

SYLLABUS

**Jammu and Kashmir Sainik School
Entrance Examination (JKSSEE) - 2024**

J & K SAINIK SCHOOL MANASBAL



MANASBAL, GANDERBAL KASHMIR

P.O.: Tullamulla -191131

Website: www.jksainikschool.in

Email: jksainikschool@yahoo.com

principal@jksainikschool.in



J & K SAINIK SCHOOL MANASBAL

Jammu and Kashmir Sainik School Entrance Examination (JKSSEE) - 2024

1. DURATION OF EXAMINATION

Exam for admission to	Duration	From	To
VI Std	150 minutes	11.00 am	1.30 pm
IX Std	150 minutes	11.00 am	1.30 pm
XI Std	150 minutes	11.00 am	1.30 pm

2. SCHEME OF EXAMINATION

Mode of Examination: OMR answer sheets for admission to Classes of VI, IX and XI.

Type of Questions: Multiple Choice Questions Scheme of Examination is as follows:

For VI Standard

Section	Topic	No. of Questions	Marks for each correct answer	Total marks
A	Mathematics	45	2	90
B	Intelligence/Reasoning	35	2	70
C	English	20	2	40
D	General Science	20	2	40
E	Social Science/GK	15	2	30
	Total	135		270

For IX Standard

Section	Topic	No. of Questions	Marks for each correct answer	Total marks
A	Mathematics	45	2	90
B	Intelligence/Reasoning	35	2	70
C	English	20	2	40
D	General Science	20	2	40
E	Social Science/GK	15	2	30
	Total	135		270



J & K SAINIK SCHOOL MANASBAL

For XI Standard

Section	Topic	No. of Questions	Marks for each correct answer	Total marks
A	Mathematics	50	2	100
B	Intelligence/Reasoning	35	2	70
C	General Science	30	2	60
D	English	25	2	50
	Total	140		280

SYLLABUS

SYLLABUS FOR CLASS VI

MATHEMATICS

Total Question – 45 Max Marks – 90

S. No.	Topics	S. No.	Topics
1	Natural Numbers	14	Conversion of Units
2	LCM and HCF	15	Roman Numerals
3	Unitary Method	16	Types of Angles
4	Fractions	17	Circle
5	Ratio and Proportion	18	Volume of Cube and Cuboids
6	Profit and Loss	19	Prime and Composite Numbers
7	Simplification	20	Plane Figures
8	Average	21	Decimal Numbers
9	Percentage	22	Speed and Time
10	Area and Perimeter	23	Operation on Numbers
11	Simple Interest	24	Complementary and Supplementary Angles
12	Lines and Angles	25	Arranging of Fractions
13	Temperature		

INTELLIGENCE/ REASONING

Total Question – 35 Max Marks - 70

Questions on Intelligence will be based on analogies (mathematical & verbal), pattern (spatial and mathematical), classification, visual, logical, reasoning etc.



J & K SAINIK SCHOOL MANASBAL

ENGLISH

Total Question – 20 Max Marks - 40

S. No.	Topics	S. No.	Topics
1	Comprehension Passage	14	Sentence Formation
2	Preposition	15	Antonyms
3	Article	16	Synonyms
4	Vocabulary	17	Adjectives
5	Verbs and Type	18	Interjection
6	Confusing Words	19	Idiom and Phrases
7	Question Tags	20	Collective Nouns
8	Types of sentence	21	Number
9	Tense forms	22	Gender
10	Kinds of Nouns	23	Adverbs
11	Kinds of Pronouns	24	Rhyming Words
12	Correct Spelling	25	Singular/Plural
13	Ordering of words in sentence		

