

SECONDARY SCHOOL SYLLABUS



**NAGALAND BOARD OF SCHOOL EDUCATION
KOHIMA - 797001
POST BOX - 613**

Effective from the academic session 2007 for class 9 and the academic session 2008 for class 10.

Note : The Board reserves the right to revise the curriculum and the syllabi as and when it deems necessary.

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1. Work and Art Education
2. Physical & Health Education (including Adolescence Education)

PART – I

SCHEME OF STUDIES AND

SCHEME OF EXAMINATIONS

1. SCHEME OF STUDIES

1.1. Subject of study : The scheme and subjects of study for classes 9 and 10 leading the enrolled students to the class 9 final examination and High School Leaving Examination (HSLC) respectively, shall include the following subjects of study.

A. Compulsory subjects :

1. First Language - English
2. Second Language - *any one of the following:*
 - i. Hindi
 - ii. Bengali
 - iii. Ao
 - iv. Lotha
 - v. Sumi
 - vi. Tenyidie
 - vii. Alternative English
3. Mathematics
4. Science
5. Social Sciences

B. Sixth subject (any one) :

- i. Agriculture
- ii. Book Keeping & Accountancy
- iii. Environmental Education
- iv. Home Science
- v. Introductory Information Technology
- vi. Music

C. Internally Assessed subjects :

1. Work & Art Education
2. Physical & Health Education (including Adolescence Education)

1.2 INSTRUCTIONAL TIME :

- (a) The number of working days shall be 210.
- (b) There shall be 6 (six) working hours having 8 (eight) periods a day and a minimum of 48 periods a week.

Teaching Time per week :

Suggested periods per week :

Subjects	Periods
1. First Language (English)	7
2. Second Language	6
3. Mathematics	8
4. Science	8
5. Social Sciences	8
6. Sixth subjects	5
7. Work & Art Education	3
8. Physical & Health Education	3
<hr/>	
Total period	48

1.3 Medium of Instruction :

The medium of instruction and examination for all subjects shall be English except for Major/Modern Indian Language subjects, in which case the language concerned shall be used.

1.4 Selection of the sixth subject :

It is desired that students choose their sixth optional subject keeping in view their future course of studies in general and professional courses. However, the school may also make an endeavour to cater to the growing needs of the enrolled pupils.

2. SCHEME OF EXAMINATIONS :

2.1 Nature of Examination :

A. Class 9 final examination :

Class 9 (nine) examination shall be conducted at the end of the academic year and results shall be declared internally by recognized schools/centre schools only in accordance with the criteria and syllabus prescribed by the Board in order to maintain a uniform standard in all registered schools. Certificate of qualification shall be issued by the Board.

B. HSLC Examination :

Class 10 (ten) examination known as High School Leaving Certificate shall be conducted at the end of class 10 schooling, basing on the Board prescribed syllabus of class 10 (ten) only.

C. Internal Assessment :

- (i) The marks allotted for internal assessment in the compulsory subjects and the sixth subject shall be assessed by the school throughout the year.
- (ii) For the internally assessed subjects such as Work & Art Education and Physical & Health Education, 100% of the syllabus shall be assessed on CCE by the schools. These subjects shall be evaluated on a 5 (five) point absolute scale of grading. The qualifying grade is C. The marks in letter grades of these subjects shall have to be communicated by the schools to the Board.

2.2. Details of External question paper, marks and duration for class 9 and HSLC Examination is given below :

Sl.no.	Subject	No.of papers	Marks	Maximum duration
1.	Language I	One	80	3 hours
2.	Language II	One	80	3 hours
3.	Mathematics	One	80	3 hours
4.	Science	One	80	3 hours
5.	Social Sciences	One	80	3 hours
6.	Sixth subject (any one)			
	i) Environmental Education	One	80	3 hours
	ii) Agriculture	One	60	2½ hours
	iii) Home Science	One	60	2½ hours
	iv) Book Keeping & Accountancy	One	60	2½ hours
	v) IIT	One	40	1½ hours
	vi) Music	One	40	1½ hours

CRITERIA FOR QUALIFYING TO THE NEXT HIGHER CLASS :

A. Externally assessed subjects :

1. **C₂ grade or a higher grade** in First Language (English)
2. **C₂ grade or a higher grade** in any 4 (four) from the following :
 - i. Second Language (Hindi/Bengali/Ao/Lotha/Sumi/Tenyidie Alternative English)
 - ii. Mathematics
 - iii. Science
 - iv. Social Sciences
 - v. *any one* - Agriculture, Book Keeping & Accountancy, Environmental Education, Home Science, Introductory Information Technology, Music.

B. Internally assessed subjects:-

- i. **C grade or a higher grade** in Work & Art Education
- ii. **C grade or a higher grade** in Physical & Health Education.

C. Attendance:-

The required minimum percentage of attendance to sit for the final examination is 80%.

A compulsory subject (excluding first language - English) in which a student has not acquired the qualifying grade can be interchanged with the sixth subject where he/she had acquired the qualifying grade for eligibility to the next higher class.

Students who do not opt for the sixth subject, in order to qualify to the next higher class, shall have to secure the minimum qualifying grades in all the 5 (five) subjects i.e. i. First Language (English), ii. Second Language, iii. Mathematics, iv. Science, and v. Social Sciences.

PART – II
COURSE OF STUDIES
FOR CLASSES 9 & 10

ENGLISH

Objectives :

1. to communicate effectively and appropriately in real-life situations,
2. to understand English effectively for study purpose across the curriculum,
3. to develop and integrate the use of the four language skills listening, speaking, reading and writing,
4. to speak and express idea in clear and grammatically correct English(Tenses) using appropriate punctuation and cohesion devices,
5. to understand and interpret texts i.e. prose, poems and stories by relating them to other material on the same theme (in their own experience and knowledge),
6. to analyse, interpret and evaluate the idea in a text,
7. to recycle and reinforce structure already learnt,
8. to plan, organise and present ideas, expand notes into a piece of writing,
9. to write a clear description e.g. of a place, a person, an object or a system and
10. to develop an interest and appreciation of literature.

CLASS 9 ENGLISH

PART-A: EXTERNAL

Units	Marks
I. Literature	
(a) Prose	15
(b) Poetry	15
(c) Drama	05
II. Reading	10
III. Writing	20
IV. Grammar	15
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours **80 marks/180 periods**

Unit I: Literature **35 marks/80 periods**
 Question will test comprehension at different levels, literal inferential and evaluative.

Unit II: Reading **10 marks/24 periods**
 Two unseen passages with a variety of comprehension question for word-attack skills such as word formation and inferring meaning.
 150-250 words in length (5 + 5)
 The passages will include one of each of the following types.
 Factual passage. e.g. instruction, description, report.
 Literary passage e.g. extract from fiction, drama, poetry, essay or biography.
 In the case of a poetry extract, the text may be shorter than 100 words.

Unit III: Writing **20 marks/43 periods**
 1) Letter Writing - One letter in not more than 100 words based on provided verbal stimulus and context. Types of letter: Informal; Personal such as to family and friends. Formal: Letters of complaint, enquiry, request & application. 10 marks

- 2) Short composition of not more than 50 words, e.g. a note, notice, message, telegram, advertisement. 5 marks
- 3) Composition based on a visual stimulus such as a diagram, picture, graph, map, cartoon, or flow-chart. 5 marks

Unit IV: Grammar

15 marks/33 periods

A variety of short questions involving the use of particular structure within a context. Test types used will include, punctuations, tenses, use of plurals, active and passive voice, parts of speech.

PART-B INTERNAL

20

- | | | |
|------------------------|---|------|
| 1) Conversation skills | - | (10) |
| 2) Assignments | - | (05) |
| 3) Formal testing | - | (05) |

PART-A: EXTERNAL : 1 Paper / 3 hours**80 marks / 180 periods****I. Literature****(a) Prose 15**

1. Socrates, The Man Who Asked Questions - J.B. Neilson
2. On Saying Please - A.G Gardiner
3. The Selfish Giant - Oscar Wilde
4. Twelve Million Black Voices - Richard Wright

(b) Poetry 15

1. To Daffodils - Robert Herrick
2. Lord Ullin's Daughter - Thomas Campbell
3. Stopping By The woods - Robert Frost
4. The Little Black Boy - William Blake
5. Bad Season - Nini Lungalang

(c) Drama 05

1. The Death Trap - Saki (H.H. Munro)

II. Reading 10**III. Writing 20****IV. Grammar 15****PART-B: INTERNAL 20**

1. Conversation skills (10)
2. Assignments (05)
3. Formal testing (05)

Total 100

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

English for class-9
Pearson Education, 482, F.I.E. Patparganj,
Delhi – 110094, India.

Reference books:

1. High School English Grammar and Composition – Wren and Martin.
2. Communication Skills – Frank Bros & Co.

CLASS-10 ENGLISH

PART-A: EXTERNAL

Units	marks
I. Literature	
(a) Prose	15
(b) Poetry	15
(c) Drama	05
II. Reading	10
III. Writing	20
IV. Grammar	15
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours

80 marks / 180 periods

Unit I: Literature

35 marks/80 periods

Questions will test comprehension at different levels-literal, inferential and evaluative.

Unit II: Reading

10 marks/24 periods

Two unseen passages with a variety of comprehension questions for word attack skills such as word formation and inferring meaning.

- 1) 200-300 words in length - 5
- 2) 200-300 words in length - 5

The passages will include one each of the following types.

1. Discursive passage: involving opinion, e.g. argumentative, persuasive or interpretative text.
2. Literary passage e.g. extract from fictions, drama, poetry, essay or biography. In the case of a poetry extract, the text may be shorter than 150 words.

Unit III: Writing **20 marks/43 periods**

Three writing tasks are indicated below:

1. Short composition of not more than 50 words, e.g. a note/
message, circulars. **5**
2. Composition based on a verbal or visual stimulus such as
advertisement, table, flow-chart, picture. **5**
3. Formal letters- Letters of complaint, inquiry,
request & application. **10**

Unit IV: Grammar **15 marks/33 periods**

A variety of short questions involving the use of particular structure within a context. Test types used will include, **preposition, tenses, narration, transformation of sentences, parsing.**

PART-B:	INTERNAL	20
	1. Conversation skills	(10)
	2. Assignments	(05)
	3. Formal Testing	(05)

PART-A: EXTERNAL : 1 paper/3 hours**80 marks/180 periods****I. Literature****(a) Prose 15**

1. God Sees The Truth, But Waits - Leo Tolstoy
2. Beethoven, Genius Of Fire And Tears – George Marek
3. The Gift Of Language – J.G Bruton
4. Letter To My Daughter- Jawaharlal Nehru

(b) Poetry 15

1. Requiem– Shakespeare
2. Backs To The Engine – F. Pratt Green
3. Crossing The Bar- Tennyson
4. Easter Morning – Easterine Iralu.

(c) Drama 05

- (i) The Never-Never Nest – Cedric Mount.

II. Reading 10**III. Writing 20****IV. Grammar 15****PART –B: INTERNAL 20**

1. Conversation Skills (10)
2. Assignments (05)
3. Formal Testing (05)

Total 100

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

English for class-10
Pearson Education, 482, F.I.E. Patparganj,
Delhi – 110092, India.

Reference books :

1. High School English Grammar and Composition – Wren and Martin.
2. Communication Skills – Frank Bros & Co.

ALTERNATIVE ENGLISH

Objectives:

1. to develop the abilities of reading and writing with comprehension,
2. to communicate effectively and appropriately in real-life situations,
3. to develop and help them to express ideas in clear and correct grammar/English,
4. to recycle, reinforce and reproduce structures already learnt,
5. to enrich the vocabulary of the students more effectively,
6. to plan, organise and present ideas in their own words,
7. to develop and integrate the use of the four language skills i.e. listening, speaking, reading and writing,
8. to develop an interest of literature for future career,
9. to provide alternative for those MIL which are not fully developed and
10. to develop an interest and appreciation of literature.

CLASS-9
ALTERNATIVE ENGLISH

PART-A: EXTERNAL

Units	Marks
I. Prose	20
II. Poetry	20
III. Grammar	20
IV. Composition	
(a) Precis writing and Expansion of Ideas (5+5)	20
(b) Essay writing/Letter writing (10)	
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I: Prose 20 marks/50 periods

1. A Night With The Bears – Dom De Sa.
2. After Twenty Years – O. Henry.
3. The Pearl Of Love – H.G. Wells.
4. I Prepare To Go To Coimbatore – Kasturi Sreenivasan
5. Sun And Moon – Katherine Mansfield.

Unit II: Poetry 20 marks/44 periods

1. The Human Seasons – John Keats.
2. Something Childish, But Very Natural – S.T. Coleridge.
3. Know Then Thyself – Alexander Pope.
4. Lucy Gray – William Wordsworth.
5. The Road Not Taken – Robert Frost.
6. Child Of Cain – Monalisa Changkija.

Unit III: Grammar : 20 marks/50 periods

1. Modal Auxiliaries
2. Question tags
3. Phrases & Clauses
4. Subject-verb concord
5. Adverbs

Unit IV:	Composition	20 marks/36 periods
	1. Precis writing and Expansion of ideas (5+5)	(10)
	2. Essay writing/Letter writing	(10)
PART-B:	INTERNAL	20
	1. Conversation skills	(10)
	2. Assignments	(05)
	3. Formal testing	(05)

***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbook :

Alternative English for class-9
 Frank Bros & Co. (Publishers) Ltd.
 4675-A, 21 Ansari Road, Daryaganj,
 New Delhi-110002.

Reference book :

High School English Grammar and Composition – Wren and Martin.

CLASS- 10
ALTERNATIVE ENGLISH

PART-A: EXTERNAL

Units	Marks
I. Prose	20
II. Poetry	20
III. Grammar	20
IV. Composition	20
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours **80 marks/180 periods**

Unit I: Prose **20 marks/50 periods**

- | | |
|-------------------------------------|--------------------------|
| 1. A Shadow | – R.K. Narayan |
| 2. The Happy Prince | – Oscar Wilde |
| 3. In Celebration Of Being Alive | – Dr. Christian Barnard |
| 4. The War And Peace Of Leo Tolstoy | – Donald Culross Peathea |
| 5. Vanishing Animals | – Gerald Durrell |

Unit II: Poetry **20 marks/44 periods**

- | | |
|---------------------------|-------------------|
| 1. Virtue | – George Herbert |
| 2. Nightingales | – Robert Bridges |
| 3. The Doll | – Temsula Ao |
| 4. Spring | – G.M. Hopkins |
| 5. Ballad Of The Landlord | – Langston Hughes |

Unit III: Grammar : **20 marks/50 periods**

1. Tenses
2. Voices
3. Conjunctions
4. Sentence Formation
5. English Errors

Unit IV: Composition **20 marks/36 periods**

- | | |
|-----------------------|----|
| 1. Essay writing | 10 |
| 2. Expansion of ideas | 05 |
| 3. Comprehension | 05 |

PART-B: INTERNAL

20

- | | |
|------------------------|------|
| 1. Conversation skills | (10) |
| 2. Assignments | (05) |
| 3. Formal testing | (05) |

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Prescribed textbook :

Alternative English for class-10
Oxford University Press, India
Salt Lake Electronics Complex
Plot No. A1-5, Block – GP, Sector V,
Kolkata – 700091.

Reference book :

High School English Grammar and Composition – Wren and Martin.

MODERN INDIAN LANGUAGE : AO

Objectives :

1. Asen tetsü taso oshiji shitak angateta, züngtetsü, zülutetsü aser jempitetsü.
2. Orrlem shitak amshiyim agi kaket nung aliba ama angateta inyaktetsü asoshi.
3. Taküm nung pei kin indang sobaliba aser awashi angateta litetsü.
4. Asen Ao oshi Arrla shitakba nung wazüka ayutsü asoshi.

