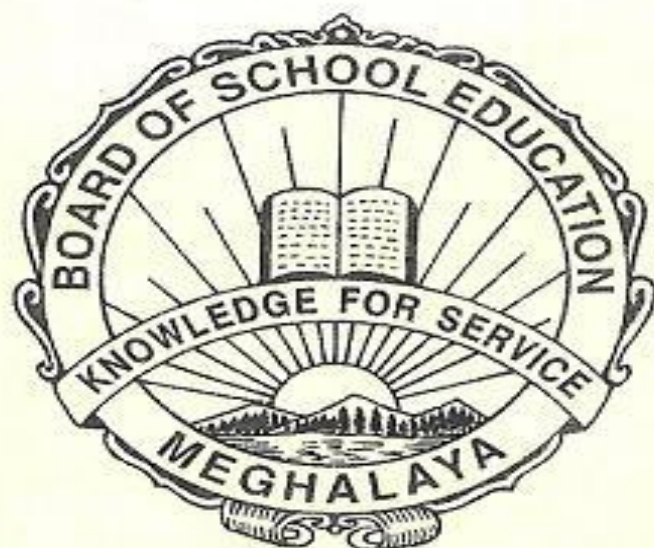


MEGHALAYA BOARD OF SCHOOL EDUCATION

H. Q. :- TURA



COURSES OF STUDIES CLASS :- IX

2008

ENGLISH

DISTRIBUTION OF MARKS

1.	Prose	-	35
2.	Poetry	-	20
3.	Rapid Reader	-	15
4.	Grammar & Composition	-	20
5.	Essay	-	10
Total Marks			- 100

I. PROSE

Pieces to be read :

1. The Sound of Music
2. The Little Girl
3. The Last Song for Angela
4. Letters from a Father to his Daughter
5. A Truly Beautiful Mind
6. My Childhood

II. POETRY

Pieces to be read :

1. The Road Not Taken
2. On Killing a Tree
3. A Slumber Did My Spirit Seal
4. The Duck and the Kangaroo
5. Wind

Book Recommended for Prose & Poetry :

Meghalaya English Reader 9
Published by Oxford University Press,
Danish Road, Pan Bazar, Guwahati - 781001.

III. RAPID READER

- a) **Kidnapped** - by Robert Louis Stevenson
- M/S Macmillan India Ltd., S. C. Goswami Road, Pan Bazar, Guwahati - 781001.

OR

- Tom Brown's School Days** - by Thomas Hughes
- M/S Macmillan India Ltd., S. C. Goswami Road, Pan Bazar, Guwahati - 781001.

IV. GRAMMAR & COMPOSITION

Textbook Recommended : **Holy Faith Essential English Grammar & Composition**
by J. T. Peechaatt

- Published by Holy Faith International (P) Ltd.,
Hem Baruah Road, Pan Bazar, Guwahati - 781001.

OR

Scholar's Senior English Grammar & Composition
- Published by Scholar Publishing House Pvt. Ltd.,
85, Model Basti, New Delhi - 110005.

Contents :

1.
 - i) Sequence of tenses
 - ii) Reported Speech
 - iii) More Modal auxiliaries
 - iv) Conditional Clauses
 - v) Punctuation
 - vi) Type of Sentences and easy transformation
 - vii) Question Tags
2. Unseen passages of diverse interest and appropriate level for comprehension and vocabulary learning and for practice through a variety of questions.
3.
 - i) Description of an event or incident/composition of arguments and persuasion.
 - ii) Writing of Official Letters, Letters of Enquiry, Complaint and asking information, placing order of goods or book, etc..

ADDITIONAL ENGLISH

DISTRIBUTION OF MARKS

1.	Prose	-	25 marks
2.	Poetry	-	20 marks
3.	Plays	-	15 marks
4.	Composition	-	30 marks
5.	Essay	-	10 marks
Total			100 marks

1. **PROSE** - **Book recommended : A Miscellany of Short Stories**
- Published by Inter University Press Pvt. Ltd., Educational Publishers,
30/7, Shakti Nagar, New Delhi - 110007.

Pieces To Be Read :

1.	The Liar	-	Mulk Raj Anand
2.	The Night Bed Fell	-	James Thurber
3.	Jenny	-	Victor Hugo
4.	The Umbrella Man	-	Ronald Dahl
5.	Self-made Man	-	Stephen Leacock

2. **POETRY** - **Book recommended : Wings of Poesy**
- Published by M/S Evergreen Publications, 4779/23, Ansari Road, Darya Ganj,
New Delhi - 110002.

Pieces To Be Read :

1.	Our Casuarina Tree	-	Toru Dutt
2.	From Auguries of Innocence	-	William Blake
3.	Strange Meeting	-	Wilfred Owen
4.	The Forsaken Merman	-	Mathew Arnold
5.	A Satirical Elegy on the Death of a Late Famous General	-	Jonathan Swift

3. **PLAYS** - **Book recommended : Three Shakespeare Tragedies - (Macmillan)**
Recommended Play : Romeo and Juliet - Shakespeare

4. **COMPOSITION -**
Book recommended : **High School English Grammar & Composition**
by Wren & Martin (S. Chand & Co. Ltd.)
- | | |
|----|-----------------------|
| 1. | One Word Substitution |
| 2. | Amplification |
| 3. | Substance Writing |
| 4. | Paraphrasing |
| 5. | Advertisement |
| 6. | Picture Composition |

ASSAMESE (M.I.L)

DISTRIBUTION OF MARKS

Unit 1	Prose	-	20 marks
Unit 2	Poetry	-	15 marks
Unit 3	Rapid Reader	-	15 marks
Unit 4	Grammar	-	20 marks
Unit 5	Composition	-	20 marks
Unit 6	Essay	-	10 marks
Total			100 marks

Unit 1 Prose

Pieces To Be Read :

1. Atmajiban Charit - Hemchandra Barua
2. Puthi adhyan - Satya Nath Bora
3. Mahatma Gandhir Balya - Amiya Kumar Das
Kalar Ghatana.

Unit 2 Poetry

Pieces To Be Read :

1. Sishu Lila - Sankardev
2. Manav Bandana - Chandra Kumar Agarwal
3. Moi Assomiya - Sayed Abdul Malika.

Book recommended for Prose and Poetry :

Madhyamik Assomiya Sahitya Chayanika for Class IX and X
- Published by Assam Textbook Production & Publication Corporation,
Guwahati - 781001.

Unit 3 Rapid Reader - (1st ten chapter of the book)

Book recommended for Rapid Reader :

Mur Saisab, Mur Kaisor by Bhubendra Nath Saikia.

Unit 4 Grammar

Pieces To Be Read :

1. Sandhi
2. Karok
3. Nattwa Bidhi, Sattwa Bidhi
4. Pad Prakaran.
5. Nam Dhatu
6. Samasa - (a) Danda Samasa (b) Tatpurus Samasa
(c) Karmadharay Samasa.

Books recommended for Grammar :

- (i) Assamiya Bhasar Vyakaran by Giridhar Sarma.
- (ii) Bhahal Vyakaran by Satya Nath Bora

Unit 5 Composition

Pieces To Be Read :

1. Make Sentences
2. Opposite words
3. One words for a groups of words
4. Similar words, having different meanings
5. Amplification
6. Letter writing.

Books recommended for Composition :

- | | | |
|--------------------------------|---|--------------------------------|
| (i) Rachana Bishitra | - | Dharma Sinha Deka. |
| (ii) Prabashika Rachana Shiksa | - | Giridhar Sarma. |
| (iii) Assamiya Rachana Shiksa | - | Dr Lila Gogie, Dr Nabin Sarma. |

Unit 6 Essay Writing

Pieces To Be Read :

1. Adarsha Mulak
2. Bhraman Mulak
3. Jibani Mulak
4. Barnana Mulak

BENGALI (MIL)

DISTRIBUTION OF MARKS

Unit 1	Grammar	-	25 marks
Unit 2	Composition	-	25 marks
Unit 3	Prose	-	20 marks
Unit 4	Poetry	-	15 marks
Unit 5	Rapid Reader	-	15 marks
Total			100 marks

Unit 1 Grammar

Pieces To Be Read:

Definition And Examples:

Otsomo Sobdo - Ordhototsomo - Totbhobo
Sobdo - Deshi Sobdo - Bideshi Sobdo
Oponsorgo - Anusorgo
Totpurush Somas - Kormodharoy Somas
Use of Phrases
Substitute in one word

Unit 2 Composition

Pieces To Be Read:

Comprehension
Expansion Of Idioms
Paragraph Writing or Picture Composition

Reference Book - 'Bani Bichitra' by Piyush Dey
or
'Adhunik Bangla Byakaran' by Jogodish Ghosh

Unit 3 Prose

Pieces To Be Read:

1. Cyclone - Sarat Chandra Chattopadhyaya
2. Classfriend - Satyajit Roy
3. Onno Chai - Bijon Bhattacharya

Unit 4 Poetry

Pieces To Be Read:

1. Gurudakshina - Kashiram Das
2. Bharat Tirtha - Rabindranath Thakur
3. Ami Kobi Joto Kamarer - Premendra Mitra

Reference Book for Prose & Poetry:

- 'Madhyamik Bangla Sahitya Chayanika'
- Published by Assam Rajyik Pathya Pushtak Pronoyom
Ebong Prokashan Nigam Ltd., Guwahati.

