Gandhi Educational Trust

THE LEARNING POINT

SCIENCEBEAM
TALENT SEARCH EXAM

2024

Date of Exam : 27 - Oct - 2024 (Sunday)

General Instructions :

1. Be present at the exam center at least 30 mins before the exam time.

2. Use of the calculator or any other electronic device in the examination hall is strictly prohibited.

3. Use a HB pencil or Blue/ Black Ball pen only to mark your choice of answer in the OMR sheet by darkening a circle as shown below

(A) (B) ● (D)

4. Rough work should be done only on the sheet space provided in the booklet.

5. The exam pattern is of MULTIPLE CHOICE QUESTIONS and all of them are objective type.

6. The candidate can take the question booklet home after the exam.

GRADE VIII to X

Grade	Duration	Exam Pattern		

Grade VIII to X	2 Hrs (10:00 am to 12:00 Noon)	**Section**	**No. of Questions * Marks**	**Total**
		A-Novice	10 * 1	10
		B-Master	20 * 2	40
		C-Genius	24 * 5	120
		D-Prodigy	5 * 8	40
		Total	**59**	**210**

NOVICE : This section contains 10 MCQs. Each question has 4 choices (A), (B), (C) and (D) out of which ONLY ONE is correct. Each question carries "1" Mark. No negative Marks for wrong Answer.

MASTER : This section contains 20 MCQs. Each question has 4 choices (A), (B), (C) and (D) out of which ONLY ONE is correct. Each correct answer carries "2" Marks. Each **incorrect answer gets "-0.5" negative marking**.

GENIUS : This section contains 24 MCQs. Each question has 4 choices (A), (B), (C) and (D) out of which ONLY ONE option is correct. Each question carries "5" Marks. Each **incorrect answer gets "-1" negative marking.**

PRODIGY : This section contains 5 Questions. Each question has 4 choices (A), (B), (C) and (D) and **MORE THAN ONE options (Either two options or three options or all options) are correct**. Each question carries "8" Marks that are divided equally among the options.
For example :

Correct Answer	Answer marked by student	Marks allotted
A & C	A & C	8
	A or C	4
	B or D	-2
	B & D	-4
	A & B / A & D / C & B / C & D	-2

Grade VIII		
Mental Ability	**Mathematics**	**Science**

■ Analogy
 	
■ Blood Relations
 	
■ Logical Venn Diagrams
 	
■ Mathematical Operations
 	
■ Arithmetical Reasoning
 	
■ Inserting the Missing
 	
■ Verbal Reasoning
 	
■ Sequence & Series
	■ Numbers - Rational Numbers, Powers,
	■ Squares, Square roots, Cubes, Cube roots, Playing with numbers
	
	■ Algebraic Expressions
	
	■ Ratio and Proportion
	
	■ Geometry - Properties of quadrilaterals and parallelogram
	
	■ Mensuration - Area of a trapezium and a polygon, Concept of volume, volume of a cube, cuboid
	
	■ Data handling - Reading bar-graphs, Simple Pie charts, Probability
	
	■ Number System :
	  ○ Rational Numbers:
	  ○ Powers
	  ○ Squares, Square roots, Cubes, Cube roots.
	  ○ Playing with numbers
	
	■ Algebra : Algebraic Expressions
	
	■ Ratio and Proportion
	
	■ Geometry:
	  ○ Understanding shapes
	  ○ Representing 3-D in 2-D
	
	■ Mensuration : Area, Volume, Surface Area
	
	■ Data handling
		■ Microorganisms, nitrogen Fixation, nitrogen cycle.
		
		■ Metals and non-metals. Combustion, flame
		
		■ Cell structure, plant and animal cells, use of stain to observe, cell organelles - nucleus, vacuole, chloroplast, cell membrane, cell wall.
		
		■ Sexual reproduction and endocrine system in animals, secondary sexual characters, reproductive health; internal and external fertilization.
		
		■ Idea of force-push or pull; change in speed, direction of moving objects and shape of objects by applying force; contact and non-contact forces.
		
		■ Friction
		
		■ Pressure
		
		■ Sound
		
		■ Electric current and circuits
		
		■ Principle of lightning conductor.
		
		■ Light
		
		■ Gravitation
		
		■ Idea about heavenly bodies/celestial objects and their classification - moon, planets, stars, constellations.
		
		■ Atomic weight and Molecular weight
		
		■ Chemical equations & Chemical reactions

Grade IX

Mental Ability	Mathematics	Science
- Analogy - Blood Relations - Logical Venn Diagrams - Mathematical Operations - Arithmetical Reasoning - Inserting the Missing - Verbal Reasoning - Sequence & Series	- Number systems - real numbers - Algebra- polynomials, Linear equations in two variables - Coordinate geometry - Geometry - introduction to Euclid's geometry, lines and angles, triangles, quadrilaterals, area, circles - Mensuration - area of a triangle, surface areas and volumes of cubes, cuboids , spheres (including hemispheres) and right circular cylinders/cones - Statistics and Probability	- Motion - Force and Newton's laws - Work, energy and power - Gravitation - Fluids - Heat - Electricity - Light - Sound - Nature of matter - Particle nature and their basic units: - Structure of atoms: - Symbols, Formulae and Equations - Gaseous state and Gas laws - Atomic structure - Periodic classification - Chemical bonding - Cell - Basic Unit of life - Tissues, Organs, Organ System, Organism - Health and Diseases - Physical resources - Bio-geo chemical cycles in nature

Grade X		
Mental Ability	**Mathematics**	**Science**
- Analogy - Blood Relations - Logical Venn Diagrams - Mathematical Operations - Arithmetical Reasoning - Inserting the Missing - Verbal Reasoning - Sequence & Series	- Number systems - real numbers - Algebra -polynomials, pair of linear equations in two variables quadratic equations, arithmetic progressions - Coordinate geometry - lines (in two-dimensions) - Geometry - Triangles, Circles - Trigonometry - Introduction to Trigonometry , Trigonometric Identities, Heights And Distances - Mensuration - areas related to circles, Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders / cones. Frustum of a cone, Problems involving converting one type of metallic solid into another and other mixed problems - Statistics and Probability	- Motion - Laws of Motion - Gravitation - Reflection & Refraction of Light, Sound, Current Electricity - Chemical Substances - Nature and Behaviour - Chemical reactions - Acids, bases and salts - Metals and non-metals - Carbon compounds - Periodic classification of elements - Life processes - Reproduction - Heredity