CLASS-9 AO

PART-A: EXTERNAL

Units	Marks
I. Prose (Otsü)	25
II. Poetry (Sangro)	20
III. Grammar (Orrlem)	20
IV. Composition (Olem)	15
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I: Otsü (Prose) 25

1. Ao kin libaliro, Rev.L.T. Maja
2. Aruju- N. Talitemjen Jamir
3. Kü meimla teret nung- T. Senka
4. Awashi tetezü Aser Amshiren
5. Awashi yimya Balala Amshiren
6. Shiruru Aser Meimchir Tesendaktep
7. Sobaliba Tzüpokdak
8. Kaket Riju Nung Awashi
9. Tekülemdak Awashi

Unit II: Sangro (Poetry) 20

1. Oagi alima ka lir- Imnameren
2. Tsüa! Aukoshi- I. Sashimeren Aier
3. Sariwar tenet- Kilensowa Ao
4. Impur- Rev. Dr. I Ben Wati

5. Nüknürar melembu- Kilensowa Ao
6. Ochinaro tia- Rev. Dr. M. Rongsen

Unit III:	(a) Orrlem (Grammar)	15
	1. Ojisa (Parts of Speech)	
	2. Züngdangba (Numbers)	
	3. Amilem (Person)	
	(b) Omeyipzük (Translation) English to Ao	05
Unit IV:	Olem (Composition)	15
	1. Essay Writing/Letter Writing	(10)
	2. Substance Writing/Precis Writing	(05)
PART-B:	INTERNAL	20
	1. Jeimpishine (Conversation)	(10)
	2. Tinyaktsü (Assignments)	(05)
	3. Asüngdangtep (formal testing)	(05)

Folk songs may be assessed under conversation skills. Painting, drawing or craft which is indigenous to the tribe may be assessed under assignment.

***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks for Class-9:

1. Akümlir Mongsong, 2005
2. Orrlem (Ao Naga Grammar) by M.L. Wati Jamir
3. Aor Lokti Puti Rajem (Vol.I), by Prof. A. Lanunungsang.

Reference book:

1. N. Talitemjen Jamir, Asen Sobalibaren, Tapu 4&5, 1992.
2. N. Talitemjen & Prof. A. Lanunungsang, Naga Society and Culture Chapter 4&5, 2005.

**CLASS-10
AO**

PART-A: EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing/Letter writing (10)	
(b) Precis writing and Expansion of Ideas (5)	
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I:	Prose (Otsü)	25
	1. Jina Etiben (Revised Edition MSM)	
	2. Loktiliba rajem nung sobaliba aser awaashi. (Prof. A. Lanunungsang züluba kaket; AOR LOKTI PUTI RAJEM shilem II, tapu 7-12)	
Unit II:	Poetry (Sangro)	20
	1. Chungliyimti Kü Soyim – Imtimeren Jamir	
	2. Aokonang – R. Lisen	
	3. Lisem manung tenüng – T. Penzü	
	4. 1985 – Ngangshikokba Ao	
	5. Nokinketer Sangro- I. Sademmeren Longkumer	
	6. Ni meteta lir – S. Aowati.	

Unit III:	(a) Grammar (Orrlem)	15
	1. Tongnir (Subject), Salur (Predicate), Nentong (object)	
	2. Kulem (Tense)	
	3. Jilok & Mükén Tongta (Direct and Indirect Narration).	
	4. Mungra & Lamalem (Infinitive and Participle)	
	5. Timsü & Rapasü Oren (Positive and Negative sentences)	
	6. Oren Jinutepyim (Interrelated sentences)	
	(b) Translation (Omeyipzük)	05
Unit IV:	Composition (Olem)	15
	1. Essay writing/Letter Writing	(10)
	2. Expansion of Ideas/Precis Writing	(05)
PART-B:	INTERNAL	20
	1. Jempishine (Conversation)	(10)
	2. Tinyaktsu (Assignments)	(05)
	3. Asüngdangtep Tendang (Formal Testing)	(05)

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***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks :

1. MEJEN O Otsü aser Sangro.
2. Aor Lokti Puti Rajem, by Prof. A. Lanunungsang.
3. Orrlem (Ao Naga Grammar) by M.L. Wati Jamir.
4. Jina Etiben (Revised Edition MSM)

MAJOR INDIAN LANGUAGE : BENGALI

Objectives :

1. to develop the abilities of listening and reading with comprehension,
2. to develop the abilities of oral and written expression,
3. to enable the students to read independently for knowledge and recreation,
4. to develop the abilities of using language more correctly, accurately and effectively,
5. to enable the students to understand and structure of the language and to analyse it,
6. to enrich the vocabulary of the students and to enable them to use it more effectively,
7. to enable them to appreciate literature of the language,
8. to develop their aesthetic sense, originally, imagination and creativity,
9. to sublimate their feelings and emotions through the studies of the literature of the language and
10. to develop in them the feelings of belongingness to the language-literature and culture.

**CLASS-9
BENGALI**

PART-A : EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing/ Letter writing (10)	
(b) Precis/Expansion of Ideas (5)	

PART-B : INTERNAL

20

Total

100

PART-A: EXTERNAL : 1 paper/3 hours

80 marks/180 periods

Unit I: Prose

25

1. Palamour-Er-Pathe
2. Post Master
3. Bharat barsha
4. Jatra Pathe
5. Sumadrar Swad
6. Class Friend
7. Aprajita Apu

Unit II: Poetry

20

1. Gour Chand
2. Guru Dakshina
3. Ora Kaj Kare
4. Champa
5. Banglar Roop

Unit III: Grammar & Translation

20

- (a) Grammar (15)
- i. Barno O Dhani
 - ii. Sandhi
 - iii. Karak O Bibhakti
 - iv. Pad Poribartan
 - v. Bibhinna Pader Bishta Proyog

- (b) Translation (05)
(From English to Bengali)

Unit IV:	Composition	15
	1. Essay writing/Letter writing	(10)
	2. Expansion of ideas/Precis writing	(05)

PART-B	INTERNAL	20
	1. Conversation skills	(10)
	2. Assignment	(05)
	3. Formal testing	(05)

Folk songs may be assessed under conversation skills. Painting, drawing or craft which is indigenous to the tribe/community may be assessed under assignment.

***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed Textbooks :

1. Madhyamik Bangla Sahitya Chayanika
(The Assam State Textbook Production and Publication Corporation Limited,
Guwahati)
2. Bani Bichitra – Bani Prakashani Guwahati
By Pijus Dey

CLASS-10 BENGALI

PART-A: EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing/Letter writing (10)	
(b) Precis writing and Expansion of Ideas (5)	

PART-B : INTERNAL

20

Total 100

PART-A: EXTERNAL : 1 paper/ 3hours

80 marks/180 periods

Unit I: Prose

25

1. Sitar Banabas
2. Durdin
3. Tota Kahini
4. Darbar
5. Niyamer Rajatya
6. Kolkatar Natun Da
7. Sanghat

Unit II: Poetry

20

1. Phullarar Baromasya
2. Meghnath Badh
3. Bharat Tirtha
4. Jeeban Bandana
5. Chil

Unit III: Grammar & Translation

20

- (a) Grammar (15)
1. Karak
 2. Bakya Santochan or Single word
 3. Samas
 4. Bishistarthak Bakyangha O Prabhad Prabachan
 5. Bachya Paribartan (only definition & identification)
- (b) Translation (English into Bengali) (05)

Unit-IV:	Composition	15
	1. Essay Writing/Letter Writing.	(10)
	2. Expansion of ideas/ Precise Writing.	(05)
PART-B :	INTERNAL	20
	1. Conversation skills	(10)
	2. Assignments	(05)
	3. Formal testing	(05)

Folk songs may be assessed under conversation skills. Painting, drawing or craft which is indigenous to the tribe/community may be assessed under assignment.

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbooks :

1. Madhyamik Bangla Sahitya Chayanika. (The Assam State Textbook Production and Publication Corporation Limited, Guwahati)
2. Bani Bichitra - Bani Prakashani
By Pijus Dey Guwahati.

MAJOR INDIAN LANGUAGE : HINDI

Vikalp (Objectives):

1. Matri Bhasha ko sunane our padhane ke sath-sath bothan ke kshamta our योग्यता का विकास करना.
2. मौखिक our लेखन अभियंता को विकसित करना.
3. संबन्ध से ग्यान our मनोरंजन के क्षेत्र में आत्मनिर्भर करना.
4. Bhasha के सुध our प्रभावशाली प्रयोग करने के क्शमता को विकसित करना.
5. Apni Matri Bhasha तथा उसकी संरचना के सही रूप से समझ कर उसका विश्लेषण कर सके.
6. Shabd gyan का वृद्धि करना जिससे उनका सही रूप से प्रयोग कर सके.
7. Matri bhasha के प्रति पठन-पठन के लिये प्रोत्साहित करना.
8. Kalatmak moulik, kalpnik our rachanatmak prabriti को विकसित करना.
9. Matri bhasha तथा उसके साहित्य के अध्ययन के द्वारा भवनाओ our सद्भाव का परिमार्जन our विकास करना.
10. Matri bhasha उसकी साहित्य समग्रि our संस्कृति के प्रति रुचि जाग्रित करना.

CLASS- 9
HINDI

PART-A: EXTERNAL

Units		Marks
I.	Prose	25
II.	Poetry	20
III.	Grammar (15) & Translation (5)	20
IV.	Composition	15
	(a) Essay writing/ Letter writing (10)	
	(b) Precis writing/Expansion of Ideas (5)	
PART-B: INTERNAL		20
Total		100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I:	Prose	25
	1. Bhade ka tattv	
	2. Ped ki bat	
	3. Pulie badze	
	4. Vyakti ka punar nirman	
	5. Bhikharin	
	6. Mera bachpan	
	7. Bhagyashali din	
Unit II:	Poetry	20
	1. Niti ke dohe	
	2. Bharat vars	
	3. Basani Sanbhasan	
	4. Bhagwan ke dakiye	
	5. Tab yad tumhari ati he	
Unit III:	Grammar and Translation	20
	1. Sangya aur bhed	
	2. Sarvanam aur bhed	
	3. Visheshan aur bhed	
	4. Kriya tatha bhed	
	5. Kriya visheshan	
	6. Uparg aur pratyay	

7. Anek shobdon ke badle ek shobd
8. Muhavare aur lokokti
9. Translation

Unit IV: Composition 15

1. Essay writing/Letter writing
2. Precis/Expansion of ideas

PART-B: INTERNAL 20

1. Conversation skills (10)
2. Assignment (05)
3. Formal testing (05)

Folk songs may be assessed under conversation skills. Painting, drawing or craft which is indigenous to the tribe/community may be assessed under assignment.

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Prescribed textbook :

Bhasha Sarita Part-I for class-9
Nagaland Bhasha Parishad

CLASS-10
HINDI

PART-A: EXTERNAL

Units		Marks
I.	Prose	25
II.	Poetry	20
III.	Grammar (15) & Translation (5)	20
IV.	Composition	15
	(a) Essay writing/Letter writing (10)	
	(b) Precis writing and Expansion of Ideas (5)	
PART-B: INTERNAL		20
Total		100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I:	Prose	25
	1. Mithaiwala	
	2. Akeli	
	3. Budhiya ka badla	
	4. Vyawahar kushalta	
	5. Swarg Pari	
	6. Bhartiya Sanskriti mein Guru Shishya Sambandh	
	7. Bhendey aur Bhendiye	
Unit II:	Poetry	20
	1. Niti Key Dohey	
	2. Karm Veer	
	3. Geet Mere	
	4. Akal aur Uske Baad	
	5. Pujari! Bhajan Pujan aur Sadhan	
Unit III:	Grammar (15) & Translation (5)	20
	1. Sandhi aur Uske Bhed	
	2. Samas aur Vighrah	
	3. Paryay Wachi / Vilom Shabd	
	4. Karak, Bhed aur Prayog	
	5. Kaal aur uske Bhed	
	6. Vachya aur Uske Bhed	

7. Vachan aur Ling
8. Muhaware aur Lokokti
9. Translation (Hindi to English).

Unit IV:	Composition	15
	1. Essay writing/Letter writing	(10)
	2. Precis/Expansion of ideas	(05)

PART-B:	INTERNAL	20
	1. Conversation Skills	(10)
	2. Assignments	(05)
	3. Formal Testing	(05)

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Prescribed textbook :

Bhasha Sarita Part-I for class-10
Nagaland Bhasha Parishad

MODERN INDIAN LANGUAGE : LOTHIA

Objectives (tümka) :

1. Erantolan lo choka osi tssohung lithokvü tsükona.
2. Erantolan lo choka lio ji yakchia ochyu-ovüing mhonkatokvü tsükona.
3. Ekhae jiang, yitsüingkyarhyu kyonkata ntsi-i mhonkata yithokvü.
4. Yi-nsan lanka mezhü shiang esüa :- engae ekhi, nsanchi, ekhao tona eramo to jianglo tsüka- rankata yithokvü tsükona.
5. Onte etancho yilona mhom hatonchethokvü tsükona.
6. Ekhao tona eramo tolo chakcheta nzokathokvü tsükona.

CLASS – 9
LOTHA

PART-A: EXTERNAL

Unit	Marks
I. Prose	25
II. Poetry	20
III. Grammar	20
IV. Composition	15

PART-B: INTERNAL

Total	20
	100

PART-A: EXTERNAL : 1 paper/3 hours

80 marks/180 periods

Unit I: Prose **25**

1. Nrio Motsü
2. Humjonlijon
3. Era Loroë
4. LijaoOtsolov Motsü
5. Kyong tona Etsüi to Noktademo ji Motsü
6. Kakoejüp

Unit II: Poetry **20**

1. Süpen Thera
2. Onkhümoe Loroë Retacho
3. Osüm thüangi Ori tssotacho
4. Osüm thüangi Shishota Khen
5. Tiyi Enong

Unit III: Grammar & Translation **20**

1. Grammar (15)
2. Translation (05)

Unit IV: Composition **15**

1. Essay writing/Letter writing (10)
2. Expansion of ideas/Precis writing (05)

PART-B: INTERNAL	20
1. Conversation Skills	(10)
2. Assignments	(05)
3. Formal Testing	(05)

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Prescribed Text Books and reference books :

1. Kyongyiran Motsü ekhürhyucho – Part I & II	-	K.R. Murry
2. Kyong chungiyi ekhürhyucho	-	K.R. Murry
3. Kyong yinsalan (Grammar)	-	K.R. Murry
4. Anglo Lotha Vocabulary	-	Kyong Academy
5. Outline Grammar of Lotha Naga Language	-	W.E. Witter
6. Kyong yi chüm kalan (spelling pattern)	-	K.R. Murry

CLASS-10
LOTHA

PART-A: EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing/Letter writing (10)	
(b) Precis writing /Expansion of Ideas (05)	
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I: Prose 25

Kyongyiran Motsü Ekhürhyucho Echi II

1. Ranphan Motsü.
2. Ete Ntsinranche.
3. Onjeni Motsü.
4. Elhi Etssoe olan Mongo jiang.
5. Mars Lona Kyon.
6. Shita Ethe.
7. Yisanlan Yantso.

Unit II: Poetry 20

Kyong Chungiyi Ekhürhyucho

1. Oshomo Merangtacho.
2. Naga Liphong Yanchecho.
3. Phencho Vara rocho.
4. Otsoe Okharo chücho.
5. Pofü.

Unit III: Grammar & Translation	20
1. Grammar	(15)
2. Translation	(05)
Unit IV: Composition	15
1. Essay writing/Letter writing	(10)
2. Expansion of ideas/Precis writing	(05)
PART-B: INTERNAL	20
1. Conversation skills	(10)
2. Assignments	(05)
3. Formal testing	(05)

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Prescribed textbooks and reference books:

- | | | |
|---|---|-------------|
| 1. Kyong Motsü Ekhürhyucho – Part I & II | – | K.R. Murry. |
| 2. Kyong chungiyi ekhurhyucho | – | K.R. Murry. |
| 3. Kyong yinsanlan (Grammar) | – | K.R. Murry. |
| 4. Anglo Lotha vocabulary. | | |
| 5. Outline Grammar of Lotha Naga Language | – | W.E. Witter |
| 6. Kyong yi chüm kalan (Spelling pattern) | – | K.R. Murry. |

MODERN INDIAN LANGUAGE : SUMI

Akimiji (Objectives) :

1. Mütsümisheyi chilu eno philu kepu ghola lono qophenikeu.
2. Akivishi philu eno yelu kepu ghola lono qophenikeu.
3. Kiphimiyo pelo panongu kutoshino ililai philu keu vechewono akighithi alau phulupenikeu.
4. Kiphimiyo pelono nilikhi nizatsa achipi eno mütsümisheyi pilu kepu shi qophe nikeu.
5. Kiphimiyo pelo nizatsa kiu ghola lono yepe puanikeno vethalu eno hepko kuphal upenikeu.
6. Nizatsa khiphi ghola inikiviu lono pilu eno peithalu penikeu.
7. Nizatsa- tsayiko kighithi akishe tsü eno gihulu penike.
8. Vethakulu kümsükulu iquphe kulupu ghola lono qophenikeu.
9. Kiphimiyo kükümsü kupulo, nizatsa phikutholu keu vechewono aghakiqi shilu penikeu.
10. Nizatsa- tsayiko eno mhesho mheghi nikutsashi kümsülü penikeu ghola lono qophenikeu.