Unit 5 Rapid Reader

Pieces To Be Read: Chapter 2 - 20

Reference Book:

- **Mayamoy Meghalaya by Shanku Maharaj Part I (Khasi Hills)**

GARO (MIL)

DISTRIBUTION OF MARKS

Prose	-	35 marks
Poetry	-	20 marks
Rapid Reader	-	15 marks
Grammar & Composition	-	20 marks
Essay Writing	-	10 marks
Total	-	100 marks

I. Prose

Pieces to be read :

1. Sonaram R. Sangma
- Dr. Milton S. Sangma
2. Ta-sek Wari
- John P. Marak
3. Pa Lindrid D. Shirani Janggi Tangani
- Venibabe N. Sangma
4. A-chikrangni Kal-susaanirang
- Tharsush K. Sangma
5. A-chikrangni Ganding Chinding Aro Gipin Patanirang
- Llewellyn R. Marak

II. Poetry

Pieces to be read :

1. A-chik A-song
- Harendra W. Marak
2. Ku-tangchi
- Barendra S. Bangshall
3. Wachimiting
- Kosan G. Momin
4. O! Nitoa
- Sengjrang N. Sangma
5. Somoi Aro Kam
- Bemfield K. Sangma

Textbook Prescribed for Prose & Poetry:

Poraiani Ki-tap IX

Published by M/S Cambridge India Educational Publishers,
Regd. Office, F 46 Dakshinapan, 2 Gariahat Road (South),
Kolkata - 700068.

- III. **Rapid Reader:** **Mandalgreni Sanja Manda Sangma by Bentinck M. Sangma**
- Published by Tura Book Room,
Tura, Meghalaya.

IV. **Grammar & Composition:**

Pieces To Be Read :

Sentence aro uni Bakrang

- a) Sentence
- b) Subject aro Predicate
- c) Noun, Pronoun, Verb
- d) Subject Noun, Predicate Verb aro Object
- e) Talatgipa Kattarang - Adjective, Adverb
- f) Preposition, Conjunction aro Interjection
- g) Sentenceni Ma:arang

Bak - III

Kattarang (Ma:arang aro Bimungrang)

- a) Kattarangni Ma:arang
- b) Noun : Ma:arang, Person, Number, Gender aro Case
- c) Sentenceo Caserangni Kam
- d) Pronoun - Ma:arang, Person, Number, Gender aro Case

Bak IV

Punctuation aro Punctuation Ka:ani Niamrang

Textbook Prescribed :

- i) **A:chik Grammar by E. G. Phillips**
- Published by Tura Book Room,
Tura, Meghalaya.
- ii) **A:chik Composition and Essay by K. M. Momin,**
- Published by Tura Book Room.

V. **Essay Writing**

HINDI (MIL)

DISTRIBUTION OF MARKS

Prose	-	30 marks
Poetry	-	20 marks
Rapid Reader	-	15 marks
Grammar	-	18 marks
Composition		
(a) Essay	-	8 marks
(b) Letter Writing	-	4 marks
(c) Sar Lekhan	-	5 marks
Total	-	100 marks

I. Prose

Pieces To Be Read :

1. Ek Hi Uttar by Kavita Sharma
2. Nehru Jee Ki Vasiyat by Jawaharlal Nehru
3. Ek Kahani Ek Satya by Swami Satyanand Saraswati
4. Chandra Shekhar Azad by Banarasi Das Chaturvedi
5. Desh Ki Suraksha by Jai Narayan Kaushik
6. Hum Aur Hamare Paryavaran by Arun Pathak

II. Poetry

Pieces To Be Read :

1. Desh Geet by Sreedhar Pathak
2. Paudhon Ki Piriyan by Harivansh Rai Bachan
3. Vijaita Kaun? by Ramdhari Singh Dinkar
4. Phir Mahan Ban by Naredra Sharma
5. Seekh Bhare Dohe Abdur Rahim Khan-i-Khana

Textbook Prescribed for Prose & Poetry : Alok Bharti bhag - 7

- Published by M/S Pitambar Publishing Co. Ltd.,
888 East Park Road, Karol Bagh, New Delhi - 110005.

III. Rapid Reader - Sanchayan Part - I (NCERT)

IV. Grammar & Composition

Pieces To Be Read :

1. Vyakaran Khand
2. Rachna Khand

Textbook Prescribed :

Bhasha Vyakaran IX & X

- Published by Neeta Prakashan Children's Book House,
A-4 Ring Road, South Extension - 1, New Delhi - 110049.

KHASI (MIL)

DISTRIBUTION OF MARKS

		Total marks - 100	
		Pass marks - 30	
1.	Poetry	-	20
2.	Prose	-	35
3.	Rapid Reader	-	15
4.	Grammar & Composition	-	20
5.	Essay	-	10
Total marks			- 100

1. Mother Tongue

A. Khasi Textbook

(i) Poetry Section

(a) Ha ki ksai ka Duitara by Webster D. Jyrwa

Chapters : Rympei ba rhem i mei; Arngut shi para; Kyndit jingmut; Ba ngan da long kum u ding

(ii) Prose Section

(a) Ki Dienjat Jong ki Longshwa by J. Bacchiarello

Chapters : Ka riam shad Khasi; Kaba ri burom ialade; Ka mei ramew bad ki laiphew jingthaw

(b) Ki Parom Barim U Khun Khasi Khara by Maurice G. Lyngdoh

Chapters : Ka jingbam kynnoh ka sngi; Ka sohlyngjem; U sier lapalang

(c) Ki Phawer U Aesop by Soso Tham

Chapters : Chapter 11 to 20

(iii) Rapid Reader

(a) Ki Dienjat Ha U Shyiap by Hughlet Warjri

Chapters : U dieng phasi; Sa shisien pat kin win ki khlaw; ka nongsain pyrthei lapdeng ki kynthei

B. Grammar & Composition

(i) Ka Grammar by H. W. Sten

Chapters : Ka Noun

(ii) Ki Dienjat Jong ki Longshwa by J. Bacchiarello

Chapters : Idioms & Phrases : Chapter 6 & 40 - Kiktien tymmen

Chapter 15 & 30 : Ka jingbatai ktien

(iii) Essay : Unseen

MIZO (MIL)

DISTRIBUTION OF MARKS

Unit I	Hla (Poetry)	- 30 marks
Unit II	Thu (Prose)	- 30 marks
Unit III	Rapid Reader	- 20 marks
Unit IV	Grammar & Composition	- 20 marks
Total		- 100 marks

PRESCRIBED TEXTBOOKS :

- | | | |
|--|---|------------------|
| 1) Mizo (Class IX Zirlai) | } | MBSE Publication |
| 2) Mizo Grammar & Composition | | |
| 3) Kristian Vanram Kawng Zawh Thu - Chuatera Translation | | |
| 4) Mizo Bible (1982 Edition) | | |

PIECES TO BE READ :

- Unit I : Hla (Poetry)**
- i) Aia upa te zah thiamin - Liandala
 - ii) Lam ang ka lo let leh ta e - F.Rokima
 - iii) Rawlthar tang fan fan - Lalsangzuali Sailo
 - iv) Sekibuhchhuak - Zirsangzela Hnamte
 - v) Damlai luipui dung leh vang fang mah ila - Patea
- Unit II: Thu (Prose)**
- i) Tirhkohte Thiltih (16 - 28)
 - ii) Beiseina - P.L.Liandinga
 - iii) Kan incheina - Rev. Z.T.Sangkuma
 - iv) Lungawina - James Dokhuma
 - v) Ze nghet - Lalzuia Colney
- Unit III : Rapid Reader**
- Kristian Vanram Kawng Zawh Thu (9-18) - Chuatera (Translation)
- Unit IV : Grammar & Composition**
- i) Noun
 - ii) Pronoun
 - iii) Thumal danglam theih dan (Modification of Words)
 - iv) Paragraph then dan
 - v) Essay ziak dan

NEPALI (MIL)

DISTRIBUTION OF MARKS

Unit 1 Prose	-	35 marks
Unit 2 Poetry	-	20 marks
Unit 3 Rapid Reader	-	15 marks
Unit 4 Grammar & Composition	-	30 marks
Total	-	100 marks

Unit 1 Prose

Pieces To Be Read :

1. Saya Rupiyan Ko Note
2. Upahaar
3. Gainey
4. Bhavishya Nirmaan
5. Tal-Tal
6. Chakhlagdo Hunu Kasari
7. Nisha
8. Gandhi
9. Kartavya

Unit 2 Poetry

Pieces To Be Read :

1. Bhaktamala
2. Timi Ujyalo Parkhirahu
3. Mrityu Kamna Kehi Mera
4. Uttam Gosthi
5. Shishir-Basanta: Banbhari-Manbhari
6. ShradhhanJali

Textbook Prescribed for Prose & Poetry :

- Uccha Madhyamik Nepali Sahitya
Published by Textbook Committee (Nepali)

Unit 3 Rapid Reader

Textbook Prescribed : 'Mani' by Subhash, Darjeeling

Unit 4 Grammar & Composition

Pieces To Be Read :

Part I Descriptive Grammar

1. Essay Writing (Nibandha Lekhan)
2. Letter Writing (Patra Lekhan)
3. Paragraph Writing (Anuchhed Lekhan)
4. Comprehension (Bodh Pranali)
5. Amplification (Vistritikaran)
6. Precis Writing (Saransa Lekhan or Sanchhepikaran)

Part II Objective Grammar

1. Linga, Sangya, Sarvanam, Sandhi.
2. Visheshan, Kriya, Kaal, Dhatu Ra Pratyay, Vachya.
3. Ukhan, Tukka Ra Vakyansha.
4. Viparitarthak Shabda, Sammocharit Shabda, Prayayvachi Shabda, Sar Shabda (one word for many), Chinha Prayog (Punctuation)

Textbook Prescribed for Grammar & Composition :

1. **Madhyamik Nepali Vyakaran Ra Rachana Written & Compiled By the Expert Academicians & Published By Shri Raaj Prakashan, Darjeeling**
'OR'
2. **Vyakaran Saurabh (Chautho Bhaag) (PART – IV)**
Written By:- Vishnu Sharma Adhikari
Published By:- Puspa Prakashan, Siliguri.

