

Class - IX

ENGLISH - I (Language)

Book : Total English (IX)

Morning Star

UNITS 1 to 15

ENGLISH - II (Literature)

Book : Drama : "The Merchant of Venice" -
William Shakespeare

Act : 1 - All the Scenes

Act : 2 - All the Scenes

Act : 3 - Scene - I

Book : Poetry : Treasure Trove "A Collection of
ICSE Poems" and Short Stories [Evergreen]

1. The Cold Within - J.P. Kinney
2. The Bangle Sellers - Sarojini Naidu
3. After Blenheim - Robert Southey
4. Television - Roald Dahl
5. Daffodils - William Wordsworth

Book : Prose : Treasure Trove "A Collection of ICSE
Poems and Short Stories" [Evergreen Pub.]

1. Old Man At the Bridge - Ernest Hemingway
2. A Horse and Two Goats - R.K. Narayan

3. Hearts and Hands - O. Henry
4. A Face in the Dark - Ruskin Bond
5. An Angel in Disguise - J. S. Arthur

Note : Annual examination will include the entire syllabus.

हिन्दी

पुस्तक : व्याकरण पुस्तिका (सरस हिन्दी व्याकरण)
साहित्य-सागर (कहानी)

कहानी

1. बात अठन्नी की
2. काकी
3. महायज्ञ का पुरस्कार
4. नेताजी का चश्मा

साहित्य सागर (कविता) :

1. साखी
2. गिरधर की कुण्डलियाँ
3. स्वर्ग बना सकते हैं
4. वह जन्मभूमि मेरी
5. मेघ आए

नोट : सरस हिन्दी व्याकरण से विभिन्न प्रकार के निबन्ध लेखन, औपचारिक, अनौपचारिक पत्र लेखन, अपठित गद्यांश, मौलिक कहानी लेखन व पर्यायवाची, विलोम, वाक्यांश, तद्भव, तत्सम, वाक्य शुद्धिकरण के अभ्यास कराये जायेंगे।

MATHEMATICS

Book : ICSE Mathematics - I (S. Chand)

Unit - 1 : Pure Mathematics

Ch. 1. Rational and Irrational Numbers

Unit - 2 : Commercial Mathematics

Ch. 2. Compound Interest

Unit - 3 : Algebra

Ch. 3. Expansion

Ch. 4. Factorization

Ch. 5. Simultaneous Linear Equations in two variable

Ch. 6. Indices

Unit - 4 : Geometry

Ch. 8. Triangles

Ch. 9. Mid-Point and intercept theorem

Ch. 10. Pythagoras Theorem

Ch. 11. Rectilinear Figures

Ch. 13. Circle

Unit - 5 : Statistics

Ch. 14. Statistics, Introduction, Data and Frequency distribution

Ch. 15. Mean, Median and Frequency polygon

Unit - 6 : Mensuration

Ch. 16. Area of Plane Figures

Ch. 17. Circle-Circumference and area

Ch. 18. Surface Area and Volume of 3D Solids (Cuboid & Cube)

Unit - 7 : Trigonometry

Ch. 19. Trigonometrical Ratios

Unit - 8 : Co-Ordinate Geometry

Ch. 20. Co-ordinates & Graphs of Simultaneous Linear Equations

Note : 1) Annual Examination will include the entire Syllabus.

2) Reduced scope of syllabus 2020-21 to be referred for details.

PHYSICS

Book : **Concise Physics** (Selina Publications)

1. Measurements and Experimentation

(i) International System of Units, **the required SI units with correct symbols are given at the end of this syllabus.** Other commonly used system of units - fps and cgs.

(ii) Simple pendulum

Simple pendulum: time period, frequency, graph of length l versus T^2 only; slope of the graph.

Formula $T=2\pi\sqrt{l/g}$ [no derivation]. Only simple numerical problems.

2. Motion in One Dimension

Scalar and vector quantities, distance, speed, velocity, acceleration; equations of uniformly accelerated motion without derivations.

Examples of Scalar and vector quantities only, rest and motion in one dimension; distance and displacement; speed and velocity; acceleration and retardation [Non-uniform acceleration excluded].

Equations to be learned: $v = u + at$;

$S = ut + \frac{1}{2}at^2$; $S = \frac{1}{2}(u+v)t$; $v^2 = u^2 + 2aS$.

[Equation for S_n is **not** included].

Simple numerical problems.

3. Laws of Motion

(i) Contact and non-contact forces; cgs & SI units.

