

# ENGLISH LANGUAGE AND LITERATURE

Code No. 184

(2021-22)

## 1. Background

Traditionally, language-learning materials beyond the initial stages have been sourced from literature: prose, fiction and poetry. While there is a trend for inclusion of a wider range of contemporary and authentic texts, accessible and culturally appropriate pieces of literature should play a pivotal role at the secondary stage of education. The English class should not be seen as a place merely to read poems and stories in, but an area of activities to develop the learner's imagination as a major aim of language study, and to equip the learner with communicative skills to perform various language functions through speech and writing.

## 2. Objectives:

Objectives of the course are to enable learners to:

- build greater confidence and proficiency in oral and written communication
- develop the ability and knowledge required in order to engage in independent reflection and inquiry
- use appropriate English to communicate in various social settings
- equip learners with essential language skills to question and to articulate their point of view
- build competence in the different aspects of English
- develop sensitivity to, and appreciation of, other varieties of English, like Indian English, and the culture they reflect
- enable the learner to access knowledge and information through reference skills (consulting a dictionary / thesaurus, library, internet, etc.)
- develop curiosity and creativity through extensive reading
- facilitate self-learning to enable them to become independent learners
- review, organise and edit their own work and work done by peers
- integrate listening and speaking skills in the curriculum.
- give a brief oral description of events / incidents of topical interest
- retell the contents of authentic audio texts (weather reports, public announcements, simple advertisements, short interviews, etc.)
- participate in conversations, discussions, etc., on topics of mutual interest in non-classroom situations
- narrate a story which has been depicted pictorially or in any other non-verbal mode

- respond, in writing, to business letters, official communications email etc.
- read and identify the main points / significant details of texts like scripts of audio-video interviews, discussions, debates, etc.
- write without prior preparation on a given topic and be able to defend or explain the stand taken / views expressed in the form of article, speech, or a debate
- write a summary of short lectures on familiar topics by making / taking notes
- write an assessment of different points of views expressed in a discussion / debate
- read poems effectively (with proper rhythm and intonation)
- transcode information from a graph / chart to a description / report and write a dialogue, short story or report

### **3. Language Items**

In addition to consolidating the grammatical items practised earlier, the courses at the secondary level seek to reinforce the following explicitly:

- sequence of tenses
- reported speech in extended texts
- modal auxiliaries (those not covered at upper primary)
- non-finites (infinitives, gerunds, participles)
- conditional clauses
- complex and compound sentences
- phrasal verbs and prepositional phrases
- cohesive devices
- punctuation (semicolon, colon, dash, hyphen, parenthesis or use of brackets and exclamation mark)

### **4. Methods and Techniques**

The methodology is based on a multi-skill, activity-based, learner-centered approach. Care is taken to fulfill the functional (communicative), literary (aesthetic) and cultural (sociological) needs of the learner. In this situation, the teacher is the facilitator of learning, She/he presents language items, contrives situations which motivates the child to use English for the purposes of communication and expression. Aural-oral teaching and testing is an integral feature of the teaching-learning process. The electronic and print media could be used extensively. A few suggested activities are:

- Role play
- Simulating real life situations
- Dramatising and miming

- Problem solving and decision making
- Interpreting information given in tabular form and schedule
- Using newspaper clippings
- Borrowing situations from the world around the learners, from books and from other disciplines
- Using language games, riddles, puzzles and jokes
- Interpreting pictures / sketches / cartoons
- Debating and discussing
- Narrating and discussing stories, anecdotes, etc.
- Reciting poems
- Working in pairs and groups
- Using media inputs - computer, television, video cassettes, tapes, software packages

**ENGLISH LANGUAGE AND LITERATURE (Code No. 184)  
SYLLABUS CLASS – IX (2021-22)**

<b>Sections</b>		
A	Reading Skills	(50 periods)
B	Writing Skills with Grammar	(60 periods)
C	Literature Textbooks and Supplementary Reading Text	(60 periods)

**PART A**

**Reading:-**

**Unseen Passage**

**20 Marks**

I. Multiple Choice Questions based on a Discursive passage of 400-450 words to test inference, evaluation and vocabulary. Ten out of twelve questions to be answered.

**(10x1=10)**

II. Multiple Choice Questions based on a Case-based factual passage (with visual input-statistical data, chart etc.) of 200-250 words to test analysis and interpretation. Ten out of twelve questions to be answered.

**(10x1=10)**

**(Total length of two passages to be 600-700 words)**

**Literature Textbooks****10 Marks**

III. Multiple Choice Questions based on an extract from drama/prose to test inference, evaluation and vocabulary. Any 1 out of 2 extracts to be done. **(5x1=5)**

IV. Multiple Choice Questions based on an extract from poetry to test analysis and interpretation. Any 1 out of 2 extracts to be done **(5x1=5)**

**Grammar****10 Marks**

V. Ten Multiple Choice Questions, out of twelve, to be answered (including gap filling/ editing/ dialogue writing). Questions shall be based on the following:

- Tenses
- Modals
- Subject – verb concord
- Reported speech
- Commands and requests
- Statements
- Questions
- Determiner
- Use of Passive Voice
- Clauses: Noun, Adverb Clauses of condition and time, Relative Clauses
- Prepositions

**PART B****Writing****10 marks**

I. Writing an Informal Letter on a situation/ Descriptive Paragraph (person, place, event, diary entry) based on visual or verbal cue/s. (word limit 100-120 words)

One out of two questions is to be answered.

**(5 marks)**

II. Writing a story based on a given outline or cue/s. (word limit 100-120 words)

One out of two questions is to be answered.

**(5 marks)**

**Literature****30 Marks**

III. Four out of six Short Answer Type Questions to be answered in 20-30 words each from BEEHIVE and MOMENTS (two out of three from BEEHIVE and two out of three from MOMENTS). **(2x4=8)**

IV. Four out of six Short Answer Type Questions to be answered in 40-50 words each from BEEHIVE and MOMENTS (two out of three from BEEHIVE and two out of three from MOMENTS). **(3x4=12)**

V. One out of two Long Answer Type Questions from BEEHIVE to be answered in about 100-120 words each to assess creativity, imagination and extrapolation beyond the text and across the texts. This can be a passage-based question taken from a situation/plot from the texts. **(5 marks)**

VI. One out of two Long Answer Type Questions from MOMENTS on theme or plot involving interpretation, extrapolation beyond the text and inference or character sketch to be answered in about 100-120 words. **(5 marks)**

**Prescribed Books: Published by NCERT, New Delhi**

- **BEEHIVE – Textbook for class IX**
- **MOMENTS – Supplementary Reader for Class IX**
- **Words and Expressions-I, Workbook**

**NOTE: Teachers are advised to:**

- (i) encourage classroom interaction among peers, students and teachers through activities such as role play, group work etc.

- (ii) reduce teacher-talk time and keep it to the minimum,
- (iii) take up questions for discussion to encourage pupils to participate and to marshal their ideas and express and defend their views.

Besides measuring learning outcome, texts serve the dual purpose of diagnosing mistakes and areas of non-learning. To make evaluation a true index of learners' knowledge, each language skill is to be assessed through a judicious mixture of different types of questions.

1. Reading Section: Reading for comprehension, critical evaluation, inference and analysis are to be tested.
2. Writing Section: All types of short and extended writing tasks will be dealt with.
3. Grammar: Grammar items mentioned in the syllabus will be taught and assessed.

## **INTERNAL ASSESSMENT**

### **Listening and Speaking Competencies      50 Periods**

Assessment of Listening and Speaking Skills will be for 05 marks.

It is recommended that listening and speaking skills should be regularly practiced .

**Art-integrated projects based on activities like Role Play, Skit, Dramatization etc. must be used. Please refer to the Circular no. Acad-33/2020 dated 14<sup>th</sup> May 2020 at the [http://cbseacademic.nic.in/web\\_material/Circulars/2020/33\\_Circular\\_2020.pdf](http://cbseacademic.nic.in/web_material/Circulars/2020/33_Circular_2020.pdf) for details.**

### **Guidelines for Assessment in Listening and Speaking Skills**

#### **i. Activities:**

- Activities for listening and speaking available at [www.cbseacademic.in](http://www.cbseacademic.in) can be used for developing listening and speaking skills of students.
- Subject teachers should also refer to books prescribed in the syllabus.
- In addition to the above, teachers may plan their own activities and create their own material for assessing the listening and speaking skills.

#### **ii. Parameters for Assessment:**

The listening and speaking skills are to be assessed on the following parameters:

- i. Interactive competence (Initiation & turn taking, relevance to the topic).
- ii. Fluency (cohesion, coherence and speed of delivery).
- iii. Pronunciation
- iv. Language (accuracy and vocabulary).

**iii. Schedule:**

- The practice of listening and speaking skills should be done throughout the academic year.
- The final assessment of the skills is to be done as per the convenience and schedule of the school.

**iv. Record keeping:**

The record of the activities done and the marks given must be kept for three months after the declaration of result, for any random checking by the Board.

**No recording of speaking skills is to be sent to the Board.**

## ENGLISH LANGUAGE AND LITERATURE

(Code No. 184) CLASS – IX (2021 – 22) Marks-80

Sections	Competencies	Total marks	% Weightage
Reading Comprehension	Conceptual understanding, decoding, analyzing, inferring, interpreting and vocabulary	20	25%
Writing Skill and Grammar	Creative expression of an opinion, reasoning, justifying, illustrating, appropriacy of style and tone, using appropriate format and fluency. Applying conventions, using integrated structures with accuracy and fluency	20	25%
Literature Textbook and Supplementary Reading Text	Recalling, reasoning, appreciating, applying literary conventions illustrating and justifying etc. Extract relevant information, identifying the central theme and sub-theme, understanding the writers' message and writing fluently.	40	50%
<b>Total</b>		<b>80</b>	

**ENGLISH LANGUAGE AND LITERATURE (Code No. 184)**

**CLASS – X(2021-22)**

**SECTION - WISE WEIGHTAGE**

<b>Sections</b>		
A	Reading Skills	(50 periods)
B	Writing Skills with Grammar	(60 periods)
C	Literature Textbooks and Supplementary Reading Text	(60 periods)
	TOTAL	

**PART A**

**Reading**

**20Marks**

**I.** Multiple Choice Questions based on a Discursive passage of 400-450 words to test inference, evaluation and vocabulary. Ten out of twelve questions to be answered.

**(10x1=10)**

**II.** Multiple Choice Questions based on a Case-based factual passage (with visual input- statistical data, chart etc.) of 300-350 words to test analysis and interpretation. Ten out of twelve questions to be answered.

**(10x1=10)**

**(Total length of two passages to be 700-750 words).**

**Literature Textbooks**

**10 Marks**

**III.** Multiple Choice Questions based on an extract from drama/prose to test inference, evaluation and vocabulary. Any 1 out of 2 extracts to be done.

**(5x1=5)**

**IV.** Multiple Choice Questions based on an extract from poetry to test analysis and interpretation. Any 1 out of 2 extracts to be done

**(5x1=5)**

**Grammar**

**10 Marks**

**V.** Ten Multiple Choice Questions, out of twelve, to be answered (including gap filling/ editing/ dialogue writing). Questions shall be based on the following:

- Tenses
- Modals
- Subject – verb concord
- Reported speech
- Commands and requests
- Statements
- Questions
- Determiner
- Use of Passive Voice
- Clauses: Noun, Adverb Clauses of condition and time, Relative Clauses
- Prepositions

## PART B

### Writing

10 Marks

I. Formal letter based on a given situation (word limit 100-120 words). One out of two questions is to be answered. **(5 marks)**

II. Writing an analytical paragraph based on the given map/ Chart/ report/ line graph/ Cue/s (word limit 100-120 words). One out of two questions is to be answered. **(5 marks)**

### Literature

30 Marks

III. **Four out of six** Short Answer Type Questions to be answered in 20-30 words each from FIRST FLIGHT and FOOTPRINTS WITHOUT FEET (two out of three from FIRST FLIGHT and two out of three from FOOTPRINTS WITHOUT FEET). **(2x4=8)**

IV. **Four out of six** Short Answer Type Questions to be answered in 40-50 words each from FIRST FLIGHT and FOOTPRINTS WITHOUT FEET (two out of three from FIRST FLIGHT and two out of three from FOOTPRINTS WITHOUT FEET). **(3x4=12)**

V. **One out of two** Long Answer Type Questions from FIRST FLIGHT to be answered in about 100-120 words each to assess creativity, imagination and extrapolation beyond the text and across the texts. This can be a passage-based question taken from a situation/plot from the texts. **(5 marks)**

**VI. One out of two** Long Answer Type Questions from FOOTPRINTS WITHOUT FEET on theme or plot involving interpretation, extrapolation beyond the text and inference or character sketch to be answered in about 100-120 words. **(5 marks)**

**Prescribed Books: Published by NCERT, New Delhi**

**1. FIRST FLIGHT – Text for Class X**

**2. FOOTPRINTS WITHOUT FEET – Supplementary Reader for Class X**

**3. WORDS AND EXPRESSIONS – II (WORKBOOK FOR CLASS X)**

**Note: Teachers are advised to:**

- (i) encourage interaction among peers, students and teachers through activities such as role play, discussions, group work etc.
- (ii) reduce teacher-talking time and keep it to the minimum,
- (iii) take up questions for discussion to encourage pupils to participate and to marshal their ideas and express and defend their views, and
- (iv) follow the Speaking and Listening activities given in the NCERT books.

Besides measuring learning outcome, texts serve the dual purpose of diagnosing mistakes and areas of non-learning. To make evaluation a true index of learners' knowledge, each language skill is to be assessed through a judicious mixture of different types of questions.

1. Reading Section: Reading for comprehension, critical evaluation, inference and analysis are to be tested.
2. Writing Section: All types of short and extended writing tasks will be dealt with.
3. Grammar: Grammar items mentioned in the syllabus will be taught and assessed over a period of time.

## **INTERNAL ASSESSMENT**

### **Listening and Speaking Competencies      50 Periods**

Assessment of Listening and Speaking Skills will be for 05 marks.

It is recommended that listening and speaking skills should be regularly practiced .

**Art-integrated projects based on activities like Role Play, Skit, Dramatization etc. must be used. Please refer to the Circular no. Acad-33/2020 dated 14<sup>th</sup> May 2020 at the [http://cbseacademic.nic.in/web\\_material/Circulars/2020/33\\_Circular\\_2020.pdf](http://cbseacademic.nic.in/web_material/Circulars/2020/33_Circular_2020.pdf) for details**

### **Guidelines for Assessment in Listening and Speaking Skills**

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**iv. Record keeping:**

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## ENGLISH LANGUAGE AND LITERATURE

Code no. (184)

CLASS - X (2021-22)

Marks 80

Sections	Competencies	Total marks	% Weightage
Reading Comprehension	Conceptual understanding, decoding, analyzing, inferring, interpreting and vocabulary	20	25%
Writing Skill and Grammar	Creative expression of an opinion, reasoning, justifying, illustrating, appropriacy of style and tone, using appropriate format and fluency. Applying conventions, using integrated structures with accuracy and fluency	20	25%
Literature Textbook and Supplementary Reading Text	Recalling, reasoning, appreciating, applying literary conventions illustrating and justifying etc. Extract relevant information, identifying the central theme and sub-theme, understanding the writers' message and writing fluently.	40	50%
<b>Total</b>		<b>80</b>	

**MATHEMATICS (IX-X)**  
**(CODE NO. 041)**  
**Session 2021-22**

The Syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of the society. The present revised syllabus has been designed in accordance with National Curriculum Framework 2005 and as per guidelines given in the Focus Group on Teaching of Mathematics which is to meet the emerging needs of all categories of students. For motivating the teacher to relate the topics to real life problems and other subject areas, greater emphasis has been laid on applications of various concepts.

The curriculum at Secondary stage primarily aims at enhancing the capacity of students to employ Mathematics in solving day-to-day life problems and studying the subject as a separate discipline. It is expected that students should acquire the ability to solve problems using algebraic methods and apply the knowledge of simple trigonometry to solve problems of height and distances. Carrying out experiments with numbers and forms of geometry, framing hypothesis and verifying these with further observations form inherent part of Mathematics learning at this stage. The proposed curriculum includes the study of number system, algebra, geometry, trigonometry, mensuration, statistics, graphs and coordinate geometry, etc.

The teaching of Mathematics should be imparted through activities which may involve the use of concrete materials, models, patterns, charts, pictures, posters, games, puzzles and experiments.

### **Objectives**

The broad objectives of teaching of Mathematics at secondary stage are to help the learners to:

- consolidate the Mathematical knowledge and skills acquired at the upper primary stage;
- acquire knowledge and understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles and symbols and underlying processes and skills;
- develop mastery of basic algebraic skills;
- develop drawing skills;
- feel the flow of reason while proving a result or solving a problem;
- apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method;
- to develop ability to think, analyze and articulate logically;
- to develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases;
- to develop necessary skills to work with modern technological devices and mathematical software's.
- to develop interest in mathematics as a problem-solving tool in various fields for its beautiful structures and patterns, etc.
- to develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics;
- to develop interest in the subject by participating in related competitions;
- to acquaint students with different aspects of Mathematics used in daily life;
- to develop an interest in students to study Mathematics as a discipline.

## COURSE STRUCTURE CLASS -IX

Units	Unit Name	Marks
I	NUMBER SYSTEMS	08
II	ALGEBRA	17
III	COORDINATE GEOMETRY	04
IV	GEOMETRY	28
V	MENSURATION	13
VI	STATISTICS & PROBABILITY	10
	Total	<b>80</b>

### UNIT I: NUMBER SYSTEMS

#### 1. REAL NUMBERS

(16 Periods)

- Review of representation of natural numbers, integers, and rational numbers on the number line. Representation of terminating / non-terminating recurring decimals on the number line through successive magnification. Rational numbers as recurring/ terminating decimals. Operations on real numbers.
- Examples of non-recurring/non-terminating decimals. Existence of non-rational numbers (irrational numbers) such as  $\sqrt{2}$ ,  $\sqrt{3}$  and their representation on the number line. Explaining that every real number is represented by a unique point on the number line and conversely, viz. every point on the number line represents a unique real number.
- Definition of nth root of a real number.
- Rationalization (with precise meaning) of real numbers of the type  $\frac{1}{a+b\sqrt{x}}$  and  $\frac{1}{\sqrt{x}+\sqrt{y}}$  (and their combinations) where x and y are natural number and a and b are integers.
- Recall of laws of exponents with integral powers. Rational exponents with positive real bases (to be done by particular cases, allowing learner to arrive at the general laws.)

### UNIT II: ALGEBRA

#### 1. POLYNOMIALS

(23) Periods

Definition of a polynomial in one variable, with examples and counter examples. Coefficients of a polynomial, terms of a polynomial and zero polynomial. Degree of a polynomial. Constant, linear, quadratic and cubic polynomials. Monomials, binomials, trinomials. Factors and multiples. Zeros of a polynomial. Motivate and State the Remainder Theorem with examples. Statement and proof of the Factor Theorem. Factorization of  $ax^2 + bx + c$ ,  $a \neq 0$  where a, b and c are real numbers, and of cubic polynomials using the Factor Theorem.

Recall of algebraic expressions and identities. Verification of identities:

$$(x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$$

$$(x \pm y)^3 = x^3 \pm y^3 \pm 3xy(x \pm y)$$

$$x^3 \pm y^3 = (x \pm y)(x^2 \mp xy + y^2)$$

$$x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$$

and their use in factorization of polynomials.

## 2. LINEAR EQUATIONS IN TWO VARIABLES

(14) Periods

Recall of linear equations in one variable. Introduction to the equation in two variables.

Focus on linear equations of the type  $ax+by+c=0$ . Explain that a linear equation in two variables has infinitely many solutions and justify their being written as ordered pairs of real numbers, plotting them and showing that they lie on a line. Graph of linear equations in two variables. Examples, problems from real life, including problems on Ratio and Proportion and with algebraic and graphical solutions being done simultaneously.

## UNIT III: COORDINATE GEOMETRY

### COORDINATE GEOMETRY

(6) Periods

The Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane, notations, plotting points in the plane.