URDU

DISTRIBUTION OF MARKS

1.	Prose	-	25 marks
2.	Poetry	-	20 marks
3.	Grammar	-	15 marks
4.	Composition		
	(a) Essay	-	10 marks
	(b) Letter/Application/ Pragraph Writing	-	10 marks
	(c) Substance Writing	-	10 marks
5.	Project Work	-	10 marks
Total		-	100 marks

I. Prose
Textbook Prescribed- Naway Urdu for Class IX by NCERT.

Pieces to be read :

1. Guzra Hua Zamana - Sir Syed Ahmed Khan.
2. Haj-E-Akbar - Munshi Premchand.
3. Magar Woh Tut Gai - Saleha Aabid Hussian.
4. Dehat Ki Zindagi - Abdul Halim Sharar.
5. Jeene ka Saliqa - Khuwaja gulam-Us-Sayadeen.
6. Information Technology - Adara

II. Poetry
Textbook Prescribed- Naway Urdu for Class IX by NCERT.

Pieces to be read :

1. Muflasi Sab Bahar Khoti Hai - Wali Mohammad Wali
2. Ashk Aankhon Mein Kab Nahin Aata - Mir Taqui Mir.
3. Dard Mannat Kish Dawa Na Hua - Mirza Ghalib.
4. Hum Hein Mataye Koocha-O-Bazar - Majrooh sultan Puri.
5. Taalim Se Be Tawajahi Ka Nateeja - Altaf Hassain Haali.
6. Ek Arzoo - Mohammad Iqbal.
7. Dawat-e-Inqalab - Wahiduddin Salim
8. Arzoo, Shab-e-pur Bahar - Akhtar Ansari.
9. Dastan Shahzade ke Gayeb Hone Ki - Mir Hasan.

III. Grammar & Composition
Textbook Prescribed- Urdu Grammar Book by NCERT

Pieces to be read :

1. Reading /Recitation
2. Words vocabulary

3. Objective type questions from each lesson. (Refer Text book)
(Fill in the blanks/True and False Statement/choose the correct answer/Matching the column)
 4. Paragraph writing on selected topics such as computer, madri jaban urdu, Hamdardi, Baron ka Ehtaram, Majhab-E-Islam
 5. Kind of Nazm
 6. Substance writing
 7. Grammar and compositions
 - (i) Huroof and kinds of huroof
 - (ii) Zamana ki kismein
 - (iii) Synonyms (Muta radif Alfaz)
 - (iv) Antonyms (Mutazad Alfaz)
 - (v) Opposite numbers and genders
 - (vi) Idioms and phrases
 - (vii) Ism Zarf
 - (viii) Letter writing/Application writing/Essay writing
- IV. Project Work (Any two of the following topics may be selected)**
- (i) Tourism and tourists spots in our state
 - (ii) Natural Disaster
 - (iii) Biography of some prominent Urdu writer and poet
 - (iv) Air and water pollution

MATHEMATICS

UNIT I : NUMBER SYSTEMS

1. Real Numbers

Review of representation of natural numbers, integers, rational numbers on the number line. Representation of terminating/non-terminating recurring decimals, on the number line through successive magnification. Rational numbers as recurring/terminating decimals. Examples of non-recurring/non-terminating decimals such as $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, etc. Existence of non-rational numbers (irrational numbers) such as $\sqrt{2}$, $\sqrt{3}$ and their representation on the number line, and conversely every point on the number line represents a unique real number.

Existence of \sqrt{x} for a given positive real number x (visual proof to be emphasised). Definition of n^{th} root of a real number. Recall of laws of exponents with integral powers. Rational exponents with positive real bases (to be done by particular cases, allowing learner to arrive at the general laws). Rationalization (with precise meaning) of real numbers of the type (and their combinations)

$\frac{1}{a + b\sqrt{x}}$ and $\frac{1}{\sqrt{x} + \sqrt{y}}$ where x and y are natural numbers and a, b are integers.

UNIT II : ALGEBRA

1. Polynomials

Definition of a polynomial in one variable, its coefficients, with examples and counter examples, its terms, zero polynomial. Degree of a polynomial; constant, linear, quadratic, cubic polynomials; monomials, binomials, trinomials. Factors and multiples. Zeros/roots of a polynomial/equation. State and motivate the Remainder Theorem with examples and analogy to integers. Statement and proof of the Factor Theorem. Factorization of $ax^2 + bx + c$, $a \neq 0$ where a, b, c are real numbers and of cubic polynomials using the Factor Theorem.

Recall of algebraic expressions and identities. Further identities of the type $(x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$; $(x \pm y)^3 = x^3 \pm y^3 \pm 3xy(x \pm y)$, $x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$ and their use in factorization of polynomials. Simple expressions reducible to these polynomials.

2. Linear Equations In Two Variables

Recall of linear equations in one variable. Introduction to 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

1. Coordinate Geometry

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

1. 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/postulates and theorems. The five postulates of Euclid. Equivalent versions of the fifth postulate. Showing the relationship between axiom and theorem.

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

2. Lines And Angles

- i) (Motivate) If a ray stands on a line, then the sum of the two adjacent angles so formed is 180° and the converse.
- ii) (Prove) If two lines intersect, the vertically opposite angles are equal.
- iii) (Motivate) Results on corresponding angles, alternate angles, interior angles when a transversal intersects two parallel lines.
- iv) (Motivate) Lines, which are parallel to a given line, are parallel.
- v) (Prove) The sum of the angles of a triangle is 180° .
- vi) (Motivate) If a side of a triangle is produced, the exterior angle so formed is equal to the sum of the two interiors opposite angles.

3. Triangles

- i) (Motivate) Two triangles are congruent if any two sides and the included angle of one triangle is equal to any two sides and the included angle of the other triangle (SAS Congruence).
- ii) (Prove) Two triangles are congruent if any two angles and the included side of one triangle is equal to any two angles and the included side of the other triangle (ASA Congruence).
- iii) (Motivate) Two triangles are congruent if the three sides of one triangle are equal to three sides of the other triangle (SSS Congruence).
- iv) (Motivate) Two right triangles are congruent if the hypotenuse and a side of one triangle are equal (respectively) to the hypotenuse and a side of the other triangle.
- v) (Prove) The angles opposite to equal sides of a triangle are equal.
- vi) (Motivate) The sides opposite to equal angles of a triangle are equal.
- vii) (Motivate) Triangle inequalities and relation between 'angle and facing side' inequalities in triangles.

4. Quadrilaterals

- i) (Prove) The diagonal divides a parallelogram into two congruent triangles.
- ii) (Motivate) In a parallelogram, opposite sides are equal and conversely.
- iii) (Motivate) In a parallelogram, opposite angles are equal and conversely.
- iv) (Motivate) A quadrilateral is a parallelogram if a pair of its opposite sides is parallel and equal.
- v) (Motivate) In a parallelogram, the diagonals bisect each other and conversely.
- vi) (Motivate) In a triangle, the line segment joining the mid points of any two sides is parallel to the third side and (motivate) its converse.

5. Area

Review concepts of area. Recall area of a triangle.

- i) (Prove) Parallelograms on the same base and between the same parallels have the same area.
- ii) (Motivate) Triangles on the same base and between the same parallels are equal in area and its converse.

6. Circles

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

- i) (Prove) Equal chords of a circle subtend equal angles at the centre and (motivate) its converse.
- ii) (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.
- iii) (Motivate) There is one and only one circle passing through three given non-collinear points.
- iv) (Motivate) Equal chords of a circle (or of congruent circles) are equidistant from the centre and conversely.
- v) (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 the circle.
- vi) (Motivate) Angles in the same segment of a circle are equal.
- vii) (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.
- viii) (Motivate) The sum of either pair of opposite angles of a cyclic quadrilateral is 180° and its converse.

7. Constructions

- i) Construction of bisectors of line segments. Construction of angles of 60° , 90° , 45° angles etc, equilateral triangles.
- ii) Construction of a triangle given its base, sum/difference of the other two sides and one base angle.
- iii) Construction of a triangle with a given perimeter and base angles.

UNIT V : MENSURATION

1. Areas

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

2. Surface Areas And Volumes

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

UNIT VI : STATISTICS & PROBABILITY

1. Statistics

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

2. Probability

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).

APPENDIX

1. PROOFS IN MATHEMATICS

What a statement is; when is a statement mathematically valid. Explanation of axiom/postulate through familiar examples. Difference between axiom, conjecture and theorem. The concept and nature of a 'proof' (emphasize deductive nature of the proof, the assumptions, the hypothesis, the logical argument) and writing a proof. Illustrate deductive proof with complete arguments using simple results from arithmetic, algebra and geometry (e.g., product of two odd numbers is odd, etc.). Particular stress on verification and not being proof. Illustrate with a few examples of verifications leading to wrong conclusions – including statements like "every odd number greater than 1 is a prime number". What disproving means, use of counter examples.

2. INTRODUCTION TO MATHEMATICAL MODELLING

The concept of mathematical modeling. Review of work done in earlier classes while looking at situational problems, aims of Mathematical Modelling, discussing the broad stages of modelling – real life situations, setting up of hypothesis, determining an analysing the conclusions and their real – life interpretation, validating the model. Examples to be drawn from ratio, proportion, percentage, etc.

Textbook Prescribed -

Core Mathematics For Class 9

- Published by Goyal Brothers Prakashan,

11/1903, Chuna Mandi, Pahar Ganj, New Delhi - 110055.

SCIENCE

(THEORY)

PHYSICS

Unit 1 - Motion

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

Unit 2 - Force

Force and motion, Newton's laws of motion, inertia of a body, inertia and mass, momentum, force and acceleration. Elementary idea of conservation of momentum, action and reaction forces.

Unit 3 - Gravitation

Gravitation : Universal law of gravitation, force of gravitation of the earth (gravity), acceleration due to gravity, mass and weight, free fall, thrust and pressure, Archimedes Principle, Buoyancy, Elementary idea of relative density.

Unit 4 - Work And Energy

Work done by a force, energy, power, kinetic and potential energy, law of conservation of energy.

Unit 5 - Sound

Nature of sound and its propagation in various media, speed of sound, range of hearing in humans, ultrasound, reflection of sound, echo and sonar, structure of the human ear (auditory aspect only).

CHEMISTRY

Unit 1 - Matter In Our Surrounding

Matter - Definition, classification of matter, different states of matter and their characteristics (shape, volume, density) change of state melting, freezing, evaporation, condensation, sublimation, absorption of heat.

