



## THINGS TO REMEMBER FOR A QUALITY LIVING

- सत्यं वद। Speak the truth.
- धर्म चर। Lead a religious life.
- मातृ देवो भव। Treat your Mother as God.
- पितृ देवो भव। Treat your Father as God.
- आचार्य देवो भव। Treat your Teacher as God.
- अतिथि देवो भव। Treat your Guest as God.
- ओ३म् असतो मा सद्गमय।
   तमसो मा ज्योतिर्गमय।
   मृत्योर्मामृतं गमय।
   Q | ard | load mo from line

O Lord ! lead me from Unreal to Real, from Darkness to Light, from Death to Immortality.





# **Contents**

	Courses of Study	Pages
1.	Hindi	3-7
2.	Hindi (Lower)	8-12
3.	English Course 'A'	13-21
4.	Sanskrit	22-26
5.	Mathematics	27-40
6.	Science & Technology	41-61
7.	Social Science	62-85
8.	Dharamshiksha (Hindi Medium)	86-88
9.	Dharamshiksha (English Medium)	89-91
10.	Punjabi	92-96

# हिंदी (Higher) कक्षा-VIII

भाषा अभिव्यक्ति का एक सशक्त माध्यम है जिसके द्वारा हम जीवन को समझते हैं, उससे जुड़ते हैं और जीवन-जगत को प्रस्तुत करते हैं। भाषा विद्यार्थी के श्रवण, वाचन, पठन एवं लेखन कौशल का विकास करते हुए साहित्य में अभिरूचि विकसित करने में सहायक है। भाषा विद्यार्थियों के ज्ञान क्षेत्र को इतनी व्यापकता प्रदान कर देती है कि वह किसी भी विषय के बारे में अपनी स्वतंत्र राय बनाने तथा अभिव्यक्त करने में सक्षम होता है।

#### भाषा शिक्षण के उद्देश्य

- दैनिक जीवन में भाषा संबंधी कौशल (श्रवण, वाचन, पठन, लेखन) का विकास।
- भाषा एवं साहित्य की विविधता से परिचय।
- भाषा का साहित्यिक एवं व्यावहारिक प्रयोग समझना।
- व्याकरण के अनुसार भाषा-प्रयोग की समझ।
- साहित्य का आनंद प्राप्त करना।
- कविताओं के भाव एवं शिल्प को समझना।
- मौलिक एवं सृजनात्मक लेखन में दक्षता प्राप्त करना।
- समसामयिक प्रसंगों/संदर्भों को तार्किक ढंग से अभिव्यक्त करना।
- वैज्ञानिक एवं तकनीकी शब्दों को समझना।
- वर्णन, विश्लेषण एवं संश्लेषण करने में सक्षम होना।

### अंक विभाजन प्रणाली (वार्षिक परीक्षा)

आंतरिक मूल्यांकन	20 अंक
वार्षिक परीक्षा	80 अंक
1. आंतरिक मूल्यांकन	20 अंक
(i) आवधिक मूल्यांकन	05 अंक
(तीन आवधिक परीक्षा अनिवार्य है जिसमें से किन	न्हीं दो का
औसत भार लिया जाएगा।)	

4

- (ii) बहुविध मूल्यांकन
  - मौखिक- (आशु भाषण, काव्य पाठ व दोहा गायन, अंत्याक्षरी)
  - एकल एवं सामूहिक गतिविधि- (समाचार वाचन, भित्ति पत्रिका निर्माण, एकल अभिनय व एकांकी मंचन)
  - कक्षा परिचर्चा- (किसी भी समसामयिक विषय पर)
  - प्रश्नोत्तरी (क्विज)

(मूल्यांकन बिंदु- विषयवस्तु, विषयानुकूलता, लय-ताल, आरोह-अवरोह द्वारा कविता पाठ, उच्चारण, अभिनेयता संवाद अभिव्यक्ति एवं सामान्य ज्ञान)

- (iii) पोर्टफोलियो
  - पत्रिका / कॉपी
  - सत्र के दौरान उपलब्धियों का प्रमाणपत्र एवं छाया चित्र सहित उल्लेख
  - स्वरचित कविता, कहानी, आलेख या दैनन्दिनी के लघु अंश

(मूल्यांकन बिंदु- रखरखाव, पूर्णता, स्वच्छता, विषयानुकूलता एवं प्रस्तुति)

#### (iv) विषयगत संवर्धन गतिविधि 05 अंक

 श्रवण एवं वाचन गतिविधि (मूल्यांकन बिंदु- श्रवण-शब्दों और पदों को समझाने की योग्यता, दीर्घ एवं जटिल कथनों एवं विचार-बिंदुओं को समझने की योग्यता, वाचन-शब्दों के उच्चारण की शुद्धता एवं धारा प्रवाह रूप में प्रस्तुति)

05 अंक

वार्षिक परीक्षा खंड-'क' (अपठित बोध) • अपठित गद्यांश (150-200 शब्द)	10 अंक
खंड-'ख' • व्यावहारिक व्याकरण (ज्ञान सागर एवं अभ्यास सागर पर आधारित)	20 अंक
खंड-'ग' (पाट्य पुस्तक)I. काव्य खंड10 अंक• लघूत्तरात्मक प्रश्न I (25-30 शब्दों में) $2+2+2=6$ (विकल्प सहित)• निबंधात्मक प्रश्न $4 \times 1 = 4$ (विकल्प सहित)II.गद्य खंड20 अंक• लघूत्तरात्मक प्रश्न I (25-30 शब्दों में) $2+2+2=6$ (विकल्प सहित)• लघूत्तरात्मक प्रश्न II (40-50 शब्दों में) $3+3+3=9$ (विकल्प सहित)• निबंधात्मक प्रश्न $5 \times 1 = 5$ (विकल्प सहित)	30 अंक
खंड-'घ' (रचनात्मक लेखन) • अनुच्छेद लेखन (80-100 शब्द) 05 अंक • पत्र लेखन (औपचारिक एवं अनौपचारिक) 05 अंक • सूचना लेखन (30-40 शब्द) 05 अंक • संवाद लेखन 05 अंक	) 20 अंक

# परीक्षा वार्षिक पाठ्यक्रम

पाठ्य पुर	प्त <b>के</b>	-ज्ञान सागर एवं अभ्यास सागर
पाठ	1	हम पंछी उन्मुक्त गगन के (कविता) अनुस्वार, अनुनासिक 'र' के विभिन्न रूप, नुक्ता
पाठ	2	असल धन (कहानी) तत्सम-तद्भव, विराम चिह्न, अपठित गद्यांश
पाठ	3	अच्छे पडो़सी के गुण (निबंध) उपसर्ग, प्रत्यय
पाठ	4	दोपहरी (कविता) अलंकार (अनुप्रास, उपमा, रूपक, मानवीकरण)
पाठ	6	आश्रम के अतिथि और संस्मरण (संस्मरण) भाववाचक संज्ञा, अपठित गद्यांश
पाठ	7	अन्याय के खिलाफ लड़ाई (जीवनी) वाक्यांश के लिए एक शब्द, वाक्य-शुद्धिकरण
पाठ	8	दोहे (पद्य) अलंकार (उत्प्रेक्षा, श्लेष, यमक, अतिशयोक्ति)
पाठ	9	जब भोलाराम ने पम्प लगाया (व्यंग्य) विशेषण, प्रविशेषण
पाठ	10	बातचीत की कला (निबंध) संधि (स्वर संधि)
पाठ	11	सितारों से आगे (जीवनी) समास (तत्पुरूष, द्विगु, द्वंद्व)
पाठ	12	पौधो के पंख (डायरी) निपात, अपठित गद्यांश
पाठ	13	सूर और तुलसी के पद (पद्य) अंलकार (पुनरावृत्ति)
पाठ	14	बहु की विदा (एकांकी) रचना के आधार पर वाक्य भेद

पाठ 15 कामचोर (कहानी) समास (अव्ययीभाव, कर्मधारय, बहुव्रीहि)

- पाठ 17 सोना (रेखाचित्र-संस्मरण) व्यंजन संधि
- पाठ 18 निर्माण (कविता) अंलकार (पुनरावृत्ति)
- पाठ 19 जीवन का सच (पत्र) व्यंजन संधि, अपठित गद्यांश
- पाठ 20 ईर्ष्या : तू न गई मेरे मन से (निबंध) अर्थ के आधार पर वाक्य-भेद

#### केवल पढ़ने के लिए पाठ

पाठ 5 आकाश को सात सीढ़ियाँ (कहानी)

पाठ 16 एक तिनका (कविता)

#### (व्यावहारिक व्याकरण)

- अनुस्वार, अनुनासिक एवं नुक्ता
- 'र' के विभिन्न रूप
- उपसर्ग, प्रत्यय
- तत्सम, तद्भव
- शब्द भंडार (पर्यायवाची शब्द, विलोम शब्द, वाक्यांश के लिए एक शब्द)
- संधि (स्वर एवं व्यंजन संधि)
- समास
- वाक्य विचार (रचना एवं अर्थ के आधार पर)
- वाक्य शुद्धिकरण
- विराम चिह्न
- मुहावरे
- अलंकार

### ENGLISH COURSE-'A'

English Course 'A' is based upon an approach of teaching/ learning which helps to develop the learners' communicative competence. The aim of this course is to equip the learners to use the language as a spring board to explore and study other areas of knowledge and also in real life situations in which they may be required to use English.

#### **General Aims**

- (a) To enable the learners to communicate effectively in English;
- (b) To enable the learners to use the four language skills, i.e., listening, speaking, reading and writing,
- (c) To enable the learners to use grammar structures and other grammatical forms accurately and appropriately,
- (d) To develop an interest in and appreciation of literature,
- (e) To enable the learners to use language fluently, appropriately and confidently in real-life situations.
- (f) To develop curiosity and creativity through extensive reading,
- (g) To facilitate self-learning to enable them to become independent learners,
- (h) To review, organise and edit their own work and work done by peers.

#### Learning Outcomes

#### Listening

By the end of the course, learners should be able to:

- 1. listen, converse and understand the topic and its main points,
- 2. listen and extract information from any broadcast, conversation etc.,
- 3. distinguish main points from supporting details,

- 4. distinguish relevant and irrelevant information,
- 5. understand and respond to an instruction, advice and request in familiar and unfamiliar social situations.

### Speaking

By the end of the course, learners should be able to :

- 1. speak appropriately, correctly and intelligently (take care of stress & intonation),
- 2. speak with accuracy following the overall rhythm of spoken English i.e., proper pause and sentence stress,
- 3. narrate incidents and events in a logical sequence,
- 4. present oral reports,
- 5. express and argue a point clearly and effectively,
- 6. convey messages effectively,
- 7. frame questions so as to get a desired response,
- take an active part in group discussions, showing an ability to express agreement or disagreement, to summarise ideas, to elicit the views of others, and to present own ideas,
- 9. express and respond to personal feelings, opinions and attitudes,
- 10. participate in spontaneous spoken discourse in familiar and unfamiliar social situations.

### Reading

By the end of the course, students should be able to:

- 1. read silently as well as aloud at varying speed,
- 2. read for information,
- 3. read for thematic understanding,
- 4. read for distinguishing main ideas from supporting details,
- 5. read for recognizing new words in a context,
- 6. analyse, interpret and evaluate the ideas in a text and make inferences,

- 7. read and complete the given summary,
- 8. read extensively for pleasure.

### Writing

By the end of the course, students should be able to:

- 1. express ideas clearly, concisely, correctly and appropriately,
- 2. Write letters (formal and informal) in an appropriate style and format.
- 3. plan, organise and present ideas coherently by introducing, developing and concluding a topic, e.g., articles, speech.
- 4. present an argument, supporting it with appropriate examples.
- 5. recode information from one text type to another (e.g., diary entry to letter).
- 6. write on themes based on specified topics (suggested),
- 7. Write a message, notice, e-mail and diary entry.

### Literature

By the end of the course, students should be able to :

- 1. understand, interpret and evaluate a 'character' in a literary text,
- 2. understand, interpret and evaluate plot/story/theme in a literary text,
- 3. understand 'form' in a literary text such as rhyme, rhythm, and literary devices.

### Grammar

By the end of the course, students should be able to use the following grammatical items appropriately and accurately in a context:

- 1. Tenses
- 2. Narration

- 3. Modals
- 4. Subject-Verb Agreement
- Complex sentences, compound sentences. Clauses should be limited to the teaching of main and subordinate clauses. Instead of classification of subordinate clauses students should be taught to complete the sentences using 'linkers' followed by a clause.
- 6. Linkers
- 7. Passive and Active voice
- 8. Non-finites
- 9. Punctuation
- 10. Prepositions, Adverbs and Adjectives and determiners are parts of integrated grammer.

