

# SYLLABUS (2021-22)

## CLASS VIII

### CONTENTS

#### S.No. Subject

1. English
2. Hindi
3. Sanskrit
4. French
5. Mathematics
6. Science
7. Social Science
8. Computer Science
9. General Knowledge
10. Work Experience
11. Art Education
12. Physical Education & Health Education

## ENGLISH

### Learning Objectives -

#### Reading

To enable the students to -

1. read silently at varying speed depending on the purpose of reading.
2. recognise the organisation of a text.
3. identify the main points of a text.
4. read extensively on their own.

#### Writing

To enable the students to -

1. express ideas in clear and grammatically correct English, using appropriate punctuation and cohesion devices.
2. write a clear description.
3. expand notes into a piece of writing.
4. use an appropriate style and format to write letters (formal and informal), articles etc.; monitor, check and revise written work.

#### Listening

To enable the students to -

1. adopt different strategies according to the purpose of listening (e.g. for pleasure, for general interest, for specific information).
2. understand and respond appropriately to directive language (e.g. instruction, advice, request and warning).
3. understand and interpret messages conveyed in person or by telephone.

#### Speaking

To enable the students to –

1. operate intelligibly using appropriate word stress, sentence stress and intonation pattern.
2. narrate incidents and events, real and imaginary, in a logical sequence.

#### Textbooks

1. Revised New Pathways Course Book- 8 (MCB)
2. Revised New Pathways Literature Reader- 8 (LR)
3. Collins English Grammar and Composition-8
4. The Hound of the Baskervilles by Sir Arthur Conan Doyle

**General Note:**

A thorough reading of the text on regular basis is a must as questions from within the lesson will be given in the exams/tests. Questions in the exams are likely to be different from those attempted in the note books.

**FIRST TERM****Reading Comprehensions**

- MCB - 1. My Big Brother  
2. Can We Change This?  
LR- 3. Her First Party  
4. A Newspaper Is a Collection of Half-Injustices

**Writing Skills**

1. Notice Writing
2. School Magazine Report
3. Formal Letter Writing
4. Guided Story Writing

**Grammar**

1. Nouns
2. Pronouns
3. Sentences
4. Conditional Sentences
5. Transformation of Sentences
6. Synthesis of Sentences
7. Adjectives
8. Verbs
9. Agreement of Subject and Verb
10. Non-Finite Verbs
11. Adverbs
12. Active and Passive Voice
13. Test I

**Literature and Long Reading Text**

- MCB - 1. Refugee Blues (Poem)  
LR - 2. The Secret of the Machines (Poem)  
3. The Nightingale and the Glow-worm (Poem)  
4. Boyhood Days  
5. Father's Help  
6. Jamaican Fragment  
MCB - 7. Pocahontas

**N.B.:** Diary entry from the following chapter is to be done in class and assessed in literature section as long answer (80-100 words)

Father's Help

**The Hound of the Baskervilles - Chapters 1 to 7**

**Note:** There will be separate assessment of listening and speaking skills.

**Listening Activities to be taken up in the term -**

- MCB - 1. A Most Important Person (Pg. 33)  
1. Can We Change This? (Pg. 83)  
2. Assessment of Listening Task 1, Task 2, Task 3 and Task 4 (Pg. 169, 170 & 171)

**Creative Writing (Expressions)**

1. Friendships are fragile things and require as much careful handling as any other fragile and precious thing. Elaborate this statement on the basis of the chapter 'A Most Important Person' (MCB).
2. Read the poem 'Haunted Houses' (MCB) and write how the poet has tried to connect the human world with the world of spirits.
3. Terenty had never been to school but nature had been his greatest teacher. What lessons can we learn from nature? Explain with reference to the chapter 'A Day in the Country' (MCB).

## SECOND TERM

### Reading Comprehensions

- MCB -
1. Imagination
  2. The Choice
  3. Mr. Tallent's Ghost
  4. The Diamond Maker

### Writing Skills

1. Dialogue Writing
2. Advertisement Writing
3. Article Writing
4. Speech Writing

### Grammar

1. Phrases and Clauses
2. Relative Clauses
3. Determiners
4. Articles
5. Modals
6. The Present Tense
7. The Past Tense
8. The Future Tense
9. Direct and Indirect Speech
10. Prepositions
11. Conjunctions
12. Punctuation
13. Grammar on the Go
14. Idioms and Phrasal Verbs
15. Words: A Mixed Bag
16. Test II
17. Test III

### Literature and Long Reading Text

- MCB -
1. Somebody's Mother (Poem)
  2. I Think I Could Turn and Live with Animals (Poem)
- LR -
3. On a Night of Snow (Poem)
  4. The Stalled Ox
  5. The Unexpected
  6. Springtime Á La Carte
- MCB -
7. The Red-Headed League
  8. Elephants Raid the Kitchen

### The Hound of the Baskervilles - Chapters 8 to 15

**Note:** There will be separate assessment of listening and speaking skills.

### Listening Activities to be taken up in the term -

- MCB -
1. Feathered Friend (Pg. 133)
  2. Journey to the Centre of the Earth (Pg. 109)
  3. Mr. Tallent's Ghost (Pg. 161)
  4. Elephants Raid the Kitchen (Pg. 57)

### Creative Writing (Expressions)

1. The Chapter 'Emperors on Ice' (MCB) is based upon the expedition taken up by the brave men. Based upon your reading of the chapter, explain what qualities of the explorers are required to undertake the hazardous journey.
2. Read the chapter 'Journey to the Centre of the Earth' (MCB) and imagine you are a copywriter for a travel agency. You want to package and promote trips to the centre of the earth. Mention the settings as well as the adventures that are in store for the vacationers.

3. Life in space is different from the life on earth. Read the chapter 'Feathered Friend' (MCB) and draw a comparison between the two.