Unit 2 - Is Matter Around Us Pure?

Elements, compounds and mixture. Heterogeneous and homogeneous mixtures. Colloids and suspensions. Solution, separating components of a mixture, physical and chemical changes, Equivalence - that X grams of A is chemically not equal to X grams of B.

Unit 3 - Atoms And Molecules

Atoms and molecules, Laws of chemical combination, Atoms and atomic theory of matter, Atomic and molecular masses, Mole concept, Relationship of mole to mass of the particles and numbers valency, chemical formulae of common compounds.

Unit 4 - Structure Of Atom

Structure of atom, Rutherford's experiment, Electrons, Protons, Neutrons, valence electrons and valency, Isotopes and Isobars, Atomic number and mass number.

BIOLOGY

Unit 1 - Cell

Cell as a basic unit of life, basic idea of cell division, Prokaryotic and Eukaryotic cells, multicellular organisms, cell membrane and cell wall, cell organelles - chloroplast, mitochondria, vacuoles, ER, Golgi apparatus, nucleus, Chromosomes - basic structure, number; diffusion/exchange of substances between cells and their environment and between the cells themselves in the living system, role in nutrition, water and food, transport, excretion, gaseous exchange.

Unit 2 - Tissues

Tissues, organs, organs systems, organisms, structure and functions of animal and plant tissues (four types in animals, meristematic and permanent tissues in plants)

Unit 3 - Diversity In Living Organisms

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

Unit 4 - Why Do We Fall Ill?

Health and its failure, disease and its causes, diseases caused by microbes and their prevention - typhoid, diarrhoea, malaria, hepatitis, rabies, AIDS, TB, polio, pulse polio programme.

Unit 5 - Natural Resources

Physical resources - Air, water, soil; air - for respiration, for combustion, for moderating temperatures. Movements of air and its role in bringing rains across India. Air, water and soil pollution (brief introduction). Holes in ozone layer and the probable damages. Bio-geochemical cycle in nature - water, oxygen, carbon and nitrogen cycle.

Unit 6 - Improvement In Food Resources

Plant and animal breeding and selection for quality improvement, use of fertilizers, manures; protection from pests and diseases; organic farming.

Textbook Prescribed :

Science & Technology Class 9
- Published by Ratna Sagar Pvt. Ltd.,
60, Dr. Sundari Mohan Avenue,
Kolkata - 700014.

(PRACTICAL)

Every student will perform atleast fifteen experiments (atleast five experiments from each unit) during the academic year.

PHYSICS

1. To determine the density of a solid (denser than water) by using a spring balance and measuring cylinder.
2. To study the variation in time period of a simple pendulum with length and to plot L - T graph.
3. To determine the value of acceleration due to gravity by simple pendulum.
4. To verify Archimede's principle.

5. To determine the boiling point of water and melting point of solid (eg. Ice, Urea).
6. To measure the temperature of hot water as it cools and plot a time-temperature graph.
7. To determine the velocity of a pulse propagated through a stretched string/slinky.

BIOLOGY

1. To study the main parts of compound microscope.
2. To make a temporary stained mount of onion peel under a microscope.
3. To study major groups of plants (Thallophyta, Bryophyta, pteridophyta, Gymnosperms and Angiosperms) and their salient features.
4. Study of major groups of animals (non-chordates and chordates) and their salient features.
5. To study the life cycle of mosquito.
6. Collection of newspaper articles regarding health information.

CHEMISTRY

1. To prepare a solution of common salt/sugar of a given percentage composition by mass.
2. 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.
3. To differentiate between a mixture (containing two components) and pure compounds.
4. To carry out the following chemical reactions and record the observation
 - (i) Iron nail with copper sulphate solution in water.
 - (ii) Zinc with sulphuric acid.
 - (iii) sodium sulphate with Barium Chloride in the form of their aqueous solutions.
5. To distinguish between saturated and un-saturated organic compounds.
6. To prepare carbon dioxide gas and study its properties.
7. To study the sublimation of iodine or camphor or NH₄Cl or Naphthalene.
8. To study the interconversion of three different states of water and to show that they are the three states of the same substance.
9. To separate the constituents of mixture of two substances (anyone):
 - (i) Iron and sand
 - (ii) Iodine and sand
 - (iii) Sand and salt or sugar
 - (iv) Salt and water
 - (v) Sugar and water
10. To prepare one homogeneous and one heterogeneous mixture (preferably one liquid) and distinguish them on the basis of atleast one common property of such solution like
 - (i) Colour
 - (ii) Filtration
 - (iii) Settling or
 - (iv) Any other

Textbook Prescribed :

Tushar's Laboratory Manual

- Published by Tushar Publications Pvt. Ltd.,
C-21, Jhandewalan F. F. Complex, Rani Jhansi Road,
New Delhi - 110055.

SOCIAL STUDIES

TOPICS TO BE READ

SECTION I : HISTORY

UNIT I : EVENTS AND PROCESSES

1. The French Revolution
2. Socialism In Europe And The Russian Revolution

UNIT II : LIVELIHOODS, ECONOMIES AND SOCIETIES

3. Forest, Societies And Colonialism
4. Peasants And Farmers

UNIT III : FREEDOM FIGHTERS OF MEGHALAYA

5. Freedom Fighters Of Meghalaya

SECTION II : CIVICS

1. Democracy In The Contemporary World
2. Democracy In India
3. Electoral Politics In India
4. Institutions Of Parliamentary Democracy
5. Citizens Rights In Democracy
6. Women And Child Welfare

SECTION III : ECONOMICS

1. The Story Of A Village Called Palampur
2. People As Resource
3. Poverty As A Challenge
4. Food Security In India

SECTION IV : GEOGRAPHY

1. Major Relief Features Of The Earth
2. Tides And Ocean Currents
3. India - Size And Location
4. Physical Features Of India
5. Climate
6. Natural Vegetation And Wildlife
7. Drainage
- Disaster Management**
8. Natural Disasters
9. Man-Made Disasters

Textbook Recommended/Prescribed :

A Textbook of Social Studies 9
- Published by Sunflower Publishers Pvt. Ltd.,
542/16, Joshi Road, Karol Bagh, New Delhi - 110005.

HEALTH EDUCATION

Marks : 80

Units to be read

- Unit I Health Hazards of Modern Age**
1. Health Hazards of Modern Age
- Unit II Growth and Development**
1. Nature and General Principles of Growth and Development
2. Characteristics of Boys and Girls during Adolescence
- Unit III Food and Nutrition**
1. Factors Affecting Nutritional Status of an Individual
2. Nutritional Status
3. Balanced Diet for Adolescent Boys and Girls
4. Malnutrition and its Effects
- Unit IV Communicable Diseases**
1. General Knowledge About Communicable Diseases and Diseases Spread Through Air
2. Diseases Spread Through Water and Food
3. Diseases Spread Through Insects and Animals
4. Diseases Spread by Close Contacts and (spread) by Soil
- Unit V Safety**
1. Safety
2. First Aid
3. Care of the Sick at Home

Book Prescribed : **Health - Class IX**
 A Textbook for Secondary Schools (Meghalaya Edition)
 - Published by Frank Brothers & Co. (Publishers) Ltd.,
 4675-A, 21 Ansari Road, Daryaganj, New Delhi - 110002.

COMPUTER SCIENCE

- Existing Syllabus to be followed

Name of the Book - **Computer Science & Applications for Class IX**
- Published by M/S Evergreen Publications,
4779/23 Ansari Road, Darya Ganj, New Delhi - 110002.

ENVIRONMENTAL EDUCATION

- Existing Syllabus to be followed

Name of the Book - **Frank Environmental Education IX**
- Published by Frank Brothers & Co. Ltd.,
4675-A, Ansari Road, 21 Daryaganj,
New Delhi - 110002.

CREATIVE EXPRESSION

Name of the Book - **Learning Visual Language 7**
- Published by Tulip Publications Pvt. Ltd.,
C-21, Jhandewalan F. F. Complex, Rani Jhansi Road,
New Delhi - 110005.

- Whole Book.

SOCIALLY USEFUL PRODUCTIVE WORK/WORK EXPERIENCE

Name of the Book - **A Textbook of SUPW Vol. I**
- Published by Pitambar Publishing Co. (P) Ltd.,
East Park Road, Karol Bagh,
New Delhi - 110005.

- Whole Book.

MEGHALAYA BOARD OF SCHOOL EDUCATION

H.Q. :- TURA



COURSES OF STUDIES CLASS :- X

2008



NOTIFICATION NO. 211

Dated Tura, the 26th May, 2008.

In continuation of our Notification No. 208 dated 15th Feb, 2008, it is hereby notified for information to all concerned that there are slight modifications in the syllabus of the following subjects for Class X.

- i) Science & Technology - Deletion of EE Units
- ii) Mathematics - Unit III: 2 *Deletion of Some Exercises*
- iii) English & Garo Grammar
- iv) Urdu Syllabus


(B. W. Momin),

Chief Academic Officer,

Meghalaya Board of School Education,

Tura.

Dated Tura, the 26th May, 2008.

No. MBOSE/AW/S-Curr/120/08/11832-12132
Copy to :-

1. The Commissioner & Secretary to the Govt. of Meghalaya, Department of Education, Shillong.
2. The Director, Higher & Technical Education, Meghalaya, Shillong - 793001.
3. The Director, Educational Research & Training, Meghalaya, Arbutnot Road, Shillong - 793003.
4. The Director, Elementary & Mass Education, Meghalaya, Kenilworth Road, Shillong - 793003.
5. All Inspectors of Schools with a request to circulate the Notification to all the Secondary Schools under their respective jurisdictions.
6. All Recognised Secondary Schools.
7. Controller of Examinations, MBOSE, Tura.
8. Director, MBOSE Office, Shillong.



Chief Academic Officer,

Meghalaya Board of School Education,

Tura.