CLASS-9
SUMI

PART-A: EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	
(a) Essay writing/Letter writing (10)	15
(b) Precis writing/Expansion of Ideas (5)	
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I: Prose	25
1. Aesop xü ghili	
2. Tuluni Pineh	
3. Baibel lo chighi saje	
4. Akithi ghili	
5. Kumtsah amighiu	
6. Kughato sukha	
Unit II: Poetry	20
1. Inakha eno Ghonili	
2. Anipu Shikipili	
3. Lojilimi Shikipili	
4. Kusakusho Leshe	
5. Anachulo ni Sukha	
Unit III: Grammar & Translation	20
(a) Grammar	(15)
1. Amqo kini phikide nikeu	
2. Tsashibe kikije	
3. Kikihi tsashibe	
4. Atsajo kikije	
5. Timi	

6. Ngomichi
 7. Laxa
 8. Pighi vehu
- (b) Translation (5)**

Unit IV: Composition 15

1. Ghili kiyeh (Essay) eno yesü kiyeh (Letter writing)
2. Yekughukho eno yekhoni keu (Precis/Expansion of ideas)

PART-B: INTERNAL 20

1. Küpütsa kulu (Conversation skills) (10)
2. Akümla küküpha (Assignments) (05)
3. Akiphi kilo thekuju eno Pekuju (Formal testing) (05)

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Prescribed textbooks :

1. Kichitssathoh published by Sumi Literature Board.
2. Kughakiche eno Leshe by I.Lozhevi Sema, B.A., B.T.
3. Apu Asu Leshe (Mother book of Sümi Poems) by Sumi Literature Board.
4. Sumi Tsayeh (Grammar) by I.Lozhevi Sumi, B.A., B.T.

CLASS-10
SUMI

PART-A: EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing /Letter writing (10)	
(b) Precis writing/Expansion of Ideas (5)	
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours **80 marks/180 periods**

Unit I: Prose **25**

1. William Carey.
2. Angushuu kughulho.
3. Nagami küka kumulapu lo Sümiw immaküssü.
4. Tüsütixe eno külaküpu.
5. Thochipa no Thochiu mihiwuve keu.
6. Tumumi ghili.

Unit II: Poetry **20**

1. Shikhu Inakha nu.
2. Juxeli mulo ghime.
3. Anipu kighini leshe.
4. Arkha leshe.
5. Ratshamu ghu tungü.

Unit III: (a) Grammar **15**

1. Vehu
2. Sütsakutho
3. Tsashi pe aje lo sükeu.
4. Süchou eno bidelau.
5. Akiye ghola shikithe tsü keu.
6. Akiyethi kikili.
7. Atsa tüna.
8. Tsathi kiyiqi.

(b) Translation **5**

Unit IV:	Composition	15
	1. Ghili kiyeh (Essay) eno yesü kiyeh (Letter writing)	
	2. Yekughukho eno yekhoni keu. (Precis/Expansion of ideas).	

PART-B:	INTERNAL	20
	1. Küpütsa kulu (Conversation skills)	(10)
	2. Akümla küküpha (Assignments)	(05)
	3. Akiphi kilo thekuju eno Pekuju (Formal testing)	(05)

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Prescribed textbooks:

1. Kichitssathoh published by Sümi Literature Board.
2. Kügħakiche eno Leshe by I. Lozhevi B.A, B.T.
3. Apuh Assü Leshele (Mother book of Sümi Poems) by Sümi Literature Board.
4. Sümi Tsayeh (Grammar) by I. Lozhevi Sema, B.A., B.T.

MODERN INDIAN LANGUAGE : TENYIDIE

Kemerü (Objectives) :

1. Rünÿü mu phrükecü nu puocapuola silieketuo chülieketuo la.
2. Pu mu thulie kevi chülieketuo la.
3. Kephrümia bu u nei di u thuo u die phrü khropie mhasilieketuo la.
4. Dieu puocü touu, puotouu mu puoca touu nunu selieketuo chülieketuo la.
5. Kephrümia dieca chü pekralie mu süu puotou nunu selieketuo chülieketuo la.
6. Uko bu uko diemvü rhulieketuo la.
7. Uko bu uko die zivi, noule mu noudo se parlieketuo la.
8. Uko bu uko die, diemvü mu kelhouzho-u uko vie ükecü lelieketuo la mu
9. U Tenyimia kephrünuomiako bu u pfhe mu ütsali puoma kereko si pesou salieketuo la.

CLASS-9 TENYIDIE

PART-A: EXTERNAL

Units	Marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing/letter writing (10)	
(b) Precis writing/expansion of ideas (5)	
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours **80 marks/180 periods**

Unit I:	Prose	25
	Ukepenuopfü Themia Pete Khrie Ketou Zo.	
	1. Dieze.	
	2. Thenu Samipfü Puo.	
	3. Chütuo, Chü Beituo, Chülietuo.	
	4. Zue u Chü Penyawaya.	
	5. Roviü	
	7. Kewhira Teicie Mepfü Voketa Ki.	
Unit II:	Poetry	20
	1. Leshükephrünuomia.	
	2. Nhicu Zha.	
	3. N Dzüzei Hie.	
	4. Leliecie.	
	5. No Kevitho-u.	
Unit III:	Grammar & Translation	20
	1. Grammar	(15)
	2. Translation	(05)
Unit IV:	Composition	15
	1. Essay writing/Letter writing.	(10)
	2. Precis/Expansion of ideas.	(05)

PART-B:	INTERNAL	20
1.	Conversation skills	(10)
2.	Assignments	(05)
3.	Formal testing	(05)

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Prescribed textbooks :

- | | |
|--|----------------------------|
| 1. Noudo Dze – Dino & Viswedel | - Ura Academy Publication. |
| 2. Idiomatic Expression – Rüzühkhrie Sekhose | - Ura Academy Publication. |
| 3. Spelling and Word Division - Rüzühkhrie Sekhose | - Ura Academy Publication. |

CLASS-10 TENYIDIE

PART-A: EXTERNAL

Units	marks
I. Prose	25
II. Poetry	20
III. Grammar (15) & Translation (5)	20
IV. Composition	15
(a) Essay writing/Letter writing (10)	
(b) Precis writing/Expansion of Ideas (5)	

PART-B: INTERNAL

	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours

80 marks/180 periods

Unit I: Prose

25

1. Jean Val Jean.
2. Tsali Puo Neiyakezhau.
3. Terhü Miavimia Puo.
4. Puo Thuo Siba Reite.
5. Redcross Pesiekeshü.
6. Martin Luther King.
7. Ciepho Se Vo America Nu Kepelhou.

Unit II: Poetry

20

1. Nie pie penuo.
1. A kesuoï.
2. Ketho mu kevi.
3. Kedietho mu kekhrie.
5. Niaki.

Unit III: Grammar & Translation

20

1. Grammar (15)
2. Translation (05)

Unit IV: Composition

15

1. Essay writing/Letter writing (10)
2. Precis/Expansion of ideas (05)

PART-B:	INTERNAL	20
1.	Conversation skills	(10)
2.	Assignments	(05)
3.	Formal testing	(05)

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Prescribed textbooks :

- | | | |
|----|----------------------------|---|
| 1. | Neteya | – Ura Academy Publication. |
| 2. | Üca 53 | – Ura Academy Publication. |
| 3. | Spelling and Word Division | – Shürhozelie – Ura Academy Publication. |
| 4. | Idiomatic Expression | – Rüzühkhrie Sekhose – Ura Academy Publication. |

MATHEMATICS

Objectives :

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

- consolidate the Mathematical knowledge and skills acquired at the upper primary stage;
- acquire knowledge and understanding of the terms, symbols, concepts, principles, processes, proofs, etc.
- develop mastery of basic algebraic skills;
- develop drawing skills;
- apply Mathematical knowledge and skills to solve real life problems by developing abilities to analyze, to see interrelationship involved, to think and reason;
- develop the ability to articulate logically;
- develop awareness of the need for national unity, national integration, protection of the environment, observance of small family norms, removal of social barriers, elimination of sex biases;
- develop necessary skills to work with modern technological devices such as calculators, computers etc;
- develop interest in Mathematics as a problem-solving tool in various fields.
- develop reverence and respect towards great Mathematicians, particularly towards the Indian Mathematicians, for their contributions to the field of Mathematics.

CLASS-9 MATHEMATICS

PART-A: EXTERNAL

Units	Marks
I. Number System	06
II. Algebra	18
III. Coordinate Geometry	06
IV. Geometry	22
V. Mensuration	14
VI. Statistics & Probability	14
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours **80 marks/180 periods**

Unit I: NUMBER SYSTEM **6 marks/12 Periods**

Introduction to Irrational Numbers

Irrational numbers as non-terminating and non-repeating decimals. Real numbers and the real number line. Definition of n^{th} root of a real number. Surds and Rationalization of surds. (Irrational numbers may be introduced by recalling rational numbers as terminating or non-terminating recurring decimals.) Problems of proving a number to be irrational number should be avoided. Representing an irrational number on the number line should be avoided for numbers other than, $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$. Rationalization of only those surds are to be included which involve square roots and are binomials or trinomials.

Unit II: ALGEBRA **18 marks/25 Periods**

Factorisation of Polynomials

Review of factorisation of algebraic expressions done in earlier classes. Factorisation of polynomials of the form $ax^2 + bx + c, a \neq 0$, by splitting the middle term, where a, b and c are real numbers. Factorisation of algebraic expressions of the type $x^3 + y^3, x^3 - y^3, x^3 + y^3 + z^3 - 3xyz$. Remainder theorem, factor theorem and factorization of polynomials of degree not exceeding three. (While factorization of the polynomial, $ax^2 + bx + c, a \neq 0$, should be rationals or square root of rationals only. (1) If $a+b+c=0$, then $a^3+b^3+c^3=3abc$, questions involving above concept will be included. (2) Simple expressions reducible to the form $a^3+b^3+c^3-3abc$ may be included).

Linear Equations in Two Variables

(12 Periods)

Review of Linear equations in one variable. Introduction to linear equations in two variables. Prove that a linear equation in two variables has infinitely many solutions and justify their being written as ordered pairs of real numbers, plotting them and showing that they seem to lie on a line. Examples, problems from real life, including problems on Ratio and Proportion and with algebraic and graphical solutions being done simultaneously.

Unit III: COORDINATE GEOMETRY

6 marks/10 Periods

The Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane, notations, plotting points in the plane, graph of linear equations as examples; focus on linear equations of the type $ax+by+c=0$ by writing it as $y=mx+c$ and linking with the chapter on linear equations in two variables.

Unit IV: GEOMETRY

22 marks/6 Periods

Introduction to Euclid's Geometry

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

1. Given two distinct points, there exists one and only one line through them.
2. (Prove) Two distinct lines cannot have more than one point in common.

Lines and Angles

(12 Periods)

1. (Motivate) If a ray stands on a line, then the sum of the two adjacent angles so formed is 180° , and its converse
2. (Prove) If two lines intersect, the vertically opposite angles are equal.
3. (Motivate) If a transversal intersects two parallel lines, then any pair of corresponding angles are equal, and its converse.
4. (Motivate) If a transversal intersects two parallel lines, then (a) each pair of alternate angles is equal; (b) the interior angles on the same side of the transversal are supplementary.
5. Converse of 4
6. (Motivate) Lines which are parallel to a given line are parallel to each other.
7. (Prove) The sum of the angles of a triangle is 180° .
8. (Motivate) If a side of a triangle is produced, the exterior angle so formed is equal to the sum of two interior opposite angles.

Congruence of Triangles

(18 Periods)

1. (Motivate) Two triangles are congruent if any two sides and the included angle of one triangle are equal to any two sides and the included angle of the other triangle. (SAS Congruence)
2. (Prove) Two triangles are congruent if any two angles and the included side of one triangle are equal to any two angles and the included side of the other triangle. (SAS Congruence)
3. (Motivate) Two triangles are congruent if the three sides of one triangle are equal to the three sides of the other triangle. (SSS Congruence)
4. (Prove) The angles opposite to equal sides of a triangle are equal.
5. (Motivate) The sides opposite to equal angles of a triangle are equal.
6. (Motivate) Two right triangles are congruent if the hypotenuse and a side of one triangle are respectively equal to the hypotenuse and a side of the other triangle.

Inequalities in a Triangle

(4 Periods)

1. (Motivate) If two sides of a triangle are unequal, the larger side has the greater angle opposite to it.
2. (Motivate) In a triangle, the greater angle has a larger side opposite to it.
3. (Motivate) The sum of any two sides of a triangle is greater than its third side.
4. (Motivate) Of all the line segments that can be drawn to a given line from a point not lying on it, the perpendicular segment is the shortest.

Parallelograms

(12 Periods)

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

Areas

(4 Periods)

Review concept of area, recall area of a rectangle

1. (Prove) Parallelograms on the same base and between the same parallels are equal in area.
2. (Motivate) Triangles on the same base and between the same parallels are equal in area.
3. (Motivate) Triangles with equal areas and equal bases have equal corresponding altitudes.

Circles

(15 Periods)

Through examples, arrive at definitions of circle related concepts, radius, circumference, diameter, chord, arc, subtended angle.

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

Constructions

(10 Periods)

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

Unit V: MENSURATION

14 marks/5 Periods

Areas

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

Surface areas and volumes

(10 Periods)

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

Unit VI: STATISTICS & PROBABILITY**14 marks/15 Periods****Statistics**

Introduction to statistics: Collection of data, presentation of data - tabular form, ungrouped/grouped, bar graphs, histograms (with varying base lengths), frequency polygons. Qualitative analysis of data to choose the correct form of presentation for the collected data. Mean, median, mode of ungrouped data.

Probability**(10 Periods)**

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

PART-B:**INTERNAL****20**

- | | | |
|----|----------------|------|
| 1. | Practical | (10) |
| 2. | Project work | (05) |
| 3. | Formal Testing | (05) |

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

Mathematics for class-9
Evergreen Publications (India) Ltd.
4738/23. Ansari Road, Darya Ganj,
New Delhi-110002.

CLASS-10 MATHEMATICS

PART-A: EXTERNAL

Units	Marks
I. Algebra	20
II. Trigonometry	12
III. Coordinate Geometry	08
IV. Geometry	16
V. Mensuration	12
VI. Statistics & Probability	12
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I: Algebra 20 marks

Polynomials (6 periods)

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

Linear Equations in Two Variables (15 periods)

System of linear equations in two variables. Solution of the system of linear equation (i) Graphically. (ii) By algebraic methods : (a) Elimination by substitution (b) Elimination by equating the co-efficients. (c) Cross multiplication. Applications of linear equations in two variables in solving simple problems from different areas. (Restricted upto two equations with integral values as a point of solution. Problems related to life to be incorporated).

Quadratic Equations (15 periods)

Standard form of a quadratic equation $ax^2+bx+c=0$, ($a \neq 0$). Solution of $ax^2+bx+c=0$ by (i) factorization (ii) quadratic formula. Relationship between discriminant and nature of roots. Application of quadratic equations in solving word-problems from different areas. (Roots should be real. Problems related to day-to-day activities to be incorporated).

Arithmetic Progression (AP)**(8 periods)**

Introduction to AP by pattern of number. Derivation of standard results of finding the n^{th} term and sum of first n terms. Simple problems. (Common difference should not be irrational number).