#### **EXAMINATION SPECIFICATIONS**

The Annual examination will be conducted by DAVCAE comprising the entire syllabus.

Division of Syllabus	Marks	Total Marks
Sections		
A-Reading	20	
B-Writing and Grammar	30	
C-Literature	30	80
Internal Assessment	[5+5+5+5]	20
Total	80+20	100

### ANNUAL EXAMINATION

#### Note :

- 1. The question paper for the annual examination will be of 80 marks. 20 marks will be allotted for Internal Assessment.
- 2. Refer to the table given below for Internal Assessment.

#### **INTERNAL ASSESSMENT**

S.No.	Tools of Internal Assessment	Total Weightage 20 Marks
1	<b>Periodic Tests</b> —Pen and paper test (Three periodic tests will be conducted at school and the average of the best two scores will be reduced to 5 marks for internal assessment)	5
2	<b>Multiple Assessment</b> for each students to be done by using the tools of observation, oral test, individual/group work, field work, class discussion (Quiz, debates, roleplay, bulletin board etc.)	5
3	Subject Enrichment Activities (Assessent of speaking and listening skills) Portfolio 1. Journal 2. Notebooks (to display exemplary work)	5
4	<ul> <li>Assessing the Portfolio (Guidelines for teachers)</li> <li>organisation :- (neatness &amp; visual appeal)</li> <li>completion of guided work focused on specific curriculum objective.</li> <li>evidence of students' growth</li> <li>inclusion of relevant Art Integrated work.</li> </ul>	5

### SECTION – A (Reading ) 20 Marks

This section will have two unseen passages of a total length of 450-600 words. The arrangement within the reading section is as follows.

1. A factual passage of 200-250 words with eight Objective Type questions (including 6 multiple choice questions and other 2 based on True/False or gap filling). 8 Marks 2. A discursive passage of 250-300 words with four short answer type questions to test inference, evaluation and analysis and four objective type questions (including 2 multiple choice questions) to test vocabulary.

### SECTION-B (WRITING AND GRAMMAR) 30 MARKS

For writing tasks, there will be an internal choice

- Short composition of not more than 50 words. 4 Marks (Notice, Message, E-mail and Dialogue completion)
- Long composition of 100-120 words. 8 Marks (Article, formal and informal letter, speech and diary entry)
   Note : Question 4 will be based on the thematic content of the Reader.

Marking Scheme for Q. 3 will be as follows :-

Content - 3 marks

Format – 1 mark

The marking scheme for Q. 4 will be as follows :-

- Content 3 marks
- Fluency 2 marks
- Accuracy 2 marks
- Format 1 mark

Ques. 5 to Ques 9-Grammar based Questions 18 marks

 A variety of 5 short questions will be evaluated. Text types will include gap-filling, cloze (gap-filling exercises with blanks at regular intervals), sentence completion, re-ordering word groups in sentences, editing (error finding and omission) and sentence transformation.

The grammar syllabus will allot marks for :

- verb forms
- Sentence Structures
- Topics as per Practice Book.

- Jumbled words in re-ordering exercise, to test syntax, will involve sentences in a text. Each sentence will be split into sense groups (not necessarily into single words) and jumbled up.
- Note : Ques 5 to ques 8 will be of 4 marks each. Ques 9 (Sentence Re-ordering) will be of 2 marks.

### SECTION-C (LITERATURE) 30 MARKS

10. Reference to context questions from a poem. (with internal choice) 5 Marks

Five objective type questions (including 3 MCQs and 2 complete the sentences)

- 11. Reference to context questions from prose/play.5 Marks
- 12. Any 6 short answer questions (30-40 words) to be attempted out of 7. 12 Marks
- An extended question (with internal choice) to test global comprehension or deeper understanding of the prescribed texts like diary entry or informal letter. (100-120 words) 8 marks

### SYLLABUS FOR ANNUAL EXAMINATION

#### I. ENGLISH LITERATURE

- Chapter 1 Fiction Three Questions
- Chapter 2 Poetry Granny's Tree Climbing
- Chapter 3 Fiction The Fun They Had
- Chapter 4 Fiction Father's Help
- Chapter 5 Poetry My Mother
- Chapter 6 Fiction The Luncheon
- Chapter 7 Poetry The Children Song
- Chapter 8 Fiction The Case of the Sharp Eyed Jeweller
- Chapter 9 Poetry Couplets
- Chapter 10 Fiction The Undeserved Reward
- Chapter 11 Poetry Bangle Sellers
- Chapter 12 Play A Bad Dream

### II. MY ENGLISH READER

- Unit 1 Changing Times
- Unit 2 Compassionate Souls
- Unit 3 Enterprise
- Unit 4 Nature
- Unit 5 Sports
- Unit 6 Tolerance

#### Suggested topics from Reader units to practise Q5.

- The self-centred generation
- Media Impact on Teenagers
- Good deeds reflect good character
- Caring for the elderly
- Success comes to those who will and dare
- Nature conservation
- Value of Games and sports in life
- Teolerance-Need of the hour

### **III. ENGLISH PRACTICE BOOK**

- Unit 1 Tenses
- Unit 2 Narration
- Unit 3 Modals
- Unit 4 Subject Verb Agreement
- Unit 5 Clauses and Complex Sentences
- Unit 6 Linkers
- Unit 7 Active and Passive Voice
- Unit 8 Non-finites
- Unit 9 Punctuation
- Unit 10 Reading for understanding
- Unit 11 Getting ready for class IX

### **IV. WRITING SKILLS**

Notice Writing, Dialogue Completion, Message, Speech, E-mail, Article, Formal Letter, Informal Letter.

#### Suggestions for Enhancement of Language Skills.

### Dictation / Spell check / Handwriting

Teachers may make use of words and passage suitable for class VIII.

- Reading as an activity should take into account intonation, stress and pronunciation. Reading may include :
  - (a) Text book reading
  - (b) Newspaper reading
  - (c) Reading of long text
  - (d) Any other suitable material
  - Teachers can refer to pages 85-86 (Suggested Reading) of the book 'English Literature' for Class VIII.
  - There is no prescribed long reading text for Class VIII students. However they should be encouraged to read for pleasure.
- Recitation : The following parameters should be kept in mind while evaluating recitation.
  - Clarity and expression
  - Tone and intonation
  - Posture

**Note :** Teachers may conduct debates / declamation / extempore / roleplay / weave a yarn for enhancing speaking skills of the learners.

### **Prescribed Books :**

- 1. English Literature (Class VIII)
- 2. My English Reader (Class VIII) Listen & Comprehend (Audio CD)
- 3. English Practice Book (Class VIII) (Types of clauses not to be done)

### संस्कृतम्

'भारतस्य प्रतिष्ठे द्वे संस्कृतं चैव संस्कृतिः' अपूर्वः ज्ञाननिधिः संस्कृतभाषायां निहितः अस्ति। अनेकासु भाषासु संस्कृतशब्दानां बाहुल्यं वर्तते। अतः संस्कृतभाषायाः ज्ञानम् अन्यभारतीयभाषाणां ज्ञानाय सहायकम् एव अस्ति। एषा भाषा भारतीयभाषाणां परिपोषिका अस्ति। संस्कृतभाषा राष्ट्रिय-एकतायाः दृष्ट्या अतिमहत्त्वपूर्णा अस्ति। अष्टमकक्षायाः विद्यार्थिनः संस्कृतभाषया सम्यक् परिचिताः भवेयुः इति विचारयन् अयं पाठ्यक्रमः निर्धारितः।

#### • अधिगम-उपागमाः

- संस्कृतभाषया कथितान् निर्देशान् श्रुत्वा पठित्वा च तदनुसारं व्यवहारं कर्तुं समर्थाः भवेयुः।
- ♦ संस्कृते लिखिता: लघुकथा: पद्यानि च श्रुत्वा तानि अवगच्छेयु:।
- संस्कृतभाषया लघुवाक्यानि वदेयु:।
- पाठ्यपुस्तके प्रदत्तान् पाठान् श्लोकान् च पठित्वा भावं ग्रहीतुं समर्थाः भवेयुः।
- प्रदत्तविषयं चित्रं वा आधृत्य संस्कृतेन सरलवाक्यानि रचयेयु:।
- श्लोकानां सस्वरवाचने समर्थाः भवेयुः।
- संस्कृतभाषया सरलपत्राणि लघून् अनुच्छेदान् च लेखितुं समर्थाः भवेयुः।
- संस्कृतभाषां साहित्यं च प्रति समुत्सुकाः भवेयुः।
- मातृभाषायां प्रयुक्तशब्दान् अभिज्ञातुं समर्थाः भवेयुः।
- नैतिक-सामाजिक-राष्ट्रियमूल्यानां विकासः भवेत्।

#### • आन्तरिक-मूल्याङ्कनम्

1. चक्रीया परीक्षा

5 अङ्काः

एकस्मिन् सत्रे तिम्रः चक्रीयाः परीक्षाः भविष्यन्ति। तासु
 द्वयोः एव अधिभारः ग्रहीतव्यः यत्र विद्यार्थिनः प्राप्ताङ्काः श्रेष्ठाः
 सन्ति।

- 2. बहुविध-मूल्याङ्कनम्
  - अवलोकनम् (observation)
  - मौखिक-परीक्षणम्
  - वैयक्तिकम्/सामूहिककार्यम्
  - परिचर्चा
  - बाह्य-गतिविधय:
  - क्रीडा-एकीकरणसम्बन्धिन: गतिविधय:

5 अङ्काः

5 अङ्काः

5 अङ्काः

- कला-एकीकरणसम्बन्धिनः गतिविधयः
- 3. निवेश-सूचिका (पोर्टफोलियो)
  - (i) पत्रावली
  - (ii) पुस्तिका

### मूल्याङ्कनार्थं निर्देशाः (शिक्षकेभ्यः)

- कार्यसंयोजनम्
- स्वच्छं शुद्धम् आकर्षकं च
- कार्यपूर्णता
- रचनात्मकता
- समयबद्धता
- विषय-संवर्धनम्
   श्रवणभाषणकौशलसंवर्धनाय गतिविधीनाम् आयोजनम्। (सम्भावितगतिविधय:)
  - (i) निवेश-सूचिकार्थम् (पोर्टफोलियो)
    - पाठ्यसहगामिनः गतिविधयः
    - परिवेशपरिचय:
    - सूक्तिलेखनम्
    - समयपालनस्य महत्त्वम्
    - चित्रवर्णनम्
    - आदर्शवाक्यलेखनम्
    - ध्येयवाक्यलेखनम्
    - श्रुतलेखः

- अनुवाद: (हिन्दीभाषया/ आङ्ग्लभाषया लिखितानां पञ्चसरलवाक्यानां संस्कृतेन अनुवाद:) 5
- चित्रवर्णनम् अथवा अनुच्छेदलेखनम् 5
- पत्रलेखनम् (रिक्तस्थानपूर्तिद्वारा)

रचनात्मककार्यम्

#### खण्डः - 'ख'

(60-80 शब्दमित: एक: सरलसंस्कृतगद्यांश:)

अपठित-अवबोधनम्

10 अङ्काः

15 अङ्काः

5

### खण्ड: - 'क'

#### पाठयक्रमः

प्रश्नपत्रस्य वर्गीकरणम्	अङ्काः	कालांशा:
अपठित-अवबोधनम्	10	10
रचनात्मक-कार्यम्	15	35
अनुप्रयुक्तव्याकरणम्	25	45
पठित-अवबोधनम्	30	50

### वार्षिकपरीक्षा

80 अङ्काः

- भाषणम्
- कथाकथनम्
- भूमिकानिर्वाहः •
- एकलाभिनयः •
- वार्त्तालापः
- सस्वरश्लोकगायनम्
- स्वपरिचय:
- (ii) विषयसंवर्धनार्थम्

खण्डः - 'ग'

अनुप्रयुक्तव्याकरणम् 25 अङ्काः सन्धिः- दीर्घः, गुणः, वृद्धिः, यण् 3 शब्दरूपाणि- राम, लता, फल, मति, नदी, मुनि, साधु, अस्मद्, युष्मद्, किम् (त्रिषु लिङ्गेषु), तत् (त्रिषु लिङ्गेषु), एतत् (त्रिषु लिङ्गेष्), 4 सङ्ख्याः-एकतः शतं पर्यन्तम् (एकतः चतुः पर्यन्तं त्रिषु लिङ्गेषु केवलं प्रथमा-विभक्तौ) 3 कारकाणि उपपदविभक्तयः च 4 द्वितीया-उभयतः, परितः, विना, प्रति तृतीया-अलम्, काण: बधिर:, सह, विना चतुर्थी-दा, रुच्, स्वस्ति, नमः पञ्चमी-बहिः पृथक्, विना, ऋते षष्ठी-पुरत:, पृष्ठत:, उपरि, अध: सप्तमी-विश्वस्, स्निह्, निपुण