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ENGLISH

DISTRIBUTION OF MARKS

1.	Prose	-	35
2.	Poetry	-	20
3.	Rapid Reader	-	15
4.	Grammar & Composition	-	20
5.	Essay	-	10
Total Marks			100

I. PROSE

Pieces to be read :

- a. The Bond of Love
- b. Reach for the Top
- c. The Silver Lining
- d. The Open Window
- e. Megan
- f. Through the Iron Curtain

II. POETRY

Pieces to be read :

- a. Where the Mind is Without Fear
- b. Rain on the Roof
- c. The Lake Isle of Innisfree
- d. The West Wind
- e. No Men are Foreign

Book Recommended for Prose & Poetry : Meghalaya English Reader 10
Published by Oxford University Press, Danish Road,
Pan Bazar, Guwahati - 781001.

III. RAPID READER

Recommended Textbook :

The Count of Monte Christo - by Alexander Dumas
- M/S Macmillan India Ltd., S. C. Goswami Road, Pan Bazar, Guwahati - 781001.

OR

The Strange Case of Dr. Jekyll and Mr. Hyde - by R. L. Stevenson
- M/S Macmillan India Ltd., S. C. Goswami Road, Pan Bazar, Guwahati - 781001.

contd/-.....

ADDITIONAL ENGLISH

DISTRIBUTION OF MARKS

1.	Prose	-	25 marks
2.	Poetry	-	20 marks
3.	Plays	-	15 marks
4.	Composition	-	30 marks
5.	Essay	-	10 marks
Total			- 100 marks

1. PROSE

Pieces To Be Read :

1.	A High Drive	-	I. P. Hartley
2.	War	-	Luigi Pirandello
3.	Out of Business	-	R. K. Narayan
4.	Postmaster	-	R. Tagore
5.	The Lady or the Tiger?	-	Frank R. Stocktar

Book recommended : A Miscellany of Short Stories

- Published by Inter University Press Pvt. Ltd., Educational Publishers, 30/7, Shakti Nagar, New Delhi - 110007.

2. POETRY

Pieces To Be Read :

1.	Education of Nature	-	William Wordsworth
2.	Swimmers	-	Louis Untermeyer
3.	The Man with the Hoe	-	Edwin Markham
4.	If	-	Rudyard Kipling
5.	A River	-	A. K. Ramanujan

Book recommended : Wings of Poesy

- Published by M/S Evergreen Publications, 4779/23 Ansari Road, Darya Ganj, New Delhi - 110002.

3. PLAYS

Book recommended : Three Shakespeare Tragedies - (Macmillan)
Recommended Play : Othello - Shakespeare

4. COMPOSITION

Book recommended : HolyFaith Essential English Grammar & Composition (M/S HolyFaith International (P) Ltd.)
Or
Scholar's Senior English Grammar & Composition (Scholar Publishing House (P) Ltd.)

1. One Word Substitution
2. Amplification
3. Substance Writing
4. Paraphrasing from the Play
5. Advertisement
6. Picture Composition

ASSAMESE (M.I.L)

DISTRIBUTION OF MARKS

Prose	-	20 marks
Poetry	-	15 marks
Rapid Reader	-	15 marks
Grammar	-	20 marks
Composition	-	20 marks
Essay	-	10 marks
Total		100 marks

Unit 1 Prose

Pieces To Be Read :

1. Prachin Bharatiya Shiksha - Hemchandra Goswami.
2. Sankardevar Samaj Sangathan - Dimbeswar Neog.
3. Assamar Janagushthir Gatahani - Abdus Sahattar.
Arun Sanskriti.

Unit 2 Poetry

Pieces To Be Read :

1. Borgeet - Madhabdev
2. Guahe Ebar Mur Prio Bihangini - Raghunath Choudhury
3. Mur Desh - Hiren Bhattacharjee

Book recommended for Prose and Poetry :

Mydhomik Assamiya Sahitya Chayanika for Class IX and X
- Published by Assam Textbook Production & Publication Corporation,
Guwahati - 781001.

Unit 3 Rapid Reader - Ten chapters (From Chapter 11 upto the end of the book)

Book recommended for Rapid Reader :

Mur Saisab, Mur Kaisor by Bhubendra Nath Saikia.

contd/-.....

Unit 4 Grammar

Pieces To Be Read :

1. Sandhi
2. Naitwa Aru Shattwa Bidhi
3. Samasa (Digu Samasa, Bahubrihi Samasa, Abyaieebhab Samasa)
4. Pratyaya (Tadhait Pratyaya, Stri Pratyaya)
5. Pad Prakaran
6. Karak

Books recommended for Grammar :

Adhunik Assamiya Bhasar Vyakaran by Giridhar Sarma.

Unit 5 Composition

Pieces To Be Read :

1. Make Sentences with Phrases and Idioms
2. Opposite words
3. One word for a group of words
4. Similar words
5. Amplification
6. Letter writing

Books recommended for Composition :

- | | | |
|--------------------------------|---|--------------------------------|
| (i) Rachana Bishitra | - | Dharma Sinha Deka. |
| (ii) Prabashika Rachana Shiksa | - | Giridhar Sarma. |
| (iii) Assamiya Rachana Shiksa | - | Dr Lila Gogic, Dr Nabin Sarma. |

Unit 6 Essay Writing

Types of Essay :

1. Adarsha Mulak
2. Bhraman Mulak
3. Jibani Mulak
4. Barnana Mulak

BENGALI (MIL)

DISTRIBUTION OF MARKS

Prose	-	20 marks
Poetry	-	15 marks
Rapid Reader	-	15 marks
Grammar	-	25 marks
Composition	-	25 marks
Total	-	100 marks

I. Prose

Pieces To Be Read :

1. Durdin - Bankim Chandra Chhtopadhya
2. Oporajit Opu - Bibhutibhusan Bondopadhya
3. Songhat - Tarashankar Bondopadhya

II. Poetry

Pieces To Be Read :

1. Phullorar Baromasya - Mukundoram Chakrabarty
2. Botobriksha - Michael Madhusudan Dutta
3. Robindranather Proti - Buddhodeb Bosu

Textbook Prescribed for Prose & Poetry :

“Madhyamik Bangla Sahitya Chayanika”
By Assam Rajyik Pathya Pronoyon
Ebong Prakashan Nigam Ltd.

- III. Rapid Reader** - Part II (Garo Hills)
Chapter - (5 to the end)

Textbook Prescribed : “Mayamoy Meghalaya” by Shanku Maharaj

IV. Grammar

Pieces To Be Read :

Definition and Example:
Borno Biporjoy - Swaragam
Abyoibhab Somas - Bohubrihi Somas
Pair of Words
Use of Phrases
Substitute in One Word

contd/-.....

V. **Composition**

Pieces To Be Read :

Comprehension

Expansion of Idioms

Picture of Composition

Or

Paragraph Writing

Reference Book : "Bani Bichitra" by Piyush Dey

Or

"Adhunik Bangla Byakaran" by Jogodish Ghosh

GARO (MIL)

DISTRIBUTION OF MARKS

Prose	-	35 marks
Poetry	-	20 marks
Rapid Reader	-	15 marks
Grammar	-	10 marks
Composition	-	10 marks
Essay Writing	-	10 marks
Total	-	100 marks

I. Prose

Pieces to be read :

1. Rev. Thangkan K. Sangma
- Lindrid D. Shira
2. Jatni Nisan, Git Aro Chin
- Brucellish K. Sangma
3. Meghalayani Sam Bolrang Aro Do-o Matrang
- T. T. C. Marak
4. Captain W. A. Sangma
- Mary Celina A. Sangma
5. Chadamberi Salrang
- Lindrid D. Shira

II. Poetry

Pieces to be read :

1. Ang' Chakki
- Evelyn R. Marak
2. Saljong Tasin Me'chik
- Monensing R. Sangma
3. A-songtangna Sintea
- Surendra S. Marak
4. Cha'asia
- Barendra S. Bangshall
5. Da'al
- Gilbert K. Marak

contd/-.....

Textbook Prescribed for Prose & Poetry :

Poraiani Ki-tap X

- Published by M/S Cambridge India Educational Publishers,
Regd. Office, F 46 Dakshinapan, 2 Gariahat Road (South),
Kolkata - 700068.

III. Rapid Reader :

Patchisa Bibal - Sodini G. Momin.

- Published by M. M. Book Point, Chandmary,
Tura, Meghalaya.

IV. Grammar & Composition :

Pieces To Be Read :

Bak - I

- a) Phrase
- b) Clause

Bak - III

- a) Verb - Ma-arang, Predicateko Chu-sokatgiparang, Mood, Participle, Verbal Noun, Verbal Adjective aro Tense.
- b) Adjective - Ma-arang aro Tosusaani
- c) Adverb - Ma-arang aro Tosusaani, Napsikgipa Adverbrang.

Textbook Prescribed :

A'chik Grammar by E. G. Phillips

- Published by Tura Book Room,
Tura, Meghalaya.

V. Composition :

A'chik Composition by K. M. Momin
- Published by Tura Book Room.

VI. Essay Writing.

HINDI (MIL)

DISTRIBUTION OF MARKS

Prose	-	30 marks
Poetry	-	20 marks
Rapid Reader	-	15 marks
Grammar	-	18 marks
Composition		
(a) Essay	-	8 marks
(b) Letter Writing	-	4 marks
(c) Sar Lekhan/Anuched Lekhan	-	5 marks
Total	-	100 marks

I. Prose

Pieces To Be Read :

1. Aazadi Sabhi Chahte Hai, Lekin by Yogendra Kumar Rawal
2. Swami Vivekanand by Urmila Bhargav
3. Khel Jagat by Dr. Janak
4. Bimaar Ka Ilaj by Udai Shankar Bhatt
5. Vishaal Bharat Ke Nirmata by Vishu Prabhakar
6. Bharat Ki Janta Ka Pratham Sewak by Jawaharlal Nehru

II. Poetry

Pieces To Be Read :

1. Chahta Hu by Ramavtar Tyagi
2. Chalna Hamara Kam by Shiv Mangal Singh Suman
3. Seekh Bhare Dohe : Tulsi Das, Kabir Das
4. Jai! Jai! Vijay by Devraj Dinesh
5. Priyatam by Suryakant Tripathi Nirala

Textbook Prescribed for Prose & Poetry : Alok Bharti Bhag - 8

- Published by M/S Pitambar Publishing Co. Ltd.,
888 East Park Road, Karol Bagh, New Delhi - 110005.

