



VIDYARTHI VIGYAN MANTHAN 2025-26

SYLLABUS (CLASS-VII)

CLASS VII

PHYSICS

- 1. Motion:** Appreciation of the idea of time and the need to measure it. Measurement of time using periodic events. Idea of speed of moving objects – slow and fast motion along a straight line. Observing and analysing the motion (slow or fast) of common objects on land, in air, water and space. Measuring the distance covered by objects moving on a road in a given time and calculating their speeds. Plotting distance vs. time graphs for uniform motion. Measuring the time taken by moving objects to cover a given distance and calculating their speeds. Constancy of the time period of a pendulum.
- 2. Light:** Rectilinear propagation of light, Reflection, certain surfaces reflect light. Real and virtual images. White light is composed of many colours. Observation of the source of light through a straight tube, a bent tube. Observing the reflection of light on a wall or a white paper screen. Open-ended activities allow children to explore images made by different objects and record observations. Focused discussions on real and virtual images. Making the colour disc and rotating it.
- 3. Electricity:** Electric circuit symbols for different elements of a circuit. The heating effect of current. Principle of fuse. A current-carrying wire has an effect on a magnet. A current-carrying coil behaves like a magnet. The working of an electric bell. Drawing circuit diagrams. Activities to show the heating effect of electric current. Making a fuse. Activity to show that a current-carrying wire has an effect on a magnet. Making a simple electromagnet. Identifying situations in daily life where electromagnets are used. Demonstration of the working of an electric bell.
- 4. Rain, Thunder and Lightning:** High-speed winds and heavy rainfall have disastrous consequences for human and other life. Making wind speed and wind direction indicators. Activity to show “lift” due to moving air. Discussion on the effects of storms and possible safety measures

CHEMISTRY

- Exploring substances: Acidic, Basic and Neutral
- The World of Metals & Non - Metals
- Changes around us: Physical & Chemical
- Heat Transfer in Nature
- Journey of Waste Water

BIOLOGY

- Growing age and adolescence
- Digestive system in animals
- Respiratory system in animals
- Transport in plants
- Photosynthesis



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MATHEMATICS

1. **Integers:** Brahmagupta rules on zeros, Number game, Integer Magic Square
2. **Fractions and Decimals:** Types of Fraction, Expressing a fraction into unit fraction using Mahavira's rule, Operations on Fraction and Decimals
3. **Rational Numbers:** Definition, Properties of Rational Numbers
4. **Exponents and Powers:** Integral Exponent, Finding unit digits of any number with powers up to 1000.
5. **Algebraic Expressions:** Multiplication and division of Polynomials
6. **Linear Equations in One Variable:** Solving linear equations, problems based on it.
7. **Arithmetic:** Percentages, Profit-Loss, Simple Interest, Speed, Time and Distance
8. **Geometry:** Lines and Angles, Triangles and Properties, Congruence of Triangles
9. **Mensuration:** Perimeter and Area (2D Geometry), Mensuration (Volume and Surface Area)
10. **Data Handling:** Mean, Median, Mode, Graphs- Bar, Multiple bar, histogram
11. **Visualising Solid Shapes:** Archimedean shapes, Verifying Euler formula

LOGIC AND REASONING

Cryptarithmic/Alphametics (Addition & subtraction upto 4 digits), Logical Sequence Series(number, alphabet & image and more), odd one out, Coding-decoding, Blood Relations, Binary Logic, Mathematical Operations, Standard Logical Reasoning Sets, Visual Puzzles, Word Problems, IQ puzzles, Sequencing, Grid Puzzles, Cubes and Dices, Logical Venn Diagrams, Math based reasoning, Direction, Order and Ranking, Clocks & Calender, Analogy, Analytical puzzles, Logical Inequalities, Image based puzzles(like mirror & water image, rotation, best fit, Odd one out and more), Logical Sequence of Words, shape constructions, symmetry, number puzzle, pattern-based puzzle, Sudoku (4×4 & 5×5), Geometrical figures related problem.

LIFE STORY OF INDIAN SCIENTIST(S)

Satyendra Nath Bose: Father of Bosons (All Chapters)

INDIAN CONTRIBUTIONS TO SCIENCE

Indian Contributions to Science (Chapters 1-7 & 9-12)



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UNITS AND TOPICS FOR LEVEL-II

IKS-ICS SUPPLEMENTARY READING (INDIAN KNOWLEDGE SYSTEM)

Units		Sub-units (Scope and Limitations)
Unit No.	Title of the Unit	Sub-units included
1	IKS and overview of the ICS	Knowledge Production and Propagation in India through the Ages, Introduction to Chaturdasa Vidyās and Kalās, India's Contribution to Science and Technology in relation with Pre-independence contribution to water management, ship building and navigation. The topic is for general idea only.
2	Astronomy	Importance of calendar sticks found on Andaman, Rings found in Mohanjo Daro, Concept of five year <i>Yuga</i> . Calendar system mentioned in Rig veda, Yajur veda, Vedang jyotisha, siddhanta and Jain literature. Contribution of Aryabhata.
3	Mathematics	Early evidences of mathematical principals as found in town planning of Mohanjo daro and Harappa. General idea and importance of Sulabhasutras and Pingala's Chandrasutras.
4	Chemistry	Concept of anu and parmanu (atomism), contribution of Rishi Kanada, Alchemy in India: rasaśāstra, rasavidyā or dhātuvāda, Extraction of various metals and preparation of various alloys. Pigments. Importance of Kautilya's arthshastra and Brihat samhita of Varahmihir in chemistry.
5	Agriculture	Indigenous varieties of rice and millets, Global importance of spices and other aromatic plants.
6	Āyurvēda and Medical Science	Concept of saptadhatu and tridosha. Idea of panchakarma, Importance of plants Guggula, Amla, Ashwagandha, Neem, Tulsi, Aloe vera, Arjuna, Bramhi as per ayurvedic literature. General idea of Charak samhita and Bhavprakash of Nighantu. Contribution of Sushruta in surgery.
7	Environmental conservation	Central idea of protection of nature through religious texts, hymns, songs, etc. Examples of flora, fauna, rivers, mountains, etc worshiped in Indian religions. Contribution of Atharva veda, Brahma purana, Manusmriti and Thirevallur's kurala.
8	Modern Sciences	Green revolution in India, White revolution in India