- धातुरूपाणि (परस्मैपदिन:)भू, गम्, दृश्, स्था, स्मृ, पठ्, अस्, वद्, नम्, लिख्, पा, कृ, (पञ्चलकारेषु)
   4 (आत्मनेपदिन:) सेव्, लभ्, शुभ्, रुच् (लट्लृट्लकारयो:)
- प्रत्ययाः-क्त्वा, ल्यप्, तुमुन्, क्त, क्तवतु
- अव्ययपदानि-तदा, मा, सर्वत्र, इतस्तत:, एकदा, अपि, बहि:, कदा, कुत:, कुत्र, कथम्, किमर्थम्, पुरा, एव, नीचै:, उच्चै:, अधुना, अद्य, श्व, ह्य:, अत्र, तत्र
- उपसर्गा:- अनु, अव, अधि, आ, उत्, उप, अति, अप, निर्, दुर्, दुस्, निस्, नि, प्र, प्रति, परि, वि, सम्, सु, परा

25

खण्डः-'घ'

पठित	-अवबोधनम्	30	अङ्काः
1.	गद्यांशाधृतम् अवबोधनकार्यम्		5
2.	पद्याधृतम् अवबोधनकार्यम्		5
3.	नाटयांशाधृतम् अवबोधनकार्यम्		5
4.	भावार्थ: (रिक्तस्थानपूर्तिमाध्यमेन)		2
5.	प्रश्ननिर्माणम्		4
6.	श्लोकान्वय: (रिक्तस्थानपूर्तिमाध्यमेन)		2
7.	कथाक्रमनिर्धारणम्		3
8.	शब्दार्थचयनम्		4
पाठ्य	पुस्तकम्–सुरभिः		
1.	सुवचनानि		
2.	वसुधैव कुटुम्बकम्		
3.	अहं नदी अस्मि।		
4.	क्षमस्व महर्षे!		
5.	दिव्या गीर्वाणभारती		
6.	मधुराणि वचनानि		
7.	सफलं तस्य जीवितम्		
8.	क्रोधेन कार्यं न सिध्यति		
9.	अविश्वस्ते न विश्वसेत्		
10.	गुणा: पूजास्थानम्		
11.	हितं मनोहारि च दुर्लभं वच:		
12.	स्वाध्यायात् मा प्रमद: (केवलं पठनार्थम् न परीक्षाकृते)		

### MATHEMATICS

#### **General Instructions :**

- (1) Examination at the end of the year will be from the entire syllabus and will be of 80 marks.
- (2) Internal assessment will be of 20 marks, for which the instructions are as follows :

S. No.	Tools of Internal Assessment	Total Weightage Out of 20 marks
1.	<b>Periodic Tests–Pen and paper Tests</b> (Three Periodic Tests will be conducted at School Level as per their own schedule and the average of best two scores will be reduced to 5 marks for Internal Assessment.)	5
2.	<b>Multiple Assessment</b> for each student to be done by using the Tools of Observation, Oral Tests, individual/group work, field work, class discussion (Quizzes, Debates, Role Play etc.) and Bulletin board work etc.	5
3.	Subject Enrichment Activities Maths Lab Activities/Experiments	5
4.	<ol> <li>Portfolio         <ol> <li>Journal</li> <li>HW/CW Note Books (to display Exemplary Work)</li> <li>Art Integrated Activity/Multidisciplinary HHW Project/Experiential Learning Activity</li> </ol> </li> </ol>	5

	ssessing the Portfolio (Guidelines for eachers) Organisation – Neatness and Visual Appeal
•	Completion of guided work focussed on specific curriculum objectives.
•	Evidence of Student's growth.
•	Inclusion of relevant work.

### Weightage to form of questions

Form of	Objective/one	Case Study	Very Short	Short	Long	Total
Questions	word answer (1 mark)	Based Questions (4 marks)	Answer (2 marks)	Answer (3 marks)	Answer (5 marks)	
No. of questions	16	4	6	7	3	36
Marks Allotted	16	16	12	21	15	80

### DETAILED SYLLABUS

The details of syllabus, Content, Number of periods and marks allotted to each unit are as given below :-

S. No.	Units	Topics/Chapters	No. of periods	Marks Allotted
1.	Number	1. Squares and Square Roots	14	
	System	2. Cubes and Cube Roots	6	14
		3. Exponents and Radicals	8	
2.	Commercial	4. Direct and inverse	10	
	Maths	Variations		15
		5. Profit, Loss and Discount	12	
		6. Compound Interest	12	
3.	Algebra	7. Algebraic Identities	12	
		8. Polynomials	10	15
		9. Linear Equations in One		
		Variable	10	

4.	Geometry	10. Parallel Lines	10	
		11. Understanding	12	16
		Quadrilaterals		
		12. Construction of	10	
		Quadrilaterals		
		16. Rotational symmetry	4	
5.	Graphs	13. Introduction to Graphs	5	5
6.	Mensuration	14. Mensuration	15	9
7.	Statistics & Probability	15. Statistics & Probability	12	6
		TOTAL		80

#### Unit 1. Square and Square Roots

#### (14 Periods)

Square of a number, triangular numbers and numbers between two consecutive square numbers, finding square root of a number by the repeated subtraction method, finding square roots of perfect squares by factorization.

Using division method, finding square roots of-

- (i) Positive integers which are perfect squares.
- (ii) Decimals which are perfect squares.

Finding square roots of numbers which are not perfect squares by the division method up to three decimal places. Problems based on square roots (simple problems only). Square roots of other Numbers (not perfect squares) by estimation.

#### Learning Outcome

- 1. Students will be able to appreciate :
  - Squares of even numbers are even
  - Squares of odd numbers are odd
  - Perfect squares and number ending in 2, 3, 7 or 8 is never a perfect square.
  - Concept of Pythagorean triplet

- 2. Students will be able to find square root of a number
  - By prime factorisation
  - By long division method
- 3. Students will be able to understand and apply the following rules :
  - Rule 1. If a and b are perfect square numbers (b  $\neq$  0) then,

$$\sqrt{\mathbf{a} \times \mathbf{b}} = \sqrt{\mathbf{a}} \times \sqrt{\mathbf{b}}$$
  
 $\sqrt{\frac{\mathbf{a}}{\mathbf{b}}} = \frac{\sqrt{\mathbf{a}}}{\sqrt{\mathbf{b}}}$ 

Rule 2. The pairing of numbers in the division method starts from the decimal point.

For the integral part it goes from right to left and for the decimal part, it goes from left to right.

Rule 3. If p and q are not perfect squares, then to find

 $\sqrt{p}/_q$  , we express  $\frac{p}{q}$  as a decimal and then apply division Method.

### Unit 2. Cubes and Cube Roots

#### (8 Periods)

Cube of a number, Cube roots of perfect cubes by factorization (cube root should not exceed two digits). Cube Root of a Number through Estimation.

### **Learning Outcomes**

- 1. Students will be able to understand :
  - Cube and cube root of negative number is negative i.e.

 $\sqrt[3]{-x} = -\sqrt[3]{x}$ 

• Cube of an even natural number is even and cube of odd natural number is odd.

#### 2. Students will be able to apply the following rules : For any two integers a and b, we have

(i) 
$$\sqrt[3]{a \times b} = \sqrt[3]{a} \times \sqrt[3]{b}$$
  
(ii)  $\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}, b \neq 0$ 

### **Unit 3. Exponents and Radicals**

Idea of rational exponents, Laws of exponents including rational numbers as exponents, Idea of radicals and radicand.

#### Learning Outcomes

- Students will be able to convert radical form to exponential 1. form and vice versa.
- Students will be able to apply the following rules : 2.
  - If a is any positive rational number different from zero and x, y are any rational numbers, then

(i) 
$$a^{x} \times a^{y} = a^{x+y}$$
 (ii)  $a^{x} \div a^{y} = a^{x-y}$   
(iii)  $(a^{x})^{y} = a^{xy}$  (iv)  $(a)^{0} = 1$ 

#### Unit 4. Direct and Inverse Variations

### Direct variation, Inverse variation with examples. Problems on Time and Work and Time and Distance.

#### Learning Outcomes

- Students will be able to distinguish between Direct Variation 1. and Inverse Variation.
- Students will be able to solve the problems on time and work 2. as well as time and distance using the concepts of direct and inverse variations.

#### Unit 5. Profit and Loss and Discount

Problems on profit and loss including discount (rebate), marked price, selling price (only single discount to be discussed), G.S.T.

### (10 Periods)

### (8 Periods)

(12 Periods)

### Learning Outcomes

The students will be able to :

- 1. understand concept of profit and loss.
- 2. calculate S.P./C.P.
- 3. apply concept of discount.
- 4. understand G.S.T. and its calculation.

### Unit 6. Compound Interest

## (12 Periods)

Meaning of Compound Interest. Calculation of amount and compound interest by unitary method. Calculation of amount and compound interest by formula up to three years. Interest compounded annually, half yearly or quarterly up to three conversion periods, Growth and Depreciation.

### Learning Outcomes

Student will be able to :

- 1. distinguish between simple interest and compound interest.
- 2. calculate compound interest from amount, using formula or otherwise.
- 3. calculate compound interest when compounded annually, half-yearly and quarterly.
- 4. analyse and calculate growth and depreciation applicable in various situations.

### Unit 7. Algebraic Identities

### (12 Periods)

Study of the following identities :

1. 
$$(a + b)^2 = a^2 + 2ab + b^2$$

2. 
$$(a-b)^2 = a^2 - 2ab + b^2$$

2.  $(a + b) (a - b) = a^2 - b^2$ 

The above identities may be verified through cardboard models. Expansion of the square of a trinomial :

 $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$ Product of two binomials :

 $(x + a) (x + b) = x^{2} + (a + b) x + ab$ 

Factorization of Algebraic Expressions based on above identities.

### Learning Outcomes

After the completion of this chapter students will be able to :

- 1. distinguish between identity and equation.
- 2. learn the application of identities.
- 3. factorise algebraic expressions using the identities.
- 4. apply the identities in different practical situations.

### Unit 8. Polynomials

### (10 Periods)

Idea of a polynomial in one variable and its terms, coefficients and degree after converting it to standard form Division of a monomial by a monomial.

Division of a polynomial in one variable by a monomial or binomial. (Restricted to polynomials in one variable of degree '4').

Division of a polynomial by a linear polynomial by factor method.

Verification of Dividend = Divisor × Quotient + Remainder.

(Explain the cases of non-zero remainder and remainder equal to zero).

Concept of factors of a polynomial when the remainder is zero.

### Learning Outcomes

The students will be able to :

- 1. identify coefficients and degree of a polynomial.
- 2. divide a polynomial in one variable by a monomial or a binomial.
- 3. verify the dividend by using Divisor × Quotient + Remainder.
- 4. understand and appreciate the factor of a polynomial when remainder is zero.

### Unit 9. Linear Equations in One Variable (10 Periods)

Solving equations of the type  $\frac{ax + b}{cx + d} = k$ ;  $cx + d \neq 0$ 

Word problems on linear equations in one variable. Simple problems from daily life situations like age, coins, number of students of a class, speed, distance, formation of two digit numbers etc. with special emphasis on ability to translate word problems into mathematical statements.

### **Learning Outcomes**

The students will be able to :

- 1. solve linear equation in one variable.
- 2. convert the language problem into a linear equation based on different life situations.

### Unit 10. Parallel Lines

#### (10 Periods)

Definition, Angles made by a transversal with two parallel lines & their properties.

Verification of the following properties :

- 1. Two lines parallel to the same line are parallel to each other.
- 2. Two lines perpendicular to the same line are parallel to each other.
- 3. Division of a Line Segment :
  - I. To divide a line segment into a given number of equal segments.
  - II. To divide a line segment in a given ratio internally (constructions should be by using ruler and compasses).

### Learning Outcomes

After the completion of this unit students will be able to :

- 1. appreciate different types of angles and their relation when a transversal intersects two parallel lines and vice-versa.
- 2. divide a line segment in equal parts using parallel lines with the help of ruler & compass.
- 3. comprehend that two lines parallel/perpendicular to the same line are parallel to each other.