## हिंदी

### हिंदी शिक्षण का उद्देश्य :

1. भाषा की बारीकी और सौन्दर्यबोध की क्षमता का विकास करना ।
2. दृश्य या श्रव्य माध्यमों की सामग्री को पढ़कर, देखकर और सुनकर समझने तथा उस पर स्वतंत्र व स्वाभाविक मौखिक एवं लिखित प्रतिक्रिया व्यक्त करने की क्षमता का विकास करना।
3. विभिन्न साहित्यिक विधाओं का आनंद उठाने की क्षमता का विकास करना ।
4. पठित, लिखित और सुने हुए भाषिक ज्ञान से संबंधित सामग्री का तार्किक दृष्टि से अध्ययन करने की प्रवृत्ति का विकास करना ।
5. अपने भावों व विचारों को सहज, स्वाभाविक और शुद्ध अभिव्यक्त करने की क्षमता का विकास करना ।
6. शब्दों, मुहावरों, लोकोक्तियों का सुचिंतित प्रयोग करने की क्षमता का विकास करना ।
7. मौखिक एवं लिखित अभिव्यक्ति के संदर्भ और आवश्यकता के अनुसार समुचित भाषा-शैली व प्रयोग को चुनने की समझ का विकास करना ।
8. भाषा की नियमबद्ध प्रकृति को पहचानना और उसका विश्लेषण करना ।

**नोट.** 1. प्रत्येक पाठ से शब्दार्थ, प्रश्नोत्तर और निबंधात्मक प्रश्न करवाए जाएँगे ।

2. परीक्षा में पाठ के मध्य से प्रश्न पूछे जाएँगे, अतः पाठ को ध्यानपूर्वक पढ़ना आवश्यक है।

**पाठ्य पुस्तकें** - 1. वसंत (भाग- 3) (एन.सी.ई.आर.टी)

2. साम्राज्य हिला चुटकी भर नमक से (सी.बी.टी प्रकाशन)

3. हिंदी व्याकरण सुधा - भाग-8 (गोयल ब्रदर्स प्रकाशन)

### प्रथम-सत्र

**वसंत भाग - 3**

**गद्य पाठ** - 1. लाख की चूड़ियाँ

2. क्या निराश हुआ जाए

**पद्य पाठ** - 1. कबीर की साखियाँ

2. दीवानों की हस्ती

3. सूर के पद

4. यह सबसे कठिन समय नहीं

**पूरक पुस्तक -**

**साम्राज्य हिला चुटकी भर नमक से** - भाग 1 से भाग 6

**व्याकरण** - 1. वर्ण विचार

2. संज्ञा

3. लिंग, वचन, कारक

4. उपसर्ग, प्रत्यय

5. सर्वनाम

6. विशेषण

7. पर्यायवाची शब्द (1-15)

8. विलोम शब्द (अंत से उष्ण तक)

9. अनेकार्थक शब्द (1-10)

10. मुहावरे (1-10)  
11. वाक्यांशों के लिए एक शब्द (1-15)
- रचना कौशल** - 1. अपठित-गद्यांश - (i) जब सिनेमा ने बोलना सीखा (वसंत)  
(ii) हम पृथ्वी की संतान (वसंत)  
2. अपठित-काव्यांश - चिट्ठियाँ (वसंत)  
3. संवाद-लेखन - 2  
4. विज्ञापन-लेखन - 2  
5. चित्र-वर्णन - 2  
6. पत्र-लेखन - 2 (अनौपचारिक एवं औपचारिक)  
7. निबंध-लेखन - 2

- ग्रीष्मावकाश प्रयोज्यकार्य हेतु** - 1. पहाड़ से ऊँचा आदमी (वसंत)  
2. अकबरी लोटा (वसंत)

### द्वितीय-सत्र

#### वसंत भाग- 3

- गद्य पाठ** - 1. बस की यात्रा  
2. बाज और साँप  
3. जहाँ पहिया है

- पद्य पाठ** - 1. ध्वनि  
2. भगवान के डाकिए  
3. सुदामाचरित

#### पूरक पुस्तक -

**साम्राज्य हिला चुटकी भर नमक से** - भाग 7 से भाग 12

- व्याकरण** - 1. क्रिया (संरचना के आधार पर)  
2. काल  
3. अव्यय (क्रिया-विशेषण, संबंधबोधक, समुच्चयबोधक, विस्मयादिबोधक)  
4. वाक्य-विचार (वाक्य के अंग)  
5. विराम-चिह्न  
6. पर्यायवाची शब्द (16-30)  
7. विलोम-शब्द (ऊँच से निंदा तक)  
8. मुहावरे (11-20)

- रचना कौशल** - 1. अपठित-गद्यांश - (i) कंप्यूटर गाएगा गीत (वसंत)  
(ii) चिट्ठियों की अनूठी दुनिया (वसंत)  
2. अपठित-काव्यांश - (i) पिता के बाद (वसंत)  
3. संवाद-लेखन - 2  
4. विज्ञापन-लेखन - 2  
5. चित्र-वर्णन - 2  
6. पत्र-लेखन - 2 (अनौपचारिक एवं औपचारिक)  
7. निबंध-लेखन - 2

- शीतावकाश प्रयोज्यकार्य हेतु** - 1. पानी की कहानी (वसंत)  
2. टोपी (वसंत)

## संस्कृत

### संस्कृत शिक्षण के उद्देश्य -

1. संस्कृतभाषा एवं साहित्य के प्रति जिज्ञासा उत्पन्न करना ।
2. अर्थबोध के साथ संस्कृत गद्यांश को पढ़ने की क्षमता विकसित करना तथा संस्कृत श्लोकों को स्मरण कर सस्वर वाचन करने की योग्यता उत्पन्न करना ।
3. संस्कृतभाषा का सामान्य ज्ञान कराना जिससे संस्कृत के सरलांशों को सुनकर या पढ़कर विद्यार्थी समझ सकें एवं मौखिक तथा लिखित अभिव्यक्ति कर सकें ।
4. संस्कृत में श्रवण-भाषण-वाचन से लेखन-कौशल तथा भाषागत कौशल का विकास करना ।
5. दृश्य-श्रव्य साधनों को ध्यानपूर्वक देखकर, पढ़कर तथा सुनकर उन पर अपेक्षित क्रियाएँ करने में समर्थ होना ।
6. विद्यार्थियों में सौन्दर्यबोध, कल्पनाशीलता, तथा चिन्तन की क्षमता का विकास करना ।