III. Rapid Reader- Sanchayan Part - II (NCERT)

IV. Grammar & Composition

Pieces To Be Read :

1. Vyakaran Khand
2. Rachna Khand

Textbook Prescribed : Basha Vyakaran IX & X

- Published by Neeta Prakashan Children's Book House,
A-4 Ring Road, South Extension - 1, New Delhi - 110049.

KHASI (MIL)

Total marks - 100
Pass marks - 30

DISTRIBUTION OF MARKS

1.	Poetry	-	20
2.	Prose	-	35
3.	Rapid Reader	-	15
4.	Grammar & Composition	-	30
	(i) Grammar	-	8
	(ii) Jingbatai Ktien	-	5
	(iii) Essay	-	12
	(iv) Precis	-	5
Total			- 100 marks

I. Prose

Textbook Prescribed :

(a) Ki Dienjat Jong ki Longshwa by J. Bacchiarello

Chapters : Ka dorbar jong ki Khasi hyndai;
Ki mawbyuna; ki mawniam bad ki kor

(b) Ki Parom Barim U Khun Khasi Khara by Maurice G. Lyngdoh

Chapters : U Briew bad u Ksew; U masi bad u briew;
U kyllang bad u symper

(c) Ki Phawer U Aesop by Soso Tham

Chapters : Chapter 21 to 30

II. Poetry

Textbook Prescribed :

(a) Ka Duitara Ksiar by Soso Tham

Chapters : U dieng bilat; Ki sngi ba la leit noh;
Ka mynsiem bashyrang; Ki saw aiom

III. Rapid Reader

Textbook Prescribed :

(a) Ki Dienjat Ha U Shyiap by Hughlet Warjri

Chapters : U syiem ka jinglailuid; U Nongsaindur ka nongbah Shillong;
U kpa ka sain pyrthei ha ri Khasi-Jaintia

B. Grammar & Composition

(i) Ka Grammar by H. W. Sten

Chapters : Ka Pronoun

(ii) Ki Dienjat Jong ki Longshwa by J. Bacchiarello

Chapters : Chapter 42 and 48 - Ka jingbatai ktien

(iii) Essay

(iv) Precis Writing

Composition

Pieces To Be Read :

Comprehension
Expansion of Idioms
Picture of Composition
Or
Paragraph Writing

Reference Book : "Bani Bichitra" by Piyush Dey
Or
"Adhunik Bangla Byakaran" by Jogodish Ghosh

MIZO (MIL)

DISTRIBUTION OF MARKS

1.	Hla (Poetry)	- 20 marks
2.	Thu (Prose)	- 35 marks
3.	Rapid Reader	- 15 marks
4.	Grammar & Composition	- 10 marks
5.	Idioms & Phrases and Essay	- 20 marks
		Total - 100 marks

PIECES TO BE READ :

I : Hla (Poetry)

i)	Nungchate hmakhua	-	Ngurchhawna
ii)	Siamtu Pathian tan	-	P.S.Chawngthu
iii)	Thal awiin lelte pan	-	Romani
iv)	Zofate inpunkhatna	-	C.Chuanvawra
v)	Mizo kan nih kan lawm e	-	Rokunga

II : Thu (Prose)

i)	Nun kawng	-	R.L.Thanmawia
ii)	Zawlbuk	-	J.Liankhuma
iii)	Ram hring	-	Lalthuangliana Khiangte
iv)	Mizo khawtlang inawp dan	-	B.Lalthangliana
v)	Tirhkohte Thiltih (Bung 1 - 28)		

III : Rapid Reader

-	Kristian Vanram Kawng Zawh Thu (9-18)	-	Chuaatera (Translation)
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IV : Grammar & Composition

- i) Adjective
- ii) Verb
- iii) Adverb
- iv) Amplification

V : Idioms & Phrases and Essay

- i) Tawng Upa
- ii) Essay

PRESCRIBED TEXTBOOKS :

- 1) Mizo (Class X Zirlai)
- 2) Mizo Grammar & Composition } - MBSE Publication
- 3) Kristian Vanram Kawng Zawh Thu - Chuaatera Translation
- 4) Mizo Bible (1982 Edition)

MIZO (MIL)

DISTRIBUTION OF MARKS

1.	Hla (Poetry)	- 20 marks
2.	Thu (Prose)	- 35 marks
3.	Rapid Reader	- 15 marks
4.	Grammar & Composition	- 10 marks
5.	Idioms & Phrases and Essay	- 20 marks
		Total - 100 marks

PIECES TO BE READ :

I : Hla (Poetry)

i)	Nungchate hmakhua	-	Ngurchhawna
ii)	Siamtu Pathian tan	-	P.S.Chawngthu
iii)	Thal awiin lelte pan	-	Romani
iv)	Zofate inpunkhatna	-	C.Chuanvawra
v)	Mizo kan nih kan lawm e	-	Rokunga

II : Thu (Prose)

i)	Nun kawng	-	R.L.Thanmawia
ii)	Zawlbuk	-	J.Liankhuma
iii)	Ram hring	-	Lalthuangliana Kiangte
iv)	Mizo khawtlang inawp dan	-	B.Lalthangliana
v)	Tirhkohte Thiltih (Bung 1 - 28)		

III : Rapid Reader

-	Kristian Vanram Kawng Zawh Thu (9-18)	-	Chuaatera (Translation)
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IV : Grammar & Composition

- i) Adjective
- ii) Verb
- iii) Adverb
- iv) Amplification

V : Idioms & Phrases and Essay

- i) Tawng Upa
- ii) Essay

PRESCRIBED TEXTBOOKS :

- 1) Mizo (Class X Zirlai)
- 2) Mizo Grammar & Composition } - MBSE Publication
- 3) Kristian Vanram Kawng Zawh Thu - Chuaatera Translation
- 4) Mizo Bible (1982 Edition)

MIZO (MIL)

DISTRIBUTION OF MARKS

1.	Hla (Poetry)	- 20 marks
2.	Thu (Prose)	- 35 marks
3.	Rapid Reader	- 15 marks
4.	Grammar & Composition	- 10 marks
5.	Idioms & Phrases and Essay	- 20 marks
		Total - 100 marks

PIECES TO BE READ :

I : Hla (Poetry)

i)	Nungchate hmakhua	-	Ngurchhawna
ii)	Siamtu Pathian tan	-	P.S.Chawngthu
iii)	Thal awiin lelte pan	-	Romani
iv)	Zofate inpunkhatna	-	C.Chuanvawra
v)	Mizo kan nih kan lawm e	-	Rokunga

II : Thu (Prose)

i)	Nun kawng	-	R.L.Thanmawia
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iii)	Ram hring	-	Lalthuangliana Kiangte
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III : Rapid Reader

-	Kristian Vanram Kawng Zawh Thu (9-18)	-	Chuaatera (Translation)
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IV : Grammar & Composition

- i) Adjective
- ii) Verb
- iii) Adverb
- iv) Amplification

V : Idioms & Phrases and Essay

- i) Tawng Upa
- ii) Essay

PRESCRIBED TEXTBOOKS :

- 1) Mizo (Class X Zirlai)
- 2) Mizo Grammar & Composition } - MBSE Publication
- 3) Kristian Vanram Kawng Zawh Thu - Chuaatera Translation
- 4) Mizo Bible (1982 Edition)

NEPALI (MIL)

DISTRIBUTION OF MARKS

1.	Prose	-	35 marks
2.	Poetry	-	20 marks
3.	Rapid Reader	-	15 marks
4.	Grammar & Composition including Essay	-	30 marks
Total		-	100 marks

I. Prose :

Pieces To Be Read :

1. Naso
2. Paribanda
3. Aljheko Ich-chha
4. Chithih
5. Shiksha Ko Udheshya
6. HarGovind Khurana
7. Paras Mani Pradhan

II. Poetry :

Pieces To Be Read :

1. Garib
2. Gauthaliko Chiribiri
3. Bhanu Bhakta Prati
4. Sweet Falls
5. Adhikar Ra Kartavya
6. Jeevan Ra Dristi
7. Kavi Prati

Textbook Prescribed for Prose & Poetry :

- **Uccha Madhyamik Nepali Sahitya**
Published by Textbook Committee (Nepali)

III. Rapid Reader :

Textbook Prescribed :

'Maita - Ghar' by Shri Laen Singh Bangdel
- Published by Saajha Prakashan, Kathmandu, Nepal.

IV. Grammar & Composition :

Pieces To Be Read :

1. Essay Writing (Nibandha Lekhan)
2. Comprehension (Bodh Ranali)
Or
Letter Writing (Patra Lekhan)
3. Amplification (Vistratikaran)
4. Paragraph Writing (Anuchhed Lekhan)
5. Linga, Sangya, Visheshan, Sandhi Vichched, Kriya Rayasko Prakar
6. Dhatu Ra Pratyay, Upasarga, Vachya, Vakyansha, Tukka Ra Ukhan
7. Vipritart/Hak Shabda, Sammocharit Shabda, Prayayvachi Shabda, Shar Shabda

Textbook Prescribed for Grammar & Composition :

1. Madhyamik Nepali Vyakaran Ra Rachana Written & Compiled By the Expert Academicians & Published By Shri Raaj Prakashan, Darjeeling
'OR'
2. Vyakaran Saurabh (Chautho Bhaag) (PART – IV)
Written By:- Vishnu Sharma Adhikari
Published By:- Puspa Prakashan, Siliguri.