### Unit 11. Understanding Quadrilaterals

(12 Periods)

Introduction to curves. Polygons and its types and properties. Quadrilaterals and its special types (trapezium, parallelogram rectangle, rhombus & square). Properties of special type of quadrilaterals. (Example of kite may be given as a special type of quadrilateral).

Verification of the following properties :

- (i) Opposite sides of a parallelogram are equal.
- (ii) Opposite angles of a parallelogram are equal.
- (iii) Diagonals of a parallelogram bisect each other.
- (iv) Diagonals of a rectangle are equal and bisect each other.
- (v) Diagonals of a rhombus bisect each other at right angles.
- (vi) Diagonals of a square are equal, perpendicular to each other and bisect each other.

(Simple problems based on these properties involving one or two logical steps).

#### Learning Outcomes

After the completion of this chapter students will be able to :

- 1. recognize different types of quadrilaterals i.e. trapezium, parallelogram, rectangle, rhombus, square and kite.
- 2. understand the properties of parallelogram, rectangle, rhombus and square.
- 3. distinguish between different type of quadrilaterals.

#### Unit 12. Construction of Quadrilaterals

(10 Periods)

Construction of a quadrilateral given-

- (i) Four sides and one diagonal
- (ii) Three sides and both diagonals
- (iii) Two adjacent sides and three angles
- (iv) Three sides and two included angles

(The sides should be in whole no. of cm or at least multiples of  $\frac{1}{2}$  a cm. Angles should be multiples of  $15^{\circ}$ )

### Learning Outcomes

After the completion of this chapter students will be able to :

- 1. construct a quadrilateral with given conditions.
- 2. comprehend whether construction of a quadrilateral with given data is possible or not.

### Unit 13. Introduction to Graphs

Cartesian plane. Plotting a point on the Cartesian plane. Independent and dependent variables. Drawing of graphs and type of figure.

### **Learning Outcomes**

After the completion of this chapter students will be able to :

- 1. understand the Cartesian plane and its various elements.
- 2. identify the coordinates of a point.
- 3. evaluate the distance of a point from x-axis and y-axis.
- 4. plot the point on a Cartesian plane.
- 5. join the points and identify the figure so formed.
- 6. identify abscissa and ordinates of a point.

#### Unit 14. Mensuration

### (15 Periods)

Area of trapezium, general quadrilateral and polygon. Surface area of cuboid, cube and right circular cylinder. Volume of cuboid, cube and right circular cylinder. Visualising solid shapes, polyhedron. Mapping space around us.

#### **Learning Outcomes**

The students will be able to :

- 1. find the area of plane figure (trapezium & quadrilateral)
- 2. find the area of a polygon by dividing into various quadrilaterals and triangles.
- 3. calculate the surface area of rectilinear solid figures.
- 4. calculate the volume of rectilinear solids i.e. cube & cuboids.
- 5. calculate the Surface Area of a right circular cylinder.

### (5 Periods)

- 6. calculate the volume of right circular cylinder.
- 7. understand the formation of cubes, cuboid with the help of nets.
- 8. locate and identify side view, top view and front view of solid figures.
- 9. verify Euler's formula for polyhedrons.
- 10. map the different routes in one's surrounding.

### Unit 15. Statistics & Probability

Raw data, frequency, making frequency table from the given raw data. Ungrouped and grouped data. Range, class size, class limits, class marks. Grouping the given data into classes. Drawing, reading and interpretation of histogram. Circle graphs or pie chart and its drawing.

(12 Periods)

(4 Periods)

Probability, Chance, Experiment, Outcome, Event, Probability of an event. Simple cases.

### Learning Outcomes

After studying this chapter students will be able to :

- 1. understand the terms observation, raw data, range, class marks, frequency, frequency table.
- 2. differentiate between raw data, ungrouped & grouped data.
- representation the given data through pictorial representations viz. histogram and pie chart and can interpret the same.
- 4. define the term trial, outcome, probability.
- 5. find probability under different given situations.

### Unit 16. Rotational Symmetry

Rotational symmetry and its order, Centre of Rotation, Angle of Rotation. Line symmetry and Rotational Symmetry. Rotational symmetry should be limited to polygons and regular polygons in case number of sides is more than 4.

### Learning Outcomes

The students will be able to :

- 1. understand symmetry
- 2. distinguish between line symmetry and rotational symmetry
- 3. understand rotational turns about a fixed point
- 4. know the order of rotation of symmetry i.e. four in a square and 3 in an equilateral triangle.
- 5. calculate the angle of rotation about a fixed point.

### SOME SUGGESTED TOOLS FOR INTERNAL ASSESSMENT

### (A) Art Integration Activities

- (1) Exploring triangular numbers using dot patterns.
- (2) Making patterns using regular polygons. (For example: Sierpinski triangle).
- (3) Take a square sheet of area 132.25 cm2. Find the side of a sheet & create a beautiful greeting card using tessellations with a mathematical quotation.
- (4) Mathematics Doodle

### (B) Maths Lab Activities/Experiments

(5) Verify the following algebraic identities using geometrical interpretation :

(i) 
$$(a + b)^2 = a^2 + 2ab + b^2$$

(ii) 
$$(a - b)^2 = a^2 - 2ab + b^2$$

(iii)  $a^2 - b^2 = (a + b) (a - b)$ 

(iv) 
$$(x + a) (x + b) = x^2 + (a + b) x + ab$$

(6) Activities based on the properties of angles made by a transversal with two parallel lines.

(7) Pythagorean triplet (representing numbers expressible in

the form  $\sqrt{x^2 + 1}$  where 'x' is a natural number, on the number line.)

- (8) List your unit I marks in various subjects in tabular form & convert the same in the form of a pie-chart.
- (9) Collect bill/cash memo for your recent shopping and calculate discount and G.S.T. (etc.) from it.
- (10) A worksheet involving comparison of interests when it is compounded annually, semi-annually and quarterly for the same sum at the same rate and for the same time period. Making a decision which option is better in different situations.
- (11) Reinforcement of special types of quadrilaterals and their properties using Frayer's Model.
- (12) Mind map/Flow chart showing different types of Quadrilaterals.
- (13) Making 3-D models of prisms and pyramids using their nets and verifying / obtaining Euler's formula for these solids.
- (C) Project work/Experiential learning activities
- (14) Life history of any Indian mathematician & his/her contribution in the field of Mathematics (Project or PPT).
- (15) Number patterns (specially involving squares and cubes of numbers)
- (16) Do a survey of your class and collect the data from all students of your class who spent more than 4 hours in watching TV. Represent the collected data in the form of histogram by paper cutting & pasting.

- (17) Calculate the surface area to be painted/white-washed in each room of your house.
- (18) Find no. of tiles used in your bathroom along with the cost incurred.
- (19) Find capacity of water tank [Cylinderical or cuboidal]. Estimate daily consumption of water in a household. Using it find for how many days the water in the tank last.
- (20) Mapping of your surroundings by making route maps having proper scale factor and different landmarks shown with appropriate symbols.
- (21) Making a scrapbook of objects from our surroundings having different types of quadrilaterals.

#### (D) Miscellaneous Activities

- (22) Role play on Mathematical situation along with script writing.
- (23) Talk/Class Discussion on any one :
  - (a) Use of maths in different fields.
  - (b) Value of maths in your life.

# SCIENCE & TECHNOLOGY

The three components of this course are :

Physics, Chemistry and Biology.

#### Learning Outcomes :

The teaching of Science, at this stage, will help the learners to :

- develop a scientific attitude and temper
- understand scientific concepts, principles and laws
- acquire the knowledge of scientific terms, facts, definitions and processes
- develop experimental skills, rational thinking, ability to analyse and sharpen their sense of enquiry
- develop measurement and observational skills and to encourage the use of locally available resources
- inculcate science and technology related values
- recognize the relationship of science, technology and society
- appreciate the contribution of science towards development and progress in all fields of life
- create awareness and concern for a healthy environment and preservation of ecosystem.

#### **General Instructions :**

- 1. The annual exam will comprise of **100** marks wherein the written exam will be of **80** marks and Internal Assessment will be of **20** marks.
- 2. Periodic written tests are restricted to **three** in number in an academic year. Average of the best two scores, in these tests, is to be taken for final submission of marks.

- 3. These written tests are to be conducted by the school at their own level, as per their own schedule.
- 4. Information given under the headings 'Do You Know', 'Fact Sheets', 'Case Study' and 'Something To Do' at the end the chapters would not be evaluated in any of the written tests.
- 5. For annual examination, **80 marks** assigned for the written test, would be subdivided as follows :

Physics	30 marks
Chemistry	25 marks
Biology	25 marks

#### **GUIDELINES FOR INTERNAL ASSESSMENT**

The Internal Assessment, **for 20 marks**, is to be carried out as given below :

	Tools of Internal Assessment		Weightage of Marks
1.	1. <b>Periodic Tests</b> Three periodic tests (pen and paper test) will be conducted at school level, as per their own schedule, and the average of the best two scores will be reduced to <b>5 marks.</b>		5
2.			
	Term-I Term-II		
	Term-ITerm-IIArt Integration ActivityMobile Lab Kit MakingStudents will be givenStudents will prepare,an activity in which theyunder teacher's guidance,will use any form of Arttheir own Mobile lab Kitto express/explain thescientific idea.(10 Marks)(10 Marks)		5

3.	Multiple Assessment Activity*		
	Students will be assessed using multiple tools of observation such as Interdisciplinary project, Role play, Group discussion, Debate, Quiz, Oral test, Field work, Bulletin board making etc. (10 Marks)		
4.	A. Portfolio: It includes Journal, Notebook work.		
	Criteria For Assessing Portfolio :		
	(i) Organisation-Neatness & visual appeal	5	
	(ii) Completion of work-Focus on specific objectives		
	(iii) Evidence of student growth		
	(iv) Inclusion of relevant work		

\*Some suggested Art integration Activities, Mobile Lab Activities and Interdisciplinary Projects are given at the end of the document.

## **IMPORTANT NOTE**

The following six chapters of Science textbook will **NOT** be included for assessment in Annual Examination. However, they will be a **mandatory** part of the internal assessment.

- Chapter 8: Conservation of Plants and Animals
- Chapter 9: Crop Production and Its Management
- Chapter 17: Stars and Solar System
- Chapter 18 : Earthquakes

Chapter 19: Pollution of Air

Chapter 20 : Pollution of Water

These chapters may be included in Internal Assessment as follows :

- Include questions from any two of these chapters in each of the periodic tests.
- Give an Art Integration Activity or Interdisciplinary Project on topics from these chapters.
- Carry out Multiple Assessment based on these chapters.

## **DETAILED SYLLABUS**

The details of the syllabus, i.e., contents, number of periods and marks assigned to each chapter for the three components of the syllabus, are given below :

Name of the Chapters	No. of Periods Allotted	Marks Assigned
Ch. 4: Force and Pressure	8	5
Ch. 5 : Friction	10	5
Ch. 10 : Refraction and Dispersion of Light	12	7
Ch. 11 : The Human Eye	6	4
Ch. 12 : Sound	6	4
Ch. 16 : Electric Current and Its Chemical Effects	10	5
Ch. 17 : *Stars and Solar System	6	*For Internal
Ch. 18 : *Earthquakes	6	Assessment only
	64	30

## PHYSICS (30 Marks)

#### **CHEMISTRY (25 Marks)**

Name of the Chapters	No. of Periods Allotted	Marks Assigned
Ch. 3: Metals and Non-Metals	12	8
Ch. 6: Sources of Energy	6	5
Ch. 7 : Combustion	8	7
Ch. 13 : Synthetic Fibres and Plastics	8	5
Ch. 19 : *Pollution of Air	6	*For Internal
Ch. 20 : *Pollution of Water	6	Assessment
		only
	46	25

## **BIOLOGY (25 Marks)**

Name of the Chapters	No. of Periods Allotted	Marks Assigned
Ch. 1 : The Cell-Its Structure and Functions	8	5
Ch. 2 : Microorganisms–Friends and Foes	9	6
Ch. 8 : *Conservation of Plants and Animals	6	*For Internal
Ch. 9 : *Crop Production and its Management	7	Assessment only
Ch. 14 : Reproduction in Animals	10	7
Ch. 15 : Reaching the Age of		
Adolescence	10	7
	50	25

\*Please refer to 'IMPORTANT NOTE' for guidelines for internal assessment.