### सामान्य निर्देश -

1. रुचिरा में से परीक्षा हेतु पठित गद्यांशों, श्लोकों, संवादों, पर आधारित प्रश्नोत्तर का अभ्यास कराया जाएगा । भाषिक कार्य में जैसे - प्रश्न-निर्माण, पर्यायवाची, विलोम शब्द, कर्तृक्रिया-पदचयन, विशेषण-विशेष्य, संज्ञा, सर्वनाम प्रयोग आदि कराये जाएंगे ।
2. रुचिरा के पाठ्यक्रमानुसार पाठों का संमूर्ण अभ्यास तथा समस्त शब्दार्थ करवाये जाएंगे ।
3. श्लोकों का अन्वय रिक्तस्थान के रूप में परीक्षा में आएगा ।
4. संधि, प्रत्यय, , अव्यय, संख्या, उपसर्ग, शब्दरूप और धातुरूप वाक्यों में आयेंगे ।
5. प्रश्नपत्र संस्कृतभाषा में आएगा ।

### पाठ्य पुस्तकें -

1. रुचिरा ( तृतीयो भागः)
2. संस्कृत व्याकरण मणिका (8)

### प्रथम सत्र

#### 1. रुचिरा

प्रथमः पाठः	-	सुभाषितानि
द्वितीयः पाठः	-	बिलस्य वाणी न कदापि मे श्रुता
तृतीयः पाठः	-	डीजीभारतम्
चतुर्थः पाठः	-	सदैव पुरतो निधेहि चरणम्
पंचमः पाठः	-	कंटकेनैव कंटकम्
नवमः पाठः	-	सप्तभगिन्यः

#### 2. व्याकरण

1. उपपद विभक्तियां - उपपद विभक्तियों पर आधारित अशुद्धि संशोधन, रिक्तस्थानादि ।
2. स्वर संधि - ( वाक्यों में ) दीर्घ, यण्, वृद्धि
3. उपसर्ग ( वाक्यों में ) - उपसर्ग युक्त धातुएँ (संस्कृत व्याकरण मणिका पृष्ठ सं० 101 )
4. प्रत्ययः ( वाक्यों में ) - तुमुन् प्रत्यय, तुमुन् प्रत्यय के योग से वाक्य संयोजन ।
5. शब्द रूप ( वाक्यों में ) - नदी, पितृ, अस्मद्, युष्मद् ( तीनों लिंगों में )
6. धातुरूप ( वाक्यों में ) - पाँचों लकारों में ( लट्, लृट्, लङ्, लोट्, विधिलिङ् )  
धातुएँ - नम्, दृश्, गम्, कृ,

#### 3. 1. अपठित गद्यांशः

- 2 पत्रलेखनम् - संकेत-आधारित पत्रम्

3. चित्रवर्णनम् – प्रदत्तचित्र के आधार पर संस्कृत में वाक्य
4. हिंदी से संस्कृत में अनुवाद ( पाँच वाक्य )

## द्वितीयः सत्रः

### 1. रुचिरा

- षष्ठः पाठः - गृहं शून्यं सुतां विना  
सप्तमः पाठः - भारतजनताऽहम्  
दशमः पाठः - नीतिनवनीतम्  
एकादशः पाठः - सावित्री बाई फुले  
द्वादशः पाठः - कः रक्षति कः रक्षितः  
चतुर्दशः पाठः - आर्यभटः

### 2. व्याकरण

1. संधि - ( वाक्यों में ) गुण, अयादि ।
2. अव्यय (रिक्तस्थान के रूप में) समस्त अव्यय शब्द
3. प्रत्यय ( वाक्यों में ) - क्त्वा , ल्यप् प्रत्यय , इन प्रत्ययों के योग से वाक्य संयोजन ।
4. संख्या ( वाक्यों में ) - 51 से 100 तक ।
5. शब्द रूप ( वाक्यों में ) - मुनि , राजन्, मातृ , इदम् ( तीनों लिंगों में )
6. धातुरूप ( वाक्यों में ) - पाँचों लकारों में (लट् , लृट् , लङ् , लोट् , विधिलिङ्ग )  
धातुएँ - इष्, खाद्, अस्, पच्
7. वाक्यसंशोधनम्- वचन, लिंग, पुरुष , लकार, तथा विशेष्य-विशेषण पर आधार

### 3. 1. अपठित गद्यांशः

- 2 पत्रलेखनम् - संकेत-आधारित पत्रम्
3. चित्रवर्णनम् – प्रदत्तचित्र के आधार पर संस्कृत में वाक्य
4. हिंदी से संस्कृत में अनुवाद ( पाँच वाक्य )

## FRENCH

### Learning Objectives

1. To enhance the level of the students both in written and spoken French.
2. To enable the students to express themselves more effectively, naturally and correctly in the productive skill of writing.
3. To enhance the level of vocabulary and strengthen their concepts of grammar.
4. To enable the students to write in an appropriate style for communication purposes.
5. To develop basic understanding, conjugation of verbs in present, past and future tense, articles, prepositions, conjunctions, adjectives, imperatives and different expressions.
6. To use an appropriate style and format to write messages.
7. To implement different strategies to make learning French an enjoyable and interesting experience.
8. To acquaint them with French culture and civilization.

General Note:

Questions from within the lessons and related to culture and civilization of France will be asked in the exams/tests.

**Textbook:** Apprenons Le Français-4

**Workbook:** Cahier d' exercices-4

**Dictionary:** Larousse

## FIRST TERM

### Detailed Study

#### Textbook:

Leçon 0 - Que savez-vous de la France? (Pg. 9)

Leçon 1 - Une boum

Leçon 3 - La vie d'un mannequin, est-elle facile?

Leçon 4 - On voyage

Leçon 5 - Bon voyage!