URDU (MIL)

DISTRIBUTION OF MARKS

1.	Prose	-	30 marks
2.	Poetry	-	25 marks
3.	Grammar	-	25 marks
4.	Life History	-	10 marks
5.	Essay	-	10 marks
Total			- 100 marks

I. Prose
Pieces To Be Read

Afsana

1. Naya Guanoon
2. Bheek

Writer

Sadat Hassan Mantoo
Hayat-u-Ilah Ansari

Sawaneh (life history)

3. Sirsyed Ka Bachapan

Altaf Hussain Hali

Darama

4. Aazmaish

Mohammad Mujeeb

Aapbiti

5. Chori our Uska Kaffarah

Syed Abid Hussain

Mazmoon

6. Auraton Ke Haquoque
7. Makhaloote Zuban
8. Mahaul Bachaia
9. Chakabast Lakhnavi

Sir Syed Ahmad Khan
Maulavi Abdul Haque
Mohammad Aslam Perveez
Aal Ahmed Sarvar

II. Poetry
Pieces To Be Read

Ghazal

1. Bahar Besapre jam Guzre hai
2. Lai Heyat
3. Dhondage agar Mulkon Mulkon
4. Aalam-e-Razagar

Poets

Mirza Mohammad Rafi Sauda
Sekh Mohammad Ibrahim Zoque
Shad Aazimabadi
Asgar Goudave

Nazam

5. Jalwae Darbar-e-Dehli
6. Haquiquat-e-Husn
7. Aandhi
8. O-Des-Se A'anevale Bata

Poets

Akbar Illahabadi
Mohammad Iqbal
Kaifi Azami
Akhtar Shiravi

- Rubai**
9. (i) Gulshan mein Phiron ke Saire Sehra Dekhon Anis
(ii) Ruba jise dunia mein khuda deta hai Anis
(iii) Fitrat ki dihai musamat kho kar Tilok Chand Mahroom
(iv) Mazhab ki zaban Tilok Chand Mahroom
(v) Har aib se mana ke juda hojai Firaque Gorakhpuri

- Textbook Prescribed**
- I. Prose & Poetry - Nawa-e-Urdu (NCERT)
II. Urdu Grammar Book - NCERT

MATHEMATICS

Class - X

UNIT I : NUMBER SYSTEMS

1. Real Numbers

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

Exercises: 1.1, 1.2 and 1.4

UNIT II : ALGEBRA

1. Polynomials

Zeros of a 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.

Exercises: 2.1, 2.2 and 2.3

2. Pair Of Linear Equations In Two Variables

Pair of linear equations in two variables. Geometric representation of different possibilities of solution/inconsistency. Algebraic conditions for number of solutions. Solution of pair of linear equations in two variables algebraically – by substitution, by elimination and by cross – multiplication. Simple situational problems must be included. Simple problems on equations reducible to linear equations may be included.

Exercises: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.11, 3.12, 3.13, 3.14 and 3.20

3. Quadratic Equations

Standard form of a quadratic equation $ax^2 + bx + c = 0$, ($a \neq 0$). Solution of a quadratic equation (only real roots) by factorisation and completing the squares, i.e., by using quadratic formula. Relationship between the discriminant and nature of roots. Problems related to day – to – day activities to be incorporated.

Exercises: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.8, 4.9 and 4.15

4. Arithmetic Progressions

Motivation for studying Arithmetic Progression. Derivation of standard results of finding the n^{th} term and sum of the first n terms.

Exercises: 5.1, 5.2, 5.3 and 5.5

UNIT III : TRIGONOMETRY

1. Trigonometric Ratios

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° and 90° . Values (with proofs) of the trigonometric ratios of 30° , 45° and 60° . Relationships between the ratios.

Exercises: 8.1, 8.2, 8.3, 8.7, 8.8 and 8.10

MATHEMATICS

Class - X

UNIT I : NUMBER SYSTEMS

1. Real Numbers

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

Exercises: 1.1, 1.2 and 1.4

UNIT II : ALGEBRA

1. Polynomials

Zeros of a 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.

Exercises: 2.1, 2.2 and 2.3

2. Pair Of Linear Equations In Two Variables

Pair of linear equations in two variables. Geometric representation of different possibilities of solution/inconsistency. Algebraic conditions for number of solutions. Solution of pair of linear equations in two variables algebraically – by substitution, by elimination and by cross – multiplication. Simple situational problems must be included. Simple problems on equations reducible to linear equations may be included.

Exercises: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.11, 3.12, 3.13, 3.14 and 3.20

3. Quadratic Equations

Standard form of a quadratic equation $ax^2 + bx + c = 0$, ($a \neq 0$). Solution of a quadratic equation (only real roots) by factorisation and completing the squares, i.e., by using quadratic formula. Relationship between the discriminant and nature of roots. Problems related to day – to – day activities to be incorporated.

Exercises: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.8, 4.9 and 4.15

4. Arithmetic Progressions

Motivation for studying Arithmetic Progression. Derivation of standard results of finding the n^{th} term and sum of the first n terms.

Exercises: 5.1, 5.2, 5.3 and 5.5

UNIT III : TRIGONOMETRY

1. Trigonometric Ratios

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° and 90° . Values (with proofs) of the trigonometric ratios of 30° , 45° and 60° . Relationships between the ratios.

Exercises: 8.1, 8.2, 8.3, 8.7, 8.8 and 8.10

2. Trigonometric Identities

Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$, $\tan^2 A + 1 = \sec^2 A$, $\operatorname{Cosec}^2 A = 1 + \cot^2 A$. Only simple identities to be given. Trigonometric ratios of complementary angles.
Exercises: 8.11, 8.12, 8.13, 8.14, 8.15 and 8.17

3. Heights And Distances

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° .
Exercises: 9.1 and 9.2

UNIT IV : COORDINATE GEOMETRY

1. Lines (In two-dimensions)

Review the concepts of coordinates done earlier including graphs of linear equations. Awareness of geometrical representation of quadratic polynomials. Distance between two points and section formula (internal), Area of a triangle.
Exercises: 7.1, 7.2, 7.3 and 7.5

UNIT V : GEOMETRY

1. Triangles

Definitions, examples, counter examples of similar triangles.

- i) (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
- ii) (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
- iii) (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.
- iv) (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.
- v) (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.
- vi) (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.
- vii) (Prove) The ratio of the areas of two similar triangles is equal to the ratio of the squares on their corresponding sides.
- viii) (Prove) In a right triangle, the square on the hypotenuse is equal to the sum of the squares of the other two sides.
- ix) (Prove) In a triangle, if the square on one side is equal to the sum of the squares of the other two sides, the angle opposite to the first side is a right angle.

Exercises: 6.1 [Only Numerical Problems are included]

Exercises: 6.2, 6.3 [Only Numerical Problems are included]

6.4, 6.5 [Only Numerical Problems are included]

6.6, 6.7 and 6.8 [Both Numerical & Theoretical Problems are included]

2. Circles

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

- i) (Prove) The tangent at any point of a circle is a perpendicular to the radius through the point of contact.
 - ii) (Prove) The lengths of tangents drawn from an external point to a circle are equal.
- Exercises: 10.1, 10.2 and 10.3

3. Constructions

- i) Division of a line segment in a given ratio (internally).
 - ii) Tangent to a circle from a point outside it.
 - iii) Construction of a triangle similar to a given triangle.
- Exercises: 11.1, 11.2 and 11.3

UNIT VI : MENSURATION

1. Areas Of Plane Figures

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

Exercises: 12.1, 12.2, 12.3 and 12.4

2. Surface Areas And Volumes

- 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 may be taken).

Exercises: 13.1, 13.2, 13.3 and 13.4

UNIT VII : STATISTICS AND PROBABILITY

1. Statistics

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

Exercises: 14.1, 14.3, 14.4 and 14.5

2. Probability

Classical definition of Probability, Connection with probability has been given in class IX. Simple problems on single events not using set notation.

Exercises: 15.1, 15.2 and 15.5

Textbook Prescribed -

Core Mathematics For Class 10

- Published by Goyal Brothers Prakashan,
11/1903, Chuna Mandi, Pahar Ganj,
New Delhi - 110055.

NOTE: Only the above mentioned exercises are to be studied and the rest may be omitted.

SCIENCE

(THEORY)

UNIT I PHYSICS

(Total Marks = 26)

- 1. Reflection Of Light** - Laws of reflection; convergence and divergence of light; images formed by a concave mirror, convex mirror; related concepts; centre of curvature, principal axis, optical centre, focus, focal length, mirror formula, magnification (with sign convention) numericals to be taken.
- 2. Refraction Of Light** - Laws of refraction, refractive index of the medium, absolute refractive index, refractive index and speed of light in a medium, images formed by a convex and concave lenses, lens formula with sign convention, magnification produced by lenses, power of a lens (with numericals).
- 3. The Human Eye And The Colourful World** - Human eye - power of accommodation - far point, near point of the eye, problems of vision and remedies, twinkling of stars, dispersion of light, atmospheric refraction, scattering of light.
- 4. Electricity** - Electric current, electric potential, potential difference, electric circuit, Ohm's law, electrical resistance, electric resistivity, conductors, resistors and insulators, combination or grouping of resistors: series, parallel (formula only no derivation) and numericals to be taken. Heating effect of electric current, application of a heating effect of current, electric fuse and bulb, electric power, inter-relation between P, V, I and R (numericals to be taken), calculation of the cost of electrical energy.
- 5. Magnetic Effects Of Electric Current** - Magnet, compass, magnetic field lines, field due to a current carrying wire, field due to current carrying coil or solenoid, force on current carrying conductor, Fleming's left hand rule, electric motor (principle, working and construction), electromagnetic induction induced potential differences, induced current, electric generator, construction, principle and working of AC generator, Direct current, Alternating current, Advantages of AC over DC, Domestic electric circuits.