## UNIT IV: GEOMETRY

### 1. INTRODUCTION TO EUCLID'S GEOMETRY (Not for assessment)

(6) Periods

History - Geometry in India and Euclid's geometry. Euclid's method of formalizing observed phenomenon into rigorous Mathematics with definitions, common/obvious notions, axioms/postulates and theorems. The five postulates of Euclid. Equivalent versions of the fifth postulate. Showing the relationship between axiom and theorem, for example:

(Axiom) 1. Given two distinct points, there exists one and only one line through them.

(Theorem) 2. (Prove) Two distinct lines cannot have more than one point in common.

### 2. LINES AND ANGLES

(13) Periods

1. (Motivate) If a ray stands on a line, then the sum of the two adjacent angles so formed is  $180^\circ$  and the converse.
2. (Prove) If two lines intersect, vertically opposite angles are equal.
3. (Motivate) Results on corresponding angles, alternate angles, interior angles when a transversal intersects two parallel lines.
4. (Motivate) Lines which are parallel to a given line are parallel.
5. (Prove) The sum of the angles of a triangle is  $180^\circ$ .
6. (Motivate) If a side of a triangle is produced, the exterior angle so formed is equal to the sum of the two interior opposite angles.

### 3. TRIANGLES

(20) Periods

1. (Motivate) Two triangles are congruent if any two sides and the included angle of one triangle is equal to any two sides and the included angle of the other triangle (SAS Congruence).
2. (Prove) Two triangles are congruent if any two angles and the included side of one triangle is equal to any two angles and the included side of the other triangle (ASA Congruence).

3. (Motivate) Two triangles are congruent if the three sides of one triangle are equal to three sides of the other triangle (SSS Congruence).
4. (Motivate) Two right triangles are congruent if the hypotenuse and a side of one triangle are equal (respectively) to the hypotenuse and a side of the other triangle. (RHS Congruence)
5. (Prove) The angles opposite to equal sides of a triangle are equal.
6. (Motivate) The sides opposite to equal angles of a triangle are equal.
7. (Motivate) Triangle inequalities and relation between 'angle and facing side' inequalities in triangles.

#### 4. QUADRILATERALS

(10) Periods

1. (Prove) The diagonal divides a parallelogram into two congruent triangles.
2. (Motivate) In a parallelogram opposite sides are equal, and conversely.
3. (Motivate) In a parallelogram opposite angles are equal, and conversely.
4. (Motivate) A quadrilateral is a parallelogram if a pair of its opposite sides is parallel and equal.
5. (Motivate) In a parallelogram, the diagonals bisect each other and conversely.
6. (Motivate) In a triangle, the line segment joining the mid points of any two sides is parallel to the third side and in half of it and (motivate) its converse.

#### 5. AREA

(7) Periods

Review concept of area, recall area of a rectangle.

1. (Prove) Parallelograms on the same base and between the same parallels have equal area.
2. (Motivate) Triangles on the same base (or equal bases) and between the same parallels are equal in area.

#### 6. CIRCLES

(15) Periods

Through examples, arrive at definition of circle and related concepts-radius, circumference, diameter, chord, arc, secant, sector, segment, subtended angle.

1. (Prove) Equal chords of a circle subtend equal angles at the center and (motivate) its converse.
2. (Motivate) The perpendicular from the center of a circle to a chord bisects the chord and conversely, the line drawn through the center of a circle to bisect a chord is perpendicular to the chord.
3. (Motivate) There is one and only one circle passing through three given non-collinear points.
4. (Motivate) Equal chords of a circle (or of congruent circles) are equidistant from the center (or their respective centers) and conversely.
5. (Prove) The angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle.
6. (Motivate) Angles in the same segment of a circle are equal.
7. (Motivate) If a line segment joining two points subtends equal angle at two other points lying on the same side of the line containing the segment, the four points lie on a circle.
8. (Motivate) The sum of either of the pair of the opposite angles of a cyclic quadrilateral is  $180^\circ$  and its converse.

## **7. CONSTRUCTIONS**

**(10) Periods**

1. Construction of bisectors of line segments and angles of measure  $60^\circ$ ,  $90^\circ$ ,  $45^\circ$  etc., equilateral triangles.
2. Construction of a triangle given its base, sum/difference of the other two sides and one base angle.
3. Construction of a triangle of given perimeter and base angles.

## **UNIT V: MENSURATION**

### **1. AREAS**

**(4) Periods**

Area of a triangle using Heron's formula (without proof) and its application in finding the area of a quadrilateral.

### **2. SURFACE AREAS AND VOLUMES**

**(12) Periods**

Surface areas and volumes of cubes, cuboids, spheres (including hemispheres) and right circular cylinders/cones.

## **UNIT VI: STATISTICS & PROBABILITY**

### **1. STATISTICS**

**(13) Periods**

Introduction to Statistics: Collection of data, presentation of data – tabular form, ungrouped / grouped, bar graphs, histograms (with varying base lengths), frequency polygons. Mean, median and mode of ungrouped data.

### **2. PROBABILITY**

**(9) Periods**

History, Repeated experiments and observed frequency approach to probability. Focus is on empirical probability. (A large amount of time to be devoted to group and to individual activities to motivate the concept; the experiments to be drawn from real - life situations, and from examples used in the chapter on statistics).

**MATHEMATICS**  
**QUESTION PAPER DESIGN**  
**CLASS – IX (2021-22)**

Time: 3 Hrs.

Max. Marks: 80

S. No.	Typology of Questions	Total Marks	% Weightage (approx.)
1	<p><b>Remembering:</b> Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.</p> <p><b>Understanding:</b> Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas</p>	43	54
2	<p><b>Applying:</b> Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.</p>	19	24
3	<p><b>Analysing :</b> Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations</p> <p><b>Evaluating:</b> Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.</p> <p><b>Creating:</b> Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions</p>	18	22
	<b>Total</b>	80	100

<b>INTERNAL ASSESSMENT</b>	<b>20 MARKS</b>
Pen Paper Test and Multiple Assessment (5+5)	10 Marks
Portfolio	05 Marks
Lab Practical (Lab activities to be done from the prescribed books)	05 Marks

## COURSE STRUCTURE CLASS -X

Units	Unit Name	Marks
I	NUMBER SYSTEMS	06
II	ALGEBRA	20
III	COORDINATE GEOMETRY	06
IV	GEOMETRY	15
V	TRIGONOMETRY	12
VI	MENSURATION	10
VII	STATISTICS & PROBABILITY	11
	Total	<b>80</b>

### UNIT I: NUMBER SYSTEMS

#### 1. REAL NUMBER

(15) Periods

Euclid's division lemma, Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of irrationality of  $\sqrt{2}, \sqrt{3}, \sqrt{5}$  Decimal representation of rational numbers in terms of terminating/non-terminating recurring decimals.

### UNIT II: ALGEBRA

#### 1. POLYNOMIALS

(7) Periods

Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials. Statement and simple problems on division algorithm for polynomials with real coefficients.

#### 2. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

(15) Periods

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 and by cross multiplication method. Simple situational problems. Simple problems on equations reducible to linear equations.

#### 3. QUADRATIC EQUATIONS

(15) Periods

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 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

(8) Periods

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

#### UNIT III: COORDINATE GEOMETRY

##### 1. LINES (In two-dimensions)

(14) Periods

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

#### UNIT IV: GEOMETRY

##### 1. TRIANGLES

(15) Periods

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.
6. (Motivate) If a perpendicular is drawn from the vertex of the right angle of a right triangle to the hypotenuse, the triangles on each side of the perpendicular are similar to the whole triangle and to each other.
7. (Prove) The ratio of the areas of two similar triangles is equal to the ratio of the squares of their corresponding sides.
8. (Prove) In a right triangle, the square on the hypotenuse is equal to the sum of the squares on the other two sides.
9. (Prove) In a triangle, if the square on one side is equal to sum of the squares on the other two sides, the angles opposite to the first side is a right angle.

##### 2. CIRCLES

(8) Periods

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.
3. (Motivate) Alternative Segment theorem: If a chord is drawn through the point of contact of a tangent to a circle, then the angles made by the chord with the tangent are respectively equal to the angles subtended by the chord in the alternate segments.

### **3. CONSTRUCTIONS (8) Periods**

1. Division of a line segment in a given ratio (internally).
2. Tangents to a circle from a point outside it.
3. Construction of a triangle similar to a given triangle.

## **UNIT V: TRIGONOMETRY**

### **1. INTRODUCTION TO TRIGONOMETRY (10) Periods**

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

### **2. TRIGONOMETRIC IDENTITIES (15) Periods**

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

### **3. HEIGHTS AND DISTANCES: Angle of elevation, Angle of Depression. (8) Periods**

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

## **UNIT VI: MENSURATION**

### **1. AREAS RELATED TO CIRCLES (12) Periods**

Motivate the area of a circle; 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  $60^\circ$ ,  $90^\circ$  and  $120^\circ$  only. Plane figures involving triangles, simple quadrilaterals and circle should be taken.)

### **2. SURFACE AREAS AND VOLUMES (12) Periods**

1. 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.
2. Problems involving converting one type of metallic solid into another and other mixed problems. (Problems with combination of not more than two different solids be taken).

## **UNIT VII: STATISTICS AND PROBABILITY**

### **1. STATISTICS (18) Periods**

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

### **2. PROBABILITY (10) Periods**

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

**MATHEMATICS-Standard  
QUESTION PAPER DESIGN  
CLASS – X (2021-22)**

**Time: 3 Hours**

**Max. Marks: 80**

S. No.	Typology of Questions	Total Marks	% Weightage (approx.)
1	<p><b>Remembering:</b> Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.</p> <p><b>Understanding:</b> Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas</p>	43	54
2	<p><b>Applying:</b> Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.</p>	19	24
3	<p><b>Analysing :</b> Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations</p> <p><b>Evaluating:</b> Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.</p> <p><b>Creating:</b> Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions</p>	18	22
	<b>Total</b>	80	100

<b>INTERNAL ASSESSMENT</b>	<b>20 MARKS</b>
Pen Paper Test and Multiple Assessment (5+5)	10 Marks
Portfolio	05 Marks
Lab Practical (Lab activities to be done from the prescribed books)	05 Marks

**MATHEMATICS-Basic  
QUESTION PAPER DESIGN  
CLASS – X (2021-22)**

**Time: 3 Hours**

**Max. Marks: 80**

S. No.	Typology of Questions	Total Marks	% Weightage (approx.)
1	<p><b>Remembering:</b> Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.</p> <p><b>Understanding:</b> Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas</p>	60	75
2	<p><b>Applying:</b> Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.</p>	12	15
3	<p><b>Analysing :</b> Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations</p> <p><b>Evaluating:</b> Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.</p> <p><b>Creating:</b> Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions</p>	8	10
	<b>Total</b>	80	100

<b>INTERNAL ASSESSMENT</b>	<b>20 MARKS</b>
Pen Paper Test and Multiple Assessment (5+5)	10 Marks
Portfolio	05 Marks
Lab Practical (Lab activities to be done from the prescribed books)	05 Marks

**PRESCRIBED BOOKS:**

1. Mathematics - Textbook for class IX - NCERT Publication
2. Mathematics - Textbook for class X - NCERT Publication
3. Guidelines for Mathematics Laboratory in Schools, class IX - CBSE Publication
4. Guidelines for Mathematics Laboratory in Schools, class X - CBSE Publication
5. Laboratory Manual - Mathematics, secondary stage - NCERT Publication
6. Mathematics exemplar problems for class IX, NCERT publication.
7. Mathematics exemplar problems for class X, NCERT publication.

**SOCIAL SCIENCE**  
**CLASS IX-X (2021-22)**  
**(CODE NO. 087)**

**Rationale**

Social Science is a compulsory subject up to secondary stage of school education. It is an integral component of general education because it helps the learners to understand the environment in its totality and developing a broader perspective and an empirical, reasonable and humane outlook. This is of crucial importance because it helps them grow into well-informed and responsible citizens with necessary attributes and skills for being able to participate and contribute effectively in the process of development and nation-building.

The Social Science curriculum draws its content mainly from History, Geography, Political Science and Economics. Some elements of Sociology and Commerce are also included. Together they provide a comprehensive view of society over space and time, and in relation to each other. Each subject's distinct methods of enquiry help the learners to understand society from different angles and form a holistic view.

**Objectives**

The main objectives of this syllabus are to:

- develop an understanding of the processes of change and development-both in terms of time and space, through which human societies have evolved
- make learners realise that the process of change is continuous and any event or phenomenon or issue cannot be viewed in isolation but in a wider context of time and space
- develop an understanding of contemporary India with its historical perspective, of the basic framework of the goals and policies of national development in independent India, and of the process of change with appropriate connections to world development
- deepen knowledge about and understanding of India's freedom struggle and of the values and ideals that it represented, and to develop an appreciation of the contributions made by people of all sections and regions of the country
- help learners understand and cherish the values enshrined in the Indian Constitution and to prepare them for their roles and responsibilities as effective citizens of a democratic society

- deepen the knowledge and understanding of India’s environment in its totality, their interactive processes and effects on the future quality of people’s lives
- facilitate the learners to understand and appreciate the diversity in the land and people of the country with its underlying unity
- develop an appreciation of the richness and variety of India’s heritage-both natural and cultural and the need for its preservation
- promote an understanding of the issues and challenges of contemporary India-environmental, economic and social, as part of the development process
- help pupils acquire knowledge, skills and understanding to face the challenges of contemporary society as individuals and groups and learn the art of living a confident and stress-free life as well as participating effectively in the community
- develop scientific temperament by promoting the spirit of enquiry and following a rational and objective approach in analysing and evaluating data and information as well as views and interpretations
- develop academic and social skills such as critical thinking, communicating effectively both in visual and verbal forms - cooperating with others, taking initiatives and providing leadership in solving others’ problems
- develop qualities clustered around the personal, social, moral, national and spiritual values that make a person humane and socially effective.

## COURSE STRUCTURE CLASS IX (2021-22)

### Theory Paper

Time: 3 Hrs.		Max. Marks: 80	
No.	Units	No. of Periods	Marks
I	India and the Contemporary World – I	60	20
II	Contemporary India – I	55	20
III	Democratic Politics - I	50	20
IV	Economics	50	20
<b>Total</b>		<b>215</b>	<b>80</b>

### COURSE CONTENT

Unit 1: India and the Contemporary World – I		60 Periods
Themes	Learning Objectives	
<b>Section 1: Events and Processes: (All the three themes are compulsory)</b>	In each of the themes in this unit students would get familiarized with distinct ideologies, extracts of	

<p><b>I. The French Revolution</b></p> <ul style="list-style-type: none"> <li>• French Society During the Late Eighteenth Century</li> <li>• The Outbreak of the Revolution</li> <li>• France Abolishes Monarchy and Becomes a Republic</li> <li>• Did Women have a Revolution?</li> <li>• The Abolition of Slavery</li> <li>• The Revolution and Everyday Life</li> </ul> <p><b>II. Socialism in Europe and the Russian Revolution</b></p> <ul style="list-style-type: none"> <li>• The Age of Social Change</li> <li>• The Russian Revolution</li> <li>• The February Revolution in Petrograd</li> <li>• What Changed after October?</li> <li>• The Global Influence of the Russian Revolution and the USSR</li> </ul> <p><b>III. Nazism and the Rise of Hitler</b></p> <ul style="list-style-type: none"> <li>• Birth of the Weimar Republic</li> <li>• Hitler’s Rise to Power</li> <li>• The Nazi Worldview</li> <li>• Youth in Nazi Germany</li> <li>• Ordinary People and the Crimes Against Humanity</li> </ul> <p><b>Section 2: Livelihoods, Economies and Societies</b>  <b>Any one theme of the following</b></p> <p><b>IV. Forest Society and Colonialism</b></p> <ul style="list-style-type: none"> <li>• Why Deforestation?</li> <li>• The Rise of Commercial Forestry</li> </ul>	<p>speeches, political declarations, as well as the politics of caricatures, posters and engravings. Students would learn how to interpret these kinds of historical evidences.</p> <ul style="list-style-type: none"> <li>• Familiarize with the names of people involved, the different types of ideas that inspired the revolution, the wider forces that shaped it.</li> <li>• Know the use of written, oral and visual material to recover the history of revolutions.</li> <li>• Explore the history of socialism through the study of Russian Revolution.</li> <li>• Familiarize with the different types of ideas that inspired the revolution.</li> <li>• Discuss the critical significance of Nazism in shaping the politics of modern world.</li> <li>• Get familiarized with the speeches and writings of Nazi Leaders.</li> <li>• Discuss the social and cultural world of forest communities</li> </ul>
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<ul style="list-style-type: none"> <li>• Rebellion in the Forest</li> <li>• Forest Transformations in Java</li> </ul> <p><b>V. Pastoralists in the Modern World</b></p> <ul style="list-style-type: none"> <li>• Pastoral Nomads and their Movements</li> <li>• Colonial Rule and Pastoral Life</li> <li>• Pastoralism in Africa</li> </ul>	<p>through the study of specific revolts.</p> <ul style="list-style-type: none"> <li>• Understand how oral traditions can be used to explore tribal revolts.</li> <li>• Highlight varying patterns of developments within pastoral societies in different places.</li> <li>• Analyse the impact of colonialism on forest societies, and the implication of scientific forestry.</li> <li>• Show the different processes through which agrarian transformation may occur in the modern world.</li> <li>• Analyse the impact of modern states, marking of boundaries, processes of sedentarization, contraction of pastures, and expansion of markets on pastoralism in the modern world.</li> </ul>
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<b>Unit 2: Contemporary India – I</b>		<b>55 Periods</b>
<b>Themes</b>	<b>Learning Objectives</b>	
<p><b>1. India</b></p> <ul style="list-style-type: none"> <li>• Size and Location</li> <li>• India and the World</li> <li>• India's Neighbours</li> </ul> <p><b>2. Physical Features of India</b></p> <ul style="list-style-type: none"> <li>• Major Physiographic Divisions</li> </ul> <p><b>3. Drainage</b></p> <ul style="list-style-type: none"> <li>• Major rivers and tributaries</li> <li>• Lakes</li> <li>• Role of rivers in the economy</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the location of India in the Indian subcontinent.</li> <li>• Understand the major landform features and the underlying geological structure; their association with various rocks and minerals as well as nature of soil types.</li> <li>• Identify the river systems of the country and explain the role of rivers in the human society.</li> </ul>	

<ul style="list-style-type: none"> <li>• Pollution of rivers</li> </ul> <p><b>4. Climate</b></p> <ul style="list-style-type: none"> <li>• Concept</li> <li>• Climatic Controls</li> <li>• Factors influencing India's climate</li> <li>• The Indian Monsoon</li> <li>• Distribution of Rainfall</li> <li>• Monsoon as a unifying bond</li> </ul> <p><b>5. Natural Vegetation and Wild Life</b></p> <ul style="list-style-type: none"> <li>• Factors affecting Vegetation</li> <li>• Vegetation types</li> <li>• Wild Life</li> <li>• Conservation</li> </ul> <p><b>6. Population</b></p> <ul style="list-style-type: none"> <li>• Size</li> <li>• Distribution</li> <li>• Population Growth and Process of Population Change</li> </ul>	<ul style="list-style-type: none"> <li>• Identify various factors influencing the climate and explain the climatic variation of our country and its impact on the life of people.</li> <li>• Explain the importance and unifying role of monsoons.</li> <li>• Explain the nature of diverse flora and fauna as well as their distribution.</li> <li>• Develop concern about the need to protect the biodiversity of our country.</li> <li>• Analyse the uneven nature of population distribution and show concern about the large size of our population.</li> <li>• Identify the different occupations of people and explain various factors of population change.</li> <li>• Explain various dimensions of National Population Policy and understand the needs of adolescents as underserved group.</li> </ul>
<p><b>Unit 3: Democratic Politics – I</b> <span style="float: right;"><b>50 Periods</b></span></p>	
<p style="text-align: center;"><b>Themes</b></p>	<p style="text-align: center;"><b>Learning Objectives</b></p>
<p><b>1. What is Democracy? Why Democracy?</b></p> <ul style="list-style-type: none"> <li>• What is Democracy?</li> <li>• Features of Democracy</li> <li>• Why Democracy?</li> <li>• Broader Meaning of Democracy</li> </ul>	<ul style="list-style-type: none"> <li>• Develop conceptual skills of defining democracy.</li> <li>• Understand how different historical processes and forces have promoted democracy.</li> </ul>