GENERAL SCIENCE

Total Question – 20 Max Marks – 40

S. No.	Topics	S. No.	Topics
1	Food Materials and Sources	14	Biotic & Abiotic Components
2	Deficiency Diseases	15	Characteristics of Living Organisms & Habitat
3	What Do Different Food Items Contain	16	Motion, Length and distance
4	Fibres and Fabrics	17	Light, Shadows and Reflections
5	Properties of Materials	18	Electric current, Cell and Electric switches
6	Solutions	19	Types of Magnets
7	Methods of separation of mixtures	20	Magnetic Properties
8	Reversible & Irreversible changes	21	Sources of water, Water Cycle
9	Expansion and Contraction	22	Air & Composition of Air
10	Relation between different types of leaves and roots	23	Wastes & Classification of wastes
11	Different parts of a leaf & Flower	24	Sense Organs of Animals
12	Body movements & Joints	25	Plant Parts and Animal Products as Food
13	Gaits of Animals	26	Balanced Diet



J & K SAINIK SCHOOL MANASBAL

SOCIAL SCIENCE / GENERAL KNOWLEDGE

Total Question – 15 Max Marks – 30

S. No.	Topics	S. No.	Topics
1	Different Types of Scientific Devices Used in Daily Life.	15	Non-Renewable Energy Sources (Fossil Fuels)
2	Icons and Symbols of India: National Insignia, National Emblem, Sports, Animal etc. (Elementary awareness of such symbols)	16	Food, Culture, Habitat, Languages etc of various regions (Basic concepts)
3	Major Religions of India (Elementary awareness about founder, place of origin, religious books and important ideas)	17	Names of young ones of different animals
4	Art and Culture (Music, Classical and Folk Dance); Renowned Personalities, Instrumental and Vocal Music, Major Dance Forms	18	Natural Calamities (Flood and Earthquake)
5	Defence (Equivalent Ranks in three services, Weapons, Aircraft, Missiles & Warships (Elementary awareness))	19	How historians study the Rigveda
6	Sports and Games (India & World). Renowned personalities, major competitions and trophies associated with various games	20	Heat Zones of the Earth
7	International Organizations: Basic knowledge about structure, functioning and objectives of United Nations, World Bank etc.	21	Key Elements of A Democratic Government
8	Indian Literary and Cultural Personalities: Names and fields of achievements	22	Special about Harappan cities
9	Indian Literary and Cultural Awards. (Names of the awards and recent recipients)	23	Changes in agriculture



J & K SAINIK SCHOOL MANASBAL

10	Cooking and Preserving Techniques	24	Maps
11	Traditional Water Harvesting Techniques	25	The earliest people: why were they on the move
12	Concepts on Mountain Terrain and Lifestyle		
13	Historical Monuments		
14	Shape of Earth and Gravitation (Basic concepts)		

SYLLABUS FOR CLASS IX

MATHEMATICS

Total Questions - 45 Max Marks -90

S. No.	Topics	S. No.	Topics
1	Rational Numbers	16	Average, Median, Mode
2	Linear Equations in One Variable	17	Probability
3	Understanding Quadrilaterals	18	Pie Chart
4	Data Handling (Bar Graph and Line Graph)	19	Direct & Inverse Proportions
5	Squares and Square Roots	20	Factorizations
6	Cubes and Cube Roots	21	Introduction to Graph
7	Comparing Quantities (Percentage, Profit and Loss)	22	Unitary Method
8	Algebraic Expressions and Identities	23	Divisibility Exam
9	Area and Perimeters	24	Triangles (Angle Sum Property)
10	Volumes and Surface Areas	25	Parallel Lines
11	Exponents and Powers	26	Simple Interest and Compound Interest
12	Playing with Numbers	27	Time and Work
13	Visualizing Solid Shapes	28	Area and Perimeter of Circles
14	Triangles (Pythagoras Theorem)	29	Algebraic Expression (Addition, Subtraction, Multiplication, Division)
15	Euler's Formula		



J & K SAINIK SCHOOL MANASBAL

INTELLIGENCE/REASONING

Total Question – 35 Max Marks – 70

Questions on Intelligence will be based on analogies (mathematical & verbal), pattern (spatial and mathematical), classification, visual, logical, reasoning etc.