Examples of contact forces (frictional force, normal reaction force, tension force as applied through strings and force exerted during collision) and non-contact forces (gravitational, electric and magnetic). General properties of non-contact forces. cgs and SI units of force and their relation with Gravitational units.

(ii) Newton's First Law of Motion (qualitative discussion) introduction of the idea of inertia, mass and force.

Newton's first law; statement and qualitative discussion; definitions of inertia and force from first law, examples of inertia as illustration of first law. (Inertial mass **not** included).

(iii) Newton's Second Law of Motion (including $\mathbf{F} = ma$); weight and mass.

Detailed study of the second law. Linear momentum, $p = mv$; change in momentum $\Delta p = \Delta(mv) = m\Delta v$ for mass remaining constant, rate of change of momentum;

$\Delta p / \Delta t = m\Delta v / \Delta t = ma$ or;

$$\left\{ \frac{P_2 - P_1}{t} = \frac{mv - mu}{t} = \frac{m(v - u)}{t} = ma \right\};$$

Simple numerical problems combining

$F = \Delta p / \Delta t = ma$ and equations of motion. Units of force - only cgs and SI.

(iv) Newton's Third Law of Motion (qualitative discussion only); simple examples.

Statement with qualitative discussion; examples of action - reaction pairs, (F_{BA} and F_{AB}); action and reaction always act on different bodies.

(v) Gravitation

Universal Law of Gravitation. (Statement and equation) and its importance. Gravity, acceleration due to gravity, free fall. Weight and mass, Weight as force of gravity comparison of mass and weight; gravitational units of force, (Simple numerical problems), (problems on variation of gravity excluded)

4. Fluids

(i) Change of pressure with depth (including the formula $p = h\rho g$); Transmission of pressure in liquids; atmospheric pressure.

Thrust and Pressure and their units; pressure exerted by a liquid column $p = h\rho g$; simple daily life examples, (i) broadness of the base of a dam, (ii) Diver's suit etc. some consequences of $p = h\rho g$; transmission of pressure in liquids; Pascal's law; atmospheric pressure; common manifestation and consequences. Variations of pressure with altitude, (qualitative only); applications such as weather forecasting and altimeter. (Simple numerical problems including Pascal's law)

15.07.2020
16.07.2020

- (ii) Buoyancy, Archimedes' Principle; floatation; relationship with density; relative density; determination of relative density of a solid using water only.

Buoyancy, upthrust (F_B); definition; different cases, $F_B >$, = or $<$ weight W of the body immersed; characteristic properties of upthrust; Archimedes' principle; explanation of cases where bodies with density $\rho >$, = or $<$ the density ρ' of the fluid in which it is immersed.

Relative Density (RD) and Archimedes' principle, determination of RD of a solid denser than water using water and RD of liquid. Floatation: principle of floatation; relation between the density of a floating body, density of the liquid in which it is floating and the fraction of volume of the body immersed; ($\rho_1/\rho_2 = V_2/V_1$); apparent weight of floating object; application to ship, submarine, iceberg, balloons, etc.

Simple numerical problems involving Archimedes' principle, buoyancy and floatation.

5. Heat and Energy

- (i) Concepts of heat and temperature.
*Heat as energy, SI unit – joule,
 $1 \text{ cal} = 4.186 \text{ J}$ exactly.*
- (ii) Anomalous expansion of water
Graphs showing variation of volume and density of water with temperature in the 0 to 10°C range. Hope's experiment and consequences of Anomalous expansion.
- (iii) Global warming and Green House effect.
Scientific definitions of the above.

6. Light

- (i) Reflection of light; images formed by a pair of parallel and perpendicular plane mirrors;

Laws of reflection; experimental verification; characteristics of images formed in a pair of mirrors, (a) parallel and (b) perpendicular to each other; uses of plane mirrors.

- (ii) Spherical mirrors; characteristics of image formed by these mirrors. Uses of concave and convex mirrors. (Only simple direct ray diagrams are required).

Brief introduction to spherical mirrors - concave and convex mirrors, centre and radius of curvature, pole and principal axis, focus and focal length; location of images from ray diagram for various positions of a small linear object on the principal axis of concave and convex mirrors; characteristics of images.

Uses of spherical mirrors.

Scale drawing or graphical representation of ray diagrams not required.

7. Sound

- (i) Nature of Sound waves. Requirement of a medium for sound waves to travel; propagation and speed in different media; comparison with speed of light.