<p><b>2. Constitutional Design</b></p> <ul style="list-style-type: none"> <li>• Democratic Constitution in South Africa</li> <li>• Why do we need a Constitution?</li> <li>• Making of the Indian Constitution</li> <li>• Guiding Values of the Indian Constitution</li> </ul> <p><b>3. Electoral Politics</b></p> <ul style="list-style-type: none"> <li>• Why Elections?</li> <li>• What is our System of Elections?</li> <li>• What makes elections in India democratic?</li> </ul> <p><b>4. Working of Institutions</b></p> <ul style="list-style-type: none"> <li>• How is the major policy decision taken?</li> <li>• Parliament</li> <li>• Political Executive</li> <li>• Judiciary</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a sophisticated defense of democracy against common prejudices.</li> <li>• Develop a historical sense of the choice and nature of democracy in India.</li> <li>• Understand the process of Constitution making.</li> <li>• Develop respect for the Constitution and appreciation for Constitutional values.</li> <li>• Recognize Constitution as a dynamic and living document.</li> <li>• Understand representative democracy via competitive party politics.</li> <li>• Familiarize with Indian electoral system.</li> <li>• Reason out for the adoption of present Indian Electoral System.</li> <li>• Develop an appreciation of citizen's increased participation in electoral politics.</li> <li>• Recognize the significance of the Election Commission.</li> <li>• Get an overview of central governmental structures.</li> <li>• Identify the role of Parliament and its procedures.</li> <li>• Distinguish between political and permanent executive authorities and functions.</li> <li>• Understand the parliamentary system of executive's accountability to the legislature.</li> </ul>
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<p><b>5. Democratic Rights</b></p> <ul style="list-style-type: none"> <li>• Life without rights</li> <li>• Rights in a Democracy</li> <li>• Rights in the Indian Constitution</li> <li>• Expanding the scope of rights</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the working of Indian Judiciary.</li> <li>• Recognize the need for rights in one's life.</li> <li>• Understand the availability /access of rights in a democratic system/government.</li> <li>• Identify and be able to comprehend the Fundamental Rights given by the Indian Constitution to its citizens.</li> <li>• Create awareness regarding the process of safeguarding rights.</li> </ul>
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<b>Unit 4: Economics</b>	<b>50 Periods</b>
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Themes	Objectives
<p><b>1. The Story of Village Palampur</b></p> <ul style="list-style-type: none"> <li>• Overview</li> <li>• Organization of production</li> <li>• Farming in Palampur</li> <li>• Non-farm activities of Palampur</li> </ul> <p><b>2. People as Resource</b></p> <ul style="list-style-type: none"> <li>• Overview</li> <li>• Economic activities by men and women</li> <li>• Quality of Population</li> <li>• Unemployment</li> </ul> <p><b>3. Poverty as a Challenge</b></p> <ul style="list-style-type: none"> <li>• Two typical cases of poverty</li> <li>• Poverty as seen by Social Scientists</li> <li>• Poverty Estimates</li> <li>• Vulnerable Groups</li> <li>• Interstate disparities</li> <li>• Global Poverty Scenario</li> <li>• Causes of Poverty</li> <li>• Anti-poverty measures</li> <li>• The Challenges Ahead</li> </ul>	<ul style="list-style-type: none"> <li>• Familiarize with basic economic concepts through an imaginary story of a village.</li> <li>• Understand the demographic concepts.</li> <li>• Understand how population can be an asset or a liability for a nation.</li> <li>• Understand poverty as a challenge.</li> <li>• Identify vulnerable group and interstate disparities</li> <li>• Appreciate the initiatives of the government to alleviate poverty.</li> </ul>

<p><b>4. Food Security in India</b></p> <ul style="list-style-type: none"> <li>• Overview</li> <li>• What is Food Security?</li> <li>• Why Food Security?</li> <li>• Who are food insecure?</li> <li>• Food Security in India</li> <li>• What is Buffer Stock?</li> <li>• What is the Public Distribution System?</li> <li>• Current Status of Public Distribution System</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the concept of food security.</li> <li>• Appreciate and analyse the role of government in ensuring food supply.</li> </ul>
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**PROJECT WORK  
CLASS IX (2021-22)**

<b>05 Periods</b>	<b>05 Marks</b>
<p>1. Every student has to compulsorily undertake <b>one project on Disaster Management.</b></p> <p>2. <b>Objectives:</b> The main objectives of giving project work on Disaster Management to the students are to:</p> <ol style="list-style-type: none"> <li>a. create awareness in them about different disasters, their consequences and management</li> <li>b. prepare them in advance to face such situations</li> <li>c. ensure their participation in disaster mitigation plans</li> <li>d. enable them to create awareness and preparedness among the community.</li> </ol> <p>3. The project work should also help in enhancing the Life Skills of the students.</p> <p>4. If possible, <b>different forms of art</b> may be integrated in the project work.</p> <p>5. In order to realize the expected objectives completely, it would be required of the Principals / teachers to muster support from various local authorities and organizations like the Disaster Management Authorities, Relief, Rehabilitation and the Disaster Management Departments of the States, Office of the District Magistrate/ Deputy Commissioners, Fire Service, Police, Civil Defense etc. in the area where the schools are located.</p> <p>6. The <b>distribution of marks</b> over different aspects relating to Project Work is as follows:</p>	

S. No.	Aspects	Marks
a	Content accuracy, originality and analysis	2
b	Presentation and creativity	2
c	Viva Voce	1

7. The project carried out by the students should subsequently be shared among themselves through interactive sessions such as exhibitions, panel discussions, etc.

8. All documents pertaining to assessment under this activity should be meticulously maintained by the schools.

9. A Summary Report should be prepared highlighting:

- a. objectives realized through individual work and group interactions;
- b. calendar of activities;
- c. innovative ideas generated in the process ;
- d. list of questions asked in viva voce.

10. It is to be noted here by all the teachers and students that the projects and models prepared should be made from eco-friendly products without incurring too much expenditure.

11. The Project Report should be handwritten by the students themselves.

12. The record of the project work (internal assessment) should be kept for a period of three months for verification, if any.

### **PRESCRIBED BOOKS:**

1. India and the Contemporary World - I (History) - Published by NCERT
2. Contemporary India - I (Geography) - Published by NCERT
3. Democratic Politics - I Published by NCERT
4. Economics - Published by NCERT
5. Together, Towards a Safer India - Part II, a textbook on Disaster Management for Class IX - Published by CBSE
6. Learning outcomes at Secondary stage Published by NCERT

**Note: Please procure latest reprinted edition of prescribed NCERT textbooks.**

**SOCIAL SCIENCE (CODE NO. 087)**  
**QUESTION PAPER DESIGN**  
**CLASS IX (2021-22)**

<b>Time: 3 Hours</b>		<b>Maximum Marks: 80</b>	
<b>Sr. No.</b>	<b>Competencies</b>	<b>Total Marks</b>	<b>% Weightage</b>
1	<b>Remembering and Understanding:</b> Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers; Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas	28	35%
2	<b>Applying:</b> Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	14	17.5%
3	<b>Formulating, Analysing, Evaluating and Creating:</b> Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.	32	40%
4	<b>Map Skill</b>	6*	7.5%
		<b>80</b>	<b>100%</b>

**Note: Teachers may refer 'Learning Outcomes' published by NCERT for developing Lesson Plans, Assessment Framework and Questions.**

\* 02 Items from History Map List and 04 from Geography Map List

**Internal Assessment: 20 Marks**

### INTERNAL ASSESSMENT

	Marks	Description				
Periodic Assessment	10 Marks	<table border="1" style="width: 100%;"> <tr> <td style="width: 70%;">Pen Paper Test</td> <td style="text-align: center;"><b>5 marks</b></td> </tr> <tr> <td>Assessment using multiple strategies For example, Quiz, Debate, Role Play, Viva, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery Walks, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment, etc.</td> <td style="text-align: center;"><b>5 marks</b></td> </tr> </table>	Pen Paper Test	<b>5 marks</b>	Assessment using multiple strategies For example, Quiz, Debate, Role Play, Viva, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery Walks, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment, etc.	<b>5 marks</b>
Pen Paper Test	<b>5 marks</b>					
Assessment using multiple strategies For example, Quiz, Debate, Role Play, Viva, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery Walks, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment, etc.	<b>5 marks</b>					
Portfolio	5 Marks	<ul style="list-style-type: none"> <li>• Classwork and Assignments</li> <li>• Any exemplary work done by the student</li> <li>• Reflections, Narrations, Journals, etc.</li> <li>• Achievements of the student in the subject throughout the year</li> <li>• Participation of the student in different activities like Heritage India Quiz</li> </ul>				
Subject Enrichment Activity	5 Marks	<ul style="list-style-type: none"> <li>• Project Work</li> </ul>				

### LIST OF MAP ITEMS CLASS IX (2021-22)

#### SUBJECT - HISTORY

##### Chapter-1: The French Revolution

Outline Political Map of France (For locating and labeling / Identification)

- Bordeaux
- Nantes
- Paris
- Marseilles

##### Chapter-2: Socialism in Europe and the Russian Revolution

Outline Political Map of World (For locating and labeling / Identification)

- Major countries of First World War  
(Central Powers and Allied Powers)  
**Central Powers** - Germany, Austria-Hungary, Turkey (Ottoman Empire)  
**Allied Powers** - France, England, Russia, U.S.A.

### Chapter-3: Nazism and Rise of Hitler

Outline Political Map of World (For locating and labeling / Identification)

- Major countries of Second World War  
**Axis Powers** – Germany, Italy, Japan  
**Allied Powers** – UK, France, Former USSR, USA
- Territories under German expansion (Nazi Power)  
Austria, Poland, Czechoslovakia (only Slovakia shown in the map), Denmark, Lithuania, France, Belgium

## SUBJECT – GEOGRAPHY (Outline Political Map of India)

### Chapter -1: India-Size and Location

- India-States with Capitals, Tropic of Cancer, Standard Meridian (Location and Labelling)

### Chapter -2: Physical Features of India

- Mountain Ranges: The Karakoram, The Zasker, The Shivalik, The Aravali, The Vindhya, The Satpura, Western & Eastern Ghats
- Mountain Peaks – K2, Kanchan Junga, Anai Mudi
- Plateau - Deccan Plateau, Chotta Nagpur Plateau, Malwa Plateau
- Coastal Plains - Konkan, Malabar, Coromandal & Northern Circar (Location and Labelling)

### Chapter -3: Drainage

- Rivers: (Identification only)
  - *The Himalayan River Systems*-The Indus, The Ganges, and The Satluj
  - *The Peninsular rivers*-The Narmada, The Tapi, The Kaveri, The Krishna, The Godavari, The Mahanadi
- Lakes: Wular, Pulicat, Sambhar, Chilika

### Chapter - 4: Climate

- Areas receiving rainfall less than 20 cm and over 400 cm (Identification only)

## **Chapter - 5: Natural Vegetation and Wild Life**

- Vegetation Type: Tropical Evergreen Forest, Tropical Deciduous Forest, Thorn Forest, Montane Forests and Mangrove- For identification only
- National Parks: Corbett, Kaziranga, Ranthambor, Shivpuri, Kanha, Simlipal & Manas
- Bird Sanctuaries: Bharatpur and Ranganthitto
- Wild Life Sanctuaries: Sariska, Mudumalai, Rajaji, Dachigam (Location and Labelling)

## **Chapter - 6: Population** (Location and Labelling)

- The state having highest and lowest density of population
- The state having highest and lowest sex ratio
- Largest and smallest state according to area

**COURSE STRUCTURE  
CLASS X (2021-22)**

**Theory Paper**

Time: 3 Hrs.		Max. Marks: 80	
No.	Units	No. of Periods	Marks
I	India and the Contemporary World – II	60	20
II	Contemporary India – II	55	20
III	Democratic Politics - II	50	20
IV	Understanding Economic Development	50	20
<b>Total</b>		<b>215</b>	<b>80</b>

**COURSE CONTENT**

Unit 1: India and the Contemporary World – II		60 Periods
Themes	Learning Objectives	
<b>Section 1: Events and Processes</b>		
<b>1. The Rise of Nationalism in Europe</b> <ul style="list-style-type: none"> <li>• The French Revolution and the Idea of the Nation</li> <li>• The Making of Nationalism in Europe</li> <li>• The Age of Revolutions: 1830-1848</li> <li>• The Making of Germany and Italy</li> <li>• Visualizing the Nation</li> <li>• Nationalism and Imperialism</li> </ul>	<ul style="list-style-type: none"> <li>• Enable the learners to identify and comprehend the forms in which nationalism developed along with the formation of nation states in Europe in the post-1830 period.</li> <li>• Establish the relationship and bring out the difference between European nationalism and anti-colonial nationalisms.</li> <li>• Understand the way the idea of nationalism emerged and led to the formation of nation states in Europe and elsewhere.</li> </ul>	
<b>2. Nationalism in India</b> <ul style="list-style-type: none"> <li>• The First World War, Khilafat and Non-Cooperation</li> <li>• Differing Strands within the Movement</li> <li>• Towards Civil Disobedience</li> <li>• The Sense of Collective Belonging</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize the characteristics of Indian nationalism through a case study of Non-Cooperation and Civil Disobedience Movement.</li> <li>• Analyze the nature of the diverse social movements of the time.</li> <li>• Familiarize with the writings and ideals of different political groups and individuals.</li> </ul>	

<p><b>Section 2: Livelihoods, Economies and Societies:</b> Any <b>one</b> theme of the following:</p> <p><b>3. The Making of a Global World</b></p> <ul style="list-style-type: none"> <li>• The Pre-modern world</li> <li>• The Nineteenth Century (1815-1914)</li> <li>• The Inter war Economy</li> <li>• Rebuilding a World Economy: The Post-War Era</li> </ul> <p><b>4. The Age of Industrialization</b></p> <ul style="list-style-type: none"> <li>• Before the Industrial Revolution</li> <li>• Hand Labour and Steam Power</li> <li>• Industrialization in the colonies</li> <li>• Factories Come Up</li> <li>• The Peculiarities of Industrial Growth</li> <li>• Market for Goods</li> </ul> <p><b>Section 3: Everyday Life, Culture and Politics</b></p> <p><b>5. Print Culture and the Modern World</b></p> <ul style="list-style-type: none"> <li>• The First Printed Books</li> <li>• Print Comes to Europe</li> <li>• The Print Revolution and its Impact</li> <li>• The Reading Mania</li> <li>• The Nineteenth Century</li> <li>• India and the World of Print</li> <li>• Religious Reform and Public Debates</li> <li>• New Forms of Publication</li> <li>• Print and Censorship</li> </ul>	<ul style="list-style-type: none"> <li>• Appreciate the ideas promoting Pan Indian belongingness.</li> <li>• Show that globalization has a long history and point to the shifts within the process.</li> <li>• Analyze the implication of globalization for local economies.</li> <li>• Discuss how globalization is experienced differently by different social groups.</li> <li>• Familiarize with the Pro- to-Industrial phase and Early – factory system.</li> <li>• Familiarize with the process of industrialization and its impact on labour class.</li> <li>• Enable them to understand industrialization in the colonies with reference to Textile industries.</li> <li>• Identify the link between print culture and the circulation of ideas.</li> <li>• Familiarize with pictures, cartoons, extracts from propaganda literature and newspaper debates on important events and issues in the past.</li> <li>• Understand that forms of writing have a specific history, and that they reflect historical changes within society and shape the forces of change.</li> </ul>
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<b>Unit 2: Contemporary India – II</b>		<b>55 Periods</b>
<b>Themes</b>		<b>Learning Objectives</b>
<p><b>1. Resources and Development</b></p> <ul style="list-style-type: none"> <li>• Types of Resources</li> <li>• Development of Resources</li> <li>• Resource Planning in India</li> <li>• Land Resources</li> <li>• Land Utilization</li> <li>• Land Use Pattern in India</li> <li>• Land Degradation and Conservation Measures</li> <li>• Soil as a Resource</li> <li>• Classification of Soils</li> <li>• Soil Erosion and Soil Conservation</li> </ul>		<ul style="list-style-type: none"> <li>• Understand the value of resources and the need for their judicious utilization and conservation.</li> </ul>
<p><b>2. Forest and Wildlife</b></p> <ul style="list-style-type: none"> <li>• Biodiversity or Biological Diversity</li> <li>• Flora and Fauna in India</li> <li>• Vanishing Forests</li> <li>• Asiatic Cheetah: Where did they go?</li> <li>• The Himalayan Yew in trouble</li> <li>• Conservation of forest and wildlife in India</li> <li>• Project Tiger</li> <li>• Types and distribution of forests and wildlife resources</li> <li>• Community and Conservation</li> </ul> <p><b>Note: The chapter 'Forest and Wildlife' to be assessed in the Periodic Tests only and will not be evaluated in Board Examination.</b></p>		
<p><b>3. Water Resources</b></p> <ul style="list-style-type: none"> <li>• Water Scarcity and The Need for Water Conservation and Management</li> <li>• Multi-Purpose River Projects and Integrated Water Resources Management</li> <li>• Rainwater Harvesting</li> </ul>		<ul style="list-style-type: none"> <li>• Comprehend the importance of water as a resource as well as develop awareness towards its judicious use and conservation.</li> </ul>

**Note: The theoretical aspect of chapter 'Water Resources' to be assessed in the Periodic Tests only and will not be evaluated in Board Examination. However, the map items of this chapter as given in the Map List will be evaluated in Board Examination.**

#### **4. Agriculture**

- Types of farming
- Cropping Pattern
- Major Crops
- Technological and Institutional Reforms
- Impact of Globalization on Agriculture

#### **5. Minerals and Energy Resources**

- What is a mineral?
- Mode of occurrence of Minerals
- Ferrous and Non-Ferrous Minerals
- Non-Metallic Minerals
- Rock Minerals
- Conservation of Minerals
- Energy Resources
  - Conventional and Non-Conventional
  - Conservation of Energy Resources

#### **6. Manufacturing Industries**

- Importance of manufacturing
- Contribution of Industry to National Economy
- Industrial Location
- Classification of Industries

- Explain the importance of agriculture in national economy.
- Identify various types of farming and discuss the various farming methods; describe the spatial distribution of major crops as well as understand the relationship between rainfall regimes and cropping pattern.
- Explain various government policies for institutional as well as technological reforms since independence.
- Identify different types of minerals and energy resources and places of their availability
- Feel the need for their judicious utilization
- Bring out the importance of industries in the national economy as well as understand the regional disparities which resulted due to concentration of industries in some areas.