Chapter 1 : The Cell-its Structure and Functions (5 marks)

- Discovery of the cell (8 periods)
- The Cell-variation in cell number, shape and size in living organisms
- Parts of cell
- Levels of organisation in an organism
- Comparison between plant cell and animal cell
- Well labelled diagrams of plant cell and animal cell

### Learning Outcomes The learner will be able to :

- 1. comprehend and understand the basic unit of life.
- 2. differentiate between plant cell and animal cell
- 3. describe various cell-organelles and their functions in the cell.

#### Chapter 2. Micro-organisms - Friends or Foes (6 marks)

- Introduction

(9 periods)

(8 marks)

- Types of microorganisms
- Diagram of Paramoecium and Euglena (Refer to Page 8)
- Viruses are unique
- Where do microorganisms live ?
- Role of microorganism in our life
- Microorganisms as our friends
- Microorganisms The Foes
- Food poisoning
- Food preservation

#### Learning outcomes

The learner will be able to :

- (1) know about the different types of micro organisms and their habitats.
- (2) compare the role of microorganisms as friends and foes
- (3) understand the concept of food preservation and apply its techniques.

#### Chapter 3 : Metals and Non-metals

- Classification of elements (12 periods)
- Occurrence of elements
- Minerals and ores
- Physical Properties
- Chemical Properties
- Reaction with oxygen, water, acids and alkalies
- Reactivity of metals
- Displacement reactions
- Noble Metals
- Uses of metals and non-metals

Alloys – Composition and uses of alloys

## Learning Outcomes :

The learners will be able to :

- 1. classify elements and learn about their occurrence in nature.
- 2. understand the different physical properties of metals and non-metals and their applications (based on these properties).
- 3. differentiate between chemical behaviour of metals and non-metals towards air, water and acids.
- 4. relate displacement reaction of metals with reactivity series.
- 5. comment upon noble metals and uses of metals, nonmetals and alloys.

## Chapter 4 : Force and Pressure (5 marks)

(8 periods)

- Effects of force

- Force

- Factors associated with magnitude of force needed
- Balanced and unbalanced forces
- Types of forces
- Contact and non contact forces
- Pressure
- Applications of the concept of pressure in daily life
- Liquid pressure
- Properties of liquid pressure
- Atmospheric pressure
- Variation in air pressure

- Importance of atmospheric pressure
- Force and pressure : concept map

The learners will be able to :

- (1) define, identify and classify force and its types.
- (2) understand the concept of pressure and its applications.

## **Chapter 5 : Friction**

- Concept of friction

(5 marks) (10 periods)

- Cause of friction
- Factors affecting friction
- Types of friction-static, sliding & rolling
- Friction A necessity
- Friction An evil or nuisance
- Increasing / Reducing friction
- Fluid friction

## Learning Outcomes :

The learners will be able to :

- (1) identify various types of friction.
- (2) appreciate that friction is a necessity as well as a nuisance.
- (3) understand methods of increasing and decreasing friction.

## Chapter 6 : Sources of Energy

(5 marks)

(6 periods)

- Classification of sources of energy : On the basis of occurrence, physical state and availability
- Fossil Fuels
- Wood as a fuel
- Coal : occurrence, formation and types
- Destructive Distillation and Its Products

- Uses of coke, coal-tar and coal gas
- Petroleum
  - Occurrence of petroleum
  - Refining of petroleum
  - Petroleum products and their uses
  - Natural gas
  - Uses of natural gas
- Cleaner Fuels

The learners will be able to :

- 1. classify the sources of energy on the basis of their occurrence, physical state and availability.
- 2. understand what are fossil fuels, their occurrence in nature and their processing.
- 3. know about different types of fuels.
- 4. understand the importance of cleaner fuels and alternative sources of energy.

#### Chapter 7 : Combustion

Combustion & combustible material (8 periods)

Conditions required for combustion

(7 marks)

- Types of combustion
- Fire control
- Incomplete combustion
- Flame
- Fuel and calorific value
- Characteristics of a good fuel
- Harmful effects of fuels

The learners will be able to :

- 1. understand the term combustion and the conditions required for combustion.
- 2. differentiate between types of combustion and understand the consequences of incomplete combustion.
- 3. know about various methods used to control fire.
- 4. understand different zones of flame.
- 5. appreciate the properties of a good fuel.

## **Chapter 8. Conservation of Plants and Animals**

(\*For Internal Assessment only)

(6 periods)

- Domestic consequences of deforestation
- Global consequences of deforestation
- Conservation of forests and wildlife
- Biosphere reserves
   (Map of biodiversity hotspots not to be evaluated)
- National Parks
- Wildlife Sanctuaries
- Flora and fauna
- Endemic species
- Red Data Book
- Migration
- Reforestation
- Recycling of paper

## Learning Outcomes :

The learners will be able to :

- (1) know deforestation and its consequences.
- (2) understand the importance of migration and biodiversity.
- (3) know about ways to conserve biodiversity.

## Chapter 9. Crop Production and its Management

- (\*For Internal Assessment only) (7 periods)
- Food from plants
- Agricultural Practices
- Preparation of Soil, Sowing, Soil Replenishment, Irrigation, Traditional System of Irrigation, Modern System of Irrigation, Crop Protection, Harvesting, Storage.
- Crop Improvement

## Learning Outcomes :

The learners will be able to :

- (1) understand the various agricultural practices
- (2) appreciate and analyse the methods of crop improvement and their protection

## Chapter 10 : Refraction and Dispersion of Light (7 marks)

Refraction of Light

(12 periods)

- Refraction—its cause
- Refractive index, optical density
- Rules for refraction
- Refraction of light by a glass slab
- Dispersion of white light by a glass prism
- Rainbow
- Spherical lenses
- Basic terms related to lenses
- Image formation by convex and concave lenses
- Application of lenses

### Learning Outcomes :

The learners will be able to :

(1) understand the concept of refraction using various optical devices and its causes.

(2) draw and identify images formed by concave and convex lens for different positions of the object.

## Chapter 11 : The Human Eye

(4 marks) (6 periods)

- Structure of human eye
- Function of various parts of the human eye
- The blind spot
- How do we see colours ?
- Working of the human eye
- Range of vision
- Defects of vision
- Care of the Eyes
- Visually challenged persons-help for them
- Braille system

#### Learning Outcomes :

The learners will be able to :

- (1) draw the structure and appreciate the function of the human eye.
- (2) understand the various defects of vision and ways to take care of eyes.
- (3) be sensitized towards the resources available for visually challenged.

#### Chapter 12 : Sound

- Sound and vibrations
- Sounds produced by humans
- Sounds produced by animals
- Propagation of sound
- Light propagates faster than sound
- Amplitude, time period and frequency of a vibration

- (4 marks)
- (6 periods)

- Loudness and pitch of a sound
- Audible and inaudible sounds
- Noise and music
- Noise pollution : sources and effects
- Measures to limit noise pollution
- Hearing impairment

The learners will be able to :

- (1) know the mechanism of production of sound by humans and various animals.
- (2) understand the mechanism of propagation of sound.
- (3) identify causes and effects of noise pollution and ways to limit noise pollution.

## Chapter 13 : Synthetic Fibres and Plastics (5 marks)

- Natural fibres and synthetic fibres (8 peridos)
- (Rayon) or Artificial Silk, Nylon, Terylene, Poly Ethene Tetraphthalate, (PET) and Acrylic fibres
- Advantages and disadvantages of synthetic fibres
- Plastics
- Characteristics of synthetic plastics
- Types of synthetic plastics
- Thermosetting
- Thermoplastics
- Plastics and the Environment
- Damage caused by plastic waste
- Measures to control the damage caused by plastic waste

The learners will be able to :

- 1. understand what are 'synthetic fibres'.
- 2. know about different types of synthetic fibres and plastics and their properties, advantages and disadvantages.
- 3. differentiate between thermoplastics and thermosetting plastics.
- 4. know, and get sensitised, towards the damage caused by plastic waste and measures to control this damage.

#### Chapter 14. Reproduction in Animals

(7 marks) (10 periods)

- Definition of reproduction
- Asexual reproduction
- Sexual reproduction
- Reproductive patterns
- Reproductive systems
- Fertilization, development of the embryo
- How do hens lay eggs ?
- Viviparous and Oviparous animals
- Journey of young ones to adults (frogs)
- Diagrams of binary fission in Amoeba, multiple fission in Plasmodium, budding in Hydra and Yeast, male and female reproductive systems and human sperm.

## Learning Outcomes :

The learners will be able to :

- (1) know the various modes of reproduction in animals.
- (2) differentiate between oviparous and viviparous animals.
- (3) differentiate between male and female reproductive systems.

#### Chapter 15. Reaching the age of Adolescence (7 marks)

- Adolescence and Puberty (10 periods)
- Changes at puberty
- Sexual development : Development of sex organs, development of secondary sexual characters, change in hormonal balance the reproductive phase in human beings
- Determination of sex of the child
- The Endocrine system
- Role of hormones in completing the life cycle of insects and frogs
- Reproductive health: Nutritional needs of adolescents, Personal hygiene, Physical exercise, Say 'No to Drugs'.

### Learning Outcomes :

The learners will be able to :

- (1) understand and analyse the problems of adolescence.
- (2) understand the emotional and physiological changes that take place during adolescence.
- (3) know the importance of hormones in life cycle of different organisms.

#### **Chapter : 16 Electric Current and its Chemical Effects**

- Conductors and Insulators (5 marks)
- Conduction through liquids (10 periods)
- Cause of conductivity of liquids
- Electrolytes
- Conversion of chemical energy into electrical energy
- Chemical effects of electric currents, their applications
- Faraday's discovery
- Electromagnetic induction

The learners will be able to :

- (1) understand the concept of electrolyte, cause of conductivity.
- (2) know the chemical effects of electric current and its applications.
- (2) know about electromagnetic induction.

## Chapter 17 : Stars and Solar System

- (\*For Internal Assessment only)
- Galaxy—Milky way galaxy (6 pe
- (6 periods)

- Stars
- Constellations
- The moon-phases of the moon, the moon's surface
- The solar system
- Sun
- Planets
- Terrestrial and Jovian planets
- Minor bodies in the solar system
- Artificial satellites and their applications

## Learning Outcomes :

The learners will be able to :

- (1) understand various heavenly bodies like stars, planets etc. and their characteristics.
- (2) appreciate the concept of artificial satellites and their applications.

### Chapter 18 : Earthquakes

(\*For Internal Assessment only) (6 periods)

- Earthquakes and their effects
- Cause of an earthquake

- The Focus
- Predicting an earthquake
- Measuring an earthquake
- Protection against earthquakes; safety precautions

The learners will be able to :

- (1) understand earthquakes, their causes and effects.
- (2) relate Richter scale readings with intensity of earthquake.
- (3) acquire skills of Disaster Management.

## Chapter 19 : Pollution of Air

(\*For Internal Assessment only)

(6 periods)

- Pollution
- Air pollution; Causes of air pollution;
- Harmful effects of carbon monoxide, nitrogen dioxide smog, chlorofluorocarbons (CFCs)
- Acid rain and its harmful effects
- Green House Effect and Global Warming
- Causes of increase in concentration of green house gases
- Consequences of green house effect
- Global warming and its consequences
- Measures to check global warming
- Methods to control air pollution

## Learning Outcomes :

The learners will be able to :

- 1. understand air pollution and its causes.
- 2. know about the harmful effects of major air pollutants.
- 3. understand the phenomena of green house effect and global warming; their causes and consequences.
- 4. know about different methods of controlling air pollution.

## Chapter 20 : Pollution of Water

(\*For Internal Assessment only)

(6 periods)

- Water pollution
- Causes of water pollution
- Potable water
- Purification of drinking water
- Methods to make water safe for drinking
- Treatment of major sources of water pollution
- Treatment of sewage
- Treatment of industrial waste
- Conservation of water

### Learning Outcomes :

The learners will be able to :

- (1) understand water pollution and its causes.
- (2) know about ways of purifying water.
- (3) appreciate the need for control of water pollution.
- (4) sensitize themselves and others towards water conservation.

## LIST OF SUGGESTED ACTIVITIES FOR SUBJECT ENRICHMENT & MULTIPLE ASSESSMENT

**Note :** The list given here is only suggestive in nature. The teachers/students can takeup other projects/activities in addition to those suggested here.