Sound propagation, terms – frequency (f), wavelength (λ), velocity (V), relation $V = f\lambda$. (Simple numerical problems) effect of different factors on the speed of sound; comparison of speed of sound with speed of light; consequences of the large difference in these speeds in air; thunder and lightning.

- (ii) Infrasonic, sonic, ultrasonic frequencies and their applications.

*Elementary ideas and simple applications only.
Difference between ultrasonic and supersonic.*

8. Electricity and Magnetism

- (i) Simple electric circuit using an electric cell and a bulb to introduce the idea of current (including its relationship to charge); potential difference; insulators and conductors; closed and open circuits; direction of current (electron flow and conventional)

Current Electricity: brief introduction of sources of direct current - cells, accumulators (construction, working and equations excluded); Electric current as the rate of flow of electric charge (direction of current - conventional and electronic), symbols used in circuit diagrams. Detection of current by Galvanometer or ammeter (functioning of the meters not to be introduced). Idea of electric circuit by using cell, key, resistance wire/resistance box/rheostat, qualitatively; elementary idea about work done in transferring charge through a conductor wire; potential difference $V = W/q$.

(No derivation of formula) simple numerical problems.

Social initiatives: Improving efficiency of existing technologies and introducing new eco-friendly technologies. Creating awareness and building trends of sensitive use of resources and products, e.g. reduced use of electricity.

- (ii) Induced magnetism, Magnetic field of earth. Neutral points in magnetic fields.

Magnetism: magnetism induced by bar magnets on magnetic materials; induction precedes attraction; lines of magnetic field and their properties; evidences of existence of earth's magnetic field, magnetic compass. Uniform magnetic field of earth and non-uniform field of a bar magnet placed along magnetic north-south; neutral point; properties of magnetic field lines.

Note : *Reduced scope of syllabus 2020-21 to be referred for details.*

CHEMISTRY

Prescribed Book : **Concise Chemistry**
by Selina Publication

- 1) The Language of Chemistry
- 2) Study of Gas Laws (Excluding : Effect of Moisture on pressure)
- 3) Chemical changes and Reactions
- 4) Water (Excluding : Concentration of the solution, Application of solubility curve, Numericals, Clark's process, Softening of water by permutit and ion exchange method)
- 5) Atomic Structure and Chemical Bonding (Excluding discovery of Electron, Proton, Neutron)
- 6) The Periodic Table
- 7) Study of the First Element - Hydrogen (Excluding : Electrolysis of Water, Test for oxidising and Reducing agent)

- Note :** 1) Annual Examination will include the entire Syllabus. Follow the Scope of Syllabus Strictly.
2) Reduced scope of syllabus 2020-21 to be referred for details.

BIOLOGY

Prescribed Book : **Concise Biology**

1. Cell : The Unit of Life
2. Tissues : Plant and Animal Tissues
3. The Flower
4. Pollination and Fertilisation
5. Seeds - Structure and Germination
6. Respiration in Plants
7. Economic Importance of Bacteria and Fungi
8. Nutrition
9. Digestive System
10. Skeleton - Movement and Locomotion
11. Skin - The Jack of All Trades
12. The Respiratory System

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HISTORY AND CIVICS

Book : **Total History & Civics - 9** (Morning Star)

CIVICS :

- 1) Our Constitution
- 2) Salient Features of the Constitution - I
- 3) Salient Features of the Constitution - II
- 4) Elections

- 5) Local Self Government - Rural
- 6) Local Self Government - Urban

HISTORY :

- 1) The Harappan Civilization.
- 2) The Vedic Period
- 3) Jainism and Buddhism
- 4) The Mauryan Empire
- 5) The Sangam Age
- 6) The Age of the Guptas
- 7) Medieval India - The Cholas
- 8) Medieval India - The Delhi Sultanate
- 9) Medieval India - The Mughal Empire
- 10) The Modern Age in Europe - (A) Renaissance
- 11) The Modern Age in Europe - (B) Reformation
- 12) The Modern Age in Europe - (C) Industrial Revolution

Note : 1) Annual Exams will cover the entire Syllabus.
2) Reduced scope of syllabus 2020-21 to be referred for details.