<ul style="list-style-type: none"> <li>• Spatial distribution</li> <li>• Industrial pollution and environmental degradation</li> <li>• Control of Environmental Degradation</li> </ul> <p><b>7. Life Lines of National Economy</b></p> <ul style="list-style-type: none"> <li>• Transport – Roadways, Railways, Pipelines, Waterways, Airways</li> <li>• Communication</li> <li>• International Trade</li> <li>• Tourism as a Trade</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss the need for a planned industrial development and debate over the role of government towards sustainable development.</li> <li>• Explain the importance of transport and communication in the ever-shrinking world.</li> <li>• Understand the role of trade and tourism in the economic development of a country.</li> </ul>
<p><b>Unit 3: Democratic Politics – II</b></p>	<p><b>50 Periods</b></p>
<p><b>Themes</b></p>	<p><b>Learning Objectives</b></p>
<p>1. <b>Power Sharing</b></p> <ul style="list-style-type: none"> <li>• Case Studies of Belgium and Sri Lanka</li> <li>• Why power sharing is desirable?</li> <li>• Forms of Power Sharing</li> </ul> <p>2. <b>Federalism</b></p> <ul style="list-style-type: none"> <li>• What is Federalism?</li> <li>• What make India a Federal Country?</li> <li>• How is Federalism practiced?</li> <li>• Decentralization in India</li> </ul> <p>3. <b>Democracy and Diversity</b></p> <ul style="list-style-type: none"> <li>• Case Studies of Mexico</li> <li>• Differences, similarities and divisions</li> <li>• Politics of social divisions</li> </ul> <p><b>Note: The chapter ‘Democracy and Diversity’ to be assessed in the Periodic Tests only and will not be evaluated in Board Examination.</b></p> <p>4. <b>Gender, Religion and Caste</b></p> <ul style="list-style-type: none"> <li>• Gender and Politics</li> <li>• Religion, Communalism and Politics</li> </ul>	<ul style="list-style-type: none"> <li>• Familiarize with the centrality of power sharing in a democracy.</li> <li>• Understand the working of spatial and social power sharing mechanisms.</li> <li>• Analyse federal provisions and institutions.</li> <li>• Explain decentralization in rural and urban areas.</li> <li>• Analyse the relationship between social cleavages and political competition with reference to Indian situation.</li> <li>• Identify and analyse the challenges posed by</li> </ul>

<ul style="list-style-type: none"> <li>• Caste and Politics</li> </ul> <p><b>5. Popular Struggles and Movements</b></p> <ul style="list-style-type: none"> <li>• Popular Struggles in Nepal and Bolivia</li> <li>• Mobilization and Organization</li> <li>• Pressure Groups and Movements</li> </ul> <p><b>Note: The chapter ‘Popular Struggles and Movements’ to be assessed in the Periodic Tests only and will not be evaluated in Board Examination.</b></p> <p><b>6. Political Parties</b></p> <ul style="list-style-type: none"> <li>• Why do we need Political Parties?</li> <li>• How many Parties should we have?</li> <li>• National Political Parties</li> <li>• State Parties</li> <li>• Challenges to Political Parties</li> <li>• How can Parties be reformed?</li> </ul> <p><b>7. Outcomes of Democracy</b></p> <ul style="list-style-type: none"> <li>• How do we assess democracy’s outcomes?</li> <li>• Accountable, responsive and legitimate government</li> <li>• Economic growth and development</li> <li>• Reduction of inequality and poverty</li> <li>• Accommodation of social diversity</li> <li>• Dignity and freedom of the citizens</li> </ul> <p><b>8. Challenges to Democracy</b></p> <ul style="list-style-type: none"> <li>• Thinking about challenges</li> <li>• Thinking about Political Reforms</li> </ul>	<p>communalism to Indian democracy.</p> <ul style="list-style-type: none"> <li>• Recognise the enabling and disabling effects of caste and ethnicity in politics.</li> <li>• Develop a gender perspective on politics.</li> </ul> <ul style="list-style-type: none"> <li>• Understand the vital role of people’s struggle in the expansion of democracy.</li> </ul> <ul style="list-style-type: none"> <li>• Analyse party systems in democracies.</li> <li>• Introduction to major political parties, challenges faced by them and reforms in the country.</li> </ul> <ul style="list-style-type: none"> <li>• Evaluate the functioning of democracies in comparison to alternative forms of governments.</li> <li>• Understand the causes for continuation of democracy in India.</li> <li>• Distinguish between sources of strengths and weaknesses of Indian democracy.</li> </ul> <ul style="list-style-type: none"> <li>• Reflect on the different kinds of measures possible to deepen democracy.</li> </ul>
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<ul style="list-style-type: none"> <li>• Redefining democracy</li> </ul> <p><b>Note: The chapter 'Challenges to Democracy' to be assessed in the Periodic Tests only and will not be evaluated in Board Examination.</b></p>	<ul style="list-style-type: none"> <li>• Promote an active and participatory citizenship.</li> </ul>
<b>Unit 4: Understanding Economic Development</b> <span style="float: right;"><b>50 Periods</b></span>	
<b>Themes</b>	<b>Objectives</b>
<p><b>1. Development</b></p> <ul style="list-style-type: none"> <li>• What Development Promises - Different people different goals</li> <li>• Income and other goals</li> <li>• National Development</li> <li>• How to compare different countries or states?</li> <li>• Income and other criteria</li> <li>• Public Facilities</li> <li>• Sustainability of development</li> </ul> <p><b>2. Sectors of the Indian Economy</b></p> <ul style="list-style-type: none"> <li>• Sectors of Economic Activities</li> <li>• Comparing the three sectors</li> <li>• Primary, Secondary and Tertiary Sectors in India</li> <li>• Division of sectors as organized and unorganized</li> <li>• Sectors in terms of ownership: Public and Private Sectors</li> </ul> <p><b>3. Money and Credit</b></p> <ul style="list-style-type: none"> <li>• Money as a medium of exchange</li> <li>• Modern forms of money</li> <li>• Loan activities of Banks</li> <li>• Two different credit situations</li> <li>• Terms of credit</li> <li>• Formal sector credit in India</li> <li>• Self Help Groups for the Poor</li> </ul> <p><b>4. Globalization and the Indian Economy</b></p>	<ul style="list-style-type: none"> <li>• Familiarize with concepts of macroeconomics.</li> <li>• Understand the rationale for overall human development in our country, which includes the rise of income, improvements in health and education rather than income.</li> <li>• Understand the importance of quality of life and sustainable development.</li> <li>• Identify major employment generating sectors.</li> <li>• Reason out the government investment in different sectors of economy.</li> <li>• Understand money as an economic concept.</li> <li>• Understand the role of financial institutions from the point of view of day-to- day life.</li> </ul>



If required, students may go out for collecting data and use different primary and secondary resources to prepare the project. If possible, **different forms of art** may be integrated in the project work.

3. The distribution of marks over different aspects relating to Project Work is as follows:

<b>S. No.</b>	<b>Aspects</b>	<b>Marks</b>
a.	Content accuracy, originality and analysis	<b>2</b>
b.	Presentation and creativity	<b>2</b>
c.	Viva Voce	<b>1</b>

4. The projects carried out by the students in different topics should subsequently be shared among themselves through interactive sessions such as exhibitions, panel discussions, etc.

5. All documents pertaining to assessment under this activity should be meticulously maintained by concerned schools.

6. A Summary Report should be prepared highlighting:

- objectives realized through individual work and group interactions;
- calendar of activities;
- innovative ideas generated in the process ;
- list of questions asked in viva voce.

7. It is to be noted here by all the teachers and students that the projects and models prepared should be made from eco-friendly products without incurring too much expenditure.

8. The Project Report should be handwritten by the students themselves.

9. Records pertaining to projects (internal assessment) of the students will be maintained for a period of three months from the date of declaration of result for verification at the discretion of Board. Subjudiced cases, if any or those involving RTI / Grievances may however be retained beyond three months.

### **PRESCRIBED BOOKS:**

1. India and the Contemporary World-II (History) - Published by NCERT
2. Contemporary India II (Geography) - Published by NCERT
3. Democratic Politics II (Political Science) - Published by NCERT
4. Understanding Economic Development - Published by NCERT

5. Together Towards a Safer India - Part III, a textbook on Disaster Management - Published by CBSE
6. Learning Outcomes at the Secondary Stage – Published by NCERT

**Note: Please procure latest reprinted edition of prescribed NCERT textbooks.**

**SOCIAL SCIENCE (CODE NO. 087)  
QUESTION PAPER DESIGN  
CLASS X (2021-22)**

<b>Time: 3 Hours</b>		<b>Maximum Marks : 80</b>	
<b>Sr. No.</b>	<b>Competencies</b>	<b>Total Marks</b>	<b>% Weightage</b>
1	<b>Remembering and Understanding:</b> Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers; Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas	28	35%
2	<b>Applying:</b> Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	14	17.5%
3	<b>Formulating, Analysing, Evaluating and Creating:</b> Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.	32	40%
4	<b>Map Skill</b>	6*	7.5%
		<b>80</b>	<b>100%</b>

**Note: Teachers may refer 'Learning Outcomes' published by NCERT for developing Lesson Plans, Assessment Framework and Questions.**

\*02 Items from History Map List and 04 from Geography Map List

**Internal Assessment: 20 Marks**

## INTERNAL ASSESSMENT

	Marks	Description				
Periodic Assessment	10 Marks	<table border="1" style="width: 100%;"> <tr> <td>Pen Paper Test</td> <td style="text-align: center;"><b>5 marks</b></td> </tr> <tr> <td>Assessment using multiple strategies For example, Quiz, Debate, Role Play, Viva, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery Walks, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment, etc.</td> <td style="text-align: center;"><b>5 marks</b></td> </tr> </table>	Pen Paper Test	<b>5 marks</b>	Assessment using multiple strategies For example, Quiz, Debate, Role Play, Viva, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery Walks, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment, etc.	<b>5 marks</b>
		Pen Paper Test	<b>5 marks</b>			
Assessment using multiple strategies For example, Quiz, Debate, Role Play, Viva, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery Walks, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment, etc.	<b>5 marks</b>					
Portfolio	5 Marks	<ul style="list-style-type: none"> <li>• Classwork and Assignments</li> <li>• Any exemplary work done by the student</li> <li>• Reflections, Narrations, Journals, etc.</li> <li>• Achievements of the student in the subject throughout the year</li> <li>• Participation of the student in different activities like Heritage India Quiz</li> </ul>				
Subject Enrichment Activity	5 Marks	<ul style="list-style-type: none"> <li>• Project Work</li> </ul>				

### LIST OF MAP ITEMS CLASS X (2021-22)

#### A. HISTORY (Outline Political Map of India)

#### Chapter - 3 Nationalism in India – (1918 – 1930) for Locating and Labelling / Identification

##### 1. Indian National Congress Sessions:

- a. Calcutta (Sep. 1920)
- b. Nagpur (Dec. 1920)
- c. Madras (1927)

##### 2. Important Centres of Indian National Movement

- a. Champaran (Bihar) - Movement of Indigo Planters
- b. Kheda (Gujarat) - Peasant Satyagrah

- c. Ahmedabad (Gujarat) - Cotton Mill Workers Satyagraha
- d. Amritsar (Punjab) - Jallianwala Bagh Incident
- e. Chauri Chaura (U.P.) - Calling off the Non-Cooperation Movement
- f. Dandi (Gujarat) - Civil Disobedience Movement

## **B. GEOGRAPHY (Outline Political Map of India)**

### **Chapter 1: Resources and Development (Identification only)**

- a. Major soil Types

### **Chapter 3: Water Resources (Locating and Labelling)**

#### **Dams:**

- |                      |                    |
|----------------------|--------------------|
| a. Salal             | e. Sardar Sarovar  |
| b. Bhakra Nangal     | f. Hirakud         |
| c. Tehri             | g. Nagarjuna Sagar |
| d. Rana Pratap Sagar | h. Tungabhadra     |

***Note: The theoretical aspect of chapter 'Water Resources' to be assessed in the Periodic Tests only and will not be evaluated in Board Examination. However, the map items of this chapter as listed above will be evaluated in Board Examination.***

### **Chapter 4: Agriculture (Identification only)**

- a. Major areas of Rice and Wheat
- b. Largest / Major producer states of Sugarcane, Tea, Coffee, Rubber, Cotton and Jute

### **Chapter 5: Minerals and Energy Resources**

#### **Minerals (Identification only)**

##### **a. Iron Ore mines**

- |              |             |
|--------------|-------------|
| • Mayurbhanj | • Bellary   |
| • Durg       | • Kudremukh |
| • Bailadila  |             |

##### **b. Coal Mines**

- |            |           |
|------------|-----------|
| • Raniganj | • Talcher |
| • Bokaro   | • Neyveli |

##### **c. Oil Fields**

- |               |               |
|---------------|---------------|
| • Digboi      | • Bassien     |
| • Naharkatia  | • Kalol       |
| • Mumbai High | • Ankaleshwar |

## Power Plants

### (Locating and Labelling only)

#### a. Thermal

- Namrup
- Singrauli
- Ramagundam

#### b. Nuclear

- Narora
- Kakrapara
- Tarapur
- Kalpakkam

## Chapter 6: Manufacturing Industries (Locating and Labelling Only)

### Cotton Textile Industries:

- a. Mumbai
- b. Indore
- c. Surat
- d. Kanpur
- e. Coimbatore

### Iron and Steel Plants:

- a. Durgapur
- b. Bokaro
- c. Jamshedpur
- d. Bhilai
- e. Vijaynagar
- f. Salem

### Software Technology Parks:

- a. Noida
- b. Gandhinagar
- c. Mumbai
- d. Pune
- e. Hyderabad
- f. Bengaluru
- g. Chennai
- h. Thiruvananthapuram

## Chapter 7: Lifelines of National Economy

### Major Ports: (Locating and Labelling)

- a. Kandla
- b. Mumbai
- c. Marmagao
- d. New Mangalore
- e. Kochi
- f. Tuticorin
- g. Chennai
- h. Vishakhapatnam
- i. Paradip
- j. Haldia

### International Airports:

- a. Amritsar (Raja Sansi)
- b. Delhi (Indira Gandhi International)
- c. Mumbai (Chhatrapati Shivaji)
- d. Chennai (Meenam Bakkam)
- e. Kolkata (Netaji Subhash Chandra Bose)
- f. Hyderabad (Rajiv Gandhi)

**Note: Items of Locating and Labelling may also be given for Identification.**

## Learning Outcomes by NCERT

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### Introduction

The domain of Social Science forms an important part of general education. At the secondary stage, social science includes diverse concerns of society and encompasses a wide range of contents drawn from the disciplines of history, geography, economics, and political science. The contents of the subject area include a broad understanding of human interactions with natural and social environment across time, space, and institutions. It is necessary to recognise that Social Science lead students to methods of scientific enquiry, which are distinct from the natural and physical sciences. Social Science curriculum promotes human values namely, freedom, trust and respect for diversity. Social Science education provides opportunities for children to critically reflect on social issues having a bearing on individual and social well-being. This subject also inculcates other values such as, empathy, equality, liberty, justice, fraternity, dignity, and harmony.

Every discipline in Social Science has its own method of investigation for arriving at conclusions through understanding, analysing, evaluating, and applying a logical and rational approach to understand the cause and effect relationship of events, processes, and phenomena.

For an enabling curriculum in Social Science, certain themes which facilitate interdisciplinary thinking are included. Social Science provides ample scope of enquiry by raising questions like what, where, when, how, etc., that help learners acquire an integrated perspective within as well as across subjects, thereby strengthening the interdisciplinary approaches. To take an example, themes like agriculture, development, disaster, etc., can be studied from the perspective of History, Geography, Economics, and Political Science.

Social Science sensitizes learners to appreciate the rich and diverse cultural heritage of the country. Learners take pride in valuing the contributions made by known and less known individuals and events in India's struggle for independence. Social Science helps learners to recognise the importance of sustainable development with an emphasis on preservation and conservation of our natural resources and to meet challenges related to social problems and natural calamities. Social Science helps in understanding the importance of resources, their equitable distribution and utilisation to achieve economic growth. Social Science inculcates democratic principles, citizenship values, rights, and duties from local, national, and global perspectives. Building conflict resolution skills and strengthening peace building processes are other focus areas. These help to promote

sensitivity and empathy towards gender, marginalised sections such as, SCs, STs, and persons with special needs.

## Curricular Expectations

At this stage learners are expected to:

- recognise the relevance of the domain of knowledge in establishing interlinkages with natural and social environment;
- classify and compare the cause and effect relationship in the context of occurrence of events, natural and social processes and their impact on different sections of the society;
- explain concepts like unity in diversity, democracy, development, diverse factors and forces that enrich our cultural heritage;
- discuss the need to evolve plurality of approaches in understanding natural and social phenomena;
- demonstrate a variety of approaches on integration and interrelation within and across disciplines;
- identify spatial variability of events, processes, and phenomena in the contemporary world;
- identify democratic ethos, equity, mutual respect, equality, justice, and harmony;
- demonstrate skills of observation, enquiry, reflection, empathy, communication, and critical thinking;
- create awareness and sensitivity towards environmental issues, sustainable development, gender disparities, marginalised section of the society and persons with special needs; and
- illustrate concepts related to different subjects with the help of technology.

The Social Science learning outcomes for Classes IX and X each are broadly grouped into 12 broader areas. Each area (given in bold letters) deals with a similar set of competencies and includes a few learning outcomes linking the contents on the basis of the nature of Social Science. Some learning outcomes appear commonly in both Classes IX and X. Teachers can work with these using different examples. These are developed keeping in view their importance and contents in different social sciences. The concepts, historical events, places, names, and dates are used to exemplify the learning outcomes. They can be changed by the states depending on their Social Science syllabus.

### Class IX

Suggested Pedagogical Processes	Learning Outcomes
<p><b>The learners may be provided with opportunities individually or in groups and encouraged to—</b></p> <ul style="list-style-type: none"> <li>• observe political map of India or on School Bhuvan portal NCERT, mark with reference to location, extent, shape, size, etc., of States and UTs.</li> </ul>	<p>The learner—</p> <ul style="list-style-type: none"> <li>• <b>recognises and retrieves facts, figures and narrate processes, for example,</b></li> </ul>

- discuss and verify the information about the States and UTs from other sources, like the website of other states, textbooks, atlas, models, etc.
- engage in projects to collect information about States and UTs in terms of languages, food, dress, cultural traditions, etc.
- select the works of eminent thinkers like Jean-Paul Marat, Jean Jacques Rousseau, etc., and study the influence of their works on the outbreak of the French Revolution.
- take part in discussion of the important political terms and concepts, such as, martial law, coup, veto, and referendum to recognise democracy as well as dictatorship.
- discuss the details of: (a) the time when universal adult franchise was first provided to the citizens and (b) how the end of colonialism took place.
- collect information and discuss the process of the making of the Indian Constitution.
- collect the details of different factors of production like land, capital, and human resources from their surroundings.
- visit a nearby ration shop, collect and compare the prices of items available with the local market and discuss the reasons for the differences.
- analyse the role of cooperatives in food security.
- explore various resources including the e-content on poverty, food security, human resource development, etc.
- discuss how poverty line is estimated especially from the view point of social scientists.
- gather information about physical, features in their surroundings and discuss about these features with peers; visuals related
  - locates places, states, union territories, and other physical features on the map of India.
  - recognises and describes different physical features, types of forests, seasons, etc.
  - describes important terms in Geography such as, standard meridian, drainage basin, water divide, monsoon, weather, climate, flora, fauna, population density, etc.
  - estimates annual growth rate.
  - defines simple economic terms such as, poverty, literacy, unemployment, head-count ratio, food security, exports and imports, etc.
  - lists various factors of production.
  - recalls names, places, years of some important socio-political and economic events that changed India and the world, such as, the American Revolution, French Revolution, Russian Revolution, and the Freedom Struggle of India.
  - locates places of historical importance on maps.
  - describes economies and livelihoods of a few social groups.
  - describes political terms and concepts associated with democracy and dictatorship, such as, free and fair election, freedom of expression, independent judiciary, accountability, rule of law, etc.
- **classifies and compares events, facts, data, and figures, for example,**
  - classifies physical features in the surroundings and compare them with physical features of other places;

to other physiographic divisions may be shown and their features may be explained to them.

- show different physiographic divisions and data to look out for the similarities and differences.
- use tactile maps and models to classify physical features of India.
- collate the views from different secondary sources of Desmoulins and Robespierre to know how each one of them understands the use of state force. What does Robespierre mean by 'the war of liberty against tyranny?' How does Desmoulins perceive liberty?
- gather information about Constitutional Monarchy of France from different sources.
- discuss different monarchies of contemporary times like United Kingdom, Saudi Arabia, and Bhutan.
- develop timeline on significant events related to the outbreak of the French and Russian Revolutions. In connection with France, some events that can be displayed in the timeline are— Constitutional Monarchy, Declaration of Rights of Man, on becoming a Republic and the Reign of Terror. The students can add more information in this timeline on the French Revolution.
- study features of different types of government and discuss.
- design a group project on social exclusion as well as poverty.
- interview vendors selling vegetables, newspaper; milkman, laundress (atleast 10 people). They may be guided to develop simple questions and draw inference from information collected in the survey.
- explore various rivers, find details of their origin, course of river, major cities,

- compares different data, such as, population and rainfall;
- compares the course of events leading to important revolutions in the world such as, French and Russian Revolutions;
- distinguishes different types of governments operating across the world;
- compares levels of poverty and unemployment across Indian states;
- compares different monarchies of contemporary times like United Kingdom, Saudi Arabia, and Bhutan.

- **explains cause and effect relationship between phenomena,**

industries on the banks of a river; discuss how river affects the lives of people in cities leading to pollution of rivers.