Unit II: Trigonometry**12 marks****Trigonometric Ratios****(12 periods)**

Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios, whichever are defined at 0° & 90° . Value (with proofs) of the trigonometric ratios of 30° , 45° , & 60° . Relationships between the ratios.

Trigonometric identities**(8 periods)**

Proof and applications of the fundamental identities : $\sin^2 A + \cos^2 A = 1$, $\sec^2 A = 1 + \tan^2 A$, $\operatorname{cosec}^2 A = 1 + \cot^2 A$. Only simple identities to be given. Trigonometric ratios of complementary angles.

Heights and Distances**(8 periods)**

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

Unit III: Coordinate Geometry**08 marks****Lines (In two-dimensions)****(15 periods)**

Review the concepts of coordinate geometry done earlier including graphs of linear equations. Awareness of geometrical representation of quadratic polynomials. Distance between two points and Section formula (internal division only). Area of a triangle. Introduction to locus and simple problems.

Unit IV: Geometry**16 marks****Triangles****(20 periods)**

Definitions, examples, counter examples of similar triangles.

1. (Prove) If a line is drawn parallel to one side of a triangle, the other two sides are divided in the same ratio.
2. (Motivate) If a line divides any two sides of a triangle in the same ratio, the line is parallel to the third side.
3. (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.

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

Circles

(8 periods)

Tangents to a circle motivated by chords drawn from points coming closer and closer to the point.

1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact.
2. (Prove) The lengths of tangents drawn from an external point to a circle are equal.

Constructions

(10 periods)

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

Unit V: Mensuration

12 marks

Areas of Plane Figures

(15 periods)

Motivate the area of a circle; area of sectors and segments of a circle. Problems based on areas and perimeter/circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60° , 90° & 120° only. Plane figures involving triangles, simple quadrilaterals and circle should be taken.)

Surface Areas and Volumes**(15 periods)**

- (i) Problems on finding surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders / cones, Frustum of a cone.
- (ii) Problems involving converting one type of metallic solid into another and other mixed problems. (Problems with combination of not more than two different solids be taken).

Unit VI : Statistics & Probability**12 marks****Statistics****(15 periods)**

Mean, median and mode of grouped data (bimodal situation to be avoided). Cumulative frequency graph. Reading and drawing of pie-charts.

Probability**(10 periods)**

Classical definition of probability. Connection with probability as given in Class 9. Simple problems on single events, not using set notation.

PART-B: INTERNAL**20**

1. Practical (10)
2. Project Work (05)
3. Formal Testing (05)

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

Mathematics for class-10
Frank Bros. & Co. (Publishers) Ltd.
4675-A, 21 Ansari Road, Darya Ganj,
New Delhi-110002.

SCIENCE

Objectives:

The broad objectives of teaching of science at secondary stage are to help the learner to:

- understand the nature of science and technology;
- understand the basic concepts, principles and laws of science;
- apply basic scientific principles in finding solutions to problems related to agriculture, energy, health, nutrition etc;
- develop problem-solving and decision making skills;
- inculcate values that underline science and technology;
- develop and understand various processes of environment and concern for its conservation and preservation;
- understand and appreciate the joint enterprise of science, technology and society;
- develop rich and satisfying views of the universe;
- develop an attitude which would equip them to continue science and technology education throughout life;
- acquire process skills which form part of the attitude for developing a scientific temper;
- develop certain manipulative skills which are required in day-to-day situations.

**CLASS 9
SCIENCE
(THEORY)**

PART-A: EXTERNAL

Unit	Marks
I. Matter-Nature and Behaviour	20
II. Motion, Force and Work	23
III. Organisation in the Living World	18
IV. Natural Resources	14
V. Our Environment	05

PART-B: INTERNAL

20

Total: 100

PART-A: EXTERNAL : 1 paper/3 hours

80 marks/180 periods

Unit I: Matter – Nature and behaviour

1.1 Measurement in Science and Technology	}	11
1.2 Nature of Matter		
1.3 Structure of Atom		
1.4 Periodic classification of Elements	}	09
1.5 Chemical Bonding		
1.6 Chemical Reactions		

Unit II: Motion, Force and Work

2.1 Motion	}	13
2.2 Force		
2.3 Gravitation		
2.4 Work and Energy	}	10
2.5 Wave, Motion and Sound		

Unit III: Organisation in the Living World

3.1 Cell and Tissues	}	09
3.2 Diversity in the Living World		
3.3 Food, Nutrition and Health	}	09
3.4 Human Diseases		

Unit IV:	Natural Resources	
	4.1 Our Natural Resources	
	4.2 Coal and Petroleum	14
	4.3 Food Resources	
Unit V:	Our Environment	
	5.1 Our Environment	05
		Total 80

THEME : MATTER

Unit I: MATTER-NATURE AND BEHAVIOUR 40 Periods

Measurement in Science and Technology : Historical developments (in brief), International system of units, maintenance of standards. **(3 Periods)**

Nature of Matter : Classification of matter based on chemical construction-elements, compounds and mixtures, types of mixtures, homogeneous and heterogeneous solution, suspension and colloid, concentration of solution (percentage only).

Atoms and molecules, atomic theory of matter (Dalton's Postulates), atomic and molecular masses, the mole, law of constant proportion, calculation of percentage composition of elements in simple compounds, determination of empirical and molecular formulae of simple substances. **(9 periods)**

Structure of Atom: Constituents of an atom-electrons, nucleus (neutrons and protons), atomic number and mass number, isotopes, distribution of electrons in shells (up to atomic number 20), valence electrons and valency. Radioactivity radio-isotopes and their applications. **(8 periods)**

Periodic Classification of Elements : A brief historical perspective of periodic classification of elements, periodic law, modern periodic table of 18 columns, variation in properties across a period and along a group-metallic and non-metallic, atomic size, ionization energy and electron affinity. **(6 periods)**

Chemical Bonding : Formation of a chemical bond, types of bonds-ionic and covalent, electronegativity and a polar covalent bond, properties of ionic and covalent compounds. **(7 periods)**

Chemical Reactions : Formulae of simple compounds, equation of simple chemical reactions and their balancing. Types of chemical reactions-combination, decomposition, displacement (single and double displacement), oxidation and reduction (in terms of gain/loss of electrons).
(7 periods)

THEME : ENERGY

Unit II: MOTION, FORCE AND WORK 50 Periods

Motion : Motion-in living and non-living. Uniform and non-uniform motion (one direction) – distance and displacement, velocity and acceleration; distance-time and velocity-time graphs for uniform and uniformly accelerated motion, derivation of equations of motion by graphical method, uniform circular motion (qualitative idea only).
(10 periods)

Force : Force and motion : Newton’s laws of motion-inertia of a body, inertia and mass, momentum, force and acceleration, conservation of momentum, action and reaction forces, Friction-factors affecting friction, sliding and rolling friction, examples of advantages and disadvantages of friction, control of friction (qualitative idea only). Thrust and Pressure-Archimedes’ principle and its applications, relative density.
(12 Periods)

Gravitation : Universal law of gravitation-force of gravitation of the earth (gravity). Effect of gravity on plants (in brief), acceleration due to gravity, mass and weight, free fall, motion of a projectile with initial horizontal velocity (qualitative idea only).
(7 Periods)

Work and Energy : Work done by a force-power and energy, kinetic and potential energy transformation of scale (Celsius, Kelvin) thermometers-laboratory and clinical, specific heat capacity computation of heat lost or gained by method of mixtures. Thermal expansion-co-efficient of linear and volume expansion; change of state, latent heat; cooling due to evaporation; humidity and relative humidity.
(12 Periods)

Wave Motion and Sound : Motion of a simple pendulum, oscillation and waves. Types of waves-longitudinal and transverse, graphical representation of simple harmonic waves, amplitude, wavelength, frequency and velocity of a wave.

Nature of sound and its propagation, range of hearing in humans. Reflection of sound, echo, SONAR.
(9 Periods)

THEME : LIVING WORLD

Unit III: ORGANIZATION IN THE LIVING WORLD

40 Periods

Cell and Tissues : Cell structure, difference between prokaryotic and eukaryotic cells, functions of cell organelles (brief account), cell division-mitosis (different stages), elementary idea of meiosis. Plant tissues-structure and functions (meristematic and permanent protective only); animal tissues-structure and functions (epithelial, connective, muscular and nervous).
(12 Periods)

Diversity in the Living World : General idea of classification of living organisms and their importance, nomenclature, classification (two kingdoms) with characteristics and examples up to phylum in plants and invertebrate animals and class levels in chordate animals.
(8 Periods)

Food, Nutrition and Health : Health and its importance (WHO definition), community and personal health; conditions essential for good health (nutrition, proper habits, exercise and relaxation), components of food (nutrients in food, their sources and functions), balanced diet, under-nutrition and malnutrition, food adulteration (definition, common food and adulterants, their tests and harmful effects); quality of drinking water.
(10 Periods)

Human Diseases : Diseases-definition, source and types of diseases (communicable and non-communicable diseases) symptoms, prevention and control of some diseases (malaria, influenza, cholera, diarrhoea, jaundice, typhoid, rabies, AIDS, tuberculosis).
Deficiency Diseases : Protein energy malnutrition (marasmus and kwashiorkor), vitamin deficiency (scurvy, rickets, beriberi, pellagra, xerophthalmia), mineral deficiency (anaemia, goitre).
(10 Periods)

THEME : NATURAL RESOURCES

Unit IV: NATURAL RESOURCES

30 Periods

Our Natural Resources : Air, water, soil, minerals, energy, flora and fauna, management and replenishment of natural resources.
(8 Periods)

Coal and Petroleum : Coal and Petroleum as natural resources of carbon and its compounds, Coal-its destructive distillation (in brief), Petroleum-its fractional distillation (in brief). Carbon-tetravalency and catenation. Hydrocarbons-classification (Saturated and unsaturated). Homologous series, isomerism; preparation and properties of methane, ethene and ethyne.
(12 Periods)

Food Resources : Mixed farming, mixed cropping, crop rotation (biological and economic considerations), varietal improvement through breeding and selection. Improved breeds-cattle and livestock (poultry and fish), breeding, feeding and shelter for livestock, prevention against major diseases.
(10 Periods)

THEME : ENVIRONMENT
Unit V: OUR ENVIRONMENT

10 Periods

Our Environment : Habitat and Adaptation-Habitat and its types, adaptation in plants and animals, causes and effects of alteration of habitats on organisms, conservation of habitats.

Biosphere-ecosystem and biosphere, structure of an ecological system, food chain, food webs, trophic levels, function of an ecological system, flow of energy, biogeochemical cycles of materials (carbon and nitrogen), types of ecosystems, biomass, biodiversity and its importance.

PART-B: INTERNAL (PRACTICAL)

20 marks/40 periods

Note : A student is expected to perform ten practical exercises from the list suggested below, at least one exercise from each unit.

● **MATTER, NATURE AND BEHAVIOUR**

- To prepare a solution of common salt/ sugar of a given percentage composition by mass.
- To prepare a colloidal solution of sulphur and differentiate it from (i) true solution, and (ii) suspension on the basis of transparency and filtration criterion respectively.
- To differentiate between a mixture (containing two components) and pure compound.
- To carry out the following chemical reactions and record observations:
(i) iron nail with copper sulphate in water, (ii) burning of magnesium ribbon in air, (iii) zinc with sulphuric acid, (iv) heating of ammonium chloride, (v) sodium sulphate with barium chloride in the form of their aqueous solutions.

● **MOTION, FORCE AND WORK**

- To determine the density of a liquid (other than water) by using a spring balance and a measuring cylinder.
- To determine the density of a solid (denser than water) by using a spring balance and a measuring cylinder.
- To study the variation in time period of a simple pendulum with length and to plot $L-T^2$ graph.
- To determine the value of acceleration due to gravity.
- To study the variation in limiting friction with mass and the nature of surfaces in contact.
- To verify Archimedes' Principle.
- To determine the boiling point of water and melting point of a solid (ice, urea).
- To determine the specific heat of a metallic solid (of known mass) using the method of mixtures.
- To measure the temperature of hot water as it cools and plot a temperature-time graph.
- To determine the velocity of a pulse propagated through a stretched string/slinky.

- **ORGANISATION IN THE LIVING WORLD**
 - To prepare temporary mount of onion peel, cheek epithelial cells and spirogyra, identify their parts and draw labelled diagrams.
 - To identify and draw labelled diagrams of different stages of mitosis from prepared slides.
 - To identify different types of plants(parenchyma, collenchyma, sclerenchyma)and animal tissues (striated muscle, nerve, blood) from prepared slides and draw their diagrams.
 - To test the presence of glucose and starch in the given samples of food materials.
 - To test the presence of adulterants in a given sample of food material, turmeric or coriander (in powdered form).

- **NATURAL RESOURCES**
 - To distinguish between saturated and unsaturated organic compounds.
 - To prepare carbon dioxide gas and study its properties.
 - To test different samples of soil (4-5 samples) for its acidity and alkalinity.

- **OUR ENVIRONMENT**
 - To study adaptive features of xerophytes, hydrophytes and mesophytes.
 - To prepare a temporary mount of leguminous root nodules to study bacteria.
 - To study the external structural adaptations of any two in aspect of their terrestrial (cockroach) aquatic (fish, prawn) amphibious (toad, frog) reptilians (lizards, chameleons), aerial (birds) and burrowing (mole, rat, earthworm) features.

The allotment of marks shall be as follows :

- | | | |
|--|---|------|
| 1. Practical exercises | - | (11) |
| 2. Practical record | - | (04) |
| 3. Formal testing of practical exercises | - | (05) |

N.B. It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assume a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbooks:

- (1) Textbook on Science for class-9
Scholar Publishing House (P) Ltd.
85 Model Basti, New Delhi-110005.
- (2) Science Laboratory Manual
Evergreen Publication (India) Ltd
4738/23 Ansari Road, Darya Ganj
New Delhi - 110002

CLASS-10
SCIENCE
(Theory)

PART-A: EXTERNAL

Unit	Marks
I. Materials	26
II. Energy	24
III. Living World	20
IV. Natural Resources	04
V. Environment	06
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I: Materials : Chemical substances – nature and behavior. 26 marks

- i. Rate of chemical reaction and chemical equilibrium:**
Elementary idea of rate of reactions (in brief), slow and fast reactions, reversible and irreversible reactions. Chemical equilibrium - dynamic nature only (in brief); acids and bases, pH scale, Heat changes during chemical reactions. **4 marks/10 periods**
- ii. Some important chemical compounds :**
Preparation/manufacture (outline only), properties and uses of– washing soda, baking soda, bleaching powder and Plaster of Paris. Manufacture and properties of some important building materials– lime, cement, glass and steel. **4 marks/10 periods**
- iii. Metals and non-metals: Metals – Minerals and ores; metallurgy** – enrichment of ores, extraction of metals from ores, their refinement and purification (with reference to iron and aluminium). Activity series of metals, general properties and corrosion of metals. Alloys – components, properties and uses of steel, stainless steel, brass and magnelium, Alloying of gold. Non-metals – physical and chemicals properties of non-metals; preparation, properties and uses of hydrogen, ammonia, sulphur, sulphuric acid. **12 marks/26 periods**
- iv. Carbon compounds:** Functional groups (oxygen containing only); Preparation, properties and uses of methanol, ethanol and formaldehyde. Carboxylic acids – preparation, properties and uses of acetic acid. Some common synthetic polymers, soaps and detergents. **6 marks/16 periods**

Unit II : Energy : Light, electricity and energy 24 marks

v. **Light :** Nature of light – theories of light, reflection of light – laws of reflection, reflection from plane and curved surfaces, mirror – plane, concave and convex, sign conventions, derivation of mirror formula, magnification. Laws of refraction, refraction through a rectangular slab, image formation by concave and convex lenses, lens formula (with simple treatment), sign conventions, power of lens, some optical phenomena in nature (twinkling of stars, mirage), defects of vision and their correction. Construction and working of a compound microscope and an astronomical telescope. Dispersion of white light by a glass prism; composition of white light, color of objects and pigments, super imposition of light of primary colors.

