# SYLLABUS BOOK 2025-26 CLASS – XI SCIENCE

S. No.	<b>Book Name</b>	Subject	Publisher
1.	English - Hornbill	English	N.C.E.R.T
	Snapshot		N.C.E.R.T
2.	Chemistry – I & II	Chemistry	N.C.E.R.T
	Lab Manual		Modern ABC
3.	Physics – I & II	Physics	N.C.E.R.T
	Lab Manual		SL Arora
4.	Biology	Biology	N.C.E.R.T
	Lab Manual		Modern ABC
5.	Maths	Maths	N.C.E.R.T
	Lab Manual		Bharat Publications
6.	Physical Education	Physical	Saraswati
	Lab Manual		(Dr. V.K Sharma)
7.	Computer Science with Python	Computer	Dhanpat Rai
	Computer		
8.	History of Indian Art	Painting	Ashok Kumar Gupta

# **SUBJECT: ENGLISH**

Sr. No.	. No. Month Syllabus to be covered				
1.	April	Hornbill Writing Skills Snapshot	<ul> <li>A Portrait of a lady</li> <li>Notice Writing</li> <li>The summer of beautiful white horse</li> </ul>		
2.	May	Hornbill Poem Snapshot Writing Skills	<ul> <li>We are not Afraid to die.</li> <li>Laburnum Top</li> <li>The Address</li> <li>Advertisements writing,</li> </ul>		
	June	Hornbill Poem	<ul><li>Discovering tuts the saga</li><li>The Voice of the Rain</li></ul>		
3.	July	Hornbill Snapshot	<ul> <li>Landscape of the soul</li> <li>Ranga's marriage</li> <li>Periodic Test I Begin</li> <li>Syllabus covered April &amp;July.</li> </ul>		
		Class Test-	- Syllabus covered in the month of July		
4.	August	Hornbill Snapshot Writing Skills Activity Class Test	<ul> <li>The Ailing Planet</li> <li>Birth</li> <li>Report writing</li> <li>Write a paragraph about random act of bravery.</li> <li>Syllabus covered in the month of August</li> </ul>		
5.	September	Hornbil/ Poem Snapshot Writing Skills	<ul> <li>The Adventure</li> <li>Childhood</li> <li>Mother's day</li> <li>Letter to editor,</li> <li>Half yearly Examination begins</li> <li>Syllabus covered April to September</li> </ul>		
6.	October	Hornbill Poem Snapshot Writing Skills Activity Class Test	<ul> <li>The Silk road</li> <li>Father to son.</li> <li>The Tale of melon City</li> <li>Letter to authorities</li> <li>Poster making (make a poster on the topic Save trees)</li> <li>Syllabus covered in the month of October</li> </ul>		
7.	November	Hornbill Snapshot Writing Skills Activity	<ul> <li>Revision</li> <li>The tale of melon city, Revision</li> <li>Debate writing</li> <li>'A.I are the future of education'</li> <li>Write a debate either or against the motion.</li> <li>Periodic Test II Begin</li> <li>Syllabus covered October &amp; November</li> </ul>		
8.	December	Revision Writing Skills	- - Job Application		
9.	January		- Pre-Final Exams		
10.	February		- Pre-Final Exams		

**11.** 

March

# **SUBJECT: PHYSICS**

S. No.	Month	Syllabus to be covered		
1.	April			<b>Mathematical Tools</b>
2.	May	Chapter - 2	-	Units and Measurements
		Chapter - 3	-	Motion in a Straight Line
		Practical No 1	-	To measure diameter of a small spherical/cylindrical
				body and to measure internal diameter and depth of a
				given beaker/calorimeter using Vernier Callipers and
				hence find its volume.
		Practical No 2	-	To measure diameter of a given wire and thickness of a
				given sheet using screw gauge.
		Class Test	-	Chapters/ topics covered in month of April.
3.	June	Chapter - 4	-	Motion in a Plane
		Chapter - 5	-	Laws of Motion
		Practical No 3	-	To determine the mass of two different objects using a
				beam balance.
		Practical No 4	-	To find the weight of a given body using parallelogram
			-	law of vectors.
		Class Test	-	Chapters/ topics covered in month of May.
		Revision	-	
4.	July	Chapter - 6	-	Work, Energy and Power
		Chapter - 7	-	System of Particles and Rotational Motion
			-	Periodic Test I Begin
			-	Syllabus covered in the month of April and July.
5.	August	Chapter - 8	-	Gravitation
		Practical No 5	-	To study variation of time period of a simple pendulum
				of a given length by taking bobs of same size but
				different masses and interpret the result.
7.	September	Chapter - 9	-	Mechanical Properties of Solids
			-	Half Yearly Exams
8.	October	Practical No	-	To study the relationship between force of limiting
				friction and normal reaction and to find the co- efficient
				of friction between a block and a horizontal surface.