- work on group projects in which they can collect information from various sources, such as, books, magazines, newspapers, internet, elders, and plot the river and associated findings on a map and prepare a report.
- work with tactile maps particularly by the children with special needs (CWSN).
- identify social, economic, and political causes that led to the Russian Revolution in 1905; use a variety of teaching aids like a flow chart, powerpoint presentation, newspaper clippings, etc., belonging to that period (1905).
- locate the places of French and Russian Revolutions on an outline map of the world.
- participate in a discussion on the fall of Monarchy in February 1917, workers, strike, refusal of peasants to pay rent and activities of different political parties such as, Liberals, Social Democrats, and Social Revolutionaries.
- discussion may be initiated on the concepts of revolution and social change.
- elucidate the idea that some revolutions like the French and Russian were results of bloodshed.
- discuss peaceful revolutions, such as, industrial revolution; Green, White and Blue revolutions in India.
- collect current statements from media and from other sources and discuss the measure of success of democracy.
- collect and discuss information about democratic countries of the world and their history of establishment, conditions under which those governments got established.
- discuss democracy as a government of the people, by the people, and for the people

**events, and their occurrence, for example,**

- examines factors causing pollution and their impact on people's lives;
- explains factors affecting course of a river, climate, population distribution, flora and fauna of a region.
- explains the causes and effects of various revolutions.
- illustrates how different social groups coped with changes in the contemporary world and describe these changes.
- explains the difference between revolution and social change.
- outlines the formation of democratic governance in different countries of the world.
- explains the process of change in democracies.
- identifies democratic rights of Indian citizens and constitutional values such as, democracy, justice, liberty, equality, etc.
- explains causes and impacts of economic issues such as, poverty, landlessness, and food insecurity.
- analyses the impact of social exclusion and vulnerability.

by engaging with some examples. discussion may be held on the newspaper clipping or the teacher may provide data from government report on poverty, food security, etc.

- familiarise with major climatic controls—latitude, altitude, pressure and wind systems, and distance from the sea and discuss how they affect the climate of various geographical regions.
- discuss how the climate of hilly regions is significantly different from the plains.
- look for and use a variety of primary and secondary sources, such as, written records, oral accounts to investigate themes like factors responsible for deforestation in the past in different regions of the world including India during the colonial rule.
- discuss different Forest Acts in India — Forest Act of 1865, its amendment in 1878 and 1927 and its impact on forest dwellers and the village community.
- collect visuals, newspaper clippings, posters, leaflets, videos, memorabilia, writings, albums, and speeches of Hitler on the rise of Nazism and discuss how Nazism led to the genocidal war that resulted in the killing of innocent civilians like the Jews, Gypsies, and Polish.
- organise mock Parliaments and court proceedings in which various democratic rights can be the subject.
- show visuals associated with famines and present OMT (one minute talk).
- correlate different maps, for example, physical features and drainage, physical features and population.
- opportunities may be provided to explore and overlay various maps on School Bhuvan NCERT portal.
- use atlas maps for understanding various concepts.

- **analyses and evaluates information, for example,**

- analyses different types of climate found in different regions of India and the world.
- examines factors leading to deforestation.
- outlines or assesses the working of Indian Parliament and the judiciary.
- analyses historical trends in important developmental indicators, such as, literacy and poverty.
- assesses the impact of important government welfare programmes which aimed at (a) poverty alleviation;(b) ensure food security; (c) generate self-employment; and (d) provide health care facilities.

- **interprets, for example,**

- maps of river systems in India, physiograph, and population distribution
- maps of movement of goods and people from India to the rest of the world

- demonstrate skills of locating places associated with different revolutions like French and Russian.
  - explain the changes of geographical boundaries of places in the past and present and the reasons that have led to it. You may link this with the theme in the syllabus or textbooks.
  - study various symbols that depict roads, railways, buildings, monuments, rivers, etc., on an outline map of India and the world. This may be used as per the theme under study.
  - interpret information from an orthophotomap and compare it with reality.
  - use India's political map to demarcate states and parliamentary constituencies.
  - use India's map of the states to identify and colour the following: (i) high and low poverty (ii) levels of literacy (iii) production of food grains and interpret in terms of reasons for the above differences amongst the states.
  - choose photographs of persons engaged in different occupations in rural and urban areas and categorise into three sectors of the economy.
  - compile data from their surroundings and Government reports on (i) unemployment existing in urban and rural areas (ii) poverty existing in different states.
  - use tables to represent data on literacy rates, production of food grains and food in security with respect to population and interpret them in terms of well-being of the masses.
  - construct and convert tables into bar and pie diagrams.
  - explain from the newspaper clippings or the teacher may provide data from Government report on poverty, food security, social exclusion and vulnerability, their causes and impact on the society.
- texts and symbols which stand for liberty, equality, and fraternity
  - cartoons
  - photographs
  - posters
  - newspaper clippings related to socio-political issues
  - pie and bar diagrams of data related to agricultural production, literacy, poverty, and population

- develop bar/pie diagrams and also be able to plot the data in the diagram, e.g., population data, natural vegetation, etc.
  - correlate topics with other disciplines ,for example, how various passes in the north and seaports in the south have provided passages to the travellers and how these passages have contributed in the exchange of ideas and commodities since ancient times.
  - discuss on deforestation in the colonial period and their impact on lives of forest dwellers; link deforestation with geographical aspects, such as, the extent of land covered under forest in the colonial and contemporary times.
  - discuss how the Forest Acts in the past and in the present influence various tribal communities including women.
  - study a few political developments and government decisions and look at them from the point of view of geographical importance and electoral constituencies.
  - read the history of democratic movements in various countries by underlining the geopolitical importance of countries.
  - study historical events of 1940s and the making of the Constitution of India during 1946–49.
  - focus on the issues of land and agriculture as part of the resources in geography with topics such as, factors of production and food security as a component of agriculture.
  - see linkages with political dimensions to highlight citizens, rights in a democracy and human beings as an asset for the economy.
  - show movies and documentaries such as, 3 Shades, Mirch Masala, Manthan and link them with low income and poverty which can then be followed by discussion in classroom on conflict between economic
- **draws inter linkages within Social Science, for example,**
    - explains inter-relationship between various passes and sea ports in India for trade and communication since historical times.
    - examines the geographical importance of electoral constituencies.
    - analyses food security as a component of agriculture.
    - analyses the linkages between population distribution and food security.
    - explains inter-relationships among livelihood patterns of various social groups including forest dwellers, economic development, and environmental conservation.

development and environmental conservation.

- read the National Population Policy 2000, and discuss its content related to adolescence.
- use historical sources to comprehend the difference between fact and fiction when they read the literary works of different authors.
- assess novels, biography, and poems composed at different points of our historical past.
- use pictures, cartoons, and newspaper clippings to find out and discuss assumptions, biases, and prejudices of various people. Teachers may guide learners to recognise the difference between facts and opinions using illustrative examples from socio, political, and economic aspects.
- explore and construct the holistic picture of the period under study using other sources such as, archaeological remains, official records, and oral accounts. Discussion may be initiated on the following questions:
  - What is the source about?
  - Who is the author?
  - What message can be extracted?
  - Is it relevant/useful?
  - Does it explain the event in totality?
- develop understanding that historical recorders are not free from subjectivity.
- dramatise from the examples of the French revolution on Olympede Gouges on her protest against excluding women from the Declaration of Rights of Man and Citizen, highlighting the bias that existed in this historic document.
- watch and note down the statements of politicians appearing regularly on TV or the newspaper articles on various issues and incidents. Teachers may also provide

- **identifies assumptions, biases, prejudices, and stereotypes about various aspects, for example,**
  - texts
  - news items
  - visuals
  - political analysis
  - people in different geographical regions of India
  - important government welfare programmes

examples, and may also take students' own views on an issue to point out assumptions, biases, prejudices, and stereotypes.

- list the details of wages paid to the males and females engaged in their area and discuss whether differences exist, if any, reasons may be provided.
- analyse different government schemes to ensure food security, employment generation, promotion of health, and education in their area.
- ask questions to understand the mechanism of monsoon for example, how do the effect of differential heating of land and water, shifting of Inter Tropical Convergence Zone (ITCZ), El Niño and jet streams influence monsoon?
- use enquiry skills to collect a variety of primary and secondary sources; recognise the difference between fact and fiction. Gather information from archaeological remains—official and oral records, print and multimedia materials, to show how the ideals of freedom, equality, liberty, and fraternity motivated political movements in France, in the rest of Europe, and in various anti-colonial struggles; projects, posters, and models can be prepared on themes drawn from them in groups and in pairs.
- collect the details on various topical, political, social, or any other local issues from different newspapers, magazines and books. Compare different views about the same issues.
- explain a particular economic problem showing vulnerability faced by the disadvantaged groups.
- analyse materials on green revolution.
- find out the details from data and experiences for example, (a) how does the relief of a place affect the population distribution?; (b) how do climatic

- **demonstrates inquisitiveness, enquiry, i.e., pose questions related to—**

- geographical events such as, the mechanism of monsoon and causes of natural disasters.
- impact of green revolution in India and their own area.
- legacy of French Revolution in India and the world.

- **constructs views, arguments, and ideas on the basis of collected or given information, for example,**

- people and their adaptation with different climatic conditions.
- oral and written accounts of living historical legends.

conditions of a region affect the natural vegetation of a place?

- get engaged in a role play on topics such as, Project Tiger and protection of rivers and discuss the relevance of tiger protection in India.
- record or gather (from the internet) the interviews of living legends who have experienced trials and tribulations of Nazism.
- show e-content and analyse case studies related to the quality of population.
- gather information related to weather and population, from different sources such as, daily newspapers and analyse recorded data and information.
- design a role play on the French Revolution and play the role of clergy, nobility, merchants, peasants and artisans; concluding remarks, drawing assumptions of the feelings of each class can be given by facilitators of each group.
- collect information on the famines in India, explore the causes behind the famines in the colonial period.
- discuss what would have happened if such famines reoccur in post-independent India. Also discuss the preventive measures.
- identify the factors causing a problem and decide creatively and critically to arrive at solution(s) relating to river pollution, population growth, protection of flora and fauna, etc.
- engage in a class debate on the topic— whether the use of violence for addressing different forms of human rights violation is the appropriate approach or not.
- plan and participate in extra-curricular activities, daily chores in the school, sports, cultural programmes which require problem-solving and decision-making skills.

- people as a resource.

- **extrapolates and predicts events and phenomena, for example,**

- weather
- pollution and diseases
- famine and poverty

- **illustrates decision-making and problem-solving skills, for example,**

- mitigating the impact of water pollution
- conservation of resources
- problem of food shortage
- avoid hunger and famines in India
- deciding on the appropriateness of resources in historical events and developments

- collect newspapers and magazines to show the impact of the concentration of resources in the hands of few.
  - illustrate the cause and impact of inequality in terms of distribution of resources between the rich and the poor.
  - participate in group projects to recognize the values of flora and fauna, disaster preparedness and waste management projects.
  - participate in activities that require conservation of environment (plants, water bodies, etc.), water disputes—interstate and across the border and promote nature-human sustainable relationship.
  - raise questions to secure healthcare, education and job security for its citizens; people from different communities be invited to make presentation on improving these issues.
  - collect and compile a variety of resources such as, films, audio visuals, and photocopy of records, private papers, and press clippings from the archives including original speeches of leaders associated with different historical events.
  - construct projects on themes like Nazism and tribal uprisings.
  - discuss the strategy of satyagraha and non-violence adopted by Gandhiji in achieving Independence of India; discuss different movements in the freedom struggle where satyagraha was adopted by the leaders to recognize the immense strength and courage it requires to internalise characteristics of satyagraha and non-violence to resolve conflicts.
  - explore and examine the published records of the lived experiences of the survivors of Holocaust.
  - study the Constitutional provisions available to improve conditions of disadvantaged groups, minorities;
- **shows sensitivity and appreciation skills, for example,**
    - empathises with differently abled and other marginalised sections of the society, such as, Scheduled Tribes
    - appreciates political diversity
    - appreciates cultural diversity
    - appreciates religious diversity
    - recognises language diversity
    - recognises social diversity
    - empathises with the people who were affected by wars, holocaust, natural and human-made disasters
    - recognises how physical and mental violence leads to immense suffering of human beings
    - demonstrates or exhibits sense of citizenship such as, observing hygiene and cleanliness, punctuality, follow rules, etc.

<p>promotion of patriotism, unity of the country, equality of people, respect for all human beings, and doing one's duties, etc.</p> <ul style="list-style-type: none"> <li>• engage in role play/short drama to highlight the problem faced by poor as well as food insecure people followed by discussion</li> <li>• identify the chain of ration shops established in your nearby area to ensure the supply of essential commodities for the targeted population</li> <li>• compose a short speech on gender equality and dignity for all (marginalized as well as Group with Special Needs)</li> </ul>	
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## Class X

Suggested Pedagogical Processes	Learning Outcomes
<p><b>The learners may be provided with opportunities individually or in groups and encouraged to—</b></p> <ul style="list-style-type: none"> <li>• collect different soil samples from the surroundings; recognise them with the help of their colour, texture, and composition; relate them with the geographical areas of India shown on the map; study the process of formation of these soils.</li> <li>• locate them on different types of maps of India such as, political, physical and outline map, wall map, and atlas; list and label places or areas where different agricultural crops, minerals, etc., are produced.</li> <li>• use tactile maps for students with visual impairments.</li> <li>• find the meaning of resources, subsistence agriculture, plantation, etc., from any dictionary of Geography.</li> <li>• read different sources and discover the course of the Indian national movement till India's independence.</li> </ul>	<p><b>The learner—</b></p> <ul style="list-style-type: none"> <li>• <b>recognises and retrieves facts, figures, and narrate, processes, for example,</b> <ul style="list-style-type: none"> <li>○ identifies different types of soil, minerals, renewable and non-renewable energy resources, etc.</li> <li>○ locates areas or regions known for production of coal, iron ore, petroleum, rice, wheat, tea, coffee, rubber, and cotton textile on the map of India.</li> <li>○ defines important terms in Geography such as, resource, renewable and non-renewable resources, subsistence agriculture, plantation, shifting agriculture, environmental protection, and environmental sustainability.</li> <li>○ defines basic Economic terms associated with economic development such as, human capital, sustainable development, gross domestic product, gross value added, per capita income, human development index, multinational</li> </ul> </li> </ul>

- get familiarised with the concepts of nation and nationalism.
- acquaint with the writings and ideals of different social, political groups and individuals.
- collect the details of social groups which joined the Non-Cooperation Movement of 1921.
- draw a timeline on significant events of India's national movement.
- collect the details of major languages of India and the number of persons who speak those languages from the latest reports of Census of India and discuss.
- read the Indian Constitution and discuss various parts in it.
- collect a variety of resources, for example, forests, water, minerals, etc., and use a variety of criteria to group and display in the class.
- relate different cropping patterns in India and their impact on economic development and discuss in the class.
- use internet to study interactive thematic maps, for example, agriculture, minerals, energy, industry, etc., on School Bhuvan NCERT portal.
- discuss the relationship or difference between European nationalism and anti-colonial nationalisms.
- discuss industrialisation in the imperial country and in a colony.
- study globalisation in different contexts.
- find out about the anti-colonial movement in any one country in South America and compare with India's national movement based on certain parameters.
- collect the details of how globalisation is experienced differently by different social groups using goods and services used by people in their daily lives such

company, foreign trade, liberalisation and foreign investment.

- lists different forms of money and sources of credit, rights of consumers.
- recalls names, places, dates, and people associated with some important historical events and developments such as the French Revolution, nationalism, industrialisation, globalisation, and urbanisation.
- defines terms and concepts such as, nationalism, colonialism, orientalism, democracy, satyagraha, and liberty.
- defines important terms such as, federalism, diversity, religion, and political party
- **classifies and compares events, facts, data and figures, for example,**
  - classifies types of resources, minerals, farming, for example, subsistence and commercial farming.
  - compares areas growing rice and wheat on the map of India.
  - compares visuals such as, the image of Bharatmata with the image of Germania.
  - compares European nationalism with anti-colonial nationalism in countries such as, India, South America, Kenya, Indo-China.
  - compares per capita income of some important countries.
  - differentiates consumer rights.
  - classifies occupations and economic activities into sectors using different criteria.
  - compares the powers and functions of state and central government in India.
  - classifies national and regional political parties in India.
  - explains the terms used in political discussions and their meaning, for example, Gandhian, communist,

as, television, mobile phones, home appliances, etc., and discuss.

- study different types of governments in the world—democratic, communist, theocratic, military dictatorships, etc. Within democracies, various forms of governments, such as, federal and unitary, republican and monarchy, etc., can also be studied.
- read the functioning of state governments ruled by different parties or coalitions; examine their specific features such as, slogans, agenda, symbols, and characteristics of their leaders.
- study the distinctive features of different political parties.
- collect the economic details of states and countries. For example, based on the human development index, they can classify a few countries. They can also group or categorise countries on the basis of Gross Domestic Product (states on the basis of state domestic product), life expectancy, and infant mortality rates, etc.
- collect the details of economic activities, jobs, and occupations in their neighbourhood and group them using a few criteria, for example, organised and unorganised, formal and informal, primary-secondary-tertiary, etc.
- collect data on sources of credit from their neighbourhood—from where people borrow and group them into formal and informal.
- overlay thematic layers of maps on School Bhuvan NCERT portal, for example, distribution of rice in India and overlay layers of soils, annual rainfall, relief features and swipe these layers to establish cause and effect relationship.
- classify different types of industries based on raw materials, locate them on

secularist, feminist, casteist, communalist, etc.

- **explains cause and effect relationship between phenomena, events, and their occurrence, for example,**
  - explains factors responsible for production of different crops in India.
  - explains industries and their impact on environment.

the map and relate them with pollution in nearby areas.

- find out about the changes in print technology in the last 100 years. Discuss the changes, why they have taken place and their consequences.
- read various provisions of the Indian Constitution as causes, and the resulting political scenario as its effects. For example, the independent status of the judiciary effected in smooth functioning of federalism.
- discuss (a) why a large section of India's population depend on primary sector; (b) what contributed to rapid increase in service sector output.
- conduct a survey among neighbourhood, households and collect the reasons for their dependence on formal or informal sources of credit. Teachers can then organise debate on whether or not banks contribute to needy borrowers living in rural areas in the class.
- collect stories of communities involved in environmental conservation from different parts of India and study them from geographical perspective.
- collect and discuss the details of people's participation in environmental conservation movements and their impact on socio-cultural life of the region for example, Chipko and Appiko Movements.
- collect data from Economic Survey of India, newspaper, magazines related to gross domestic product, per capita income, availability of credit for various households, land use, cropping pattern and distribution of minerals in India, production of cereals for different years and convert them into pie or bar graphs and study the pattern and display in the class.

- explains the cause and effect between different historical events and developments such as, the impact of print culture on the growth of nationalism in India.
- examines the impact of technology on food availability.
- assesses the impact of the global transfer of disease in the pre-modern world in different regions of the world, for example, in the colonisation of America.
- analyses the impact of overuse of natural resources such as, ground water and crude oil.
- analyses the change in sectoral composition of gross domestic product.
- analyses the consequences of dependence on different sources of credit.
- explains the policies and programmes of different political parties in the states of India.

- **analyses and evaluates information, for example,**

- assesses the impact of conservation of natural resources on the life of people in any area in view of sustainable development.
- analyses indigenous or modern methods of conservation of water, forests, wildlife, and soil.
- explains victories and defeats of political parties in general elections.
- evaluates various suggestions to reform democracy in India.
- analyses texts and visuals such as, how symbols of nationalism in countries outside Europe are different from European symbols.
- assesses the impact of MNREGA, role of banks as a source of credit.
- assesses the impact of globalisation in their area, region, and local economy.
- analyses the contribution of different sectors to output and employment.

- familiarise with pictures, photographs, cartoons, extracts from a variety of original sources—eye witness accounts, travel literature, newspapers or journals, statements of leaders, official reports, terms of treaties, declarations by parties, and in some cases contemporary stories, autobiographies, diaries, popular literature, oral traditions, etc., to understand and reconstruct histories of important historical events and issues of India and contemporary world.
- observe and read different types of historical sources; think of what they communicate, and why a thing is represented in a particular way. Raise questions on different aspects of pictures and extracts to allow a critical engagement with these, i.e., visuals of cloth labels from Manchester and India; carefully observe these and answer questions like: What do they see in these pictures? What information do they get from these labels? Why are images of gods and goddesses or important figures shown in these labels? Did British and Indian industrialists use these figures for the same purpose? What are the similarities or differences between these two labels?
- study and discuss different perspectives on diversification of print and printing techniques; visit to a printing press to understand the changes in printing technology.
- critically examine the implementation of government schemes based on learners or their family's experiences such as, Mid-day meal scheme, loan waiver schemes for farmers; scholarships through cash transfer to students; schemes to provide liquid

petroleum gas to low income families: life insurance scheme for low income families/scheme of financial support for house construction, MUDRA, etc. They may be guided to supplement with data/news clippings as evidences.