10 marks/ 20 periods

vi. **Electricity and its effects:** Potential and potential difference, electric current, Ohm's Law, combination of resistances in series and parallel; heating effects of electric current and its applications. Power, commercial unit of electrical energy. Electrolysis– Faraday's Laws (excluding equations), electroplating, electrochemical cells– dry cells. Magnetic field due to current carrying conductor–straight, coil, solenoid (qualitative idea only), electromagnetic induction, electric motor and generator (DC), direct and alternating current (qualitative idea), domestic electric circuits, safety measures in using electricity. **8 marks/18 periods**

vii. **Sources of energy :** Renewable and non-renewable sources. Renewable sources–solar energy (solar cooker, solar water heater, solar cell), wind energy–hydro energy (tidal, ocean, thermal, hydroelectricity), geothermal, wood, biogas, hydrogen and alcohol. Non-renewable sources– fossil fuels (coal, petroleum and natural gas), conditions of combustion, choice of a good fuel, efficient use of fuels. Nuclear fusion, nuclear fission, chain reaction, nuclear reactors (basic principle and safety measures), advantages and hazards of using nuclear energy. Judicious use of energy.

6 marks/10 periods

- Unit III: Living World : Life processes** **20 marks**
- viii. Life processes I :** Nutrition–modes of nutrition–autotrophic, heterotrophic, saprophytic,holozoic and parasitic; nutrition in plants– photosynthesis (main steps), factors affecting photosynthesis; nutrition in animals (main steps)–in amoeba and grasshopper; human digestive system. Respiration and breathing, types of respiration (aerobic and anaerobic), respiration in plants and animals, respiration through skin, gills, air tube, lungs (earthworm, fish, grasshopper and humans); structure and functions of respiratory organs in humans (elementary idea). Transportation in plants and animals; transportation in plants (water and minerals, food) transportation in human– role and composition of blood, blood clotting, blood groups and blood transfusion; structure and function of heart and blood vessels (elementary idea), lymphatic system. Excretion in animals, (amoeba and earthworm); excretion in humans; osmoregulation.
- 10 marks/20 periods**
- ix. Life processes II :** Control and coordination – coordination in plants and animals– nervous system, reflex action, hormones in human beings (in brief). Reproduction – types, significance; Reproduction in plants – vegetative propagation in plant – cutting, grafting and layering; parthenogenesis; reproductive parts in plants, pollination and fertilization. Reproduction in animals – fission, budding, regeneration; human reproductive system – sexual cycle in females, fertilization.
- 6 marks/16 periods**
- x. Heredity and evolution :** Heredity and variation; physical basis of heredity– chromosomes, DNA (elementary idea only), genes, sex determination (elementary idea of organic evolution).
- 4 marks/10 periods**
- Unit IV: Natural Resources** **4 marks**
- Management of natural resources:** Conservation and judicious use of natural resources, Regional Environment: Adverse effects of hunting, logging, fishing with chemicals. Water harvesting, sustainability of natural resources. **4 marks/8 periods**
- Unit V: Environment** **6 marks**
- Environment and environmental problems:** Hard and soft water, potable water and removal of impurities from water, causes, prevention and control (soil erosion, pollution of air, water, noise and accumulation of waste) of environmental problem. Biodegradable and non-biodegradable materials, ecological balance – sustainable development, inter-relationship of population, environment and development. Efforts for conservation and protection of the environment, environmental laws (mention only).
- 6 marks/16 periods**

A student is expected to perform ten practical exercises from the list suggested below; at least **two** exercises from each unit. **The schools will conduct the evaluation in practicals as per the guidelines.**

* **UNIT – 1**

- To find the pH of given samples (4-5) of solids/fruits juices using pH paper.
- To measure the change in temperature during chemical reactions (at least 4) and conclude whether the reaction is exothermic or not.
- To identify bleaching powder from the given samples of chemicals (4 samples).
- To identify washing soda or baking soda from given samples of chemicals (4 samples).
- verify the dynamic nature of equilibrium by conducting any two reversible reactions.
- (a) To carry out the reactions of an acid (HCL) with (i) litmus solution (blue and red), (ii) zinc metal (iii) sodium carbonate and (iv) sodium hydroxide.(b) To carry out the reactions of a base (NaOH) with (i) litmus solution (blue and red), (ii) aluminium metal, and (iii) hydrochloric acid.

* **UNIT – 2**

- To verify the laws of reflection of light using plane mirror.
- To determine the focal length of a concave mirror by obtaining image of a distant object.
- To trace the path of a ray of light passing through a rectangular glass slab and measure the angle of incidence and the angle of emergence.
- To determine the focal length of a convex lens by focusing a distant object.
- To trace the path of a ray of light passing through a glass prism and measure the angle of deviation.
- To study the dependence of current on the potential difference across a resistor and determine its resistance.
- To find out the resultant resistance of two resistors connected in (i) series, and (ii) parallel.

* **UNIT – 3**

- To prepare temporary mount of a (i) leaf and (ii) peel to show its stomata.
- To study binary fission for budding with the help of prepared slides.
- To determine the percentage of water absorbed by raisins.
- To show that light is necessary for photosynthesis.
- To show that oxygen evolves during photosynthesis.
- To show that carbon dioxide is produced during respiration.
- To show transpiration in plants.

* **UNIT – 4**

- To show rusting of iron and identify the conditions for rusting.
- To prepare sulphur dioxide gas and study its two physical and two chemical properties.
- To prepare ammonia gas and study its two physical and two chemical properties.
- To purify copper from its impure sample by electrolysis.
- To study the interaction of metals (any four) with their salt solutions and arrange them according to their reactivity: Mg, Zn, Fe, Sn, Pb, Cu and Al.
- To study any two physical and two chemical properties of acetic acid.
- To compare the foaming capacity of different samples of soaps (at least three samples).
- To study the comparative cleansing capacity of a sample of soap in (i) soft water and (ii) hard water.
- To prepare soap by cold process.

The allotment of marks shall be as follows :

- | | | | |
|----|-------------------------------------|---|------|
| 1. | Practical exercises | - | (11) |
| 2. | Practical record | - | (04) |
| 3. | Formal testing of practical records | - | (05) |

N.B: *It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks:

- (1) Textbook on Science for class-10
Frank Bros & Co. (Publishers) Ltd.
4675-A Ansari Road, 21 Darya Ganj
New Delhi-110002.
- (2) Science Manual
Srijan Publishers P. Ltd
206 Roots Tower, Laxmi Nagar
District Centre, Delhi - 110092

SOCIAL SCIENCES

Objectives :

1. to develop an understanding of the processes of change and development both in terms of time and space;
2. to deepen knowledge about an understanding of India's freedom struggle and of the values and ideals that it represented;
3. to help learners understand and cherish the values enshrined in the Indian Constitution and to prepare them for their roles and responsibilities as effective citizens of a democratic society;
4. to deepen the knowledge and understanding of India's environment in its totality, their interactive processes and effects on the future quality of the life of the people;
5. to develop an appreciation of the richness and variety of India's heritage - both natural and cultural and the need for its preservation;
6. to promote an understanding of the issues and challenges of contemporary India - environmental, economic and social, as part of the development process;
7. to help pupils acquire knowledge, skills and understanding to face the challenges of contemporary society as individuals and groups and learn the art of living a confident and stress-free life as well as participating effectively in the community;
8. to develop scientific temper by promoting the spirit of enquiry and following a rational and objective approach in analyzing and evaluating information, views and interpretation;
9. to develop academic and social skills such as critical thinking, communicating effectively both in visual and verbal forms - co-operating with others, taking initiatives and providing leadership in solving others' problems;
10. to develop qualities clustered around the personal, social, moral, national and spiritual values that make a person humane and socially effective.

CLASS-9 SOCIAL SCIENCES

PART-A: EXTERNAL

Units	Marks
I. India and the World	18
II. Topography of India	18
III. Democratic politics	18
IV. Understanding an Economy	16
Nagaland (History and Personalities - a separate textbook)	10

PART-B: INTERNAL

Total	20
	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

<p>Unit I: India and the World</p> <p>a. French Revolution : The ancient regime and it's crisis, the social forces that led to the revolution, the different revolutionary groups and ideas of the time, the legacy.</p> <p>b. Russian Revolution : The crisis of Tzarism, the nature of social movements between 1905 and 1917, the First World War and foundation of Soviet State, the legacy.</p> <p>c. Rise of Nazism : The growth of social democracy, the crisis in Germany, the basis of Hitler's rise to power, the ideology of Nazism, the impact of Nazism.</p> <p>d. Indian National Movement : Indian National Congress- rise of extremism, Boycott and Swadeshi Movements, Muslim League, Revolutionary Movements, emergence of Gandhi.</p>	<p>18</p> <p>9 marks/ 22 periods</p> <p>9 marks/ 22 periods</p>
<p>Unit II: Topography of India</p> <p>a. India : Location, relief, structure, major physiographic units.</p> <p>b. Climate : Factors influencing the climate, monsoon- its characteristics, seasons.</p> <p>c. Drainage : Major rivers and tributaries, lakes and seas, role of rivers in the economy.</p>	<p>18</p> <p>8 marks/ 20 periods</p>

- d. **Natural Vegetation** : Vegetation types, need for conservation and various measures.
- e. **Wildlife**: Major species, need for conservation and various measures. **10 marks/**
- f. **Map Reading (including drawing and insertion)** : **24 periods**
Kinds of maps, classification of maps on the basis of Scale and Themes.

Unit III: Democratic Politics **18**

- a. **Democracy**: Meaning, types, alternatives to democracy.
- b. **Democracy in India** : Framing of Indian Constitution, salient features of the Constitution, designing and redesigning of Indian Constitution. **7 marks/**
18 periods
- c. **Electoral Politics** :Election of representatives, importance of citizens participation in electoral politics, measures to ensure free and fair elections.
- d. **Institution of Parliamentary Democracy** : Parliament, it's role in democracy. **11 marks/**
- e. **Citizens' Rights in Democracy** : Fundamental Rights, relationship of Fundamental Rights and Judiciary, Independence of Judiciary. **24 periods**

Unit IV: Understanding an Economy **16**

- a. **Economics** : Its meaning, types of economy, features of Indian economy, public sector, private sector, joint sector.
- b. **Population** : Size, distribution, age- sex composition, population change- migration as a determinant of population change, occupational structure and National Population Policy : adolescents as under-served population group with special needs. **8 marks/**
17 periods
- c. **Poverty**: Meaning, causes of poverty, poverty alleviation programmes.
- d. **People as resource** : Introduction of how people become resource/asset, quality of human resource, role of health and education, unemployment, types of unemployment, unemployment as a form of non-utilization of human resource, strategies to combat unemployment. **8 marks/**
18 periods

Nagaland (History and Personalities) **10 marks/15 periods**

PART-B:	INTERNAL	20
	1. Activities	(10)
	2. Assignment	(05)
	3. Formal Testing	(05)

***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks :

1. Social Sciences for class-9
Goyal Brothers Prakashan
11/1903, Chuna Mandi, Paharganj,
New Delhi-110055.
2. “Nagaland” by NBSE, Kohima.

CLASS-10 SOCIAL SCIENCES

PART-A: EXTERNAL

Units	Marks
I India and the Contemporary World	18
II Resources (India)	18
III Democratic Politics	18
IV Understanding and Economy	16
Nagaland (Geography & G.K – a separate textbook)	10
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper/3 hours 80 marks/180 periods

Unit I:	India and the contemporary world	18
a. Nationalism in Europe:	<ul style="list-style-type: none"> * The growth of nationalism in Europe after the 1830's. * The ideas of Giuseppe Mazzini etc. * General Characteristics of the Movements in Poland, Hungary & Greece. 	9 marks/ 22 periods
b. Nationalist Movement in Indo-China:	<ul style="list-style-type: none"> * French colonialism in Indo-China. * Phases of struggle against the French. * The Second World War and the struggle for liberation. 	
c. Nationalism in India :	<ul style="list-style-type: none"> * Simon Commission, Satyagraha Movement, INA, Cabinet Mission. * Movements of peasants, workers, tribals. 	
d. Trade and Globalization :	<ul style="list-style-type: none"> * Expansion and integration of the world market. * Trade and economy between the two wars. * Shifts after the 1950s. * Impact of globalization. 	9 marks/ 22 periods

Unit II:	Resources (India)	18
a.	Resources : Types, need for resource planning. Natural Resources : Land : Soil formation, types, changing land use pattern, land degradation and conservation measures. Water Resources : Multipurpose projects, need for conservation and management, rain water harvesting. Mineral : Types, economic importance and conservation.	
b.	Power Resources: * Types of Power resources – conventional and non-conventional, utilization and conservation.	10 marks/ 24 periods
c.	Agriculture : * Types of farming, major crops, cropping pattern, technological and institutional reforms, their impact, contribution of agriculture to national economy.	
d.	Manufacturing Industries : * Types, contribution of industries to the national economy. * Industrial pollution and degradation of environment. * Measures to control degradation.	8 marks/ 20 periods
e.	Transport and Communication: * Types and importance.	
f.	Map Reading: * Uses of map, classification of map basing on functions, grid reference.	
Unit III :	Democratic politics	18
a.	Working of democracy: * Division in the working of democracy. * Effects of caste on politics and of politics on caste. * Gender division in politics. * Effects of communalism in democracy.	
b.	Power sharing mechanisms in democracy: * Division of power in democracies. * Indian Federalism towards national unity. * Decentralization and national unity. * Accommodation of different social groups in democracy.	9 marks/ 21 periods
c.	Competition and contestations in democracy: * Shaping of democracy in favour of ordinary people. * Role of political parties in competition and contestations. * Party system in India.	

d. Outcomes of democracy:

- * Democracy and its outcomes.
- * Expectations of democracies with special reference to India.
- * Development, security and dignity for the people in democracy.
- * Factors that sustains democracy in India.

**9 marks/
21 periods**

e. Challenges to democracy:

- * Challenges to Indian democracy.
- * Reforming and deepening of democracy.
- * Role of an ordinary citizen in deepening democracy.
- * Is the Idea of democracy shrinking?

Unit IV: Understanding an economy

16

a. Development :

- * Traditional notion of development – National Income and Per-Capita Income.
- * Growth of NI – critical appraisal of existing development indicators (PCI, IMR,SR and other income and health indicators).
- * The need for health and educational development- Human Development Indicators (in simple and brief) as a holistic measures of development.

**8 marks/
17 periods**

b. Money and financial system:

- * Role of money in an economy.
- * Formal and informal financial institutions for savings and credit.
- * One formal institution such as a nationalized commercial bank and a few informal institutions – Local money lenders, landlords, self help groups, chit funds and private finance companies.

c. Role of Service Sector in Indian Economy:

- * Service sector and its importance in generating employment and income to the nation.
- * Growth of service sector in India.
- * India as a major service provider to the world.
- * Need for public investment.
- * The role of important infrastructure- education and health.

**8 marks/
18 periods**

d. Consumer awareness :

- * Exploitation of consumer and its causes.
- * Rise of consumer awareness.
- * Consumer's responsibility in a market.
- * Role of government in consumer protection.

Nagaland (Geography & G.K.)

10 marks/15 periods

PART-B : INTERNAL

20

1. Activities

(10)

2. Assignment

(05)

3. Formal Testing

(05)

N.B: *It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks :

1. Social Sciences for class-10
Evergreen Publications (India) Ltd.
4738/23, Ansari Road Darya Ganj,
New Delhi-110002.
2. "Nagaland" by NBSE, Kohima.

AGRICULTURE

Objectives :

- * to impart and practicable knowledge of different aspects of agriculture.
- * to give a basis of agricultural sciences for higher studies.
- * to give a practical background in improved methods of agriculture and animal husbandry which will link between two agriculturists and agriculture science.
- * to develop proper attitude towards agriculture.
- * to develop elementary skills in coop and animal husbandry.
- * to stimulate and create interest in agricultural science.
- * apply basic scientific principles to agriculture.
- * to enable the students to understand the scientific approach of farming system.
- * to enable pupils to improvise tools and techniques of improved agricultural practices.