**Workbook:** Leçons - 1, 3, 4, 5

#### Grammar :

1. Les articles (définis, indéfinis, contractés, partitifs)
2. Les adjectifs : possessifs, interrogatifs, démonstratifs
3. Les adverbes de quantité
4. Les conjonctions
5. Les verbes réguliers et irréguliers (présent)
6. L'interrogation
7. Les adverbes interrogatifs
8. Les verbes pronominaux
9. Les expressions négatives
10. Les prépositions
11. Le passé composé avec 'avoir'
12. Corrigez la faute
13. Mettez les phrases en ordre

## SECOND TERM

### Detailed Study

#### Textbook:

Leçon 0 - Que savez-vous de la France? (Pg. 10, 11 & 12)

Leçon 6 - Des nouvelles de Lyon

Leçon 7 - Bon Appétit

Leçon 8 - Des invitations

Leçon 9 - Aneesh partira bientôt

**Workbook:** Leçons - 0, 6, 7, 8, 9

#### Grammar :

1. Le passé composé avec 'être'
2. Les verbes réguliers et irréguliers (passé)
3. Les expressions avec 'avoir' et 'faire'
4. Les expressions négatives au passé composé
5. L'impératif (affirmatif, négatif, pronominal)
6. Le passé composé des verbes pronominaux
7. Le futur simple
8. Corrigez la faute
9. Mettez les phrases en ordre

## MATHEMATICS

### Learning Objectives

Teaching of Mathematics helps the learners to

- acquire knowledge and understanding of the terms, symbols, concepts, principles, processes, proofs etc.
- consolidate the Mathematical knowledge and skills acquired at the primary level.
- develop mastery of basic algebraic skills.
- develop drawing skills.
- apply Mathematical knowledge and skills to solve real life problems by developing abilities to analyze, to see interrelationship involved, to think and reason.

- develop interest in Mathematics as a problem solving tool in various fields.
- develop reverence and respect towards great Mathematicians, particularly towards the Indian Mathematicians for their contributions to the field of Mathematics.

**Textbook :** Mathematics Textbook for Class VIII (NCERT)

**Practice Book :** NCERT Practice Workbook Mathematics (Goyal Brothers Prakashan)

## FIRST TERM

### Chapter-1 : Rational Numbers

- Introduction
- Properties of Rational Numbers
- Representation of Rational Numbers on the Number Line
- Rational Numbers between two Rational Numbers  
Ex. 1.1, 1.2 with examples

**Practice Book :** Worksheets 1 to 5

### Chapter-2 : Linear Equations in One Variable

- Introduction
- Solving Equations which have Linear Expressions on one Side and Numbers on the other Side
- Some Applications
- Solving Equations having the variable on both sides
- Some More Applications
- Reducing Equations to Simpler Form
- Equations Reducible to the Linear Form  
Ex. 2.1 to 2.6 with examples

**Practice Book :** Worksheets 8 to 15

### Chapter-3 : Understanding Quadrilaterals

- Introduction
- Polygons
- Sum of the Measures of the Exterior Angles of a Polygon
- Kinds of Quadrilaterals
- Some Special Parallelograms  
Ex. 3.1 to 3.4 with examples

**Practice Book :** Worksheets 18 to 22

### Chapter-5 : Data Handling

- Looking for Information
- Organising Data
- Grouping Data
- Circle Graph or Pie Chart
- Chance and Probability  
Ex. 5.1 to 5.3 with examples

**Practice Book :** Worksheets 31 to 36

### Chapter-6 : Squares and Square Roots

- Introduction
- Properties of Square Numbers
- Some More Interesting Patterns
- Finding the Square of a Number
- Square Roots
- Square Roots of Decimals
- Estimating Square Root  
Ex. 6.1 to 6.4 with examples

**Practice Book :** Worksheets 39 to 46

### Chapter-7 : Cubes and Cube Roots

- Introduction
- Cubes

- Cube Roots
- Ex. 7.1, 7.2 with examples

**Practice Book :** Worksheets 49 to 52

### **Chapter-8 : Comparing Quantities**

- Recalling Ratios and Percentages
- Finding the Increase or Decrease Percent
- Finding Discounts
- Prices Related to Buying and Selling (Profit and Loss)
- Sales Tax / Value Added Tax / Goods and Services Tax
- Compound Interest
- Deducing a Formula for Compound Interest
- Rate Compounded Annually or Half Yearly (Semi Annually)
- Applications of Compound Interest Formula
- Ex. 8.1 to 8.3 with examples

**Practice Book :** Worksheets 55 to 64

### **Chapter-16 : Playing With Numbers**

- Introduction
- Numbers in General Form
- Games with Numbers
- Letters for Digits
- Tests of Divisibility
- Ex. 16.1, 16.2 with examples

**Practice Book :** Worksheets 111 and 112

### **Vedic Mathematics**

1. Solving equations of the type  $ax + b = cx + d$  by ParvartyaYojayat Method.
2. Solving equations of the type  $\frac{ax+b}{cx+d} = \frac{m}{n}$  by ParvartyaYojayat Method.
3. Division of 4 and 5 digit numbers by 9 using Nikhilaam Sutra.
4. Multiplication of numbers with special case using Antyayordasake pi method.

## **SECOND TERM**

### **Chapter-4 : Practical Geometry**

- Introduction
- Constructing a Quadrilateral
- Some Special Cases
- Ex. 4.1 to 4.5 with examples

**Practice Book :** Worksheets 25 to 28

### **Chapter-9 : Algebraic Expressions and Identities**

- What are Expressions?
- Terms, Factors and Coefficients
- Monomials, Binomials and Polynomials
- Like and Unlike Terms
- Addition and Subtraction of Algebraic Expressions
- Multiplication of Algebraic Expressions : Introduction
- Multiplying a Monomial by a Monomial
- Multiplying a Monomial by a Polynomial
- Multiplying a Polynomial by a Polynomial
- What is an Identity?
- Standard Identities
- Applying Identities
- Ex. 9.1 to 9.5 with examples

**Practice Book :** Worksheets 67 to 75

### **Chapter-10 : Visualising Solid Shapes**

- Introduction
- Views of 3-D Shapes

- Mapping Space Around Us
- Faces, Edges and Vertices
- Ex. 10.1 to 10.3 with examples