To determine Young's modulus of elasticity of the

Practical No. - 7

			mate	erial of a given wire.
		Chapter - 10	-	Mechanical Properties of Fluids
		Chapter - 11	-	Thermal Properties of Matter
		Practical No 8	-	To determine specific heat capacity of a given solid by
				method of mixtures.
		Class Test	-	Chapters/ topics covered in month of October.
9.	November	Chapter - 12	-	Thermodynamics
		Chapter - 13	-	Kinetic Theory
		Class Test	-	Chapters/ topics covered in month of November.
10.	December	Chapter - 14	-	Oscillations
		Class Test	-	Chapters/ topics covered in month of December.
11.	January		-	Revision
12.	February		-	Pre - Final

- Final Examinations

**SUBJECT: CHEMISTRY** 

#### S. No. Month

## Syllabus to be covered

1. April

May

2.

**Fundamentals of chemistry** 

**Unit I: Some Basic Concepts of Chemistry** 

**Unit II: Structure of Atom** 

Class Test - Chapters/topics covered in month of April.

**Unit III: Classification of Elements and Periodicity in Properties** 

Class Test - Chapters/ topics covered in month of May.

PRACTICAL

Micro - chemical methods are available for several of the practical experiments, wherever possible such techniques should be used.

#### A. Basic Laboratory Techniques

- 1. Cutting glass tube and glass rod
- 2. Bending a glass tube
- 3. Drawing out a glass jet
- 4. Boring a cork

#### B. Characterization and Purification of Chemical Substances

- 1. Determination of melting point of an organic compound.
- 2. Determination of boiling point of an organic compound.
- 3. Crystallization of impure sample of any one of the following: Alum, Copper Sulphate, Benzoic Acid.

#### C. Experiments based on pH

- Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
- 1. Any one of the following experiments:
- Comparing the pH of solutions of strong and weak acids of same concentration. Study the pH change in the titration of a strong base using universal indicator.
- 2. Study the pH change by common-ion in case of weak acids and weak bases.

Revision.

Periodic Test II Begin

Syllabus covered in the month of July and August.

#### 3. June

#### **Unit IV: Chemical Bonding and Molecular Structure**

Revision- Chapters covered in month from July to September. PRACTICALS:-

#### D. Chemical Equilibrium

*One of the following experiments:* 

- 1. Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.
- 2. Study the shift in equilibrium between [Co(H2O)6]2+ and chloride ions by changing the concentration of either of the ions.

#### 4. July

Unit V: Chemical Thermodynamics
Unit VI: Equilibrium
PRACTICALS:-

**E. Quantitative Estimation** 

- 1. Using a mechanical balance/electronic balance.
- 2. Preparation of standard solution of Oxalic acid.
- 3. Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.
- 4. Preparation of standard solution of Sodium carbonate.
- 5. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

Class Test- Chapters/ topics covered in month of October.

#### 5. August Unit VII: Redox Reactions

#### PRACTICALS:-

F. Qualitative Analysis

1. Determination of one anion and one cation in a given salt

Cation:

Pb2+, Cu2+ As3+, Al3+, Fe3+, Mn2+, Zn2+, Ni2+, Ca2+, Sr2+, Ba2+, Mg2+, NH4+

Anions:

(CO3)2-, S2-, (SO3)2-, (NO2)-, (SO4)2-, Cℓ-, Br-, I-, (PO4)3-, (C2O4)2-, CH3COO-,

NO3-

(Note: Insoluble salts excluded)

2. Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

Class Test- Chapters/ topics covered in month of November.

#### 6. September HALF YEARLY EXAMS

7. October Unit IX: Organic Chemistry - Some Basic Principles and Techniques

Class Test - Chapters/topics covered in month December

8. November Unit XIII: Hydrocarbons

Class Test - Chapters/topics covered in month January

9. December PRACTICALS REVISION

LAB MANUAL WRITTEN WORKS

**REVISION** 

10. January REVISION

11. February PRE-FINAL

12. March FINAL EXAMS

**SUBJECT: BIOLOGY** 

S. No. Month Syllabus to be covered

1. **April Chapter - 1**: The Living World

Chapter - 2: Biological Classification

2. May Chapter - 3 : Plant Kingdom

Class Test - Chapters/topics covered in month July

**Chapter - 4:** Animal Kingdom

Experiment 1:- Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams), type of root (tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).

Class Test- Chapters/topics covered in month of August.

Revision.