CLASS-9 AGRICULTURE

PART-A: EXTERNAL

Units	Marks
I Introduction to Agriculture	10
II Factors Affecting Crops Growth/Production	10
III Soil and Soil Fertility	10
IV Manures and Fertilizers	06
V Tillage	10
VI Common Farm Activities	08
VII Introductory Plant Protection	06
PART-B: INTERNAL	40
Total	100

PART-A: EXTERNAL : 1 paper/2½ hours 60 marks

- Unit I: Introduction to Agriculture : 10**
 Definition of Agriculture, Branches of Agriculture, Agriculture in Nagaland, History of Agriculture – early agricultural implements, modern agriculture, classification of crops.
- Unit II: Factors Affecting Crops/Production : 10**
 Atmospheric factors, Soil factors, Crop management- crop choice, seed quality and dept of sowing; moisture and nutrient management; Plant pests and diseases.
- Unit III: Soil and Soil Fertility: 10**
 Soil and soil classification, formation and composition of soil, vernacular classification system, soil types of Nagaland, soil component, soil fertility and productivity, nutrient availability in soil, essential elements- macro and micro elements and their importance.
- Unit IV: Manures and Fertilizers : 6**
 Definition, difference between manures and fertilizers, integrated nutrient management, time of nutrient application, methods of application, factors affecting fertilizer use, environmental effects of fertilizer use.

Unit V:	Tillage :	10
	Tillage, tillage characteristics, objectives of tillage, effect of tillage on soil physical properties, types of tillage, puddling, modern concept of tillage, tillage implements.	
Unit VI:	Common Farm Activities :	8
	Land preparation, Seedbed preparation, methods of sowing, planting, transplanting, intercultural operation, harvesting.	
Unit VII:	Introductory Plant Protection :	6
	Plant protection and control measures, integrated pest management.	
PART-B:	INTERNAL (PRACTICAL)	40
	Acquaintance and handling of common farm implements.	
	Measurement of temperature and rainfall.	
	Identification of soil texture by 'feel' method.	
	Identification of major crops.	
	Identification of insect pests.	
	Identification of manures and fertilizers.	

The allotment of marks shall be as follows :

- | | | | |
|----|------------------|---|------|
| 1. | Practical | - | (20) |
| 2. | Practical record | - | (10) |
| 3. | Formal testing | - | (10) |

***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbook:

Agriculture for class-9
 by Dr. Subhash C. Barna
 Pearson Longman (Dorling Kindersley (India) Pvt. Ltd).

CLASS-10 AGRICULTURE

PART-A : EXTERNAL

Units	Marks
I Farming system in Nagaland	8
II Crop rotation	6
III Horticulture	8
IV Irrigation and drainage	6
V Soil erosion control measures	8
VI Weed and weed management	8
VII Livestock and poultry management	8
VIII Kitchen gardening	8

PART-B : INTERNAL

	40
Total	100

PART-A: EXTERNAL : 1 paper /2½ hours 60 marks

Unit I.	Farming system in Nagaland Jhum - definition, its advantages and disadvantages, fallow management, nutrient management in jhum farming system in Nagaland.	8
Unit II.	Crop rotation Crop rotation- its definition and objectives, types of crop rotation.	6
Unit III.	Horticulture Horticulture and its branches - Pomology, Floriculture, Oliriculture, important fruit and vegetables of Nagaland.	8
Unit IV.	Irrigation and drainage Irrigation, methods of irrigation, drainage system in the hill areas.	6
Unit V.	Soil erosion control measures Soil erosion and its control measures, soil and water conservation in Nagaland, traditional erosion control measures in jhum.	8
Unit VI.	Weed and weed management What is weed ? Major classes of weed, effect of weed on crop production, allelopathic effect, critical period of weed competition, weed management integrated weed management, benefits of weed.	8

Unit VII. Livestock and poultry management **8**
Definition of veterinary science, dairy science, animal husbandry, livestock, poultry; different breeds of livestock and poultry, economic importance of livestock and poultry in Nagaland, production management of dairy cow, poultry, piggery/ swine, goatary, rabbitary, fodder and feed production (basic only).

Unit VIII. Kitchen gardening **8**
Selection of site and layout, construction of compost pit, time of sowing backyard horticulture crops of Nagaland.

PART-B: INTERNAL **40**

1. Identification of feeds and fodder
2. Identification of fruits and vegetables
3. Identification of major weeds
4. Preparation of nursery bed for vegetables
5. Seed testing of paddy
6. Identification of different breeds of cattle.

The allotment of marks shall be as follows :

- | | | |
|---------------------|---|------|
| 1. Practical | - | (20) |
| 2. Practical record | - | (10) |
| 3. Formal testing | - | (10) |

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

Agriculture for class-10

by Dr. Subhash C.Barna

Pearson Longman (Dorling Kindersley (India) Pvt. Ltd)

BOOK KEEPING AND ACCOUNTANCY

Objectives:

- * to enable the students to understand the fundamental principles and concepts of Book Keeping and Accountancy
- * to understand the basic concepts of accounting
- * to develop accounting equation
- * to enable the students to practically involve themselves in the day to day financial activities
- * to enable the students to have practical knowledge about final accounts, cash book, bank reconciliation statement, bills of exchange and calculation of depreciation
- * to develop skills of preparing and maintaining simple accounts, books and records.

CLASS-9

BOOK KEEPING AND ACCOUNTANCY

PART-A: EXTERNAL

Units	Marks
I Introduction to Book Keeping and Accountancy	10
II Basic Accounting Concepts	08
III Source Documents and Accounting Equation	10
IV Rules of Debit and Credit - Journal	12
V Ledger Accounts	10
VI Trial Balance	10
PART-B: INTERNAL	40
Total	100

PART-A: EXTERNAL : 1 paper /2½ hours 60 marks/180 periods

Unit I: INTRODUCTION TO BOOK KEEPING AND ACCOUNTANCY 10 marks/20 periods
 Book Keeping: Meaning, Definition, Process, Accountancy- Definition, Difference between Book Keeping and Accountancy, Objectives of Book Keeping and Accountancy, Advantages of Book Keeping and Accountancy. Basic Accounting Terminology.

Unit II: BASIC ACCOUNTING CONCEPTS 8 marks/20 periods
 Basic Accounting Concepts - Business Entity Concept, Money Measurement Concept, Going Concern Concept, Accounting Period Concept, Dual Aspect Concept. Double Entry System.

Unit III: SOURCE DOCUMENTS AND ACCOUNTING EQUATION 10 marks/25 periods
 Origin of Transactions, Source Documents, Vouchers and Contents of Accounting Vouchers. Accounting Equation, Analysis of Transactions, Computation- Classification of Transactions, Treatment of Revenue Payments and Receipts, Treatment of Purchases and Sales and Treatment of Miscellaneous Transactions.

- Unit IV: RULES OF DEBIT AND CREDIT– JOURNAL** **12marks/40 periods**
 The Concept of Debit and Credit, Definition of Debit and Credit. Classification of Accounts, Rules of Debit and Credit. Journal – Meaning, Advantages/Need and Limitations. Journal Entries, Subsidiary Books and Journal Proper.
- Unit V: LEDGER ACCOUNTS** **10 marks/40 periods**
 Ledger Accounts – Meaning, Classification, Importance/Advantages of Ledger Accounts, Ledger Posting from Journal Entries, Balancing of Ledger Accounts, Ledger Posting from Cash Book, Ledger Posting from Purchases Book and Ledger Posting from Sales Book. Rules of Posting from Subsidiary Books. Distinction between Journal and Ledger.
- Unit VI: TRIAL BALANCE** **10 marks/35 periods**
 Trial Balance – Meaning, Purpose and Functions of Trial Balance, Limitations of Trial Balance and Methods of Preparing Trial Balance by Balance Method.

PART-B: INTERNAL		40
1. Project work	-	(30)
2. Assignments	-	(05)
3. Formal testing	-	(05)

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

Book Keeping & Accountancy for class-9 by S.A. Siddiqui
 Laxmi Publications (P) Ltd.
 113, Golden House, Darya Ganj,
 New Delhi-110002.

CLASS-10
BOOK KEEPING AND ACCOUNTANCY

PART-A		EXTERNAL	
Units			Marks
I	Final Accounts (Without Adjustments)		15
II	Cash Book		10
III	Bank Reconciliation Statement		10
IV	Bills of Exchange		15
V	Depreciation		10
PART-B:	INTERNAL		40
Total			100

PART-A: EXTERNAL : 1 paper /2½ hours 60 marks/180 periods

Unit I: FINAL ACCOUNTS (WITHOUT ADJUSTMENTS) 15 marks/50 periods
Final Accounts – Meaning and Limitations, Trading Account – Meaning, Need and Purpose, Proforma; Profit and Loss Account – Meaning, Need and Purpose, Proforma; Balance Sheet – Meaning, Need and Purpose, Proforma, Preparation of Trading, Profit and Loss Account and Balance Sheet of a Sole Trader (without adjustments).

Unit II: CASH BOOK 10 marks/35 periods
Cash Book – Meaning, Simple Cash Book, Double Column Cash Book, Triple Column Cash Book, Petty Cash Book – Meaning, Advantages, Format and Preparation of all types of Cash Books (simple).

Unit III: BANK RECONCILIATION STATEMENT 10 marks/30 periods
Bank Reconciliation Statement – Meaning, Need and Preparation (simple), Causes of difference between balances of Cash Book and Pass Book.

Unit IV: BILLS OF EXCHANGE **15 marks/35 periods**
 Bills of Exchange – Meaning, Characteristics, Parties – Drawer, Drawee and Payee, Specimen, Elements of Bills of Exchange – Bills at Sight, Bills after date, Days of Grace, Due Date or Date of Maturity.

 Promissory Notes – Meaning, Characteristics, Parties – Maker, Payee, Specimen, Difference between Bills of Exchange and Promissory Notes.

 Practical questions relating to preparation of journal entries in the books of both parties in case of bill drawn by drawer and accepted by drawee and honoured on maturity date in all cases.

Unit V: DEPRECIATION **10 marks/30 periods**
 Depreciation - Meaning, Definition, Special features, Causes of Depreciation, Objectives, Factors Affecting Depreciation, Methods of Calculating Depreciation – Straight Line Method and its Advantages and Disadvantages. Diminishing Balance Method and its Advantages and Disadvantages. Difference between Straight Line Method and Diminishing Balance Method. Preparation of simple practical questions (Excluding sales and purchases during the year).

PART-B:	INTERNAL	40
	1. Project work	-
	2. Assignments	-
	3. Formal testing	-
		(30)
		(05)
		(05)

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :
 Book Keeping & Accountancy for class-10 by S.A. Siddiqui
 Laxmi Publications (P) Ltd.
 113, Golden House, Darya Ganj,
 New Delhi-110002.

ENVIRONMENTAL EDUCATION

Objectives :-

- to develop an awareness of the environment and its problems;
- to develop basic knowledge and understanding of the environment and its inter-relationship with man, including indigenous tradition and cultural practices related to the environment;
- to develop habits, values, attitudes and emotions to maintain and promote 'quality environment' for human survival;
- to develop skills to solve environmental problems through participation and designed activities.
- to develop ability to assess the outcomes of environmental action and initiatives;
- to develop a sense of responsibility and urgency to ensure appropriate action to solve environmental problems;
- to makes learners recognize the need for protecting, preserving and conserving environment and its resources.
- it lays emphasis on three aspects:

Learning *about* the environment.

Learning *through* the environment, implying a systematic exploration through a variety of activities,

Learning *for* the environment by developing a genuine concern and sensitivity towards its protection and preservation.

- The ultimate goal of Environmental Education is action
 - to improve the environment
 - to prevent its degradation and
 - to sustain its well being.

Above all, one of the main objectives of Environmental Education is to make learners love the environment and to commit themselves to protect the environment at any cost.

CLASS-9

ENVIRONMENTAL EDUCATION

Part-A: EXTERNAL

Units	Marks
I. Understanding Ecosystem	25
II. Depletion of Resources	20
III. Waste Generation and Management	25
IV. Environmental Values and Ethics	10
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper /3 hours 80 marks/180 periods

Unit I: Understanding Ecosystem 25

- Types of ecosystem – forest, grassland, desert, aquatic, coastal, marine.
- Interaction between biotic and abiotic factors in an ecosystem.
- Energy flow and its importance, cycles of nutrients in terrestrial and aquatic (fresh water and marine) ecosystems, nature’s mechanism in maintaining balance.
- Destruction of ecosystem due to changing patterns of land use : factors responsible for this – population growth, migration, industrialization and urbanization, dwelling units, transport; encroachment on water bodies, forests and agricultural land, shifting cultivation; facilities for tourism, pilgrimage, recreation and adventure; construction of large dams, mining and war.
- Impact of ecosystem destruction – loss of habitat, stress on resources.
- Conservation of ecosystem – alternative practices including indigenous conservation practices, planning for proper land use.
- Role of Environmental Impact Assessment (EIA) in maintaining the quality of the environment.

Unit II: Depletion of Resources 20

- Natural resources – air, water, soil, minerals, forests and fuels.
- Causes of depletion of resources – over-use/irrational use, non-equitable distribution of resources, technological and industrial development, population growth.
- Impact of resource depletion – imbalance in nature, shortage of materials, struggle for existence; slackening of economic growth.
- Practices for conservation of resources – search for alternatives, promotion of renewable resources.

Unit III: Waste Generation and Management **25**

- Sources of waste – domestic, industrial, agricultural, and commercial.
- Classification of waste – bio-degradable, non-biodegradable; toxic, non-toxic, bio-medical.
- Impact of waste accumulation – spoilage of landscape, pollution, health hazards, effect on terrestrial and aquatic (fresh water and marine) life.
- Need for management of waste.
- Methods of safe disposal of waste – segregation, dumping, composting, drainage, treatment of effluents before discharge, incineration, use of scrubbers and electrostatic precipitators.
- Need for reducing, reusing and recycling waste.
- Legal provisions for handling and management of waste.

Unit IV: Environmental Values and Ethics **10**

- Human rights, fundamental duties and value education.
- Women and Child Welfare.

PART-B: INTERNAL **20**

The marks awarded for internal assessment should be based on continuous and comprehensive evaluation. The allotment of marks shall be as follows.

1. Project (16)
2. Formal testing (04)

In each period of assessment, a minimum of four projects must be conducted basing on the suggested projects in the textbook, the available resources and take cognizance to the local environmental problem.

***N.B:** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbook :

A textbook of Environmental Education.
Goyal Brothers Prakashan,
11/1903, Chuna Mandi, Paharganj
New Delhi-1100055.

CLASS-10

ENVIRONMENTAL EDUCATION

PART-A: EXTERNAL

Units	80 Marks
I. Restoring Balance in Ecosystem	25
II. Pollution	17
III. Issues of the Environment	21
IV. Striving for a better Environment	17
PART-B: INTERNAL	20
Total	100

PART-A: EXTERNAL : 1 paper /3 hours 80 marks/180 periods

Unit I: Restoring Balance in Ecosystem 25

- * Need for adopting control measures to check for spoilage of landscape.
- * Need for conservation and management of water – integrated watershed management, recharging of ground water including rain water harvesting, development of appropriate technology.
- * Conservation and management of forests, grasslands, semi-arid ecosystems.
- * Conservation and management of ocean resources – marine and coastal ecosystems, importance of coral reefs.
- * Conservation and management of soil – alternate cropping, judicious use of inputs like water, fertilizers, pesticides; use of manure, bio-fertilizers and bio-pesticides; plantation and conservation of grasslands to check soil erosion; forest conservation including Joint Forests Management (JFM), afforestation including social forestry and agro-forestry.
- * Measures to conserve wildlife – national parks, sanctuaries and bio-reserves; breeding programmes for endangered species; preventing poaching, hunting and bio-piracy; enforcement of legal provisions.
- * Application of bio-technology.
- * Public awareness programmes concerning conservation of water, soil, air, forests and other resources.
- * Relevance of indigenous practices.
- * Tribal culture and its linkage to forest resources and their conservation.

Unit II: Pollution 17

- * Types of pollution – air, water (fresh and marine), soil radiation and noise.
- * Sources of pollution and major pollutants; oil spills.
- * Effects of pollution on – environment, human health and other organisms.
- * Abatement of pollution.

Unit III: Issues of the Environment**21**

- * Decline in forest, agricultural and marine productivity and its effects on economy.
- * Resettlement and rehabilitation of people.
- * Energy crisis – urban and rural sectors.
- * Greenhouse effect and global warming.
- * Climatic changes.
- * Acid rain.
- * Ozone layer depletion.
- * Disaster – natural and man-made; disaster management and its mitigation.