**Practice Book :** Worksheets 78 and 79

### **Chapter-11 : Mensuration**

- Introduction
- Let us Recall
- Area of Trapezium
- Area of a General Quadrilateral
- Area of a Polygon
- Solid Shapes
- Surface Area of Cube, Cuboid and Cylinder
- Volume of Cube, Cuboid and Cylinder
- Volume and Capacity
- Ex. 11.1 to 11.4 with examples

**Practice Book :** Worksheets 82 to 89

### **Chapter-12 : Exponents and Powers**

- Introduction
- Powers with Negative Exponents
- Laws of Exponents
- Use of Exponents to Express Small Numbers in Standard Form
- Ex. 12.1, 12.2 with examples

**Practice Book :** Worksheets 92 to 94

### **Chapter-13 : Direct and Inverse Proportions**

- Introduction
- Direct Proportion
- Inverse Proportion
- Ex. 13.1, 13.2 with examples

**Practice Book :** Worksheet 97

### **Chapter-14 : Factorisation**

- Introduction
- What is Factorisation?
- Division of Algebraic Expressions
- Division of Algebraic Expressions Continued  
(Polynomial  $\div$  Polynomial)
- Can you Find the Error?
- Ex. 14.1 to 14.4 with examples

**Practice Book :** Worksheets 100 to 103

### **Chapter-15 : Introduction to Graphs**

- Introduction
- Linear Graphs
- Some Applications
- Ex. 15.1 to 15.3 with examples

**Practice Book :** Worksheets 106 to 108

### **Vedic Mathematics**

1. Finding squares of numbers ending in 5 by Ekadhikena Purvena Sutra.
2. Finding HCF of algebraic expressions of the type:  
( $ax^2 + bx + c$ ) and ( $ax^2 + dx + e$ ) by Lopana Sthapana Sutra.
3. Multiplication of any number by 12 using Urdhava TiryakSutra.
4. Finding squares of numbers not ending in 5 by Ekadhikena Purvena Sutra.

## SCIENCE

### Learning Objectives

- to strengthen the knowledge acquired at primary level
- to emphasize the acquisition of scientific knowledge
- to appreciate nature and sensitise the students about the environment.
- to understand scientific language i.e. symbols, formulae, equations etc.
- to develop scientific aptitude/temper
- to apply the theoretical knowledge of science to daily life
- to make the students abreast with the latest technological developments that have taken place and their impact on the society
- to enable the students to develop the process of problem solving and decision making.

**Textbook :** Science Textbook for Class VIII (NCERT)

**Assignment Book :** Science Exemplar Problems for Class VIII

### PHYSICS FIRST TERM

#### Chapter-11 : Force and Pressure

Force : A push or a pull, forces are due to an interaction, exploring forces, a force can change the state of motion, force can change the shape of an object, contact forces, non-contact forces, pressure, pressure exerted by liquids and gases, atmospheric pressure.

#### Chapter-12 : Friction

Force of friction, factors affecting friction, Friction : A necessary evil, increasing and reducing friction, wheels reduce friction, fluid friction.

#### Chapter-13 : Sound

Sound is produced by a vibrating body, sound produced by humans, sound needs a medium for propagation, we hear sound through our ears, amplitude, time period and frequency of a vibration, audible and inaudible sounds, noise and music, noise pollution.

#### Chapter-15 : Some Natural Phenomena

Lightning, charging by rubbing, types of charges and their interaction, transfer of charge, the story of lightning, lightning safety, earthquakes.

### SECOND TERM

#### Chapter-14 : Chemical Effects of Electric Current

Do liquids conduct electricity? Chemical effects of electric current, electroplating.

#### Chapter-16 : Light

What makes things visible? Laws of reflection, regular and diffused reflection, reflected light can be reflected again, multiple images, sunlight - white or coloured, what is inside our eyes? Care of eyes, visually challenged persons can read and write, what is a braille system?

#### Chapter-17 : Stars and the Solar System

The moon, the stars, constellations, the solar system, some other members of the solar system, artificial satellites.

### CHEMISTRY FIRST TERM

#### Chapter-3 : Synthetic Fibres and Plastics

What are synthetic fibres? Types of synthetic fibres, characteristics of synthetic fibres, plastics, plastics as material of choice, plastics and the environment.

#### Chapter-4 : Materials : Metals and Non-metals

Physical properties of metals and non-metals, chemical properties of metals and non-metals, uses of metals and non-metals.

### SECOND TERM

#### Chapter-5 : Coal and Petroleum

Coal, petroleum, natural gas, some natural resources are limited.

#### Chapter-6 : Combustion and Flame

What is combustion? How do we control fire? Types of combustion, flame, structure of flame, what is a fuel? Fuel efficiency.

## **Chapter-18 : Pollution of Air and Water**

Air pollution, how does air get polluted? Case study - The Taj Mahal, Greenhouse effect, what can be done? Water Pollution, how does water get polluted? What is potable water and how is water purified? What can be done?

### **BIOLOGY FIRST TERM**

#### **Chapter-2 : Microorganisms : Friend and Foe**

Microorganisms, where do microorganisms live? Microorganisms and us, harmful microorganisms, food preservation, nitrogen fixation, nitrogen cycle.

#### **Chapter-7 : Conservation of Plants and Animals**

Deforestation and its causes, consequences of deforestation, conservation of forest and wildlife, biosphere reserve, flora and fauna, endemic species, wildlife sanctuary, national park, red data book, migration, recycling of paper, reforestation.

#### **Chapter-8 : Cell Structure and Functions**

Discovery of the cell, the cell, organisms show variety in number, shape and size, cell structure and functions, parts of the cell, comparison of plant and animal cells.

### **REVISION**

### **SECOND TERM**

#### **Chapter-1 : Crop Production and Management**

Agricultural practices, basic practices of crop production, preparation of soil, sowing, adding manures and fertilizers, irrigation, protection from weeds, harvesting, storage, food from animals.

#### **Chapter-9 : Reproduction in Animals**

Modes of reproduction, sexual reproduction, asexual reproduction.