- overlay maps showing distribution of resources for example, minerals, and industries on the map of India and relate it with physical features of India and climate by overlaying the layers on School Bhuvan NCERT portal and analyse the maps.
  - elaborate relationship between different thematic maps using atlas.
  - locate places, people, regions (affected by various treaties such as, Treaty of Versailles, economic activities, etc).
  - find and draw interconnections among various regions and the difference in nomenclatures of places used for various regions and places during this period and present day, i.e., learner can be asked to find and draw the sea and land links of the textile trade from India to Central Asia, West Asia and Southeast Asia on a map of Asia.
  - study the political maps of the world and India to recognise a country's importance and role in world politics.
  - examine political maps of states, consider their size and location and discuss their importance in national politics.
  - locate the places in which important multinational corporations set up their offices and factories on the map of India and discuss the reasons behind the choice of location and its implication on people's livelihood.
  - read cartoons, messages conveyed in sketches, photographs associated with political events and participate in discussions.
- **interprets, for example,**
    - maps
    - texts
    - symbols
    - cartoons
    - photographs
    - posters
    - newspaper clippings
    - climatic regions
    - changes in maps brought out by various treaties in Europe
    - sea and land links of the trade from India to West Asia, South East Asia and other parts of the world
    - pie and bar diagrams related to gross domestic product, production in different sectors and industries, employment and population in India

- read demographic data, data related to political party preferences and social diversity.
  - collect news clippings/texts from popular magazines and journals pertaining to developmental issues, globalisation and sustainable development and synthesise the details and present in the class.
  - convert tables relating to GDP, and employment, in primary, secondary and tertiary sectors into pie, bar and line diagrams.
  - interpret charts using a few parameters and describe the patterns and differences. They can refer to books, Economic Survey of India for the latest year and newspapers.
  - locate production of raw materials on the map of India and relate them with economic activities and development of that area for example, coal, iron ore, cotton, sugarcane, etc.
  - collect information about the development of different areas of India since Independence.
  - find out the linkages among various subjects through examples and do group projects on some topics; for example, group project on 'Globalisation'. Teachers may raise questions like, is it a new phenomenon or does it have a long history? When did this process start and why? What are the impacts of globalisation on primary, secondary and tertiary activities? Does it lead to inequality in the world? What is the importance of global institutions? Do these institutions play a major role in globalisation? How do they influence the developed countries? What do you mean by global economy? Is economic globalisation a new phenomenon? Are environmental issues global problems
- **draws interlinkages within Social Science**
    - analyses changes in cropping pattern, trade and culture
    - explains why only some regions of India are developed
    - analyses the impact of trade on culture shows the linkages between economic development and democracy

or local problems? How can globalisation potentially contribute to better environment?

- study the rate and features of economic growth in democracies and those under dictatorship.
  - examine time series data on GDP and other economic aspects since 1950s.
  - debate on (a) How India's freedom struggle was related to India's economy? (b) Why India did not go for privatisation of manufacturing activities after 1947? (c) Why have developed nations started to depend on countries such as, India for leather and textile goods more now? (d) Why multinational corporations from developed nations set up their production and assembly units in developing countries and not in their own countries and what are its impacts on employment in their own countries?
  - discuss on why manufacturing sector multinational companies (Gurugram in Haryana) and service sector multinational companies (Bengaluru in Karnataka) are located at specific places—the relevance of geographic factors.
  - collect information regarding religion, food habits, dress, colour complexion, hair, language, pronunciation, etc., of people living in different geographical regions of India.
  - list biases/prejudices, stereotypes against people living in different geographical regions and discuss about these in the classroom.
  - raise questions on developments that are seen as symbolising modernity, i.e., globalisation, industrialisation and see the many sides of the history of these developments, i.e., learner can be asked: Give two examples where
- **identifies assumptions, biases, prejudices or stereotypes about various aspects, for example,**
    - region
    - rural and urban areas
    - food habits
    - gender
    - language
    - idea of development
    - voting behaviour
    - caste
    - religion
    - democracy
    - political parties

modern development associated with progress, has led to problems. Think of areas related to environmental issues, nuclear weapons or disease

- read the statements of leaders or political parties in newspapers and television narratives to examine the truth, bias and prejudices. Similarly, various demands of political parties from time to time may also be analysed.
- reflect on why popular prejudices/ stereotypes prevail about low income families, illiterates and persons with low literacy levels, disabled, persons belonging to certain socio-religious and biological categories. Teachers may facilitate learners to discuss their origin and review.
- discuss the probable assumptions behind the (a) promotion of sustainable development practices; (b) enactment of few national level acts such as, Consumer Protection Act 1986; Right to Information Act 2005; Mahatma Gandhi National Rural Employment Guarantee Act 2005 and The Right of Children to Free and Compulsory Education Act 2009. Students may need to get the details of situation in the years when these laws were enacted from elderly persons, parents and teachers.
- show industrial regions on map and relate it with infrastructural development of that region. Why are industries located nearby rivers, railways, highways, raw material producing areas, market, etc.?
- show water scarcity in visuals such as, snow covered areas of Kashmir, dry regions of Gujarat and flood prone areas of West Bengal; learners may be asked to investigate reasons of water scarcity of each region located in

- marginalised and differently abled groups
- globalisation and industrialisation
- the notion of progress and modernity

- **demonstrates inquisitiveness, enquiry, for example, pose questions related to the—**

- Concentration of industries in certain areas.
- Scarcity of potable water.
- role of women in the nationalist struggles of different countries.
- various aspects of financial literacy.
- working of democracy from local to national levels.

different climatic areas and prepare a report or chart.

- answer questions like 'Why did various classes and groups of Indians participate in the Civil Disobedience Movement?' or 'How did the Indian National Congress respond to the Partition of Bengal and why?' and point out to them the need to look for supplementary literature on issues, events, and personalities in which they may express an interest to know more.
  - participate in teacher-guided debates on the advantages and drawbacks of democracy.
  - choose one example from economics related with developmental issues and collect economic information and come out with solutions, for example, (a) employment (is India generating employment opportunities sufficiently?) (b) GDP (why only service sector is able to increase its share much more than other sectors?), (c) financial issues (how to improve credit access to low income families?).
  - challenge assumptions and be motivated to come out with creative solutions to specific social, economic or political issues in their area, region or state.
  - examine maps of India—(physical and political), latitudinal and longitudinal extent of India, relief features, etc., and come out with ideas about the impact of these on cultural diversity of the regions.
  - display different themes of history through creatively designed activities and role play on any event or personality of their liking.
  - engage in debates on interpreting different events both from historical and contemporary viewpoint.
- **constructs views, arguments and ideas on the basis of collected or given information, for example,**
    - natural resources and their impact on cultural diversity of any region
    - historical events and personalities
    - economic issues, such as, economic development and globalisation
    - definitions commonly available in textbooks for various economic concepts

- help them prepare digital, print as well as audio-visual materials which can be converted into Braille.
  - participate in group discussions on changes within rural economy in the contemporary/modern times.
  - find information from elders, newspapers/TV reports about pollution in water bodies such as, rivers/lakes/wells/ground water, etc., and foresee health issues in their neighbourhood. For example, the effect of arsenic in the groundwater in West Bengal.
  - discuss the impact of deforestation on soil erosion in hilly areas of North East Region and relate them with floods and landslides.
  - imagine a conversation between two persons participating in freedom struggle in India. Learners answer questions, such as, what kind of images, fiction, folklore and songs, popular prints and symbols would they want to highlight with which people can identify the nation and what do all these mean to them.
  - gather information with the help of teacher/parents/peers on exports and imports, current employment situation, details of schools and hospitals to see the trend.
  - collect problems related to agriculture in one's own area and come out with remedial measures.
  - imagine a conversation between a British industrialist and an Indian industrialist, who is being persuaded to set up a new industry. Learners in such a role play answer questions, such as, (a) what reasons would the British industrialist give to persuade the Indian industrialist? and (b) what opportunities and benefits the Indian industrialist is looking for?
    - methodology used to estimate gross domestic product, poverty and size of the organised/unorganised sector
- **extrapolates and predicts events and phenomena, for example,**
    - predicts the impact of pollution of water, air, land and noise on human health.
    - predicts natural disasters due to deforestation.
    - infers and extrapolates from situations, such as, how artists and writers nurture nationalist sensibilities through art, literature, songs and tales.
    - come out with answers creatively on the issue: (a) if India stops importing petroleum crude oil; (b) if multinational companies are closed; (c) the nature of employment in India in 2050; (d) what would happen if all schools and hospitals in India are privatised?
- **illustrates decision making/ problem solving skills, for example,**

comes out with solutions to issues in one's own area such as,: (a) problems related to agriculture and transport, (b) generate employment opportunities, improve access to credit for low income families and (c) assesses how certain developments in colonial India were useful for both colonisers as well as

- conduct extra-curricular activities, daily chores in the school, sports, cultural programmes by students to help decision making and develop problem solving skills.
- describe their goals in life and how they are going to achieve them.
- review sources of credit and their impact. They can be encouraged to discuss various solutions for easy access to credit with low interest rates.
- come out with new ways of generating employment or creating new jobs.
- submit group projects suggesting the steps to be followed in their daily life promoting sustainable development practices.
- discuss the work done by peer or differently abled persons and the need to cooperate with each other.
- provide illustrative, examples, of conflicts on several issues, such as, river water/dam/land, industry/forestland and forest dwellers, etc., through textbooks, newspapers, etc. They may be guided to debate these issues in groups and come out with creative solutions.
- read stories of real life experiences of individuals and communities of the period, i.e., learner can imagine oneself as an indentured Indian labourer working in the Caribbean. Based on details collected from the library or through internet, learners can be encouraged to write a letter to family describing their life and feelings.
- prepare posters with drawings and pictures and make oral and written presentation on the significance of the non-violent struggle for swaraj.
- discuss the life around their place of living and the school locality. Select

nationalists in different fields such as, literature, transportation and industries.

- **shows sensitivity and appreciation skills, for example,**
  - empathises with differently abled and other marginalised sections of the society, such as, forest dwellers, refugees and unorganised sector workers appreciates political diversity
  - appreciates cultural diversity
  - appreciates religious diversity
  - recognises social diversity
  - empathises with the people who were affected by displacement, extremism and natural as well as human-made disasters; Indian indentured labourers working in different countries such as, Caribbean and Fiji.

available local examples apart from the relevant lessons in the textbook, to teach sensitivity and peaceful resolution of contentious issues.

- participate in role play on (a) challenges faced by low income families, disabled/elderly persons, people suffering from pollution; (b) different ways through which consumers are denied their rights and challenges faced by them to get their grievances addressed.
- discuss the impact of wars and conflicts on daily lives of people including schooling in different Indian states.
- collect details of countries in which wars and conflicts took place recently and organise discussion on the impacts.

### **Suggested Pedagogical Processes in an Inclusive Setup**

The curriculum in a classroom is same for everyone. This means all students can actively participate in the classroom. There may be some students who have learning difficulties including language, visual-spatial or mixed processing problems. They may require additional teaching support and some adaptation in the curriculum. By considering the specific requirements of children with special needs, few pedagogical processes for the teachers are suggested below:

- Use detailed verbal descriptions of graphical representations and pictures like maps. These can also be made tactile with proper contrasts.
- Use models and block paintings.
- Use examples from everyday life for explaining various facts/concepts.
- Use audio visual materials like films and videos to explain abstract concepts; for example, discrimination, stereotyping, etc.
- Develop embossed timeline for memorising; for example, different historical periods.
- Organise group work involving debates, quizzes, map reading activities, etc.
- Organise excursions, trips and visits to historical places (educational tour).
- Involve students in exploring the environment using other senses like smell and touch.
- Give a brief overview at the beginning of each lesson.
- Provide photocopies of the relevant key information from the lesson.

- Highlight or underline the key points and words.
- Use visual or graphic organisers like timelines (especially for explaining chronology of events), flow charts, posters, etc.
- Organise group work involving activities like cut and paste, and make use of pictorial displays, models, pictures, posters, flash cards or any visual items to illustrate the facts and concepts.
- Plan occasions with real life experiences.
- Use films or documentaries and videos.
- Use magazines, scrapbooks and newspapers, etc., to help learners understand the textual material.
- Draw links with what has been taught earlier.
- Make use of multisensory inputs.
- All examples given with pictures in the textbook can be narrated (using flash cards, if required).
- While teaching the chapters, use graphic organisers, timelines and tables as this will make the task simpler.
- Maps should be enlarged and colour coded.
- The text, along with pictures, can be enlarged, made into picture cards and presented sequentially as a story. Sequencing makes it easier to connect information.
- Asking relevant questions frequently to check how much the learner has learnt as it helps in assimilating information.
- Teach and evaluate in different ways, for example, through dramatisation, field trips, real life examples, project work, etc.
- Highlight all the important phrases and information.
- Pictures may be labelled and captioned.

## **SCIENCE**

**(Code No. 086)**

**Classes: IX and X (2021-22)**

The subject of Science plays an important role in developing well-defined abilities in cognitive, affective and psychomotor domains in children. It augments the spirit of enquiry, creativity, objectivity and aesthetic sensibility.

Upper primary stage demands that a number of opportunities should be provided to the students to engage them with the processes of Science like observing, recording observations, drawing, tabulation, plotting graphs, etc., whereas the secondary stage also expects abstraction and quantitative reasoning to occupy a more central place in the teaching and learning of Science. Thus, the idea of atoms and molecules being the building blocks of matter makes its appearance, as does Newton's law of gravitation.

The present syllabus has been designed around seven broad themes viz. Food; Materials; The World of The Living; How Things Work; Moving Things, People and Ideas; Natural Phenomenon and Natural Resources. Special care has been taken to avoid temptation of adding too many concepts than can be comfortably learnt in the given time frame. No attempt has been made to be comprehensive.

At this stage, while science is still a common subject, the disciplines of Physics, Chemistry and Biology begin to emerge. The students should be exposed to experiences based on hands on activities as well as modes of reasoning that are typical of the subject.

### **Curricular Expectations**

At this stage learners are expected to:

- develop understanding of concepts, principles, theories, and laws governing the physical world, consistent with the stage of cognitive development.
- develop ability to acquire and use the methods and processes of science, such as observing, questioning, planning investigations, hypothesising, collecting, analyzing and interpreting data, communicating explanations with evidences, justifying explanations, thinking critically to consider and evaluate alternative explanation, etc.
- conduct experiments, also involving quantitative measurements.
- appreciate how concepts of science evolve with time giving importance to its historical prospective.
- develop scientific temper (objectivity, critical thinking, freedom from fear and prejudice, etc.).
- nurture natural curiosity, aesthetic sense, and creativity.
- imbibe the values of honesty, integrity, cooperation, concern for life and preservation of environment.
- develop respect for human dignity and rights, equity and equality.

### **General Instructions:**

1. There will be an Annual Examination based on the entire syllabus.
2. The Annual Examination will be of 80 marks and 20 marks weightage shall be for Internal Assessment.
3. For Internal Assessment:
  - a There will be Periodic Assessment that would include:
    - For 5 marks- Three periodic tests conducted by the school. Average of the best two tests to be taken that will have a weightage of 05 marks towards the final result.
    - For 5 marks- Diverse methods of assessment as per the need of the class dynamics and curriculum transaction. These may include - short tests, oral test, quiz, concept maps, projects, posters, presentations and enquiry based scientific investigations etc. and use rubrics for arguing them objectively. This will also have a weightage of 05 marks towards the final result.
  - b Practical / Laboratory work should be done throughout the year and the student should maintain record of the same. Practical Assessment should be continuous. There will be weightage of 5 marks towards the final result. All practicals listed in the syllabus must be completed.
  - c Portfolio to be prepared by the student- This would include classwork and other sample of student work and will carry a weightage of 5 marks towards the final results.

**COURSE STRUCTURE**  
**CLASS IX**  
**(Annual Examination)**

**Marks: 80**

<b>Unit No.</b>	<b>Unit</b>	<b>Marks</b>	<b>Periods</b>
I	Matter - Its Nature and Behaviour	23	50
II	Organization in the Living World	20	45
III	Motion, Force and Work	27	60
IV	Our Environment	06	15
V	Food; Food Production	04	10
	<b>Total</b>	<b>80</b>	
	<b>Internal assessment</b>	<b>20</b>	
	<b>Grand Total</b>	<b>100</b>	

**Theme: Materials**

**(50 Periods)**

**Unit I: Matter-Nature and Behaviour**

Definition of matter; solid, liquid and gas; characteristics - shape, volume, density; change of state-melting (absorption of heat), freezing, evaporation (cooling by evaporation), condensation, sublimation.

**Nature of matter:** Elements, compounds and mixtures. Heterogeneous and homogeneous mixtures, colloids and suspensions.

**Particle nature and their basic units:** Atoms and molecules, Law of constant proportions, Atomic and molecular masses. Mole concept: Relationship of mole to mass of the particles and numbers.

**Structure of atoms:** Electrons, protons and neutrons, valency, chemical formula of common compounds. Isotopes and Isobars.

**Theme: The World of the Living**

**(45 Periods)**

**Unit II: Organization in the Living World**

**Cell - Basic Unit of life :**

Cell as a basic unit of life; prokaryotic and eukaryotic cells, multicellular organisms; cell membrane and cell wall, cell organelles and cell inclusions; chloroplast, mitochondria, vacuoles, endoplasmic reticulum, Golgi apparatus; nucleus, chromosomes - basic structure, number.

**Tissues, Organs, Organ System, Organism:**

Structure and functions of animal and plant tissues (only four types of tissues in animals; Meristematic and Permanent tissues in plants).

**Biological Diversity:**

Diversity of plants and animals-basic issues in scientific naming, basis of classification. Hierarchy of categories / groups, Major groups of plants (salient features) (Bacteria, Thallophyta, Bryophyta, Pteridophyta, Gymnosperms and Angiosperms). Major groups of animals (salient features) (Non-chordates upto phyla and chordates upto classes).

**Health and Diseases:**

Health and its failure. Infectious and Non-infectious diseases, their causes and manifestation. Diseases caused by microbes (Virus, Bacteria and Protozoans) and their prevention; Principles of treatment and prevention. Pulse Polio programmes.

**Theme: Moving Things, People and Ideas****(60 Periods)****Unit III: Motion, Force and Work****Motion:**

Distance and displacement, velocity; uniform and non-uniform motion along a straight line; acceleration, distance-time and velocity-time graphs for uniform motion and uniformly accelerated motion, derivation of equations of motion by graphical method; elementary idea of uniform circular motion.

**Force and Newton's laws :**

Force and Motion, Newton's Laws of Motion, Action and Reaction forces, Inertia of a body, Inertia and mass, Momentum, Force and Acceleration. Elementary idea of conservation of Momentum.

**Gravitation:**

Gravitation; Universal Law of Gravitation, Force of Gravitation of the earth (gravity), Acceleration due to Gravity; Mass and Weight; Free fall.

**Floatation:**

Thrust and Pressure. Archimedes' Principle; Buoyancy; Elementary idea of Relative Density.

**Work, energy and power:**

Work done by a Force, Energy, power; Kinetic and Potential energy; Law of conservation of energy.

**Sound:**

Nature of sound and its propagation in various media, speed of sound, range of hearing in humans; ultrasound; reflection of sound; echo and SONAR. Structure of the Human Ear (Auditory aspect only).

**Theme: Natural Resources: Balance in nature****(15 Periods)****Unit IV: Our Environment****Physical resources:**

Air, Water, Soil. Air for respiration, for combustion, for moderating temperatures; movements of air and its role in bringing rains across India. Air, water and soil pollution (brief introduction). Holes in ozone layer and the probable damages.

**Bio-geo chemical cycles in nature:** Water, Oxygen, Carbon and Nitrogen.

**Theme: Food****(10 Periods)****Unit V: Food Production**

Plant and animal breeding and selection for quality improvement and management; Use of fertilizers and manures; Protection from pests and diseases; Organic farming.

## PRACTICALS

(30 Periods)

Practicals should be conducted alongside the concepts taught in theory classes.