Unit IV: Striving for a Better Environment**17**

- * Use of efficient and eco-friendly technology.
- * Sustainable use of resources.
- * Adoption of indigenous practices; sacred groves.
- * Consumer education – consumer rights, making correct choices while buying different items, food adulteration.
- * Community participation for ecological restoration and conservation.
- * Protection of wildlife; stopping of cruelty to animals.
- * Enforcements of acts, laws and policies.
- * Some success stories – use of CNG, Chipko Movement, water harvesting, Silent Valley and the like.

PART-B: INTERNAL**20**

The marks awarded for internal assessment should be based on continuous and comprehensive evaluation. The allotment of marks shall be as follows.

1. Project (16)
2. Formal testing (04)

In each period of assessment, a minimum of four projects must be conducted basing on the suggested projects in the textbook, the available resources and take cognizance to the local environmental problem.

N.B: It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed textbook :

A textbook of Environmental Education
S.Chand & Company Ltd.
Ram Nagar, New Delhi-11005.

HOME SCIENCE

Objectives :

1. to develop the art of co-operative living in the family and community;
2. to develop the necessary attitudes, abilities, skill and techniques essential for group living and getting along with others;
3. to help the pupils to understand their role and responsibilities in the family and community, in the management of resources and the duties of future parents;
4. to develop an appreciation of social, religious and cultural values;
5. to develop sound judgment and ability to make decisions;
6. to develop the ability to do household work, such as cleaning, cooking, maintaining accounts, entertaining and looking after children,
7. to cultivate good habits of health and hygiene;
8. to impart knowledge of facts of health, nutrition, hygiene and other aspects of family living;
9. to learn ways and means to supplement family income;
10. to impart knowledge of the aesthetic, hygienic and economical value of clothing.

CLASS-9 HOME SCIENCE

PART-A: EXTERNAL

Units	Marks
I Concept, objective and scope of Home Science	08
II Family – a unit of society	07
III Food and its relation to health	10
IV Cooking of food	08
V Functions of a home	08
VI Safety in the house	07
VII Fabrics	07
VIII Selection of clothes	05
PART-B: INTERNAL	40
Total	100

PART-A: EXTERNAL : 1 paper /2½ hours 60 marks/180 periods

Unit I:	Concept, objective and scope of Home Science	8
Unit II:	Family -a unit of society: Functions, type & size of family; reasons for change in family, types, effect of size on welfare of its members, role of family and its smooth functioning.	7
Unit III:	Food and its relation to health: Constituents of food, nutrients, nutrition, food groups, balanced diet, functions of food, physiological function, psychological function, sociological function, inter-relationship between food and health.	10
Unit IV:	Cooking of food : Reasons for cooking, principles of cooking, methods of cooking- boiling, steaming, pressure cooking, frying, roasting & baking- brief description of each & suitability for food preparation.	8
Unit V:	Functions of a home: Protective and social characteristics of functional house, sanitation, latrine, light, ventilation, drainage system, sewage system, water supply, surroundings.	8

Unit VI: Safety in the house : Precaution of accidents in the kitchen and bathroom, first aid, burns, bruises and sprains, shocks, cuts and wounds, poisoning, electric shocks, safe use of fuels, drowning, snake bite. **7**

Unit VII: Fabrics : Functions of clothing, fibre and yarn, classification of fibre on the basis of origin and length; yarn making, fabric-weaving, (different types of weaves- plain, twill and satin), knitting and felting, blended fabrics. **7**

Unit VIII: Selection of clothes: Meaning of clothing, factors affecting selection of clothing- age, climate, occupation, occasion, figure, fashion, cost, comfort. **5**

PART-B: INTERNAL 40

1. Observe your own family for type, size & role of each member. Record the activities of all members on any one typical day of the family.
2. Observe food preparation using different methods and record taste, texture, colour of ready food.
3. Prepare food using different methods of cooking.
4. Study your own house for light, ventilation, disposal of waste water and surroundings and record your observations.
5. Study your house for measures of safety against accidents and give suggestions for improvement.
6. Practice giving first aid to cuts, burns, fever, acids and bites.
7. Collect samples of fabrics available in the market and present a comparative picture on the basis of cost (optional), durability, appearance and burning test.
8. Identification of fabric-physical appearance and suitability.

The allotment of marks shall be as follows :

- | | | |
|------------------------|---|------|
| 1. Practical exercises | - | (30) |
| 2. Practical record | - | (05) |
| 3. Formal testing | - | (05) |

***N.B :** It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbook :

A textbook of Home Science for class-9
Evergreen Publications (India) Limited,
New Delhi-110002.

CLASS-10 HOME SCIENCE

PART-A: EXTERNAL

Units	Marks
I Principles of growth and development of a child between birth to 3 years	09
II Role of play and recreational activities during infancy stage	06
III Nutrients	10
IV Meal planning	05
V Food hygiene and methods of storage of food.	05
VI Resources available to family.	05
VII Money management	05
VIII Consumer education	05
IX Care of clothes, quality check of apparel.	10
PART-B: INTERNAL	40
Total	100

PART-A: EXTERNAL : 1 paper /2½ hours 60 marks/180 periods

Unit I: Principles of growth and development of a child between birth to 3 years: 9
Principles of growth and development of a child, growth and development of children between birth to 3 years. Important milestones in physical, motor, social, emotional and language development of children, physical, social and emotional needs of children.

Unit II: Role of play and recreational activities during infancy stage : 6
Play : Meaning, need and types of play in children between birth & 3 years. Characteristics of play- active, passive, natural, serious and explanatory. Play materials for children- Characteristics of play material. Role of books, music, rhymes, games, radio, TV & Video, in the life of a child upto 3 years of age.

Unit III: Nutrients : 10
Functions, sources and deficiency of Carbohydrates, Proteins, Fats, Minerals- Iron, Calcium and Iodine and Vitamins- Vitamin A, B, B2, Vitamin C and Vitamin D. Loss of nutrients during cooking, conservation and enhancement of nutrient.

- Unit IV: Meal planning :** **5**
 Concept need and factors affecting meal planning- age, sex, climate, occupation, physical needs, number of family members, economic states of family. availability of food, family traditions, likes and dislikes and occasion. Food Groups (Basic : 5 suggested by ICMR), Use of Food Groups of planning balanced diet, food allowances suggested by ICMR.
- Unit V: Food hygiene & methods of storage of food :** **5**
 Rules of hygienic handling of food Methods of storage of perishable, semi-perishable and non-perishable foods.
- Unit VI: Resources available to family :** **5**
 Types of resources - Human (energy, game, knowledge and skill).
 Non-human - (money, material goods and community resources). General characteristics of resources, wise use of resources, Personal and shared.
- Unit VII: Money management :** **5**
 Family income and expenditure and importance of saving, investment.
- Unit VIII: Consumer education:** **5**
 Consumer rights and responsibilities, consumer problem, malpractices of traders - price variation, poor quality, adulteration, faulty weights and measures, non-availability of goods, misleading information, lack of standardized products, misleading advertisement, aids to help consumers- standardization marks, labels, packages, advertisement, pamphlets and leaflets.
- Unit IX: Care of clothes and quality check of apparel :** **10**
 Cleaning and finishing agents used in everyday, care of clothes in the homes, stain removal (precautions and methods), laundering and storage of cotton, silk, wool and synthetics. Quality check of apparel : Workmanship of readymade, tailor made garments, reading of labels of clothes.

1. Observe and record physical and motor characteristics of a child at any given stage between 0 to 3 years of age.
2. Observe play activities of children between 1 to 3 years of age. Record their interests and characteristics of play materials.
3. Make a suitable play object for a child between 0 to 3 years.
4. Prepare dishes using methods of enhancement of nutrients.
5. Prepare useful household items from recycling waste materials.
6. List any five malpractices you have observed in the market.
7. Practice basic stitches- tacking, running, hemming and backstitch.
8. Remove common stains- curry, paint, ball pen ink, lipstick, blood, rust, tea and coffee.
9. Launder and finish cotton, silk, wool and synthetic materials.
10. Examine the quality of a stitched garment. Read the label on a readymade garment.

The allotment of marks shall be as follows :

- | | | |
|------------------------|---|------|
| 1. Practical exercises | - | (30) |
| 2. Practical record | - | (05) |
| 3. Formal testing | - | (05) |

N.B : *It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbook :

A textbook of Home Science for class-10
Evergreen Publications (India) Limited,
New Delhi-110002.

INTRODUCTORY INFORMATION TECHNOLOGY

Objectives :

1. to familiarize with basics of information technology.
2. to develop basic skills of using tools for word processing, presentation and database management.
3. to appreciate the use of IT in various domains.

CLASS-9 INTRODUCTORY INFORMATION TECHNOLOGY

PART-A: EXTERNAL

Units	Marks
I IT Basics	10
II IT Tools	30
III IT Applications	
PART-B: INTERNAL	60
Total	100

PART-A: EXTERNAL (Theory) : 1 paper / 1½ hours 40 marks

Unit I: IT BASICS 10 marks/8 periods

Convergence of Technologies:

Computer System:

Characteristics of a computer, basic applications of a computer, components of a computer system-Central Processing Unit (CPU), Visual Display Unit (VDU), Keyboard.

Concept of Memory:

Primary and secondary memory, RAM and ROM, units of memory- byte, Kilobyte, Megabyte, Gigabyte, Terabyte.

Input/Output Devices:

Mouse, Joystick, Scanner, Microphone, OCR, MICR, Light Pen, Bar Code Reader, Digital Camera, Printer, Speaker, Plotter.

Storage Devices:

Floppy disk, Hard disk, CD-ROM and DVD.

Computer Languages:

Machine Language, Assembly Language and High Level Languages, role of Assembler and Compiler.

Types of Software:

System, Utility and Application software with examples.

Communication Technology:

Need for networking, LAN, MAN and WAN.

Data Communication Device: Modem.

Introduction to Internet.**Content:**

Data, Information and Multimedia.

Unit II: IT TOOLS**30 marks/30 periods****MS Windows:**

Basic concepts of an Operating System and its functions.

Introduction to Windows: Using mouse and moving icons on the screen, My Computer, Recycle Bin, Task Bar, Start-menu and menu selection, running an application, setting system date and time, Windows explorer to view files, folders and directories, creating and renaming of files and folders, opening and closing of windows, Minimize, Restore and Maximize forms of windows, Basic components of a window: Desktop, Frame, Title Bar, Menu Bar, Status Bar, Scroll Bars (Horizontal and Vertical), using right button of the mouse, creating shortcut, basic Windows Accessories: Notepad, Paint, Calculator, WordPad, using Clipboard.

MS OFFICE**MS Word:**

Introduction to a word processor, creating and saving a document, editing and formatting a document; text style (Bold, Italic, Underline), font type & size, changing color, alignment of text; formatting paragraphs with line or paragraph spacing; adding headers and footers, numbering pages, using grammar and spell check utilities, using subscript and superscript, inserting symbols, Print Preview, printing a document.

Inserting WordArt, ClipArt and Pictures, Page Setting, Bullets and Numbering, Borders and Shading, Format Painter, Find and Replace, Inserting Tables: inserting, deleting-rows and columns, merging cells, splitting cells, using AutoFormat, Mail Merge.

MS PowerPoint:

Introduction to presentation graphics, understanding the concepts of slide shows, basic elements of a slide, different types of slide layouts, creating and saving a presentation different views of a slide: Normal View, Slide Sorter View and Slide Show, editing and formatting a slide: adding Titles, Subtitles, Text Background, Watermark; Headers and Footers, Numbering slides; inserting pictures from files, animating pictures and text with Sound Effects, Timing Text box, Pictures and Slides, Rehearse Timings, ungrouping and grouping pictures from Clipart.

MS Excel:

Introduction to spreadsheets, concept of worksheets and workbooks, creating and saving a worksheet, working with a spreadsheet: entering numbers, text, date/time, series using AutoFill, editing and formatting a worksheet including changing colour, size, font, alignment of text, inserting or deleting cells, rows and columns, Formulae: entering a formula in a cell, using operators (+, -, *, /) in formulae, relative referencing, absolute referencing and mixed referencing, printing a worksheet.

Use of simple statistical functions: SUM(), AVERAGE(), MAX(), MIN(), IF() (without compound statements); inserting tables in worksheet, embedding charts of various types: Line, Pie, Scatter, Bar and Area in a worksheet.

Unit III: IT APPLICATIONS

20 periods

Students are suggested to work on the following areas using MS Word, MS PowerPoint and MS Excel on topics implementing the tools covered in the course.

Domains:

Documentation:

- Informal letter
- Formal letter
- Report writing
- Greeting card
- Poster making

Presentation:

- School Magazine
- Environment and Pollution
- Product advertisement
- Any topic specific from text book (any subject)

Analysis Reporting:

- Cricket Record
- Weather Report
- School/Class Result

NOTE:

Teachers are requested to demonstrate some other popular software for word processing, presentation, and spreadsheet, which support Hindi and/or some other Indian language(s).

[Leap Office is an example of Office Suite (word processor with an interface to MS-Office, Lotus SmartSuite, PageMaker, Corel Draw etc.) with complete support to Indian languages].

PART-B: INTERNAL (Practical) 60

(A) Hands on Experience (4 exercises) 30

Design of a Practical Question Paper

NBSE shall not provide question paper for the practical examination. Instructions on the basis of syllabus, distribution of marks and conduct of practical examination have been provided. The examiner shall set the question paper according to the prescribed curriculum and distribution of marks. The duration for the practical examination of Hands on Experience including viva voce shall be 4 hours.

N.B: *Different sets of question papers should be prepared for each shift / batch of examinees.*

I Windows Operating System:* (6)

To test some of the following basic system operations on files/folders:

- Create
- Rename
- Copy/Cut/Paste
- Delete
- Commands related to Notepad/WordPad/Paint
- Using Clipboard

II MS Word:* (8)

A paragraph in MS Word incorporating some of the tools given below to be tested during the examination:

- Editing and formatting text and paragraph
- Page and paragraph setup
- Inserting pictures and WordArt

III MS PowerPoint:* (8)

A PowerPoint presentation with 2-3 slides using some of the tools given below to be tested during the examination:

- Editing and formatting slides
- Inserting pictures and sounds
- Animating pictures and text with sound effects

IV MS Excel:* (8)

A problem in spreadsheet related to some of the tools given below to be tested during the examination:

- Formatting cells and data
- Functions & formulae (relative, absolute and mixed reference)
- Charts

* Printouts of the document(s) should be attached with the answer sheet

(B) IT Application Report File 20

For the purpose of continuous assessment, students are supposed to maintain an IT Application Report File containing real life assignments/presentations using MS Word, MS PowerPoint and MS Excel on topics from the following domains:

- (i) 2 tests on basic system operations.
- (ii) 3 documents of MS Word.
- (iii) 2 documents of MS PowerPoint.
- (iv) 3 documents of MS Excel.

(C) Viva Voce 10

N.B : It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.

Prescribed Textbook :

Let's Log In for class-9
Pearson Education 482 FIE, Patparganj,
Delhi-110092, India.

CLASS-10

INTRODUCTORY INFORMATION TECHNOLOGY

PART–A: EXTERNAL

Units	Marks
I IT Basics	10
II IT Tools	30
III IT Applications	
PART–B: INTERNAL	
	60
Total	100

PART-A: EXTERNAL(Theory) : 1 paper 1½ hours 40 marks

Unit I: IT BASICS 10 marks/8 periods

Internet:

World Wide Web, web servers, web sites, web pages, web browsers, HTML, web address, email address, URL, HTTP.

Services available on Internet:

Information retrieval, electronic mail, locating sites using search engines and finding people on the net, chat, video conferencing, FTP, downloading and uploading files from or to a remote site, newsgroup.

Unit II: IT TOOLS 30 marks/17 periods

MS OFFICE:

MS Access: 10 marks/5 periods

Basic concepts and need for a database, creating a database, setting the primary key, entering data into a database, inserting and deleting fields, inserting and deleting records, Data Validation: Field Size, Default Value Validation Rule, Validation Text, Required, Allow Zero Length.

HYPER TEXT MARKUP LANGUAGE (HTML) 20 marks/12 periods

Basic concepts of web browsers with emphasis on popular browsers like Internet Explorer and Netscape Navigator.