#### **Chapter-10 : Reaching the Age of Adolescence**

Adolescence and puberty, changes at puberty, secondary sexual characters, role of hormones in initiating reproductive function, reproductive phase of life in humans, how is the sex of the baby determined? Hormones other than sex hormones, role of hormones in completing the life history of insects and frogs, reproductive health.

### **REVISION**

### **SOCIAL SCIENCE**

#### **Learning Objectives**

The course in Social Science will help learners:

- develop an understanding of the processes of change and development - both in terms of time and space, through which human societies have evolved.
- deepen the knowledge and understanding of environment in its totality, their interactive processes and effects on the future life of people.
- develop scientific temper by promoting the spirit of enquiry and following rational and objective approach in analysing and evaluating data and information as well as views and interpretations.

#### **Textbooks:**

1. Our Pasts-III: Textbook in History for Class VIII (NCERT)
2. Social and Political Life-III: Textbook in Civics for Class VIII (NCERT)
3. Resources and Development: Textbook in Geography for Class VIII (NCERT)
4. Atlas - Oxford School Atlas

### **FIRST TERM**

#### **Our Pasts-III**

**Chapter-1:** How, When and Where

**Chapter-2:** From Trade to Territory (The Company Establishes Power)

**Map Work:** World Political Map - Sea route to India via Cape of Good Hope; continent where slave trade began; continent from where British, French & Portuguese came; Portuguese base in India.

India Political Map - Battles fought, area ruled by Ranjit Singh, place ruled by Tipu Sultan, Areas annexed by Doctrine of Lapse and Subsidiary Alliance.

**Chapter-3:** Ruling the Countryside

**Map Work:** India Political Map - Movement against Indigo plantation; famine in 1770; Place governed by Thomas Munro; Kalamkari weavers; Production of indigo in India before the revolt.

**Chapter-4:** Tribals, Dikus and the Vision of a Golden Age (**PROJECT**)

**Chapter-5:** When People Rebel (1857 and After)

**Map Work:** India Political Map: Main centres of the Revolt of 1857; place ruled by Rani Lakshmi Bai.

### **SOCIAL AND POLITICAL LIFE III**

**Chapter-1:** The Indian Constitution

**Chapter-2:** Understanding Secularism

**Chapter-3:** Why do we need a Parliament?

**Chapter-4:** Understanding Laws

**Chapter-5:** Judiciary

### **RESOURCES AND DEVELOPMENT**

**Chapter-1:** Resources

**Chapter-2:** Land, Soil, Water, Natural Vegetation and Wildlife Resources

**Diagram:** Soil Profile

**Chapter-3:** Mineral and Power Resources

**Map Work:** World Political Map - First country to develop hydroelectricity; First tidal energy station; Largest producer of bauxite, diamond, high grade iron-ore, tin; leading producers of copper, iron-ore.

## **SECOND TERM**

### **Our Pasts-III**

**Chapter-6:** Weavers, Iron Smelters and Factory Owners

**Map Work:** India Political Map - Tata Iron and Steel Plant; First Cotton Mill, Major centres of silk weaving in the 18th century

**Chapter-7:** Civilising the “Native”, Educating the Nation (**PROJECT**)

**Chapter-8:** Women, Caste and Reform

**Map Work:** India Political Map - Place where Brahma Samaj and Paramhans Mandali were found.

**Chapter-9:** The Making of the National Movement (1870s–1947)

**Map Work:** India Political Map - Champaran, Partition of Bengal, Jallianwala Bagh, Sabarmati to Dandi, Chauri Chaura

**Chapter-10:** India after Independence

**Map Work:** India Political Map - Linguistic States; State where Bhilai Steel plant is located, First linguistic state.

### **SOCIAL AND POLITICAL LIFE-III**

**Chapter-6:** Understanding Our Criminal Justice System

**Chapter-7:** Understanding Marginalisation

**Chapter-8:** Confronting Marginalisation

**Chapter-9:** Public Facilities

**Chapter-10:** Law and Social Justice

### **RESOURCES AND DEVELOPMENT**

**Chapter-4:** Agriculture

**Map Work:** World Political Map - Leading producers of jute, cotton, tea, coffee, rice, wheat, millets.

**Chapter-5:** Industries

**Map Work:** World Political Map - Countries which have Iron & Steel Industry; Manchester of Japan, Great Lakes.

India Political Map - States producing steel; States and cities rich in cotton textile, Manchester of India.

**Chapter-6:** Human Resources

**Map Work:** World Political Map - Most sparsely populated country; Most populous country; Densely populated continents

**Diagram:** Population Pyramid of India, Kenya.

# COMPUTER SCIENCE

## Learning Objectives

- to enhance the knowledge of website designing using HTML.
- to familiarize the students with the concepts of Computer Networks, E-Commerce, AI
- to develop basic skills of programming using PYTHON.

**Textbook** - IT Planet - Petabyte (Class 8)

## FIRST TERM

### Lesson 1 : Computer Network

- Communication
- Computer Network
- Types of Network
- Network Hardware
- Communication Channels
- Network Architecture
- Network Topology
- Protocol

### Lesson 4 : HTML - Form, Multimedia & CSS

- HTML
- Creating Forms
- Adding Multimedia
- Cascading Style Sheets (CSS)

### Lesson 6 : E-Commerce & Blogging

- E-Commerce
- E-Commerce Business Models
- E-Retailing, Security Concern
- Top E-Commerce Websites
- Blogging

## SECOND TERM

### Lesson 7 : Artificial Intelligence (AI)

- Introduction
- Artificial Intelligence
- Understanding AI Environment
- Timeline of Artificial Intelligence
- Artificial Intelligence in Daily Life
- Future of AI
- AI and Ethics

### Lesson 9 : Python - Introduction

- Programming Language
- Introduction to Python
- Character Set, Tokens, Comments
- Statements, Data Types, Variables
- Defining Input and Output in Python
- Error Handling
- Programs in Python

### Lesson 10 : Python - Control Structures

- Control Structures
- Conditional Control Structures
- Loop Control Structures
- Break Statement
- Continue Statement

## For Practical Sessions only

**Lesson 2** : Access - Tables and Forms

**Lesson 3** : Access - Query and Reports

**Lesson 8** : App Development

## **GENERAL KNOWLEDGE**

### **Learning Objectives**

The course in General Knowledge will help learners:

- enhance their general awareness.
- improve their reasoning and thinking skills.
- prepare for competitive exams.
- understand and analyse the situations.