### (LIST OF EXPERIMENTS)

1. Preparation of: **Unit-I**
  - a) a true solution of common salt, sugar and alum
  - b) a suspension of soil, chalk powder and fine sand in water
  - c) a colloidal solution of starch in water and egg albumin/milk in water and distinguish between these on the basis of
    - transparency
    - filtration criterion
    - stability
  
2. Preparation of **Unit-I**
  - a) A mixture
  - b) A compoundusing iron filings and sulphur powder and distinguishing between these on the basis of:
  - (i) appearance, i.e., homogeneity and heterogeneity
  - (ii) behaviour towards a magnet
  - (iii) behaviour towards carbon disulphide as a solvent
  - (iv) effect of heat
  
3. Separation of the components of a mixture of sand, common salt and ammonium chloride (or camphor). **Unit-I**
  
4. Perform the following reactions and classify them as physical or chemical changes: **Unit-I**
  - a) Iron with copper sulphate solution in water
  - b) Burning of magnesium ribbon in air
  - c) Zinc with dilute sulphuric acid
  - d) Heating of copper sulphate crystals
  - e) Sodium sulphate with barium chloride in the form of their solutions in water
  
5. Preparation of stained temporary mounts of (a) onion peel, (b) human cheek cells & to record observations and draw their labeled diagrams. **Unit-II**
  
6. Identification of Parenchyma, collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiac muscle fibers and nerve cells in animals, from prepared slides. Draw their labeled diagrams. **Unit-II**
  
7. Determination of the melting point of ice and the boiling point of water. **Unit-I**
  
8. Verification of the Laws of reflection of sound. **Unit-III**
  
9. Determination of the density of solid (denser than water) by using a spring balance and a measuring cylinder. **Unit-III**

10. Establishing the relation between the loss in weight of a solid when fully immersed in
  - a) Tap water **Unit-III**
  - b) Strongly salty water with the weight of water displaced by it by taking at least two different solids. **Unit-III**
11. Determination of the speed of a pulse propagated through a stretched string/slinky (helical spring). **Unit-III**
12. Study of the characteristics of *Spirogyra*, *Agaricus*, Moss, Fern, Pinus (either with male or female cone) and an Angiospermic plant. Draw and give two identifying features of the groups they belong to. **Unit-II**
13. Observe the given pictures/charts/models of earthworm, cockroach, bony fish and bird. For each organism, draw their picture and record: **Unit-II**
  - a) one specific feature of its phylum.
  - b) one adaptive feature with reference to its habitat.
14. Verification of the law of conservation of mass in a chemical reaction. **Unit-III**
15. Study of the external features of root, stem, leaf and flower of monocot and dicot plants. **Unit-III**

**COURSE STRUCTURE CLASS X**  
**(Annual Examination)**

**Marks: 80**

<b>Unit No.</b>	<b>Unit</b>	<b>Marks</b>	<b>Periods</b>
I	Chemical Substances-Nature and Behaviour	25	55
II	World of Living	23	50
III	Natural Phenomena	12	23
IV	Effects of Current	13	32
V	Natural Resources	07	20
	<b>Total</b>	<b>80</b>	
	<b>Internal assessment</b>	<b>20</b>	
	<b>Grand Total</b>	<b>100</b>	

**Theme: Materials**

**(55 Periods)**

**Unit I: 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, neutralization, oxidation and reduction.

**Acids, bases and salts:**

Their definitions in terms of furnishing of  $H^+$  and  $OH^-$  ions, General properties, examples and uses, 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 nonmetals:**

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

**Periodic classification of elements:**

Need for classification, early attempts at classification of elements (Dobereiner's Triads, Newland's Law of Octaves, Mendeleev's Periodic Table), Modern periodic table, gradation in properties, valency, atomic number, metallic and non-metallic properties.

**Theme: The World of the Living****(50 Periods)****Unit II: 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: brief introduction; Basic concepts of evolution.

**Theme: Natural Phenomena****(23 Periods)****Unit III: 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.

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.

**Theme: How Things Work****(32 Periods)****Unit IV: Effects of Current**

Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor 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, Electric Motor, Electromagnetic induction. Induced potential difference, Induced current. Fleming's Right Hand Rule, Electric Generator, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.

**Theme: Natural Resources**

**(20 Periods)**

**Unit V: Natural Resources**

**Sources of energy:**

Different forms of energy, conventional and non-conventional sources of energy: Fossil fuels, solar energy; biogas; wind, water and tidal energy; Nuclear energy. Renewable versus non-renewable sources of Energy.

**Our environment:**

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

**Management of natural resources:**

Conservation and judicious use of natural resources. Forest and wild life; Coal and Petroleum conservation. Examples of people's participation for conservation of natural resources. Big dams: advantages and limitations; alternatives, if any. Water harvesting. Sustainability of natural resources.

## PRACTICALS

Practical should be conducted alongside the concepts taught in theory classes

### LIST OF EXPERIMENTS

1. A. Finding the pH of the following samples by using pH paper/universal indicator: **Unit-I**
  - (i) Dilute Hydrochloric Acid
  - (ii) Dilute NaOH solution
  - (iii) Dilute Ethanoic Acid solution
  - (iv) Lemon juice
  - (v) Water
  - (vi) Dilute Hydrogen Carbonate solution

B. Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with: **Unit-I**

  - a) Litmus solution (Blue/Red)
  - b) Zinc metal
  - c) Solid sodium carbonate
2. Performing and observing the following reactions and classifying them into: **Unit-I**
  - A. Combination reaction
  - B. Decomposition reaction
  - C. Displacement reaction
  - D. Double displacement reaction
    - (i) Action of water on quicklime
    - (ii) Action of heat on ferrous sulphate crystals
    - (iii) Iron nails kept in copper sulphate solution
    - (iv) Reaction between sodium sulphate and barium chloride solutions
3. Observing the action of Zn, Fe, Cu and Al metals on the following salt solutions: **Unit-I**
  - i)  $\text{ZnSO}_4(\text{aq})$
  - ii)  $\text{FeSO}_4(\text{aq})$
  - iii)  $\text{CuSO}_4(\text{aq})$
  - iv)  $\text{Al}_2(\text{SO}_4)_3(\text{aq})$

Arranging Zn, Fe, Cu and Al (metals) in the decreasing order of reactivity based on the above result.
4. Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I. **Unit-IV**
5. Determination of the equivalent resistance of two resistors when connected in series and parallel. **Unit-IV**
6. Preparing a temporary mount of a leaf peel to show stomata. **Unit- II**
7. Experimentally show that carbon dioxide is given out during respiration. **Unit-II**
8. Study of the following properties of acetic acid (ethanoic acid): **Unit- I**
  - i) Odour
  - ii) solubility in water
  - iii) effect on litmus
  - iv) reaction with Sodium Hydrogen Carbonate

9. Study of the comparative cleaning capacity of a sample of soap in soft and hard water. **Unit- I**
10. Determination of the focal length of: **Unit-III**
- i) Concave mirror
- ii) Convex lens
- by obtaining the image of a distant object.
11. Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result. **Unit - III**
12. Studying (a) binary fission in *Amoeba*, and (b) budding in yeast and Hydra with the help of prepared slides. **Unit-II**
13. Tracing the path of the rays of light through a glass prism. **Unit-III**
14. Finding the image distance for varying object distances in case of a convex lens and drawing corresponding ray diagrams to show the nature of image formed. **Unit-III**
15. Identification of the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean). **Unit-II**

**PRESCRIBED BOOKS:**

- Science-Textbook for class IX-NCERT Publication
- Science-Text book for class X- NCERT Publication
- Assessment of Practical Skills in Science-Class IX - CBSE Publication
- Assessment of Practical Skills in Science- Class X- CBSE Publication
- Laboratory Manual-Science-Class IX, NCERT Publication
- Laboratory Manual-Science-Class X, NCERT Publication
- Exemplar Problems Class IX – NCERT Publication
- Exemplar Problems Class X – NCERT Publication

**Assessment Areas (Theory) 2021-22**

(Class X)

**Science (086)**

**Time: 3 hrs.**

**Maximum Marks: 80 Marks**

<b>Competencies</b>	
<b>Demonstrate Knowledge and Understanding</b>	46 %
<b>Application of Knowledge/Concepts</b>	22 %
<b>Analyze, Evaluate and Create</b>	32 %

**Note:**

- Typology of Questions: VSA including objective type questions, Assertion – Reasoning type questions; SA; LA; Source-based/ Case-based/ Passage-based/ Integrated assessment questions.
- An internal choice of approximately 33% would be provided.

**Internal Assessment (20 Marks)**

- **Periodic Assessment** - 05 marks + 05 marks
- **Subject Enrichment** (Practical Work) - 05 marks
- **Portfolio** - 05 marks

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**Suggestive verbs for various competencies**

- **Demonstrate Knowledge and Understanding**  
State, name, list, identify, define, suggest, describe, outline, summarize, etc.
- **Application of Knowledge/Concepts**  
Calculate, illustrate, show, adapt, explain, distinguish, etc.
- **Analyze, Evaluate and Create**  
Interpret, analyze, compare, contrast, examine, evaluate, discuss, construct, etc.

## Class IX

Suggested Pedagogical Processes	Learning Outcomes
<p><b>The learners may be provided with opportunities individually or in groups and encouraged to—</b></p> <ul style="list-style-type: none"> <li>observe, group or classify materials, such as mixtures, based on their properties, <i>viz.</i> solubility, passage of light, etc., by performing various activities. Based on the observations, a discussion may be facilitated to help arrive at the appropriate conclusions. Students with visual impairment or low vision may be motivated to observe solubility of the materials by touching (caution should be taken while using the materials).</li> <li>design and carry out activities. For example, ‘Tug of war’ to understand balanced and unbalanced forces. They may be encouraged to experiment by applying forces (equal and unequal) on an object in same and opposite directions, followed by peer group discussion to generalise.</li> <li>study the daily life experiences, using interdisciplinary approach such as the cause behind cooling of water in earthen pots. They may be encouraged to measure and compare the temperatures of water both in earthen pot and metal containers, thereby helping them to relate process of evaporation with cooling effect. Students with visual impairment or low vision may be encouraged to feel the difference in temperature by touching the surface of the containers.</li> </ul> <p>conduct survey to understand the process of spreading of diseases. They may be encouraged to collect data from doctors and nurses about various diseases. They can prepare a report on spread, causes, prevention, and cure of diseases. They may share their findings with the community through role plays, skits and also campaign for prevention.</p>	<p><b>The learner—</b></p> <ul style="list-style-type: none"> <li><b>differentiates materials, objects, organisms, phenomena, and processes, based on properties or characteristics,</b> such as, prokaryotes and eukaryotes, plant cell and animal cell, diffusion and osmosis, simple and complex tissues, distance and displacement, speed and velocity, balanced and unbalanced forces, elements, compound and mixture, solution, suspension and colloid, isobars and isotopes, etc.</li> <li><b>classifies materials, objects, organisms, phenomena, and processes, based on properties or characteristics,</b> such as, classification of plants and animals under various hierarchical sub-groups, natural resources, classification of matter based on their states (solid/liquid/gas) and composition (element/compound/mixture), etc.</li> <li><b>plans and conducts investigations or experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own,</b> such as, how does speed of an object change? How do objects float/ sink when placed on the surface of a liquid? Is there any change in mass when chemical reaction takes place? What is the effect of heat on the state of substances? What is the effect of compression on different states of matter? Where are stomata present in different types of leaves? Where are growing tissues present in plants?</li> <li><b>relates processes and phenomena with causes and effects,</b> such as, symptoms with diseases and causal agents, tissues with their functions, production with use of fertilisers,</li> </ul>

- present their observations/ ideas/ learning through flow charts/ concept maps/ graphs and ICT tools.
- gather data for calculating different physical quantities, such as distance, displacement, velocity, which can be shared and discussed in groups or with peers. Rubrics can be used to assess the conversion of units and reporting results.
- collect and analyse wide variety of graphs from newspapers, magazines or the internet. They may be encouraged to draw, analyse and interpret the graphs (for example, distance-time, speed-time, or acceleration-time graphs of motion of a vehicle on a straight road)
- write chemical formulae of simple compounds, chemical equations, etc., using playway methods such as a game of cards.
- select and use appropriate devices for measuring physical quantities. They may be encouraged to find the minimum and maximum value that can be measured by an instrument and note down the readings correctly.
- collect information from books, e-books, magazines, internet, etc., to appreciate the efforts of scientists made over time, for example, various models of atoms, discovery of microscope, etc., and showcase it in the form of a project or role play.
- observe various technological devices and innovative exhibits such as waste management kits, water filtration system, using low-cost or no-cost eco-friendly materials, develop them and showcase it in science exhibitions, clubs and parent-teacher meets.
- share and discuss their beliefs and views regarding myths, taboos, superstitions, etc., by initiating an open ended debate,

process of evaporation with cooling effect, various processes of separation with the physical and chemical properties of the substances, production of sound with vibrations of source, etc.

- **explains processes and phenomena**, such as, functions of different organelles, spread of diseases and their prevention, effect of force on the state of motion of objects, action and reaction, rotation and revolution of planets and satellites, conservation laws, principle of separation of different gases from air, melting, boiling, freezing, how bats use ultrasonic waves to catch prey, etc.
- **calculates using the data given**, such as, distance, velocity, speed, frequency, work done, number of moles in a given mass of substance, concentration of solution in terms of mass by mass percentage of substances, conversion of Celsius scale to Kelvin scale and vice versa, number of neutrons in an atom from atomic number and mass number, speed of sound, kinetic and potential energies of an object, boiling points of liquids to predict the order of their separation from the mixture, etc.
- **draws labelled diagrams, flow charts, concept maps, graphs**, such as, biogeochemical cycles, cell organelles and tissues, human ear, distance-time and speed-time graphs, distribution of electrons in different orbits in an atom, process of distillation and sublimation, etc.
- **analyses and interprets graphs and figures** such as, distance-time and velocity-time graphs, computing distance, speed, acceleration of objects in motion, properties of components of a mixture to identify the appropriate method of separation, crop yield after use of fertilisers, etc.

leading to the alignment of their beliefs to the scientifically proven facts. They may also be involved in awareness campaigns in the community.

- **uses scientific conventions, symbols, and equations to represent various quantities, elements, and units**, such as, SI units, symbols of elements, formulae of simple compounds, chemical equations, etc.
- **measures physical quantities using appropriate apparatus, instruments, and devices**, such as, weight and mass of an object using spring balance, mass using a physical balance, time period of a simple pendulum, volume of liquid using measuring cylinder, temperature using thermometer, etc.
- **applies learning to hypothetical situations**, such as, weight of an object at moon, weight of an object at equator and poles, possibility of life on other planets, etc.
- **applies scientific concepts in daily life and solving problems**, such as, separation of mixtures, uses safety belts in automobiles, covers walls of large rooms with sound absorbent material, follows intercropping and crop rotation, takes preventive measures to control disease causing agents, etc.
- **derives formulae, equations, and laws**, such as, mathematical expressions for Newton's second law of motion, law of conservation of momentum, expression for force of gravity, equations of motion from velocity-time graphs, etc.
- **draws conclusion**, such as, classification of life forms is related to evolution, deficiency of nutrients affects physiological processes in plants, matter is made up of particles, elements combine chemically in a fixed ratio to form compounds, effect of action and reaction on two different bodies, etc.
- **describes scientific discoveries and inventions**, such as, discovery of various atomic models, discovery of cell with invention of microscope, experiments of Lavoisier and Priestley, beliefs regarding motion, discovery of real cause for peptic ulcers, Archimedes principle, classification of living things, etc.

- **designs models using eco-friendly resources**, such as, 3D model of a cell, water purification system, stethoscope, etc.
  - **exhibits values of honesty, objectivity, rational thinking, freedom from myths, superstitious beliefs while taking decisions, respect for life, etc.**, such as, records and reports experimental data exactly, myth that sexually transmitted diseases are spread by casual physical contact, belief that vaccination is not important for prevention of diseases, etc.
  - **communicates the findings and conclusions effectively**, such as, those derived from experiments, activities, and projects both in oral and written form using appropriate figures, tables, graphs, and digital forms, etc.
- applies the interdependency and interrelationship in the biotic and abiotic factors of environment to promote conservation of environment**, such as, organic farming, waste management, etc.

## Class X

Suggested Pedagogical Processes	Learning Outcomes
<p><b>The learners may be provided with opportunities individually or in groups and encouraged to—</b></p> <ul style="list-style-type: none"><li>• recognise the difference between reactions, such as, exothermic and endothermic, oxidation and reduction, etc.</li><li>• observe to understand the difference in the temperatures in both the reactions using laboratory thermometer.</li><li>• investigate the ways of segregation of waste material on the basis of their degradation property. They may be encouraged to practice the segregation of waste before disposal at home, school, and public places.</li><li>• explore the relationship between two physical quantities, such as, between potential difference across a conductor and electric current flowing through it; design, conduct, and share the findings of an activity</li><li>• find out ‘why’ and ‘how’ of processes or phenomena, such as, transportation in plants and animals, extraction of metals from ores, with the help of activities, experiments, and demonstration. The learners may be encouraged to discuss, relate, conclude and explain processes or phenomena to their peers using interdisciplinary approach.</li><li>• observe diagrams, such as that of digestive system and the names given to various organs. The learners may be motivated to make poster of the digestive system for displaying in school. They may also be provided opportunities to use ICT tools for drawing.</li><li>• collect wide variety of graphs from newspapers, magazines, or the internet, with a view to understand the information contained therein. The learners may be facilitated to draw a graph, such as V-I graph for analysing the relationship between the potential difference across a conductor and the current through it.</li></ul>	<p><b>The learner—</b></p> <ul style="list-style-type: none"><li>• <b>differentiates materials, objects, organisms, phenomena, and processes, based on, properties and characteristics,</b> such as, autotrophic and heterotrophic nutrition, biodegradable and non-biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic, and neutral salts using different indicators, real and virtual images, etc.</li><li>• <b>classifies materials, objects, organisms, phenomena, and processes, based on properties and characteristics,</b> such as, metals and non-metals, acid and bases on the basis of their physical and chemical properties.</li><li>• <b>plans and conducts investigations and experiments to arrive at and verify the facts, principles, phenomena, or to seek answers to queries on their own,</b> such as, investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm’s law, etc. Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why does the shoot of a plant moves towards light?</li><li>• <b>relates processes and phenomena with causes and effects,</b> such as, hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.</li><li>• <b>explains processes and phenomena,</b> such as, nutrition in human beings and plants, transportation in plants</li></ul>

- study how chemical equations are balanced using simple mathematical skills. Discussion may be conducted on the significance of balancing of chemical equations.
- get familiar with New Cartesian Sign Convention using illustrated cards and may be given ample opportunities to apply the sign convention in various situations of reflection by spherical mirrors.
- perform a role-play on ecosystem in a hypothetical situation, such as, what will happen if all herbivores suddenly vanish from earth. This may be followed by a discussion about how the loss of biodiversity disrupts the food chain hereby adversely affecting the energy flow in an ecosystem.
- derive equations, formulae, laws, etc. For example, the derivation for formula of the equivalent resistance of resistors in series (or parallel). They should be encouraged to practice the derivation till they are confident.
- study the features inherited through genes, such as, attached or free earlobes. They may be encouraged to observe and compare the earlobes of their friends with the earlobes of their parents and grandparents to arrive at the conclusion that characters or traits are inherited in offsprings from their parents.
- collect print and non-print materials by exploring the library and the internet about scientists and their findings to appreciate how concepts evolved with time. They may be motivated to share their findings by preparing posters and performing role plays or skits.
- encourage learners to visit science museums, biodiversity parks, aviaries, zoological parks, botanical gardens, fisheries, poultry farms, factories, etc.

and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advanced sunrise and delayed sunset, formation of rainbow, etc.

- **draws labelled diagrams, flow charts, concept maps, and graphs**, such as, digestive, respiratory, circulatory, excretory, and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flowchart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.
- **analyses and interprets data, graphs, and figures**, such as, melting and boiling points of substances to differentiate between covalent and ionic compounds, pH of solutions to predict the nature of substances, V-I graphs, ray diagrams, etc.
- **calculates using the data given**, such as, number of atoms in reactants and products to balance a chemical equation, resistance of a system of resistors, power of a lens, electric power, etc.
- **uses scientific conventions to represent units of various quantities, symbols, formulae, and equations**, such as, balanced chemical equation by using symbols and physical states of substances, sign convention in optics, SI units, etc.
- **handles tools and laboratory apparatus properly; measures physical quantities using appropriate apparatus, instruments, and devices**, such as, pH of substances using pH paper, electric current and potential difference using ammeter and voltmeter, etc.