ENGLISH

Total Question – 20 Max Marks – 40

S. No.	Topics	S. No.	Topics
1	Spotting Errors	17	Sentence Improvement
2	Comprehension Passage	18	Change of sentence as directed
3	Antonyms	19	Sentence Formation
4	Synonyms	20	Types of Sentences
5	Prepositions	21	Phrase and Clauses
6	Articles	22	Kinds of Noun
7	Types of Verbs	23	Adjectives
8	Tense Form	24	Interjection
9	Narration	25	Question Tags
10	Voices	26	Adverbs
11	Modals	27	Conjunctions
12	Confusing Words	28	Conditions
13	Subject- Verb Agreement	29	Comparison of Adjectives
14	Correct Spellings	30	Personal Pronoun
15	Order of words in a sentence	31	Change of Gender
16	Idioms and Phrases	32	Change of Number

GENERAL SCIENCE

Total Question – 20 Max Marks – 40

S. No.	Topics	S. No.	Topics
1	Fossil Fuel: Coal and Petroleum	14	Micro-Organisms
2	Combustion and Flame	15	Some Natural Phenomenon
3	Cell Structure and Function	16	How to find calorific value of fuel?
4	Reproduction in Plants and Animals	17	Electroplating and Artificial Jewellery
5	Force, Friction and Pressure	18	Relation between types of friction.
6	Sound and its basics	19	Cropping Seasons
7	Reflection and Dispersion of Light	20	Agricultural Practices
8	Metals and Non Metals	21	Conservation of Plants and Animals



J & K SAINIK SCHOOL MANASBAL

9	Synthetic Fibres and Plastics	22	Biosphere Reserves, National Parks and Sanctuaries
10	Chemical Effects of Electric Current	23	Reaching the age of Adolescence
11	Stars and Solar Systems	24	Changes during Puberty
12	Pollution of Air and Water	25	Endocrine Glands and Hormones
13	Global Warming		

SOCIAL SCIENCE/ GENERAL KNOWLEDGE

Total Question – 15 Max Marks –30

S. No.	Topics	S. No.	Topics
1	Revolt of 1857	20	Interior of Earth
2	Freedom Fighters	21	Climate Change
3	Important Freedom Movements	22	Earthquakes and Major Land Forms
4	Social and Caste Reforms	23	Types of Rainfall
5	Resources and sustainable development	24	Major Grasslands
6	Rock cycle of water cycle	25	Types of Forests
7	Pressure and Wind System	26	Means of Transport
8	Land Soil and Water Resources	27	Communication
9	Minerals and Power Resources	28	Life in deserts
10	Indian Constitution and Secularism	29	Panchayat System
11	Importance of Parliament	30	Local Self Government
12	Types of Agriculture	31	Law and Social Justice.
13	Types of Government and different tiers of Government	32	Judiciary and Criminal Justice System
14	Understanding Markets	33	Marginalisation
15	Elections	34	Public Facilities
16	Role of Government in Health	35	Natural Vegetation and Wildlife
17	Delhi Sultanate	36	Industries
18	Mughals	37	Human Resources
19	Bhakti and Sufi Movement	38	Changes in the Arts

**SYLLABUS FOR CLASS XI****SECTION A: MATHEMATICS****Total Question – 50 Max Marks – 100**

Units	Unit Name	Marks
I	NUMBER SYSTEMS	10
II	ALGEBRA	20
III	COORDINATE GEOMETRY	15
IV	GEOMETRY	15
V	TRIGONOMETRY	15
VI	MENSURATION	15
VII	STATISTICS & PROBABILITY	10
	Total	100

UNIT 1: NUMBER SYSTEMS**1. REAL NUMBER**

Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of irrationality of $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$

UNIT 2: ALGEBRA**1. POLYNOMIALS**

Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials.

2. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency. Algebraic conditions for number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution, by elimination. Simple situational problems.

3. QUADRATIC EQUATIONS

Standard form of a quadratic equation $ax^2 + bx + c = 0$, ($a \neq 0$). Solutions of quadratic equations (only real roots) by factorization, and by using quadratic



J & K SAINIK SCHOOL MANASBAL

formula. Relationship between discriminant and nature of roots. Situational problems based on quadratic equations related to day to day activities to be incorporated.

4. ARITHMETIC PROGRESSIONS

Motivation for studying Arithmetic Progression Derivation of the n th term and sum of the first n terms of A.P. and their application in solving daily life problems.