**Textbook:** G.K. WHIZ – 8 (FRANK EMU BOOKS)

### **FIRST TERM**

#### **NATURE**

- The World of Plants
- Distinctive Plants
- Animal Phobia
- Nocturnal Animals
- Which Animal?

#### **INDIA**

- Folk Art
- Handicrafts of India
- The Nine Yards
- Super South
- International Borders

#### **WORLD**

- Immortal Speeches
- The Philippines
- Natural Reserves
- Bloody Battles

#### **LANGUAGE**

- Indian Writers
- Must Reads

#### **SCIENCE**

- Phenomenal Scientists
- Scientific Studies
- Tech Talk
- Nobel Laureates
- Robotic
- Go GPS

#### **SPORTS**

- Great Cricketers
- Stress Management Life Skills
- Indian Tennis Stars

#### **ENTERTAINMENT**

- Lights, Camera, Action
- On the Red Carpet

### **SECOND TERM**

#### **NATURE**

- Indian Mythology and Plants
- Rainforests
- Marine Life
- Cauvery Calling
- Womb of Life!

#### **INDIA**

- Geo India
- The First Citizen
- National Organisations
- Teenage Life Skills

### **WORLD**

- Legends of the world
- Features of the World
- Which Country?
- International Organisation

### **LANGUAGE**

- Colourful Speech
- The Bard of Avon

### **SCIENCE**

- IT Greats
- Genetic Diseases
- Camera Clicks
- Dinosaurs
- Nuclear Science
- Space Odyssey

### **SPORTS**

- Winter Olympic Sports
- Formula 1
- Bowling Alley

### **ENTERTAINMENT**

- On the Canvas
- Folk Music

### **Test Paper 1**

### **Test Paper 2**

## **WORK EXPERIENCE**

### **Learning Objectives :**

To help the pupils to develop essential knowledge and understanding in terms of :

- acquainting themselves with productive activities in the community
- understanding facts and scientific principles involved in various forms of work
- knowing the sources of raw material and understanding the use of tools and equipment in the production of goods and services
- understanding the utility of productive work and services to the community
- developing abilities for self-evaluation of performance and entrepreneurship

## **ENGLISH LITERARY CLUB**

### **FIRST TERM**

1. Newspaper Reading and making of a newspaper
2. Vocabulary Enhancement
3. Poem Writing, Poem Reading and Recitation
  - Topics — Narrative poems
  - Humorous poems
4. Advertisement Writing and Dramatization
5. Slogan Writing and Poster Making
6. Spin-A-Yarn
7. Extempore
  - Topics – TV Commercials, lead or mislead
  - Haste makes Waste

## SECOND TERM

1. Story telling and Reading of self-written stories
2. Vocabulary Enhancement (Through games)
3. Reading of Quotations
4. Radio Show
5. Conducting an Interview
6. Character Dramatization
7. Twist-a-Tale
8. Debates and Elocutions
9. Proverb Enactment
10. Dramatization of Short Stories and Plays

## हिंदी साहित्यिक समिति

### प्रथम सत्र

1. शब्दकोश निर्माण
2. कविता पाठ
3. नारे लेखन
4. समाचार लेखन एवं वाचन
5. स्वरचित - कविता, कहानी
6. विज्ञापन बनाना तथा अभिनीत करना

### द्वितीय सत्र

1. दोहा / पद पाठ
2. सूचना-लेखन
3. चित्रों पर आधारित कहानी निर्माण करना
4. पत्र पाठ
5. लघु एकांकी मंचन / एकल अभिनय

## MATHEMATICS CLUB FIRST TERM

1. Puzzle Solving
2. Venn Diagrams
3. Euler's Formula (Activity)
4. Coding Decoding and Direction Test
5. Crossword
6. Reasoning Test
7. Mathemagic Squaring Formula
8. Histogram (Activity)
9. To verify the algebraic identity  $(a - b)^2 = a^2 - 2ab + b^2$

## SECOND TERM

1. Exterior angles of a Polygon (Activity)
2. Quiz (Written)
3. Magic of Numbers (Patterns)
4. Vedic Maths (Solving Linear Equations)
5. Relation between area and perimeter of a square (Activity)
6. Coordinate Geometry (Activity)
7. Surface Area and Volume of Cubes and Cuboids (Activity)
8. Simple and compound interest & graphical representation
9. To verify the algebraic identity  $a^2 - b^2 = (a + b)(a - b)$

## **ELECTRONICS AND ECO CLUB**

### **FIRST TERM**

1. Celebrating Van Mahotsav - Tree Plantation Drive
2. Making of Steam Boat
3. Build a water wheel
4. Project Energy Conservation - Model of Solar Cooker
5. Powerpoint presentation on World Ozone Day
6. Slogan Writing - Balanced diet and myths related to healthy nutrition.

### **SECOND TERM**

1. Campaign on Eco-friendly Diwali
2. Model of an Electroscope
3. Making of Mechanical Crane
4. Saving our precious species – Bird nest making
5. Play Holi with safe Colours campaign – Making herbal colours
6. Film making on current topics of health and environment

## **FINE ART**

### **FIRST TERM**

1. Paper Collage
2. Miniature Painting
3. Painting of Buddha
4. Composition in 'Pointillism'
5. Indian Contemporary Art

### **SECOND TERM**

1. Landscape in water colours
2. Madhubani Painting
3. Abstract Art
4. Portrait Study
5. Figure Composition

## **HANDICRAFTS**

### **FIRST TERM**

1. Mirror frames
2. Collage painting
3. Aluminum Foil Craft
4. Quill work
5. Card Making

### **SECOND TERM**

1. Coasters
2. Curtain strings
3. Weave a mat
4. Candle lamps
5. Mosaic work

## **CONNOISSEURS CLUB**

### **FIRST TERM**

1. Protein Upma
2. Chatpata whole cereal oats pancake
3. Moong Dal idli/Cheela
4. Flower floating cup decor (with hot Gluegun)
5. Super Meva Mix
6. Designer Wax Candle
7. White Sauce/Cucumber dip
  - \* Table mats / Cushion Covers -6
  - \* Pillow covers - 2 / Dupatta -1