GEOGRAPHY

Book : **Total Geography - 9** (Morning Star Publication)

Unit-I : Our World

- 1) Latitudes and Longitudes
- 2) Rotation and Revolution of the Earth

Unit-II : The Structure of the Earth

- 4) Earth's structure
- 6) Rocks
- 7) Volcanoes
- 8) Earthquakes
- 9) Weathering

Unit-III : Hydrosphere**Unit-IV : Atmosphere**

- 1) Composition and Structure of the Atmosphere.
- 2) Insolation
- 3) Atmospheric pressure and winds
- 4) Humidity

Unit-V : Pollution

- 5) Pollution
- 6) Sources of Pollution
- 7) Effects of Pollution
- 8) Preventive Measures

Unit-VI : Natural Regions of the World

Equatorial Region, Tropical Desert, Tropical Monsoon

Map of the World

1. **Oceans and Seas** - Oceans of the World, Caribbean Sea, North Sea, Black Sea, Caspian Sea, Mediterranean Sea, South China Sea.
2. **Gulfs** - Gulf of Carpentaria, Gulf of Mexico, Gulf of Guinea, Persian Gulf.
3. **Straits & Bays** - Strait of Mallacca, Bering Strait, Hudson Bay, Strait of Gibraltar.
4. **Rivers** - Mississippi, Colorado, Amazon, Paraguay, Nile, Zaire, Niger, Orange, Volga, Danube, Ganga Murray-Darling, Hwang Ho, Mekong, Irrawady, Tigris, Euphratus, Zambezi, Rhine, Yangtse-Kiang, Ob, Indus.
5. **Mountains** - Rockies, Andes, Appalachian, Alps, Himalayas, Pyrenees, Scandinavian Highlands, Zagros, Drakensburg, Khingan, Caucasus, Atlas, Urals, Great Dividing Range.

6. **Plateaus** - Canadian Shield, Tibetan Plateau, Brazillian Highlands, African Rift Valley, Iranian Plateau, Patagonian Plateau Mangolian Plateau.

7. **The Major Natural Regions of the World** - Equatorial, Tropical Desert, Tropical Monsoon

Note : Reduced scope of syllabus 2020-21 to be referred for details.

COMPUTER APPLICATIONS**Ch. - 1 : Introduction to Object Programming Concept**

- i) Principal of Object Oriented Programming (Difference between Procedure Oriented and Object Oriented)
- ii) Introduction to Java : Types of Java Program - Applets and Applications, Java Compilation process, Java Source Code, Byte Code, Object Code, Java Virtual Machine (JVM), Feature of Java

Ch. - 2 : Elementary Concept of Objects and Classes

Modelling entities and their behaviour by Objects, Class is a specification for objects and as object factory, Computation as message passing / method call between objects, Class as user defined data type.

Ch. - 3 : Values and Data Types

Character Set, ASCII Code, Unicode, Escape Sequence Character, Tokens, Constant and Variables, Type Conversion.

Ch. - 4 : Operators in Java

Forms of Operators, Types of Operators, Counters, Accumulator, Hierarchy of Operators, Operator, dot (.) Operator.

Ch. - 5 : Input in Java

Initialization, Parameter, Introduction to Packages, InputStream (Scanner Class), Types of Errors, Types of Comments.

Ch. - 6 : Conditional Construct in Java

Application of if, if else, if else if ladder, Switch Case, Default, Break.

Ch. - 7 : Mathematical Library Methods

Introduction to Package Java.lang (default), Methods of Math Class

Ch. - 8 : Iterative Construct in Java

Defination, Types of Looping statements, Entry Controlled Loops (for, while), Variation in Looping Statements and Jump Statements (break and continue)

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COMMERCIAL APPLICATIONS

Book : ICSE Commercial Application - (Part - I)
by C.B. Gupta

- 1) Economic & Non-Economic Activities
- 2) Sole Proprietorship & Joint Hindu Family Business
- 3) Partnership
- 4) Joint Stock Companies

- 5) Co-operative Societies
- 6) Public Sector Enterprises
- 7) Natural Resources
- 8) Departmentation
- 9) Types of Departments
- 10) Meaning of Communication
- 11) Ways of Communicating
- 12) Journal, Ledger etc.
- 13) Types of Accounts, Book-Keeping etc.

Note : *Reduced scope of syllabus 2020-21 to be referred for details.*

MORAL SCIENCE

Book : Heart and Mind

Marina Publication Pvt. Ltd.

- 1) The Influence of Friends
- 2) Studying Effectively
- 3) Living Intelligently
- 4) Everyone is Unique
- 5) Equal Status to Women
- 6) Silent Messages
- 7) See the Brighter Side
- 8) Self-Protection
- 9) Accepting the Failures
- 10) A Mistaken Belief
- 11) Keep Your Words
- 12) Germs of India
- 13) Global Icons

