Nature of roots; Solution of quadratic equation; Relation between roots and coefficients; Application of quadratic equation	2
Arithmetic Progressions	n^{th} term of an A.P.; Sum of first n terms of an A.P.; Application of A.P.	3
Triangles	Tests of similarity of triangles: SAS, SSS, AAA and AA; Properties of similar triangles; Property of an angle bisector of a triangle; Property of areas of similar triangles; Equal Intercept Theorem; Pythagoras Theorem; Apollonius Theorem	3
Coordinate Geometry	Distance Formula; Section Formula; Midpoint Formula; Centroid Formula; Slope of line and Parallel lines	2

Circles	Theorem of touching circles; Arc of a circle; Inscribed angle and Intercepted arc; Cyclic quadrilateral; Theorem of angle between tangent and secant; Internal and external division of chords; Tangent Secant Segment Theorem	2
Trigonometry	Trigonometric Ratios of some specific angles (0°, 30°, 45°, 60°, 90°); Trigonometric Identities; Application (Heights and Distances)	3
Mensuration	Area and Perimeter of a triangle; Area and Circumference of a circle; Length of arc, Area of sector and Area of segment of a circle; Surface area, Curved surface area and Total surface area; Volume of 3D solids: Cube, Cuboid, Cylinder, Cone, Sphere and Hemisphere	3
Probability	Random Experiment, Sample space and Event space; Problems based on dice, coin, playing card, etc.	2
Statistics	Random, Ungrouped and Grouped Data; Measures of Central Tendency: Mean, Median and Mode; Empirical relationship between mean, median and mode	1
SUBJECT: BIOLOGY (25 Questions)		
Life Processes	Basic concept of nutrition, respiration, transport and excretion in plants and animals	7
Control and Coordination	Tropic movements in plants; Introduction of plant hormones; Control and co-ordination in animals: Nervous system; voluntary, involuntary and reflex action; Chemical co-ordination: animal hormones	6
How Do Organisms Reproduce	Modes of Reproduction (2Q): Asexual reproduction (fission, budding, fragmentation, spore formation, and vegetative propagation); Plants & Animals (3Q): Sexual reproduction in flowering plants (flower parts, pollination, fertilization), human reproductive system (male and female anatomy); Reproductive Health (2Q): Need for and methods of family planning / birth control, safe sex vs. HIV/AIDS, sexually transmitted diseases (STDs), child bearing and women's health	7
Heredity	Heredity: Heredity and inherited traits; Mendel's contribution and laws of inheritance; monohybrid and dihybrid crosses; sex determination in human beings	3
Our Environment	Ecosystem and its components; food chains and food webs; flow of energy; ozone layer depletion	2
SUBJECT: ENGLISH (15 Questions)		
GRAMMAR	Tenses; Articles and determiners; Prepositions; Conjunctions; Subject-verb agreement; Active and passive voice; Direct and indirect speech; Modals; Clauses; Sentence structure	6
VOCABULARY	Synonyms and antonyms; One-word substitutions; Idioms and phrases; Spellings; Word meanings	5
READING	Reading comprehension Interpretation of Passages	4
SUBJECT: LOGICAL REASONING (10Questions)		
Syllogism	Statements and conclusions; All, Some and No types of statements; Possibility-based conclusions; Identifying valid and invalid conclusions; Logical deduction using Venn diagrams	3
Coding-Decoding	Letter, number and word coding; Alphabet-position-based coding; letter shifting; substitution coding; Identifying patterns in coded words	3
Clocks	Reading clock-hand positions; angles between hour and minute hands; Time-based problems; when the hands coincide or are opposite each other	2
Calendars	Days of the week; odd days; leap years and ordinary years; Finding the day of the week for a given date; calendar-based logical problems	2