- 1. (a) **Prepare a temporary mount** of onion peel and cheek cells.
  - (b) **Make a model** of plant cell/animal cell using waste materials.
- (a) Spotting of different microorganisms Amoeba, Spirogyra, Paramoecium, Yeast, (either Slides / Photographs)

- (b) Include a photocopy of your "vaccination chart" in PORTFOLIO. Prepare a "Survey report" on diseases for which vaccination is done in India.
- Laboratory Demonstration by teacher on different physical and chemical properties of metals and nonmetals.
- 4. (a) **Use pictures/science toons** to show different types of forces.
  - (b) Lab activities to show relation of-
    - (i) force and pressure
    - (ii) pressure and area
  - (c) demonstration showing properties of liquid pressure.
- 5. (a) **Collection of interesting facts** or situations to create Power Point Presentation on–
  - (i) Methods to increase or decrease friction in day to day life.
  - (ii) Advantages or disadvantages of friction
  - (b) Demonstration of an activity to show that force of friction increases with increase in the weight of the body.
- 6. (a) **Graphical representation** on Increase in cost of Petrol/Diesel in last ten years.
  - (b) **Survey**–Visit a near by petrol station and collect data for one month about number of vehicles that have undergone pollution check on each day of that month.
- 7. (a) **Activity** showing different conditions required for combustion.
  - (b) Collect information on different types of fire extinguishers and write about them in a scrap file with pictures of fire extinguishers.

- (c) **Activities** showing presence of wax vapours in the innermost zone of candle flame and unburnt particles of carbon in the luminous zone of the candle flame and to show that the non-luminous zone is the hottest part of a candle flame.
- 8. (a) **Take out a Rally** to create awareness about "Importance of trees".
  - (b) **Prepare** recycled paper using scrap paper.
  - (c) Make a Picture Gallery on different types of species of plants and animals.
  - (d) **Design a Brochure** on national Park / Bio-diversity park / Wild life sanctuary.
- 9. (a) **Compose a Song / Poem or Jingle** to promote Organic Farming or Green manuring.
  - (b) **Design** different agricultural implements using clay / dough.
- 10. Lab demonstration on refraction of light through a glass slab, glass prism and spherical lenses.
- 11. (a) Model of Human Eye using waste materials.
  - (b) Survey on "Defects of vision".
- 12. (a) In a **scrap file**, paste pictures of different muscial instruments and give information about their special characteristics.
  - (b) **Power Point Presentation** on "Cause and Effects of Noise Pollution" and "Measures to be taken to minimise ill-effects of Noise Pollution."
- (a) Make a doll using waste plastic materials(bottle caps, straws etc.) and adorn it using different types of synthetic fibres/fabrics. [Click its photograph and place it in the portfolio]
  - (b) Draw **posters** and write **slogans** (self created) on "Say NO TO Plastics".

- 14. (a) **Write up** on "Challenges faced by countries with over population".
  - (b) Model on Life cycle of a frog.
- 15. (a) Poster making on "Say no to drugs".
  - (b) Short film / Skit / Street play / video on 'Gender sensitization'
- 16. (a) To **prepare** a continuity tester to check conduction through liquids.
  - (b) **Demonstration** of electrolysis of water.
- (a) Visit or collect information about any of the ancient astronomical observatory built by Maharaja Jai Singh and instruments/techniques used by astronomers of those times.
  - (b) To make a collage on "Achievements of ISRO" till date. [Sources-newspaper, Science magazine, newsletters, journals etc.]
- 18. (a) On the map of world mark / indicate the place where Tsunami has occured or is most likely to occur. [To be included in portfolio]
  - (b) role play on "Do's & Dont's during an earthquake."
- 19. (a) **Report** on 'Smoke Towers".
  - (b) **Comparative Study** of steps taken by the Government against pollution of three polluted cities of the world.
- 20. (a) Street play on "Jal hi Jeevan Hai".
  - (b) **Case study** on Conservation of water bodies.

## SOCIAL SCIENCE

The Social Science syllabus has been divided into three units :

Geography	Unit-I	Resources and Development
History	Unit-II	Our Past-III
Political Science	Unit-III	Rule of Law and Social Justice

One written examination for the whole syllabus is to be conducted at the end of the academic year (2021-2022) for **80 marks.** Question paper for this annual examination will be sent by DAVCAE. **20 marks** have been allotted for internal assessment as per details given below :

### **Guidelines for Internal Assessment**

It is suggested that, the Internal Assessment is to be carried out as given below :

	Tools of Internal Assessment	Total Weigtage (20 marks)
1.	Periodic Tests - Pen and paper test (Three periodic tests will be conducted at School level as per their own schedule and the average of the best two scores will be reduced to 5 marks for internal assessment).	5 Marks
2.	Assessment using multiple strategies for example, Quiz, Debate, Role play, Group Discussion, Visual Expression, Interactive Bulletin Boards, Gallery walk, Exit Cards, Concept Maps, Peer Assessment, Self-Assessment etc.	5 Marks
3.	Subject Enrichment Activities (Project Work)	5 Marks

4.	Portfolio	5 Marks
	Class work	
	Work done	
	(Activities/Assignments)	
	<ul> <li>Reflections, Narrations, journals etc.</li> </ul>	
	<ul> <li>Achievements of the student in the subject throughout the year.</li> </ul>	
	<ul> <li>Participation of the student in different activities like quiz on Heritage India etc.</li> </ul>	
	Assessing the Portfolio (Guidelines for teachers)	
	<ul> <li>Organization-Neatness and visual appeal</li> </ul>	
	<ul> <li>Completion of guided work focused on specific curriculum objectives</li> </ul>	
	Evidence of student growth	
	<ul> <li>Inclusion of relevant work (completeness)</li> </ul>	

## DETAILED SYLLABUS

The details of syllabus, content, number of periods and marks allotted to each unit for each of the three components– Geography, History and Political Science of syllabus are given below :

Chapter No.	Name of the Chapter	No of Teaching Periods	Marks Allotted	
	GEOGRAPHY-UNIT-I: RESOURCES AND DEVELOPMENT			
1.	Resources : Utilization and Development	6	4	
2.	Natural Resources : Land, Soil and Water	9	7	
3.	Natural Resources : Vegetation and Wildlife	7	5	

neral and Energy sources	4	To be Done as Project Work only
iculture	12	6
nufacturing ustries	13	To be Assessed in Periodic Tests only and will not to be evaluated in the Annual Examination
man Resources	9	5
al	60	27
HISTORY-UNIT-II:	OUR PASTS-III	
e Modern Period	4	3
ablishment of npany Rule in India	12	5
lonialism: Rural and bal Societies	9	4
e first war of ependence-1857	7	6
pact of British Rule India	4	To be Done as Project Work only
lonialism and Urban anges	7	To be assessed in periodic tests only and will not be evaluated in the Annual Examination
e nationalist vement (1870-1947)	15	6
ia Marches ahead	8	3
tal	66	27
AL SCIENCE-UNIT-III: RUL	E OF LAW AND S	OCIAL JUSTICE
r constitution	10	6
ndamental Rights, ndamental Duties and ective Principles of State icy	9	4
e Union Government: e Legislature	9	5
e Union Government: e executive	8	6
	iculture inufacturing ustries man Resources al HISTORY-UNIT-II: Modern Period ablishment of npany Rule in India lonialism: Rural and bal Societies e first war of ependence-1857 bact of British Rule India onialism and Urban anges e nationalist vement (1870-1947) ia Marches ahead tal AL SCIENCE-UNIT-III: RUL or constitution ndamental Rights, ndamental Rights, ndamental Duties and ective Principles of State icy e Union Government: e Legislature e Union Government:	sources iculture 12 nufacturing ustries 13 man Resources 9 al 60 HISTORY-UNIT-I: OUR PASTS-III Modern Period 4 ablishment of 12 npany Rule in India lonialism: Rural and 9 bal Societies 9 e first war of 7 ependence-1857 bact of British Rule 4 India onialism and Urban 7 anges 7 e nationalist 15 vement (1870-1947) ia Marches ahead 8 tal 66 L SCIENCE-UNIT-III: RULE OF LAW AND Si rr constitution 10 ndamental Rights, ndamental Rights, ndamental Duties and ective Principles of State 9 icy 9 e Union Government: 9 e Legislature 9 e Union Government: 8

20.	The Union Government: The Judiciary	9	5
21.	Social Justice and the Marginalised	4	To be done as project work only
22.	Safeguarding the Marginalised	5	To be Assessed in periodic tests only and will not to be evaluated in the Annual Examination
	Total	54	26

The distribution of marks over different aspects relating to Project work is as follows :

S.No.	ASPECTS	Marks
1.	Content accuracy, originality and analysis	2
2.	Presentation and creativity	2
	Viva Voce	1

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

### Weightage to the type of questions

Type of Questions			LA 5 Marks		Total
	IVIAIK	SIVIAIKS	5 Warks		
No. of Questions	20	8	6	2	36
Total Marks	20	24	30	6	80

\*Easy-30%

\*Average-50%

\*Difficult-20%

### Learning Outcomes :

After studying the prescribed syllabus, the learners will be able to :

• recognize the importance of the issues included in the textbook and relate those to their daily life.

- learn the need of conservation of resources and the concept of sustainable development.
- comprehend the relation between resources and development.
- gain knowledge about the different sources of information of modern period and reflect on them.
- have an idea of the various historical developments that took place in the Modern period of Indian history.
- explain the process of the establishment of colonial rule in India and its impact.
- appreciate the contribution of various social reformers, struggle for freedom by nationalist leaders and the people of India as a whole.
- realize the social, political and economic developments after independence.
- appreciate the ideals of democracy and the importance of the rules and laws included in the Constitution of India.
- explain the process of functioning of different institutions of the government and their interdependence on each other.
- realize the need for social justice and equality for marginalized and minority groups.
- form their own opinion about different issues included in the textbook.
- develop map skills to identify and locate the various regions/states in India and different countries in the World.
- imbibe social and constitutional values like democratic way of life, secularism, social justice, and humanitarianism, dignity of labor and scientific attitude.

## UNIT WISE SYLLABUS GEOGRAPHY

## **Unit-I–Resources and Development**

# Ch-1 Resources : Utilization and Development(6 Periods)Contents:(4 Marks)

- Utilization of Resources
- Classification of Resources : based on renewability, origin, occurence and development of resources.
- Sustainable development and conservation

**Learning Outcomes :** After studying the lesson the learners will be able to :

- Explain the meaning of resources, classification and uses of resources.
- Realize the need and methods of conservation of resources and the meaning of sustainable development.

## Ch-2 Natural Resources : Land, Soil and Water (9 Periods)

### Contents :

(7 Marks)

- Land Resources land use
- Soil Resources
  - factors affecting soil formation
  - soil conservation
- Water Resources
- Pollution of water and its conservation

**Learning Outcomes :** After studying the lesson the learners will be able to :

- 1. explain the significance of natural resources like land, soil and water.
- 2. compare the land use patterns of selected countries.
- 3. recognize the factors influencing soil formation, the causes of soil erosion, need and ways for the conservation of soil.

Ch-3 Natural Resources : Vegetation and Wildlife (7 Periods) Contents : (5 Marks)

- Natural Vegetation
- Classification of forest
  - (a) Tropical hardwood forest
  - (b) Mediterranean forest
  - (c) Temperate softwood forest
- Advantages of forest
- Wildlife
  - (a) National park
  - (b) Wildlife Sanctuary

**Learning Outcomes :** After studying the lesson the learners will be able to :

1. Learn about the different types of forests, wildlife, national parks and sanctuaries.

**Ch-4 Mineral and Energy Resources** (4 Periods) **\*Note:** This chapter is meant only for project work and is not to be included in annual written examination but to be taught and discussed in the class and various projects-based activities on the topic to be carried out by the students with the help of teacher.

### Contents :

- Mineral Resources
- Types of Mineral metallic, non-metallic and mineral fuels
- Distribution of Mineral Resources
- Distribution of Minerals in India
- Conservation of Minerals (India and World)
- Types of Energy Resources—Conventional and Non-conventional sources of energy
- Conservation of energy resources

**Learning Outcomes :** After studying the lesson the learners will be able to :

1. explain the occurrence of different minerals, the classification of mineral resources and its distribution in India/world.

2. understand the need to conserve mineral and energy resources and suggest measures for it.

## Ch-5 Agriculture Contents :

(12 Periods) (6 Marks)

- Importance of agriculture
- Factors affecting agriculture
- Types of agriculture : subsistence and commercial with their sub types.
- Major crops : geographical requirements and the main countries of production.
  - (a) Cereals (b) Fibre crops (c) Beverage crops
- Agricultural development
- Comparative study of agricultural farms in USA and India.

**Learning Outcomes :** After studying the lesson the learners will be able to :

- 1. Explain the meaning and importance of agriculture. Factors affecting, agriculture and types of agriculture practiced in different parts of the world.
- 2. Classify different crops on the basis of geographical conditions and main areas of their production.
- 3. Compare the development of agriculture in developed and developing countries (USA and India).