- collect eco-friendly, commonly available materials to design and develop technological devices and innovative exhibits, such as, electric motor, soda acid fire extinguisher, respiratory system, etc. They may be motivated to display their exhibits or models in science exhibitions, science club, classrooms, during parent-teacher meet and to respond to the queries raised during interaction.
- visit classrooms, laboratories, library, toilets, playground, etc., to identify places where wastage of electricity and water may be occurring. Discussion may be held on importance of natural resources and their conservation, leading to the conviction for adoption of good habits in their day-to-day life. The learners may also organise a sensitisation programme on such issues.
- share their findings of the activities, projects, and experiments, such as, extraction of metals from ores, working of electric motor and generator, formation of rainbow, etc., in oral and written forms. Report writing may be facilitated to share their findings by using appropriate technical terms, figures, tables, graphs, etc. They may be encouraged to draw conclusions on the basis of their observations.
- **applies learning to hypothetical situations**, such as, what will happen if all herbivores are removed from an ecosystem? What will happen if all non-renewable sources of energy are exhausted?
- **applies scientific concepts in daily life and solving problems**, such as, suggest precautions to prevent sexually transmitted infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardens, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.
- **derives formulae, equations, and laws**, such as, equivalent resistance of resistors in series and parallel, etc.
- **draws conclusion**, such as, traits or features are inherited through genes present on chromosomes, a new species originates through evolutionary processes, water is made up of hydrogen and oxygen, properties of elements vary periodically along the groups and periods in periodic table, potential difference across a metal conductor is proportional to the electric current flowing through it, etc.
- **takes initiative to know about scientific discoveries and inventions**, such as, Mendel's contribution in understanding the concept of inheritance, Dobereiner for discovering triads of elements, Mendeleev for the development of the periodic table of elements, Oersted's discovery that electricity and magnetism are related, discovery of relation between potential difference across a metal conductor and the electric current flowing through it by Ohm, etc.
- **exhibits creativity in designing models using eco-friendly resources**, such as, working model of respiratory,

digestive, and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, formation of diamond, graphite, and Buckminsterfullerene, human eye, electric motor and generator, etc.

- **exhibits values of honesty, objectivity, rational thinking, and freedom from myth and superstitious beliefs while taking decisions, respect for life, etc.,** such as, reports and records experimental data accurately, says no to consumption of alcohol and drugs, sensitises others about its effect on physical and mental health, sensitises for blood and organ donations, understands the consequences of pre-natal sex determination, etc.
- **communicates the findings and conclusions effectively,** such as, those derived from experiments, activities, and projects orally and in written form using appropriate figures, tables, graphs, and digital forms, etc.
- **makes efforts to conserve environment realising the inter-dependency and inter-relationship in the biotic and abiotic factors of environment,** such as, appreciates and promotes segregation of biodegradable and non-biodegradable wastes, minimises the use of plastics, takes appropriate steps to promote sustainable management of resources in day-to-day life, advocates use of fuels which produce less pollutants, uses energy efficient electric devices, uses fossil fuels judiciously, etc.

# CBSE | DEPARTMENT OF SKILL EDUCATION

## CURRICULUM FOR SESSION 2020-2021

### INFORMATION TECHNOLOGY (CODE – 402)

JOB ROLE: DOMESTIC DATA ENTRY OPERATOR

#### RATIONALIZED CURRICULUM FOR CLASS–X FOR SESSION 2020-21

Total Marks: 100 (Theory-50 + Practical-50)

	UNITS	NO. OF HOURS for Theory and Practical 200		MAX. MARKS for Theory and Practical 100
		Theory (In Hours)	Practical (In Hours)	Marks
<b>Part A</b>	<b>Employability Skills</b>			
	Unit 1 : Communication Skills-II	10		10
	Unit 2 : Self-Management Skills-II	10		
	Unit 3 : Information and Communication Technology Skills-II	10		
	Unit 4 : Entrepreneurial Skills-II	15		
	Unit 5 : Green Skills-II	05		
	<b>Total</b>	<b>50</b>		<b>10</b>
<b>Part B</b>	<b>Subject Specific Skills</b>			
	Unit 1: Digital Documentation (Advanced)	12	18	8
	Unit 2: Electronic Spreadsheet (Advanced)	15	23	10
	Unit 3: Database Management System	18	27	12
	Unit 4: Web Applications and Security	15	22	10
		<b>Total</b>	<b>60</b>	<b>90</b>
<b>Part C</b>	<b>Practical Work</b>			
	Practical Examination			15
	Written Test			10
	Viva Voce			10
		<b>Total</b>		
<b>Part D</b>	<b>Project Work/Field Visit</b>			
	Practical File/ Student Portfolio			10
	Viva Voce			05
		<b>Total</b>		
	<b>GRAND TOTAL</b>	<b>200</b>		<b>100</b>

## **DETAILED CURRICULUM/TOPICS:**

### **Part-A: EMPLOYABILITY SKILLS**

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-II	10
2.	Unit 2: Self-management Skills-II	10
3.	Unit 3: Information and Communication Technology Skills-II	10
4.	Unit 4: Entrepreneurial Skills-II	15
5.	Unit 5: Green Skills-II	05
	<b>TOTAL DURATION</b>	<b>50</b>

**NOTE:** For detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

### **Part-B – SUBJECT SPECIFIC SKILLS**

S. No.	Units	Duration in Hours
1.	Unit 1: Digital Documentation (Advanced)	30
2.	Unit 2: Electronic Spreadsheet (Advanced)	38
3.	Unit 3: Database Management System	45
4.	Unit 4: Web Applications and Security	37
	<b>TOTAL DURATION</b>	<b>150</b>

#### **UNIT 1: DIGITAL DOCUMENTATION (ADVANCED)**

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Create and Apply Styles in the document	<ul style="list-style-type: none"><li>• Styles/ categories in Word Processor</li><li>• <b>Styles and Formatting window.*</b></li><li>• <b>Fill Format.*</b></li><li>• Creating and updating new style from selection</li><li>• Load style from template or another document.</li><li>• <b>Creating a new style using drag-and-drop.*</b></li><li>• Applying styles.</li></ul>	<ul style="list-style-type: none"><li>• List style categories. Select the style from the Styles and Formatting window.</li><li>• Use Fill Format to apply a style to many different areas quickly.</li><li>• Create and update new style from a selection.</li><li>• Load a style from a template or another document.</li><li>• Create a new style using drag-and-drop.</li></ul>

(\* To be assessed in Practicals only. No question shall be asked from this portion in Theory Exams)

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
2.	Insert and use images in document	<ul style="list-style-type: none"> <li>Options to insert image to document from various sources.</li> <li>Options to modify, resize, crop and delete an image. Drawing objects and its properties.</li> <li>Creating drawing objects and changing its properties. Resizing and grouping drawing objects.</li> <li>Positioning image in the text.</li> </ul>	<ul style="list-style-type: none"> <li>Insert an image to document from various sources.</li> <li>Modify, resize, crop and delete an image.</li> <li>Create drawing objects</li> <li>Set or change the properties of a drawing object</li> <li>Resize and group drawing objects</li> <li>Position the image in the text</li> </ul>
3.	Create and use template	<ul style="list-style-type: none"> <li>Templates.</li> <li>Using predefined templates.</li> <li>Creating a template. *</li> <li>Set up a custom default template.</li> <li>Updating a document.*</li> <li>Changing to a different template.</li> <li>Using the Template.</li> </ul>	<ul style="list-style-type: none"> <li>Create a template.</li> <li>Use predefined templates.</li> <li>Set up a custom default template.</li> <li>Update a document.</li> <li>Change to a different template.</li> <li>Use the Template.</li> </ul>
4.	Create and customize table of contents	<ul style="list-style-type: none"> <li>Table of contents. Hierarchy of headings. Customization of table of contents.</li> <li>Character styles. Maintaining a table of contents.</li> </ul>	<ul style="list-style-type: none"> <li>Create table of contents. Define a hierarchy of headings.</li> <li>Customize a table of contents.</li> <li>Apply character styles. Maintain a table of contents.</li> </ul>
5	Implement Mail Merge	<ul style="list-style-type: none"> <li>Advance concept of mail merge in word processing,</li> <li>Creating a main document,</li> <li>Creating the data source,</li> <li>Entering data in the fields,</li> <li>Merging the data source with main document,</li> <li>Editing individual document,*</li> <li>Printing a letter and its address label</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate to print the label using mail merge, do the following to achieve</li> <li>Create a main document,</li> <li>Create the data source,</li> <li>Enter data in the fields,</li> <li>Merge the data source with main document,</li> <li>Edit individual document,</li> <li>Print the letter and address label</li> </ul>

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## UNIT 2: ELECTRONIC SPREADSHEET (ADVANCED)

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Analyse data using scenarios and goal seek.	<ul style="list-style-type: none"> <li>• Using consolidating data. Creating subtotals.</li> <li>• Using “what if” scenarios. Using “what if” tools</li> <li>• Using goal seek and solver.</li> </ul>	<ul style="list-style-type: none"> <li>• Use consolidating data Create subtotals</li> <li>• Use “what if” scenarios Use “what if” tools</li> <li>• Use goal seek and solver</li> </ul>
2.	Link data and spreadsheets	<ul style="list-style-type: none"> <li>• Setting up multiple sheets. Creating reference to other sheets by using keyboard and mouse.</li> <li>• <b>Creating reference to other document by using keyboard and mouse.*</b></li> <li>• Relative and absolute hyperlinks</li> <li>• Hyperlinks to the sheet.                             <ul style="list-style-type: none"> <li>○ Linking to external data.</li> <li>○ Linking to registered data sources.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Setup multiple sheets by inserting new sheets.</li> <li>• Create reference to other sheets by using keyboard and mouse.</li> <li>• Create reference to other document by using keyboard and mouse.</li> <li>• Create, Edit and Remove hyperlinks to the sheet.</li> <li>• Link to external data.</li> <li>• Link to registered data source.</li> </ul>
3.	Share and review a spreadsheet	<ul style="list-style-type: none"> <li>• <b>Setting up a spreadsheet for sharing.*</b></li> <li>• Opening and saving a shared spreadsheet. Recording changes.</li> <li>• Add, Edit and Format the comments.</li> <li>• Reviewing changes – view, accept or reject changes. Merging and comparing.</li> </ul>	<ul style="list-style-type: none"> <li>• Set up a spreadsheet for sharing.</li> <li>• Open and save a shared spreadsheet.</li> <li>• Record changes.</li> <li>• Add, Edit and Format the comments.</li> <li>• Review changes – view, accept or reject changes.</li> <li>• Merge and compare sheets.</li> </ul>
4.	Create and Use Macros in spreadsheet	<ul style="list-style-type: none"> <li>• Using the macro recorder. Creating a simple macro. Using a macro as a function.</li> <li>• Passing arguments to a macro.</li> <li>• Passing the arguments areas values.</li> <li>• Macros to work like built-in functions.</li> <li>• Accessing cells directly.</li> <li>• Sorting the columns using macro.</li> </ul>	<ul style="list-style-type: none"> <li>• Use the macro recorder. Create a simple macro. Use a macro as a function.</li> <li>• Pass arguments to a macro.</li> <li>• Pass the arguments are as values.</li> <li>• Write macros that act like built-in functions</li> <li>• Access cells directly.</li> <li>• Sort the columns using macro.</li> </ul>

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### UNIT 3: DATABASE MANAGEMENT SYSTEM

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Appreciate the concept of Database Management System	<ul style="list-style-type: none"> <li>• Concept and examples of data and information,</li> <li>• Concept of database,</li> <li>• Advantages of database,</li> <li>• Features of database,</li> <li>• Concept and examples of Relational database,</li> <li>• Concept and examples of field, record, table, database,</li> <li>• Concept and examples of Primary key, composite primary key, foreign key,</li> <li>• Relational Data base management system (RDBMS) software.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the data and information,</li> <li>• Identify the field, record, table in the database,</li> <li>• Prepare the sample table with some standard fields.</li> <li>• Assign the primary key to the field,</li> <li>• Identify the primary key, composite primary key, foreign key.</li> </ul>
2.	Create and edit tables using wizard and SQL commands	<ul style="list-style-type: none"> <li>• Introduction to a RDBMS</li> <li>• Database objects – tables, queries, forms, and reports of the database,</li> <li>• Terms in database – table, field, record,</li> <li>• <b>Steps to create a table using table wizard, *</b></li> <li>• Data types in Base,</li> <li>• Option to set primary key Table Data View dialog box</li> <li>• DDL Commands</li> </ul>	<ul style="list-style-type: none"> <li>• Start the RDBMS and observe the parts of main window,</li> <li>• Identify the data base objects Create the sample table in any category using wizard, Practice to create different tables from the available list and choosing fields from the available fields.</li> <li>• Assign data types of field, Set primary key,</li> <li>• Edit the table in design view, Enter the data in the fields.</li> <li>• Create and edit table using DDL Commands</li> </ul>
3.	Perform operations on table	<ul style="list-style-type: none"> <li>• Inserting data in the table,</li> <li>• Editing records in the table,</li> <li>• Deleting records from the table,</li> <li>• Sorting data in the table, Referential integrity,</li> <li>• Creating and editing relationships – one to one, one to many, many to many,</li> <li>• Field properties.</li> </ul>	<p>Demonstrate to:</p> <ul style="list-style-type: none"> <li>• Insert data in the table, Edit records in the table, Delete records from table, Sort data in the table,</li> <li>• Create and edit relationships</li> <li>• one to one, one to many, many to many,</li> <li>• Enter various field properties.</li> </ul>

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S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
4.	Retrieve data using query	<ul style="list-style-type: none"> <li>• Database query,</li> <li>• Defining query,</li> <li>• Query creation using wizard,*</li> <li>• Creation of query using design view,*</li> <li>• Editing a query,</li> <li>• Applying criteria in query – single field, multiple fields, using wildcard,</li> <li>• Performing calculations,</li> <li>• Grouping of data,</li> <li>• Structured Query Language (SQL).</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a query for given criteria,</li> <li>• Demonstrate to create query using wizard, and using design view,</li> <li>• Edit a query,</li> <li>• Demonstrate to apply various criteria in query – single field, multiple fields, using wild card,</li> <li>• Performing calculations using query in Base,</li> <li>• Demonstrate to group data,</li> <li>• Use basic SQL commands,</li> </ul>
5.	Create Forms and Reports using wizard	<ul style="list-style-type: none"> <li>• Forms in Base,</li> <li>• Creating form using wizard,*</li> <li>• Steps to create form using Form Wizard,*</li> <li>• Options to enter or remove data from forms</li> <li>• Modifying form,</li> <li>• Changing label, background,</li> <li>• Searching record using Form,</li> <li>• Inserting and deleting record using Form View,</li> <li>• Concept of Report in Base,</li> <li>• Creating Report using wizard,*</li> <li>• Steps to create Report using Wizard.*</li> </ul>	<ul style="list-style-type: none"> <li>• Illustrate the various steps to create Form using Form Wizard,</li> <li>• Enter or remove data from Forms,</li> <li>• Demonstrate to modify Forms,</li> <li>• Demonstrate to change label, background,</li> <li>• Search record using Form,</li> <li>• Insert and delete record using Form View,</li> <li>• Illustrate the various steps to create Report using Report Wizard,</li> <li>• Demonstrate various examples of Report.</li> </ul>

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## UNIT 4: WEB APPLICATIONS AND SECURITY

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Working With Accessibility Options.	<ul style="list-style-type: none"> <li>• Understand various types of impairment that impact computer usage</li> <li>• Computer Accessibility Dialog box and its tabs</li> <li>• Serial Keys</li> </ul>	<ul style="list-style-type: none"> <li>• Illustrate use of various options under Computer Accessibility like Keyboard , mouse, sound, display setting serial keys, cursor options</li> <li>• use of toggle keys, filter keys, sticky keys,</li> <li>• sound sentry, show sounds etc.</li> </ul>
2.	Understand Networking Fundamentals	<ul style="list-style-type: none"> <li>• Network and its types.</li> <li>• Client Server Architecture, Peer-to-peer (P2P) Architecture,</li> <li>• internet, World Wide Web,</li> <li>• benefits of networking</li> <li>• internet, getting access to internet,</li> <li>• internet terminology</li> <li>• Some of the commonly used Internet connectivity options</li> <li>• Data transfer on the Internet</li> </ul>	<ul style="list-style-type: none"> <li>• Identify applications of Internet</li> <li>• comparing various internet technologies</li> <li>• identifying types of networks and selecting internet</li> </ul>
3.	Introduction to Instant Messaging	<ul style="list-style-type: none"> <li>• learn key features of instant messaging</li> <li>• Creating an instant messaging account</li> <li>• <b>Launching Google Talk *</b></li> <li>• <b>Signing In into your Google Talk Account*</b></li> </ul>	<ul style="list-style-type: none"> <li>• Illustrate steps to create instant messaging account</li> <li>• Signing In into your Google Talk Account</li> </ul>
4.	Chatting With a Contact – Google Talk	<ul style="list-style-type: none"> <li>• learn to chat with a contact that is already added to your contact list.</li> <li>• sending text chat messages instantly by double-clicking on a contact.</li> <li>• general rules and etiquettes to be followed while chatting.</li> <li>• chatting on various types of messengers</li> </ul>	<ul style="list-style-type: none"> <li>• Illustrate chat with a contact and send messages,</li> <li>• chatting with various messenger services</li> </ul>
5	Creating and Publishing Web Pages – Blog ...-	<ul style="list-style-type: none"> <li>• learn and appreciate a blog and <b>its creation with the help of some blog providers*</b></li> <li>• set up title and other parameters in a blog posting comments</li> <li>• using offline blog editors</li> </ul>	<ul style="list-style-type: none"> <li>• Illustrate Blog Creation and setting various parameters in it</li> </ul>

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S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
6	Using Offline Blog Editors	<ul style="list-style-type: none"> <li>• Concept to create blogs using a blog application and publish the blog whenever internet connectivity is available.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration on how to create blogs using a blog application offline.</li> <li>• posting messages in an offline application</li> <li>• Publish the blog whenever internet connectivity is available using various examples</li> </ul>
7	Online Transaction	<ul style="list-style-type: none"> <li>• concept of e-commerce and various online applications</li> <li>• importance of secure passwords</li> </ul>	<ul style="list-style-type: none"> <li>• Illustration of online shopping using various e-commerce sites</li> <li>• Demonstration of securing passwords for online transactions.</li> </ul>
8.	Internet Security	<ul style="list-style-type: none"> <li>• Need of internet security</li> <li>• Cyber threats like phishing, email-spoofing, char spoofing etc.</li> <li>• best practices for internet security and secure passwords</li> <li>• concept of browser, cookies, backup, antivirus</li> <li>• clearing data in browsers</li> </ul>	<ul style="list-style-type: none"> <li>• Illustration of internet security threats through various ways</li> <li>• Cyber security tips</li> <li>• Tips for secure passwords</li> <li>• Demonstration of strong passwords using various websites.</li> <li>• Clearing data stored in browser applications.</li> </ul>
9.	Maintain workplace safety	<ul style="list-style-type: none"> <li>• Basic safety rules to follow at workplace – Fire safety,</li> <li>• Falls and slips, Electrical safety,</li> <li>• Use of first aid.</li> <li>• Case Studies of hazardous situations.</li> </ul>	<ul style="list-style-type: none"> <li>• Practice to follow basic safety rules at workplace to prevent accidents and protect workers – Fire safety,</li> <li>• Falls and slips, Electrical safety, Use of first aid.</li> </ul>
10.	Prevent Accidents and Emergencies	<ul style="list-style-type: none"> <li>• Accidents and emergency,</li> <li>• Types of Accidents,</li> <li>• Handling Accidents</li> <li>• Types of Emergencies.</li> </ul>	<ul style="list-style-type: none"> <li>• Illustrate to handle accidents at workplace,</li> <li>• Demonstrate to follow evacuation plan and procedure in case of an emergency.</li> </ul>
11.	Protect Health and Safety at work	<ul style="list-style-type: none"> <li>• Hazards and sources of hazards,</li> <li>• General evacuation procedures,</li> <li>• Healthy living.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify hazards and sources of hazards,</li> <li>• identify the problems at workplace that could cause accidents,</li> </ul>

			<ul style="list-style-type: none"><li>• Practice the general evacuation procedures in case of an emergency.</li></ul>
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Session 2020-2021