## SECOND TERM

1. Garlic bread loaf
2. Healthy Pizza/Stuff Pizza Pocket
3. Gel Candle
4. Frill Bowl
5. Chocolate Making
6. Crunchy Dalia Patties
7. Club Sandwich
8. Nutritious Patties

## WESTERN DANCE FLAMENCO, JAMAICAN, HIP HOP, JIVE

1. Body movement
2. Exercise (warming work out)
3. Stretching exercise for Flexibility of Body
4. Dance on Western Music with Prop
5. One Dance on Self Composition

## शास्त्रीय नृत्य तथा लोक नृत्य

### ऑडिसी

- |                  |          |
|------------------|----------|
| 1. मंगलाचरण      | 4. अरसा  |
| 2. सरस्वती वंदना | 5. ताल   |
| 3. गणेश वंदना    | 6. अभिनय |

### लोक नृत्य

- |                            |                               |
|----------------------------|-------------------------------|
| 1. डोगरी (कश्मीरी)         | 3. कालबेलिया, घूमर( राजस्थान) |
| 2. भांगड़ा, गिद्दा (पंजाब) | 4. झुमरा (ओडिशा)              |

## MUSIC

### Theory:

1. 10 अलंकार
2. राग की परिभाषा
3. ताल की परिभाषा
4. सरगम गीत, तराना, गज़ल
5. तालबद्ध अलंकार
6. स्वर तथा लय की परिभाषा
7. तीनताल और झपताल को तालों में लिखना

### Practical:

1. अलंकारों का अभ्यास
2. तालों का अभ्यास
3. तालबद्ध अलंकारों का अभ्यास
4. राग भैरवी
5. सरगम गीत – हमीर
6. लोक गीत- राजस्थानी गीत
7. भजन - अवध में राम आये हैं

8. English songs- 'Silent Night, Holy Night'  
'God Rest You Merry Gentlemen'
9. प्रार्थना तथा देशभक्ति गीतों का अभ्यास
10. संस्कृत श्लोक - सं गच्छध्वं, सं वद वम
11. वाद्ययंत्र- Casio, Congo, Harmonium

### YOGA

- (a) (i) Definition and general instructions  
(ii) Elements of yoga  
(iii) Types of Pranayama and its benefits
- (b) Yogasana
 

(1) Yogasana	(2) Vajarasana
(3) Karnapidasana	(4) Kukkutasana
(5) Padamasana	(6) Brahmacharyasana
(7) Makarasana	(8) Bhunamanasana
(9) Janu-Sirsasana	(10) Mandukasana
(11) Surya-Namaskara	(12) Naukasana
(13) Tadasana	(14) Kurmasana
(15) Salabhasana	(16) Urd-Sarvangasana
(17) Simhasana	(18) Gomukhasana
(19) Virasana	(20) Makrasana
- (c) Yogic Suksma-Vyayama
  - (1) Buddhi-Tatha-Dhrti-Sakti-Vikasaka
  - (2) Smarana-Sakti-Vikasaka
  - (3) Netra-Sakti-Vikasaka
  - (4) Karna-Sakti-Vikasaka
  - (5) Griva-Sakti-Vikasaka (3 types)
  - (6) Udara-Sakti-Vikasaka (9 types)
  - (7) Kati-Sakti-Vikasaka (5 types)
  - (8) Bhuja-Balli-Sakti-Vikasaka
  - (9) Purna-Bhuja-Sakti-Vikasaka
  - (10) Naksa-Sthala-Sakti-Vikasaka (2 types)
- (d) Yogic-Sthula-Vyayama
  - (1) Hrd-gati (2) Sarvanga-Pushti
  - (3) Rekha-gati (4) Sirsasana

### ART EDUCATION

#### Learning Objectives

- Introduce the students to new media and technique and their use for creative expression and making objects of common use.
- Refine the sense of appreciation of the beauty of nature and the basic elements of artforms.

#### Textbook-Art, Craft and Me : Book-6

#### FIRST TERM

1. Know about colours (Primary, Secondary and Neutral)
2. Basic colouring strokes and techniques.

#### Art, Craft and Me : Book-6

Pages 7 to 37

## SECOND TERM

### Art, Craft and Me : Book-6

Pages 38 to 66

## MUSIC, DANCE AND DRAMA

### Theory:

1. Concept of Art Education
2. Basic knowledge of performing art
3. Definition of Sangeet and Raaga
4. Written work of Teentaal, Dadra and Keherva
5. Knowledge of Classical dance and Folk Dance
6. Western Dance Forms
7. Basic knowledge of Drama
8. Basic knowledge of Nukkad Natak

### Practical:

1. Practice of Alankaars
2. Practice of Taal
3. Folk Song- Assamese song
4. English Song- 'It's a world of laughter'
5. Bhajan- 'मेरा आपकी कृपा से सब काम हो रहा है'
6. Practice of prayers and songs from diary
7. Practical of Dance forms
8. Exercises of Western and Classical dance

## PHYSICAL EDUCATION AND HEALTH EDUCATION

### Learning Objectives

- To develop a scientific point of view regarding Health and Physical Education
- To give knowledge about balanced diet and nutrition
- Knowledge of exercises of cardiovascular system
- Effects of exercises on respiratory system

### Theory

1. Importance of good posture and advantages of correct postures
2. Knowledge of weight training and food supplement for children
3. Drugs and their side effects on our body

### Practical

- |                |                 |
|----------------|-----------------|
| 1. Volley Ball | 2. Basketball   |
| 3. Throw Ball  | 4. Badminton    |
| 5. Cricket     | 6. Table Tennis |
| 7. Athletics   |                 |