## **Ch-6 Manufacturing Industries** (13 Periods) **Note :** This chapter is meant only to be assessed in periodic tests and will not be evaluated in the Annual Examination.

## Contents :

- Importance of Manufacturing industries
- Classification of industries
  - (a) On the basis of size
  - (b) Nature of finished products
  - (c) Sources of Raw Material
  - (d) Ownership
- Factors Influencing location of an industry (a) Geographical

(b) Non-Geographical

- Some major industries of the world
  - (a) Iron and Steel Industry
  - (b) Cotton Textile Industry
  - (c) Information Technology

**Learning Outcomes :** After studying the lesson the learners will be able to :

- 1. Explain the meaning of manufacturing industry, Industrial development, industrial region, information technology, classify industries and understand the factors that influence location of an industry.
- 2. Explain important facts of the following industries-
  - (a) Iron and steel industry (Jameshedpur)
  - (b) Cotton textile industry (Ahmedabad and Osaka)
  - (c) Information technology (Bengaluru and Silicon Valley)

## Ch-7 Human Resources

(9 Periods)

#### Contents

(5 Marks)

- Concept of human resources
- Distribution of population
- India : Land Man Ratio
  - (a) Density of population : states with low, moderate and high density
- Factors affecting distribution of population
  - (a) Physical Factors
  - (b) Economic Factors
- Growth of population
- Composition of human resources
  - (a) Age Structure
  - (b) Sex Ratio
  - (c) Literacy Rate.

**Learning Outcomes :** After studying the lesson the learners will be able to :

1. Explain the concept of human resource and the factors affecting distribution and density of population.

2. Explain the various attributes of composition of population i.e., age structure, sex ratio and literacy rate.

## MAP WORK GEOGRAPHY (4 MARKS)

Test Items for Identification

Note : On outline Political map of the world

## Ch-2 Natural Resources: Land, Soil and Water

- (a) Areas of High Rainfall-Equatorial regions of South America, Africa and South East Asia.
- (b) Areas of Low Rainfall-Tropical deserts-Sahara, Arabian Plateau, Central and Western Australia, Kalahari, Central and Northern Eurasia, Central Asia, Polar Regions, etc.

## Ch-3 Natural Resources : Vegetation and Wildlife

- (a) Tropical Evergreen Forests
  - (i) Amazon basin in South America
  - (ii) Congo basin (Ivorycoast, Ghana, Nigeria, Cameroon, Gabon in Africa)
  - (iii) S.E. Asian countries, India-Western Ghats, N.E. India, Andaman and Nicobar Islands, Kerala
- (b) Tropical Deciduous Forests
  - (i) India in Asia
  - (ii) Central parts of America
- (c) Mediterranean Forests
  - (i) Shores of Southern Europe and Northern Africa
  - (ii) S.W. part of South Africa
- (d) Temperate Softwood Forests
  - (i) Northern Canada
  - (ii) Higher latitudes of Europe and Asia

## HISTORY

## **Ch-8 The Modern Period**

Contents :

(4 Periods)

(3 Marks)

• Sources of information - British Documents, Books,

Letters, Writings, Speeches, Newspapers, Administrative Reports, Internet, Database Old buildings, Artifacts, and people.

**Learning Outcomes :** After studying the lesson the learners will be able to :

• Explain the changes in the Modern period of Indian history through the given sources of information.

## Ch-9 Establishment of Company Rule in India(12 Periods) Contents : (5 Marks)

- Trading companies
- The East India Company
- The Carnatic Wars
  - (a) First Carnatic War
  - (b) Second Carnatic War
  - (c) Third Carnatic War
- Conquest of Bengal
- Battle of Plassey
- Battle of Buxar
- Dual Government in Bengal
- Anglo-Mysore Wars
  - (a) The First Anglo-Mysore War
  - (b) The Second Anglo-Mysore War
  - (c) The Third Anglo-Mysore War
  - (d) The Fourth Anglo-Mysore War
- Anglo-Maratha War
  - (a) First Anglo-Maratha War
  - (b) Second Anglo-Maratha War
  - (c) Third Anglo-Maratha War
- Anglo-Sikh Wars
  - (a) First Anglo-Sikh War
  - (b) Second Anglo-Sikh War

**Learning Outcomes :** After studying the lesson the learners will be able to :

- Explain the role of East India Company in establishing new trading centers in India.
- Explain systematic expansion of East India Company in India, that led to establishment of British Empire.

Ch-10 Colonialism : Rural and Tribal Societies (9 Periods) Contents : (4 Marks)

- Colonial agrarian policy and its impact
  - (a) Zamindari System
  - (b) Ryotwari System
  - (c) Mahalwari System
- Growth of Commercial Crops
- Condition of the Farmers
- Revolts by Farmers
- Colonialism and Tribal Societies
- Impact on the Tribal Life
- Tribal Revolts
- Effects of Colonialism on Crafts and Industries,
- Modern Industries in India.

**Learning Outcomes :** After studying the lesson the learners will be able to :

- Explain different Land Revenue Systems and their impact, revolt by the farmers.
- Analyze reasons behind the exploitation of tribal and their revolts.
- Recognize the impact of colonialism on Indian crafts and industry and development of modern industries in India.

# Ch-11 The First War of Independence–1857(7 Periods)Contents :(6 Marks)

- Uprising of 1857
- Causes of the Revolt :
  - (a) Political Causes

- (b) Economic Causes
- (c) Social and Religious Causes
- (d) Military Causes
- (e) Immediate Causes
- Course of the revolt
- Suppression of the revolt
- Causes of the failure
- Results of the revolt of 1857.

- Explain the causes of 1857 revolt, its nature, important centers and leaders involved in the revolt.
- Assess the reasons for the failure of the 1857 revolt.
- Appreciate the outcome of the Revolt known as 'First War of Independence'.

## Ch-12 Impact of British Rule on India

(4 Periods)

\*Note : This chapter is meant only for project work and is not to be included in annual written examination but to be taught and discussed in the class and various projects-based activities on the topic to be carried out by the students with the help of teacher.

### Contents :

- Education under the British Rule.
- Impact of British System of Education
  - (a) Positive
  - (b) Negative
- Social Impact
- Socio-Religious Reforms
  - (a) Shri Narayan Guru
  - (b) Jyotiba Phule
  - (c) Veeresalingam Kundukuri
  - (d) Periyar E.V. Ramasamy
  - (e) Swami Dayanand Saraswati

- (f) Dr. Bhimrao Ambedkar
- (g) Mahatma Gandhi
- Impact of the reform movements

- Explain the education policy of the Britishers and its impact in India.
- Recognize the role of different social reformers in the Indian society.
- Assess the impact of social reforms in Indian Society.

## Ch-13 Colonialism and Urban Change

(7 Periods)

**Note :** This chapter is meant to be assessed in periodic tests only and will not be evaluated in the Annual Examination.

### Contents :

- De-urbanisation
- Urbanisation of Calcutta and Delhi
- Police in Delhi
- Railways under the British
- British impact on Indian painting, literature and architecture.

**Learning Outcomes :** After studying the lesson the learners will be able to :

- Describe the process of De-urabanisation.
- Explain the process of urbanization of Calcutta and Delhi.
- Explain the formation of Police System in Delhi.
- Recognise the reasons for introduction of railways by the British in India.
- Assess the impact of the British policies on Indian painting, literature and architecture.

## Ch-14 The Nationalist Movement (1870-1947) (15 Periods) Contents : (6 Marks)

- Formation of Indian National Congress
- Partition of Bengal

- Formation of Muslim League
- Morley-Minto Reforms
- Home Rule League
- Lucknow Pact 1916
- Arrival of Mahatma Gandhi on the Indian Political Scene
- Montague Chemsford Reforms/Government of India Act 1919
- Rowlaltt Act
- Jallianwala Bagh Massacre
- The Non-Cooperation Movement
- Chauri Chaura
- Peasants and Workers Movements
- Simon Commission
- Lahore Session
- Civil Disobedience Movement
- Revolutionary Movement for India's Independence
- Government of India Act, 1935
- Quit India Movement
- Subash Chandra Bose
- Towards Independence

- Access the circumstances that led to the formation of Indian National Congress.
- Recognise the role of moderates and radicals in the Indian freedom struggle.
- Explain the different developments in nationalist movement from 1870-1947.
- Appreciate the role of Mahatma Gandhi, Subhash Chandra Bose, and other national leaders and the significance of mass movements.

## Ch-15 India Marches Towards Independence (8 Periods)

## Contents :

• Main features of the Indian Independence Act, 1947

(3 Marks)

- Indian Constitution
- India On the Path of Progress
- Indian Democracy
- India's Foreign Relations
- Indian Society
- Challenges to Indian Democracy
- What is India Vision 2020

**Learning Outcomes :** After studying the lesson the learners will be able to :

- recall the main features of the Indian Independence Act 1947.
- realise the significance of Indian Constitution and working of Indian democracy.
- explain the path of India's economic and agricultural growth.
- highlight the main features of India's foreign policy and India Vision 2020.

### MAP WORK

## **HISTORY (2 MARKS)**

## (For locating and labelling of the following items)

Note : On outline Political Map of India

### Chapter 11 : The First War of Independence-1857

- Meerut
- Delhi
- Gwalior
- Kanpur
- Lucknow
- Barrackpore
- Jhansi

## Chapter 14 : The Nationalist Movement (1870 – 1947)

- Bombay Formation of INC
- Lucknow Lucknow Pact
- Amritsar Jallianwala Bagh Massacre
- Dandi Dandi March
- Surat Moderates and radical split
- Calcutta Call for Swaraj made in Congress Session
- Champaran First movement for peasants by Gandhiji
- Chauri Chaura-Incident due to which Non-Cooperation Movement was called off

## POLITICAL SCIENCE

## Chapter-16 Our Constitution Contents :

(10 Periods) (6 Marks)

- Rules and Laws
- The Constitution and its need
- Values and Vision of the Indian Constitution
- Preamble : The soul of Indian Constitution
- Basic Features of Our Constitution
  - (a) Uniqueness
  - (b) The Lengthiest Constitution
  - (c) Written Constitution
  - (d) Rigid and Flexible
  - (e) Procedures of Amendment
    - (i) By Simple Majority
    - (ii) By Special Majority
    - (iii) Special Majority and Ratification
  - (f) India is a Sovereign, Socialist, Secular and Democratic Republic
  - (g) Parliamentary form of government
  - (h) Federal and Unitary
  - (i) Universal Adult Franchise
  - (j) Single Citizenship
  - (k) Single Integrated Judicial System

**Learning Outcomes :** After studying the lesson the learners will be able to :

- explain the meaning and need of the constitution.
- Identify the important features, ideals and values contained in the constitution.
- Assess the importance of the rule of law.

# Ch-17 Fundamental Rights, Fundamental Duties and<br/>Directive Principles of State policy.Duties and<br/>(9 Periods)

#### Contents :

(4 Marks)

- Fundamental Rights
  - (a) Right to Equality
  - (b) Right to Freedom
  - (c) Right against Exploitation
  - (d) Right to Freedom of Religion
  - (e) Cultural and Educational Rights
  - (f) Right to Constitutional Remedies
- Restrictions on Fundamental rights
- Fundamental Duties
- Directive Principles of State Policy
- Secularism
- Indian Secularism

**Learning Outcomes :** After studying the lesson the learners will be able to :

- Describe the Fundamental Rights and Fundamental duties as enshrined in the Constitution of India.
- Explain the significance of Directive Principles of state policy.
- Realize the importance and uniqueness of Indian secularism.

Ch-18 The Union Government : The legislature(9 Periods) Contents : (5 Marks)

- Structure of Indian Government
- The Union Legislature : Parliament
- Lok Sabha The House of the People
  - (a) Qualifications
  - (b) Tenure
  - (c) Powers and functions of the speaker

- Rajya Sabha : The Council of States
  - (a) Qualification
  - (b) Election and Tenure
  - (c) Presiding officer
- Powers and functions of Union Parliament
  - (a) Legislative powers
  - (b) Control over the Executive
  - (c) Financial power
  - (d) Power to amend the Constitution
  - (e) Judicial powers
  - (f) Electoral function

- realise the need for federal structure in India.
- explain the significance of division of powers, subjects between different levels of government, the composition, functions of Union Parliament (Lok Sabha & Rajya Sabha), the role of Speaker in Lok Sabha and Chairman in Rajya Sabha.