UNIT II CHEMISTRY

(Total Marks = 26)

- 1. Chemical Reactions** - Chemical equations, types of chemical reactions, - combination, decomposition, displacement, double displacement (precipitation and neutralization), oxidation and reduction in terms of gain and loss of oxygen and hydrogen atom (definition with first three examples), corrosion and rancidity.
- 2. Acids, Bases And Salts** - Definitions of Acids and bases (Arrhenius and Bronsted and Lawry's concept), General properties of acids and bases, salt, type of salt - acid and normal salt, double salt, mixed salt, complex salt, common salts, definition with two examples each. Properties and uses of bleaching powder, washing soda and baking soda.
- 3. Metals, Non-Metals And Metallurgy** - Metals and non-metals, their physical properties, metallic bonds, chemical properties of metals and non-metals. Occurrence of metals, minerals and ores. Extraction of metals from their ores. Metallurgy (concept of ores, conversion of concentrated ores into metal oxide, extraction by the reduction of metal oxide to metal, refining of metal - distillation, liquation, oxidation and electro-refining).

4. **Classification Of Elements** - Mendeleev's Periodic Law, Modern Periodic Law, Modern Periodic Table, Electronic configuration of elements.

5. **Carbon And Its Compound** - Bonding of carbon compounds, allotropies of carbon, hydro-carbons, homologous series, parafin series, classification of hydro-carbons, nomenclature of organic compounds. Functional groups; alkane - only properties and uses of methane, ethane, alcohols (methanol and ethanol), carboxylic acids (ethanoic acids). Soap-cleansing action of soap.

UNIT III BIOLOGY

(Total Marks = 28)

1. **Life Processes**

(a) **Nutrition** - Modes of nutrition, Nutrition in amoeba, Photosynthesis - significance, raw materials, factors affecting photosynthesis, Nutrition in Human - alimentary canal and associated digestive glands, physiology of digestion with steps of digestion.

(b) **Respiration** - Respiration in plants, gaseous exchange in animals, body surface/skin, airtubes/trachea, gills, lungs. Type of respiration - aerobic and anaerobic. Respiration in human - parts (description), breathing mechanism (distinction between breathing and respiration), gaseous exchange in lungs and tissues.

(c) **Transportation** - Transport of materials in plants (water and minerals), Root hairs, conducting tissues, xylem. Transpiration (definition), working of stomata. Translocation - phloem vessels. Transportation of materials and fluids in human beings - composition of blood and functions of each component, blood vessels, diagram of external and internal structure of human heart, cardiac cycle, ECG, blood pressure, Lymphatic system.

(d) **Excretion** - Excretion in animals, human beings. Osmoregulation and artificial kidney. Diagram of urinary system and nephron (urine formation).

2. **Control And Coordination** - Coordination in plants and plant hormones, nervous system in lower animals, vertebrates and human being. Reflex action, peripheral nervous system; autonomic nervous system and chemical coordination in animals (diagram of neuron); animal hormones.

3. **Reproduction In Plants And Animals** - Reproduction - Types of reproduction, types of asexual reproduction. Vegetative reproduction by natural and artificial methods and advantages of asexual reproduction in plants. Sexual reproduction in plants.

Reproductive system in human beings (male and female) (fertilization, pregnancy and development of the embryo excluded). Birth control, sexually transmitted diseases.

4. **Heredity And Evolution** - Definition of heredity; genetics, chromosome, variation, gene, genotype and phenotype, Mendel's Law of inheritance. Evolution - definition. Morphological and anatomical evidences of evolution, origin of life on the earth - Oparin and Haldane theory.

Textbook Prescribed :

Science & Technology Class 10
- Published by Ratna Sagar Pvt. Ltd.,
60, Dr. Sundari Mohan Avenue,
Kolkata - 700014.

(PRACTICAL)
(Total Marks = 20)

Every student will perform atleast fifteen experiments (atleast five experiments from each unit) during the academic year.

PHYSICS

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

BIOLOGY

1. To study land food chain from the given chart.
2. Construction of food web using models.
3. To study the different parts of a Hibiscus flower.
4. To study germination of grams/ pea seeds.
5. To test the presence of starch in a given food sample.
6. To study various things around and classify them into living and non-living.
7. To study various waste materials and classify them into bio-degradable and non-biodegradable wastes.
8. Collection of news paper reports on HIV/ AIDS.

CHEMISTRY

1. To measure the change in temperature during chemical reactions (at least four) and conclude whether the reaction is exothermic or not.
2. To identify bleaching powder from the given samples of chemicals (four samples).
3. To identify washing soda or baking soda from the given samples of chemicals (four samples).
4. To study on precipitation reaction and isolation of the precipitate:
 - (i) NaCl with AgNO₃,
 - (ii) Na₂SO₄ with BaCl₂
5. To prepare Sulphur dioxide gas and study its two physical and two chemical properties.
6. To carry out the reactions for an acid (HCl) with (i) Litmus solution (blue and red), (ii) Zinc metal, (iii) Sodium carbonate and (iv) Sodium hydroxide.
7. To prepare ammonia gas and study its two physical and two chemical properties.
8. To study any two physical and two chemical properties of acetic acid.
9. To identify whether a given solution is acidic or basic performing following tests:
 - (i) Litmus test,
 - (ii) Reaction with NaHCO₃ / Na₂CO₃,
 - (iii) Reaction with NH₄OH/ (NH₄)₂CO₃

- (iv) Reaction with little excess of volumes of HCl or NaOH (as a case may be) and performing the litmus test with the resulting solution (strength of unknown solution supplied and acid/base solution given for experiment 4 must be the same)
10. To study the decomposition of CaCO_3 and prove that CO_2 is evolved during the reaction (lime water test)
 11. To perform the reaction of 1 : 1 molar acetic acid and carboxylic acid and observe the changes in terms of:
 - (i) Colour
 - (ii) Litmus test (acidic/alkaline)
 12. To examine the heating effect on sugar and common salt, observe the change and hence to comment on the nature of bonding in the two compounds.
 13. To determine the pH values of equimolar concentration of four acids and arrange them in order of their increasing acidity.

Textbook Prescribed : **Tushar's Laboratory Manual**
- Published by Tushar Publications Pvt. Ltd.,
C-21, Jhandewalan F. F. Complex, Rani Jhansi Road,
New Delhi - 110055.

SOCIAL STUDIES

TOPICS TO BE READ

SECTION I : HISTORY

UNIT I : EVENTS AND PROCESSES

1. Nationalism In Europe
2. Civil Disobedience Movement

UNIT II : LIVELIHOODS, ECONOMIES AND SOCIETIES

3. Industrialization 1850 - 1950s
4. Urbanization And Urban Lives

UNIT III : CULTURE, IDENTITY AND SOCIETY

5. Print Culture And Nationalism

SECTION II : CIVICS

UNIT I

1. Role Of Caste In Indian Politics And Communalism

UNIT II

2. Nature of Indian Federal Structure

UNIT III

3. Decentralisation : Panchayati Raj Institutions

UNIT IV

4. Political Parties
5. Popular Struggles And Movements

UNIT V

6. Towards A Successful Democracy

UNIT VI

7. Challenges To Democracy
8. Outcomes Of Democracy

SECTION III : ECONOMICS

1. The Story Of Development
2. Sectors Of The Indian Economy
3. Money And Financial System
4. Globalisation And The Indian Economy
5. Consumer Rights

SECTION IV : GEOGRAPHY

1. Resources : Concept And Planning
 2. Land And Soil Resource
 3. Agriculture
 4. Water Resources
 5. Minerals And Energy Resources
 6. Manufacturing Industries
 7. Lifelines Of National Economy
 8. Meghalaya : An Overview
 9. Climate
 10. Forest Resources
 11. Agriculture In Meghalaya
- Disaster Management**
12. Survival Skills
 13. Planning Ahead..... By The People, For The People

Textbook Recommended/Prescribed :

A Textbook of Social Studies 10
- Published by Sunflower Publishers Pvt. Ltd.,
542/16, Joshi Road, Karol Bagh, New Delhi - 110005.

HEALTH EDUCATION

Total Marks : 80

Internal : 20

Units to be read

Unit I Growth and Development

1. How Mature Are You?
2. You and Your Family
3. Marriage and Family Life

Unit II Diseases

1. Some Defence Measures Against Diseases (Immunity and Immunization)
2. National Health Programme
3. Importance of Pupil's and People's Participation in the Implementation of These Programmes
4. Primary Health Care, Meaning and Scope, Health Care Set Up in Rural and Urban Areas

Unit III Consumer Education

1. Consumer Education - Consumer Rights, Making Correct Choices While Buying Different Items, Food Adulteration
2. Systems of Medicine and Quackery
3. Drugs, Medicines and Self-Medication

Unit IV International Health

1. Importance of International Health

Unit V Life Skills Education

1. Teenage Pregnancy
2. Sexually Transmitted Infections
3. Basic Facts About HIV/AIDS
4. Prevention Against HIV/AIDS

Book Prescribed : Health - Class X
A Textbook for Secondary Schools (Meghalaya Edition)
Published by Frank Brothers & Co. (Publishers) Ltd.,
4675-A, 21 Ansari Road, Daryaganj, New Delhi - 110002.

COMPUTER SCIENCE

Name of the Book - **Computer Science & Applications for Class X**
- Published by M/S Evergreen Publications,
4779/23 Ansari Road, Darya Ganj, New Delhi - 110002.

Pieces To Be Read : **Whole Book**

ENVIRONMENTAL EDUCATION

- Existing Syllabus to be followed
Name of the Book - **Frank Environmental Education X**
- Published by Frank Brothers & Co. Ltd.,
4675-A, Ansari Road, 21 Daryaganj,
New Delhi - 110002.

Pieces To Be Read : **Whole Book**

CREATIVE EXPRESSION

Name of the Book - **Learning Visual Language 8**
- Published by Tulip Publications Pvt. Ltd.,
C-21, Jhandewalan F. F. Complex, Rani Jhansi Road,
New Delhi - 110005.

Pieces To Be Read : **Whole Book**

SOCIALLY USEFUL PRODUCTIVE WORK/WORK EXPERIENCE

Name of the Book - **A Textbook of SUPW Vol. II**
- Published by Pitambar Publishing Co. (P) Ltd.,
East Park Road, Karol Bagh,
New Delhi - 110005.

Pieces To Be Read : **Whole Book**