UNIT 3: COORDINATE GEOMETRY

1. Coordinate Geometry

Review: Concepts of coordinate geometry, graphs of linear equations. Distance formula. Section formula (internal division).

UNIT 4: GEOMETRY

1. TRIANGLES

Definitions, examples, counter examples of similar triangles.

1. (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
3. (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.
4. (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.
5. (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.

2. CIRCLES

Tangent to a circle at, point of contact

1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact.
2. (Prove) The lengths of tangents drawn from an external point to a circle are equal.



J & K SAINIK SCHOOL MANASBAL

UNIT 5: TRIGONOMETRY

1. INTRODUCTION TO TRIGONOMETRY

Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios whichever are defined at 0° and 90° . Values of the trigonometric ratios of 30° , 45° and 60° . Relationships between the ratios.

2. TRIGONOMETRIC IDENTITIES

Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities to be given.

3. HEIGHTS AND DISTANCES: Angle of elevation, Angle of Depression.

Simple problems on heights and distances. Problems should not involve more than two right triangles. Angles of elevation / depression should be only 30° , 45° , and 60° .

UNIT 6: MENSURATION

1. AREAS RELATED TO CIRCLES

Area of sectors and segments of a circle. Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60° , 90° and 120° only.

2. SURFACE AREAS AND VOLUMES

Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones.

UNIT 7: STATISTICS AND PROBABILITY

1. STATISTICS

Mean, median and mode of grouped data (bimodal situation to be avoided).

2. PROBABILITY

Classical definition of probability. Simple problems on finding the probability of an event.

SECTION B: INTELLIGENCE/ REASONING

Total Question – 35 Max Marks - 70

1. Pattern Completion
2. Figure Series Completion
3. Geometrical Figure Completion (Triangle, Square, Circle)
4. Mirror Imaging
5. Punched Hole Pattern (Folding/Unfolding)
6. Calendar, Time, and Clock
7. Embedded Figure
8. Coding-Decoding
9. Orientation/Direction
10. Space Visualization



J & K SAINIK SCHOOL MANASBAL

SECTION C: GENERAL SCIENCE

Total Question – 30 Max Marks – 60

Unit	Marks
I. Chemical Substances-Nature and Behaviour	15
II. World of Living	15
III. Natural Phenomena	12
IV. Effects of Current	13
V. Natural Resources	05
Total	60

Unit 1: Chemical Substances - Nature and Behaviour

Chemical reactions: Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, endothermic exothermic reactions, oxidation and reduction.

Acids, bases and salts: Their definitions in terms of furnishing of H^+ and OH^- ions, General properties, examples and uses, neutralization, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

Metals and non-metals: Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.

Carbon compounds: Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series. Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydro carbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion,



J & K SAINIK SCHOOL MANASBAL

oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and detergents.

Unit 2: World of Living

Life processes: 'Living Being'. Basic concept of nutrition, respiration, transport and excretion in plants and animals.

Control and co-ordination in animals and plants: 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.

Reproduction: Reproduction in animals and plants (asexual and sexual) reproductive health - need and methods of family planning. Safe sex vs HIV/AIDS. Child bearing and women's health.

Heredity and Evolution: Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination.

Unit 3: Natural Phenomena

Reflection of light by curved surfaces; Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification.

Refraction; Laws of refraction, refractive index. Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula (Derivation not required); Magnification. Power of a lens.

Human eye: Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.

Unit 4: Effects of Current

Electricity: Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor



J & K SAINIK SCHOOL MANASBAL

depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R.

Magnetic effects of current: Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.

Unit 5: Natural Resources

Our environment: Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances.

SECTION D: ENGLISH

Total Question – 25 Max Marks - 50

Section A: Reading Skills

This section assesses students' reading comprehension abilities through unseen passages. The passages can be discursive or case-based, incorporating visual inputs such as statistical data or charts.

Section B: Grammar

The grammar section evaluates students' understanding of various grammatical concepts. The topics covered include tenses, modals, subject-verb concord, reported speech (commands, requests, statements, and questions), determiners, spelling, and syntax. Emphasis is given to accurate usage of spelling, punctuation, and grammar in context.