#### Ch-19 The Union Government : The Executive (8 Periods)

Contents :

(6 Marks)

- Parliamentary form of Government
- Nominal Executive
- Real Executive
- The President
  - (a) Qualifications for the Office
  - (b) Tenure
  - (c) Election of the President
  - (d) Impeachment
  - (e) Succession to Presidency
  - (f) Emoluments and Immunities
- Powers and Functions of the President
  - (a) Executive Powers
  - (b) Legislative Powers
  - (c) Financial Powers

- (d) Judicial Powers
- (e) Emergency Powers
- The Vice President of India
- The Union Council of Ministers
  - (a) Functions of the Union Council of Ministers
  - (b) Functions of the Prime Minister.

- Explain the nature and working of the Parliamentary system of government, differentiate between real and nominal Executive.
- Comprehend the process of election of the President of India and its impeachment.
- Understand the powers and functions of the President and Vice President.
- Able to identify the composition, powers and functions of the council of Ministers and Prime Minister of india.
- Value the significance of coalition government in the present day politics.

## Ch-20 The Union Government : The Judiciary (9 Periods) Contents : (5 Marks)

- Independence of Judiciary
- Types of Cases
- Single Unified and Integrated Judicial System
- Supreme Court of India
  - (a) Organization/Composition
  - (b) Qualification of Judges
  - (c) Tenure and Removal from Office
  - (d) Salary and allowances
- Powers and Functions of the Supreme Court
  - (a) Original Jurisdiction
  - (b) Appellate jurisdiction
  - (c) Advisory Jurisdiction
  - (d) Supervisory Jurisdiction
  - (e) Court of Record

- (f) Protector of the Fundamental Rights
- (g) Guardian of Our Constitution
- (h) Judicial Review
- High Court
  - (a) Organization/Composition
  - (b) Qualifications
  - (c) Emoluments
  - (d) Tenure and Removal
- Powers and Functions of the High Court
- Subordinate Courts
  - Civil Courts
  - Criminal Courts
  - Revenue Courts
- Lok Adalats
- Public Interest Litigation

- Explain the concept and importance of independent judicial sytem in India.
- know about the jurisdiction and function of Supreme Court, High Courts and Subordinate Courts.

### Ch-21 Social Justice & the Marginalised (4 Periods) (Project only)

**Note :** This chapter is meant only for project work and is not to be included in annual written examination but to be taught and discussed in the class and various projectbased activities on the topic to be carried out by the students with the help of teacher.

### Contents :

- Meaning of marginalised groups
- Scheduled castes and Scheduled tribes
- Reservation
- Other backward classes
- Minority groups

- Explain the meaning of marginalised groups and their problems, Constitutional provisions for safeguarding their interest.
- Appreciate the steps taken by the government for the welfare of the minorities and the marginalized groups.

**Ch-22 Safeguarding the Marginalised** (5 Periods) **Note :** This chapter is meant to be assessed in periodic tests only and will not be evaluated in the Annual Examination.

## Contents :

- Meaning of Marginalisation
- Constitutional Provisions
  - (I) Fundamental Rights
    - (a) Right to Equality
      - Protective decriminalized
      - Untouchability
    - (b) Right against exploitation
    - (c) Special provisions for Minorities
  - (II) The Directive Principles of State Policy
- Protecting the rights of marginalized
  - Reservation
  - Prevention of Atrocities Act 1989
- Measures taken by the government for rehabilitation of Manual Scavengers.
- Programmes launched by the government for the upliftment of the weaker sections.
- People's aspirations and our National Goals.

**Learning Outcomes :** After studying the lesson the learners will be able to :

- Explain the concept of social justice, problems faced by marginalized groups and steps taken for their welfare.
- Analyse the importance of policy of reservation.

#### LIST OF SUGGESTED CLASS ACTIVITIES/ PROJECTS/EXPERIMENTS/PRACTICALS FOR INDIVIDUAL WORK/GROUP WORK/PORTFOLIO & SUBJECT ENRICHMENT BASED ON ART INTEGRATION, ICT SKILLS & EXPERIENTIAL LEARNING

**Note :** The List given here under is only suggestive in nature. The teachers / students can do other projects / activities in addition to those suggested here.

#### Geography

Explore the various items made up of minerals and their alloys in your home and surroundings.

- 1. Items used in construction, handicraft, bridges and utility products.
- 2. Things made of minerals used for domestic purpose.
- 3. Click photograph of each item.
- 4. Classify them into metallic and non-metallic minerals.

#### Activity assignment

- 1. Prepare a Brochure/foldable on metallic and nonmetallic minerals on the basis of minerals identified by you.
- 2. Minimum 5 metallic and 5 non-metallic items are required.

#### **Project–Conservation of energy**

- 1. Collect the electricity bills of your house.
- 2. Compare the consumption of electricity in different seasons.
- 3. Convert the data into bar graph and compare it on the basis of season.
- 4. Find out the causes of more consumption of energy in a particular month/season.
- 5. Collect the data of energy consumption by each electronic device in your house.

- 6. Find out the solution for reducing energy consumption in your house.
- 7. Take energy conservation steps at home.
- 8. Analyse its impact on the electricity bill.
- 9. Give more suggestions to reduce energy consumption and try to imbibe habits of saving energy.
- Note : Project can be prepared on any creative format.

## SUGGESTED PROJECTS IN HISTORY

Chapter-12 Impact of British Rule on India

- Project-1 The poster will be consisting of two parts
  - (i) Positive impact of British system of Education
  - (ii) Negative impact of british system of Education
- Project-2 Scrap File on Social Reformers and their work
- Project-3 Map work on Social Reformers using Stamp Size pictures pasted on Map in their respective states.

## SUGGESTED PROJECTS/ACTIVITIES IN POLITICAL SCIENCE

## Chapter-21 Social justice and Marginalised

- 1. Prepare a photo album or power point presentation or film on Tribal History, Culture, Festivals, Occupation, Dance Forms, Food, Dresses, Jewellery, Art & Craft.
- Brochure making on famous personalities belonging to SC & ST communities of India, those who have achieved excellence in different spheres of life.
- 3. Dance presentation–any type of dance forms belonging to the tribes of North-Eastern states of India.
- 4. Clay modelling on Tribal jewellery, sculpture, tools, weapons, utensils, art & craft etc.
- 5. Placards on different tribal groups of India with labelling their geographical locations.

## नैतिक शिक्षा

मुख्य उद्देश्यः

- छात्र-छात्राओं में ईश्वर भक्ति के भाव उत्पन्न होंगे। उनमें माता-पिता, गुरुजनों एवं मानवमात्र के प्रति सम्मान और कृतज्ञता को अंकुरित एवं पल्लवित करने के भाव होने चाहिए।
- धार्मिक रुचि का संवर्धन एवं अच्छी आदतें व्यवहार में सम्मिलित होनी चाहिए।
- विद्यार्थियों को देश, धर्म, सुसंस्कार, सुशिक्षा एवं विश्वकल्याण के प्रति कर्तव्यनिष्ठ बनना चाहिए।
- 4. वेदादि उत्तम ग्रन्थों के स्वाध्याय के प्रति रूचि जाग्रत होनी चाहिए।
- वैदक संस्कृति एवं सभ्यता के प्रति आत्मीयता के भाव प्रगाढ़ एवं सुदृढ़ होने चाहिए।
- देश धर्म की सेवा में जीवन लगाने वाले तथा उत्तम ग्रन्थों की रचना द्वारा ज्ञान का संवर्धन करने वाले महापुरुषों के चरित्र से परिचित होना चाहिए।
- छात्रों में प्राणीमात्र के प्रति दया, संयम, सदाचरण, उदारता आदि के भाव होने चाहिए।
- परस्पर प्यार से रहना, एक-दूसरे के सुख-दुःख में सहभागी होना, सबकी उन्नति में अपनी उन्नति समझना आदि सदाचरण से सामाजिकता की भावना को मूलबद्ध करना।
- निजी स्वार्थ का त्याग, चारित्रिक उन्नति, सहिष्णुता एवं राष्ट्रीय नियमों के पालन से राष्ट्र की उन्नति में योगदान करना।
- महामारी, अकाल, दुर्भिक्ष, भूकम्प आदि से पीडि़त लोगों की सहायता करना, उन्हें इनसे बचाने के लिए कदम उठाना, इनसे बचने के लिए सम्बंधित विशेषज्ञों के दिशानिर्देशों का पालन करना और कराना।

## आन्तरिक मूल्यांकन

1. इकाई परीक्षा

(इकाई परीक्षाएँ तीन होंगी। दो सर्वश्रेष्ठ परीक्षाओं का मूल्यांकन किया जाएगा, जिनके ओसत 5 अंक दिए जाएँगे।)

(20 अंक)

5 अंक

2. बहुविध मूल्यांकन

5 अंक

- (क) अवलोकन
- (ख) मौखिक
- (ग) वैयक्तिक/सामूहिक कार्य।
- (घ) परिचर्चा
- (ङ) बाह्य गतिविधियाँ
- 3. निवेश-सूचिका(पोर्ट-फोलियो) 5 अंक

चित्रात्मक गतिविधियाँ-पुस्तक पर आधारित अध्यापकों के निर्देशानुसार-

- 1. ओ३म् ध्वज का निर्माण
- 2. स्वच्छता अभियान
- 3. वर्ण व्यवस्था
- 4. महापुरूषों का जीवन चरित्र
- 5. हवन में प्रयुक्त आवश्यक वस्तुओं की सूची
- 6. कक्षा कार्य/गृहकार्य

### 4. विषय संवर्धन-

- 1. योगासन
- 2. पञ्च महायज्ञ (विधि एवं मंत्रोच्चारण)
- 3. सात्विक आहार, सत्य भाषण
- 4. वाद-विवाद प्रतियोगिता
- 5. लेखन
- 6. प्रेरक प्रसंग

क्रम	सं. पाठ का नाम	अंक विभाजन	कालांश विभाजन
1.	ओ३म् ध्वज (अर्थ, एवं महत्त्व)	3	2
2.	ईश्वर का सर्वश्रेष्ठ नाम– (ओ३म् का महत्त्व व जप के लाभ)	4	3

5 अंक

क्रम	सं. पाठ का नाम	अंक	कालांश	
		विभाजन	विभाजन	
3.	आत्मबोध – (अर्थ, भावार्थ एवं कण्ठस्थीकरण)	2	1	
4.	गीता के दो श्लोक – (अर्थ एवं उद्देश्य)	4	2	
5.	गायत्री जप का प्रभाव	5	3	
	(गायत्री मंत्र की महिमा, अर्थ एवं लाभ)		3	
6.	संस्कृत भाषा (आवश्यकता महत्त्व एवं उपयोगिता)	5	3	
7.	राष्ट्रभाषा हिन्दी (आवश्यकता, महत्त्व एवं स्थान)	6	3	
8.	पञ्च महायज्ञ (नाम, परिभाषा, उद्देश्य एवं लाभ)	6	3	
9.	डी.ए.वी. गान (अर्थ, भावार्थ एवं कण्ठस्थीकरण)	2	2	
10.	योग की पहली सीढ़ी-यम (योग एवं यमों के अर्थ एवं महत्त्व)	6	3	
11.	योग की द्वितीय सीढ़ी 'नियम'– (योग के अनुसार नियमों के	6	3	
	अर्थ एवं महत्त्व)			
12.	वर्ण व्यवस्था का स्वरूप- (भेद एवं आवश्यकता)	4	3	
13.	आश्रम व्यवस्था – (भेद, अर्थ एवं महत्त्व)	4	3	
14.	'किस दर जाऊँ' – (भावार्थ एवं कण्ठस्थीकरण)	2	2	
15.	आर्य समाज के नियम (7-10 नियम)	5	3	
	(व्याख्या, महत्त्व एवं कण्ठस्थीकरण)			
16.	सत्यार्थ प्रकाश–	6	3	
	(अर्थ, महत्त्व एवं सभी समुल्लासों की विषय-वस्तु)			
17.	डी.ए.वी. संस्थाएँ	4	2	
	(डी.ए.वी. की स्थापना, विशेषताएँ, उद्देश्य एवं योगदान)			
18.	डॉ. मेहरचन्द महाजन-	4	3	
	(जन्म, शिक्षा एवं डी.ए.वी. में योगदान)			
19.	राष्ट्रीय गीत – (अर्थ एवं कण्ठस्थीकरण)	2	2	
निर्धारित पुस्तक :				
	नैतिक शिक्षा (भाग 8)			

नैतिक शिक्षा (भाग 8) (प्रकाशन विभाग, डी.ए.वी. कॉलेज प्रबंधकर्तृ समिति, नई दिल्ली)