HTML Fundamentals:

Introduction to web page designing using HTML, creating and saving an HTML document, elements in HTML: Container and Empty elements, designing web pages using the following elements: HTML, HEAD, TITLE, BODY (Attributes: BACKGROUND, BGCOLOR, TEXT, LINK, ALINK, VLINK, LEFTMARGIN, TOPMARGIN), FONT (Attributes: COLOR, SIZE, FACE), BASEFONT (Attributes: COLOR, SIZE, FACE), CENTER, BR (Break), HR (Horizontal Rule) (Attributes: SIZE, WIDTH, ALIGN, NOSHADE, COLOR), COMMENTS, <!-- --> for comments, H1...H6 (Heading), P (Paragraph), B (Bold), I (Italics), U (Underline), UL & OL (Unordered List & Ordered List) Attributes: TYPE, START, LI(List Item), insertion of images using the element IMG (Attributes: SRC, WIDTH, HEIGHT, ALT, ALIGN).

Internal and external linking between web pages: Significance of linking, A-Anchor Element (Attributes: NAME, HREF, TITLE, ALT)

Unit III: IT APPLICATIONS

20 periods

Students are suggested to work on the following areas using MS Access and HTML on topics implementing the tools covered in the course.

Domains:

Database

- Personal Data Management System
- Employee Payroll
- Stock Inventory

Website Designing

- Travel and Tourism
- Rural India
- Environment and Pollution

PART-B: INTERNAL (Practical)

60

(A) Hands on Experience (2 Exercises)

(30)

Design of a Practical Question Paper

NBSE shall not provide question paper for the practical examination. Instructions on the basis of syllabus, distribution of marks and conduct of practical examination have been provided. The examiner shall set the question paper according to the prescribed curriculum and distribution of marks. The duration of the practical examination for Hands on Experience including viva voce shall be 4 hours.

N.B : *Different sets of question papers should be prepared for each shift / batch of examinees.*

I MS Access:* (8)

A problem in MS Access related to some of the tools given below to be tested during the examination:

- Creating and entering data into a database
- Setting the primary key
- Data validation.

II HTML* (22)

A problem on web page designing (minimum 2 pages) to be given which will cover some of the following HTML elements :

- <HTML>, <HEAD>, <TITLE>, <BODY>
- Font Styles: , <I>, <U>
- - FACE, SIZE
- <CENTER>
- <P> - ALIGN
- <A>
-
- Comments: <!-- -->

The students are supposed to know the tools and style for designing domain specific web pages from real life applications and the topics mentioned in the syllabus.

Breakup of marks (HTML)

- Visual Effects : 8
- Linking : 4
- Coding : 10

* Printouts of the document(s) should be attached with the answer sheet.

(B) IT Application Report File 20

For the purpose of continuous assessment, students are supposed to maintain an IT Application Report File containing real life assignments/presentations using MS Access and HTML on topics from the following domains:

- (i) 2 tests on using Internet services.
- (ii) 3 documents of MS Access.
- (iii) 5 documents of HTML source code along with browser view.

(C) Viva Voce 10

Questions can be asked from any portion of the syllabus covered during Class-9 and Class-10.

N.B : *Teachers are suggested to give first-hand demonstration covering the aspects such as: connecting to internet, using popular search engines, web browsing, opening e-mail accounts, sending and receiving e-mails, downloading files and pictures.*

Prescribed textbook :

Let's Log In for class-10
Pearson Education 482 FIE, Patparganj,
Delhi-110092, India.

N.B: *It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

MUSIC

Objectives :

- * to enable the learners to know the different types of songs, instruments of Ethnic Music.
- * to introduce the basic fundamentals of Music, such as pitch, note, values, meter, time and key signatures, scales, common music symbols (including dynamic and tempo markings), intervals, triads, and principles of singing style.
- * to provide opportunity to reinforce the knowledge gained through written work.
- * to develop music writing skills.

MUSIC (THEORY)

CLASS-9

PART-A: EXTERNAL

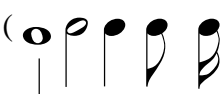

Units	Marks
I. Ethnic music	10
II. Western music	30
PART-B: INTERNAL	
Total	60
	100

PART-A: EXTERNAL : 1 paper 1½ hours **40 marks**

Unit I : Ethnic Music **10 marks**

1. Name and explain Naga song genres (generic) : Nursery Rhymes, Lullabies, Feast or Festival songs, Story songs, War songs, Love songs, Labour or work songs, Lament (Funerary songs). (7)
2. Identify the intervals of a given Naga folk song, whether skip, step, or repetition. (3)

Unit II : Western Music **30 marks**

1. The Staff : treble, bass, great (including middle C). (5)
2. Note values up to 16th (); dotted whole, half, quarter notes. () (3)
3. Measures, bar lines. (2)
4. Time signatures and common rhythms used in them. (3)
5. Accidentals : sharp, flat, natural (# b q) (2)
6. Half step, whole step. (2)
7. Keyboard pattern : arrangement of white and black notes. (2)
8. Major scale :
 - i) Pattern of whole and half steps : W W H W W W H (2)
 - ii) Write these 5 major scales on treble and bass staves : C G D F B-flat.
 - (a) with key signature. (2)
 - (b) with accidentals. (3)
9. Musical motion : step, skip, repetition. (2)
10. Tie and slur. (2)

PART-B: INTERNAL

60

- 1. Practical (40)
- 2. Assignment (10)
- 3. Formal testing (10)

Ethnic Music

- 1. National anthem. (5)
- 2. One folk song from the student’s own tribe/region. (5)
- 3. Two other Naga folk songs. (10)


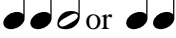

Western Music




A. Sightsinging :

- 1. Sing any one of these songs by memory with words : Doxology, Be Thou My Vision, God Bless My Nagaland. (5)
- 2. Learn any one of these songs with tonic solfa syllables from staff notation (5)

Doxology, Be Thou My Vision, Ode to Joy (Joyful, Joyful, We Adore Thee), We Wish You A Merry Christmas.


- 3. Sing half and whole steps above/below a given pitch. (4)
- 4. Sing the major scale up/down with syllables. (2)
- 5. Two pitch patterns ascending/descending

- i) Up : d r d r m r m f m f s f etc. using one of these rhythms :  (4)
- Down : d t d t l t l s l s f s etc. using one of these rhythms:  (or 

- ii) Up : d r m r d r m f m r m f s f m etc. using these rhythms :  (4)
- Down : d t l t d t l s l t l s f s l etc. using these rhythms :  (or 

B. *Rhythm recitation* : rhythms alone, or from songs, using these (6)

note values only :  and these rests :

whole, half, quarter. 

C. *Ear Training* :

1. Recognise a major scale from any other kind of scale. (2)

2. Recognise half and whole steps played on an instrument. (4)

3. Identify whether two played notes are a step up or down, a skip up or down, or the same (repetition). (4)

N.B: *It is expected that students are assessed on continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks :

1. Music Theory Notebook One - by NBSE.
2. A standard hymnal.
3. Elementary Music by Rev. Dr. Neiliezhü Üsou

Reference books:

1. Alemchiba M. THE ARTS AND CRAFTS OF NAGALAND. Kohima, Nagaland. The Naga Institute of Culture, 1968.
2. Jamir, A.Temjen. POPULARISATION OF FOLK MUSIC IN CHRISTIAN WORSHIP. Mokokchung, Nagaland : Clark Theological College, 2001.
3. Mongro, Kajen and A.Lanunungsang Ao. NAGA CULTURAL ATTIRE AND MUSICAL INSTRUMENTS. New Delhi : Concept Publishing Co, 1999.
4. Chishi, Kughaho. O - HIO - YO : SONGS FROM THE HILLS. Dimapur, Nagaland : Sola Printing Press 2001.

MUSIC (THEORY)

CLASS 10

PART-A: EXTERNAL

Units	Marks
I Ethnic music	10
II Western music	30
PART-B: INTERNAL	60
Total	100


PART-A: EXTERNAL : 1 paper 1½ hours **40 marks**

Unit I: Ethnic Music **10 marks**

1. Basic structure of the following instruments: Single string/ Cup violin, Bamboo mouth organ, Flute, Trumpet, Drum, Log Drum, Bamboo sounding box, Leaf music. (7)
2. Identify the melodic intervals of a given Naga folk song, (4 measures) (3)

Unit II: Western Music **30 marks**

1. Review the staff. (5)
2. Review note values learned in class 9 Add the dotted

8th and 16th :  (2)

3. Major scales, upto 5 sharps, flats and formation of minor scale. (6)
 - i) Identify from the key signature.
 - ii) Write on the staff with key signature.
 - iii) Write them with accidentals, both on the staff and without staff using letters.

4. Time signatures $\frac{6}{8}$ $\frac{2}{2}$ $\frac{3}{2}$ $\frac{4}{2}$ and common rhythms used in them. (3)

5. Signs : Repeat sign; first/ second endings. (2)
 Common dynamic markings : p p p m p mf f ff cresc. < decresc. >
 Common tempo markings : lento, adagio, andante, moderato, allegro, vivace, presto, rit. rall.

6. Review tie, slur and phrasing marks. (3)

7. Intervals in the major scale upto 8 ve, from DO upward (major, perfect) and relative minor scale ascending harmonic style (6)
8. Principles of correct singing style : (3)
 - i) Posture
 - ii) Breathing
 - iii) Vowels
 - iv) Consonants

PART-B: INTERNAL	60
Practical	(40)
Assignment	(10)
Formal testing	(10)

Ethnic Music


1. Two folk songs from the student's own tribe/region. (10)
(Warrior's song, Harvest song, Lullaby song, etc.)
2. Two other Naga folk songs. (10)

Western Music

A. Sightsinging

1. Learn any one of these songs with tonic solfa syllables from staff notation :Auld Lang Syne, Drink to me only with thine eyes, Fairest Lord Jesus, O For a Thousand Tongues to Sing. (5)
2. Sing one stanza from one of these songs by memory with words, using correct singing style principles: (5)
Drink eyes; O Come, All Ye Faithful; Praise to the Lord, the Almighty.
3. Sing all the intervals up and down from DO in the major scale. (4)
4. Sing the major scale ascending with syllables, from RE, SOL, LA. (3)
5. Sing two pitch patterns ascending only: (3)
 - i) d m r d r f m r m s f m f l s f etc. in these


rhythms : 

ii) d m r f m s f l st ld tr do . use any
one of these rhythms : 

B. *Rhythm recitation* : (6)

1. Very easy rhythms in the new time signatures :



2. Add  in the _____ time signatures.

- C. *Sight Reading* : Sing very easy songs (melody only) at sight, in the keys of C, F and G, using syllables. Mostly stepwise motion, perhaps a few 3rds. (6)

Using only these note values :  (in _____ time only)

D. *Ear Training* :

1. Recognizing the degree on the major scale played (not sung) from DO, RE, SOL and LA (4)
2. Recognizing 2nd and 3rd intervals ascending/descending (general name only). (4)

N.B: *It is expected that students are assessed on a continuous and comprehensive basis on the given topics. The role of teachers assumes a very significant part, as such, they are expected to be fair and assess the performance of the students without any bias.*

Prescribed textbooks :

1. Music Theory Textbook Two - by NBSE.
2. A standard hymnal.
3. Elementary Music by Rev. Dr. Neiliezhü Üsou.

Reference books :

1. Alemchiba M. THE ARTS AND CRAFTS OF NAGALAND. Kohima, Nagaland. The Naga Institute of Culture, 1968.
2. Jamir, A.Temjen. POPULARISATION OF FOLK MUSIC IN CHRISTIAN WORSHIP. Mokokchung, Nagaland : Clark Theological College, 2001.
3. Mongro, Kajen and A.Lanunungsang Ao. NAGA CULTURAL ATTIREES AND MUSICAL INSTRUMENTS. New Delhi Concept Publishing Co, 1999.
4. Chishi, Kughaho. O - HIO - YO : SONGS FROM THE HILLS. Dimapur, Nagaland : Sola Printing Press 2001.

PART – III

AREAS OF

INTERNAL ASSESSMENT

LIVING SKILLS

The book “Living Skills” is specially compiled and designed to supplement the topics under the areas of assessment in the two internally assessed subjects, i.e. Work and Art Education and Physical and Health Education. The areas covered in these two subjects are varied and most essential for every individual and society as a whole. However, very often, such lessons of life are neglected or even ignored on account of syllabus coverage and doing well only at the examinations.

It needs to be reiterated that education means not only equipping the child with intellectual knowledge but more importantly, bringing out the best in every child - physically, mentally and spiritually. Each individual is gifted and nurtures different interests and talents. It is education that can motivate the child to nourish such interests and talents to maturity so that he/she may be an asset to the family and society. In short, education is an all round development and highlights the best of an individual for productivity.

‘Living Skills’ aims to bridge the gap between classroom teaching and learning. It is the platform where students will learn the basic values which will mould their personalities and acquire the right attitude in life. Lessons on Civic Sense, Disaster Management, Education on Environment, Population, Peace and Consumer are issues that are infused in this book. Much emphasis has been laid in creating the awareness and prevention of deadly diseases, factors affecting health and on Adolescence Education. The awareness of such issues of acute importance will boost the mental and physical capabilities of the students as they are catered to a higher level of understanding. Further, with a greater emphasis laid on Arts, the aesthetic sensibility is expected to arouse in each student. This will liberate the child’s creativity to experience and create an identity of his/her own. It is mandatory that every student practice Mock Drills and exercises in case of disasters such as fire, earthquake, etc. They should also be taught road safety rules. The schools should take due initiative to let every student practice the mock drills.

Each student must possess the book on Living Skills and make practical use of it for his/her own benefit and also for the society. Parents and teachers are the constant guides of the young children and their role is tantamount in moulding the child’s behaviour. The world

moves at such a fast pace today and in it, a child is subjected to complex and diversified challenges. This creates the need for parents and teachers to gear up and prepare every child to meet the world of opportunities. Through the parents, teachers and school, a child is expected to learn discipline, regularity, punctuality, responsibility, cleanliness and be an active participant in all activities. It is the prime role of the school to inculcate such values of life to the child.

It is hoped that this book will aid the teaching community on how to guide the students to seek their hidden talents and how to cultivate a well nurtured talent into greater skills. The co-operation between teachers and students may be enhanced in the process of many practical activities.

There are many areas of assessment in the two internally assessed subjects but each student is expected to select only one activity from the different areas in each period of assessment. The teacher may include other activities according to special abilities needs of the students that can be cultivated further.

In the areas of Work & Art Education, Physical & Health Education, children can be assessed for their development on the basis of their participation, interest and level of involvement. The extent to which their abilities and skills have been honed will indicate the development, which can help teachers to assess their growth in these areas.

WORK & ART EDUCATION

The syllabus of 100 marks shall be internally assessed continuously and comprehensively by the institutions.

Areas of assessment:

A. Work Education

- i) Gardening
- ii) Community Service
- iii) Disaster Management
- iv) Craft
- v) Plantation/Environmental activities

B. Art Education

- i) Drawing/Painting
- ii) Music
- iii) Dance
- iv) Drama
- v) Vocal
- vi) Artistic embroidery

Criteria of assessment:

- A wareness of activity
- Conceptual understanding
- Regularity
- Punctuality
- Discipline
- Initiative
- Conceptual correctness

Norms of assessment:

For each period of assessment every student shall have to select one activity each from A & B to be assessed.

Through Work & Art Education, it is expected that the students learn values and acquire the right attitude towards self, family and society, etc.

Sense of patriotism, protection of public properties are also to be inculcated through Work & Art Education.

PHYSICAL & HEALTH EDUCATION

The syllabus of 100 marks shall be internally assessed continuously and comprehensively by the institutions.

Areas of assessment:

A. Physical Education

- i) Games & Sports
- ii) Scouting/Guiding/NCC
- iii) Adventure

B. Health Education

- i) First Aid
- ii) Adolescence Education
- iii) Personal health

Criteria of assessment:

- Awareness of activity
- Conceptual understanding
- Active participation
- Discipline
- Cleanliness
- Achievement

It is expected that every student is made aware of diseases such as AIDS, STDs, other infectious diseases and the physical and mental development in an adolescent.