3. **June Chapter - 5:** *Morphology of Flowering Plants* 

**Chapter - 6:** Anatomy of Flowering Plants

Experiment 2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).

Experiment - 3. Study of osmosis by potato osmometer.

Experiment - 4. Study of plasmolysis in epidermal peels

(e.g. Rhoeo / lily leaves or flashy scale leaves of onion bulb).

Class Test - Chapters/topics covered in month of september.

**4. July Chapter - 7:** *Structural Organisation in Animals* 

**Chapter - 8:** *Cell - The Unit of Life* 

**Periodic Test II Begin** 

Syllabus covered in the month of April to July.

5. August Chapter - 9: Biomolecules

Experiment - 5. Study of distribution of stomata on the upper and lower surfaces of leaves.

Experiment - 6. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.

Class Test - Chapters/ topics covered in month of October

6. September Chapter - 10: Cell Cycle and Cell Division HALF YEARLY EXAMS

7. October **Chapter - 13: Photosynthesis in Higher Plants Chapter - 14: Respiration in Plants** Experiment 7. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials. Experiment - 8. Separation of plant pigments through paper chromatography. Experiment - 9. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds. Class Test- Chapters/topics covered in month of November. 8. **November** Chapter - 15: Plant - Growth and Development **Chapter - 17: Breathing and Exchange of Gases Chapter - 18: Body Fluids and Circulation** Study and Observe the following (spotting): 1. Parts of a compound microscope. 2. Specimens/slides/models and identification with reasons - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen. 3. Virtual specimens/slides/models and identifying features of - Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit. Class Test- Chapters/topics covered in month of December 9. **December Chapter - 19: Excretory Products and their Elimination Chapter - 20: Locomotion and Movement Chapter - 21: Neural Control and Coordination Chapter - 22: Chemical Coordination and Integration** Class Test- Chapters/topics covered in month of January **10**. **January** Study and Observe the following (spotting): 4. Mitosis in onion root tip cells and animals cells (grasshopper) from permanent slides. 5. Different types of inflorescence (cymose and racemose). 6. Human skeleton and different types of joints with the help of virtual images/models only. REVISION 11. **February** REVISION **12.** March **FINAL EXAMS** 

# **SUBJECT: MATHEMATICS**

S. No. Month Syllabus to be covered

1.	April	Ch.1 Ch.2 Activity		Sets Relations & Functions 1 and 4
2.	Мау	Ch.3 Ch.4 Activity Class Test	- - -	Trigonometric Functions Complex Numbers and Quadratic Equations 7 and 8 Chapters/ topics covered in month of April and May.
3.	June	Ch.5	-	Linear Inequalities
4.	July	Ch.6 Activity	- - -	Permutations and Combinations 14 and 15 Periodic Test I Begin Syllabus covered in the month of April to July.
5.	August	Ch.7 Ch.8 Ch.9 Activity Class Test	- - - -	Binomial Theorem Sequence and Series Straight Lines 17 and 18 Chapters/ topics covered in month of August.
6.	September	Ch.10 Activity	- - -	Conic Sections 22 HALF YEARLY EXAMS Syllabus covered in the month of April to August.
7.	October	Ch.11 Ch.12 Activity Class Test	- - -	Introduction to Three-dimensional Geometry Limits and Derivatives 25 and 26 Chapters/ topics covered in month of October.
8.	November	Ch.13 Ch.14 Activity Class Test	- - -	Statistics Probability 29 and 30 Chapters/ topics covered in month of November.
9.	December		-	Periodic Test II Begin Syllabus covered in the month of October to December.
10.	January		-	REVISION
11.	February		-	PRE – FINAL EXAMS
12.	March		-	FINAL EXAMS

## **SUBJECT: PHYSICAL EDUCATION**

#### S. No. Month

#### Syllabus to be covered

#### 1. April

#### **Unit I Changing Trends & Career in Physical Education**

- Concept, Aims & Objectives of Physical Education
- Changing Trends in Sports- playing surface, wearable gears and sports equipment, technological advancements
- Career Options in Physical Education
- Khelo-India and Fit-India Program

#### 2. May

#### **Unit II Olympism**

- Ancient and Modern Olympics
- Olympism Concept and Olympics Values
   The Concept and Olympics Values

(Excellence, Friendship & Respect)

- Olympics Symbols, Motto, Flag, Oath, and Anthem
- Olympic Movement Structure IOC, NOC, IFS, Other members

#### **Unit III Yoga**

- Meaning & Importance of Yoga
- Introduction to Ashtanga Yoga
- Introduction to Yogic Kriyas (Shat Karma)

#### 3. June

# **Unit IV Physical Education & Sports for CWSN (Children with Special Needs - Divyang)**

- Concept of Disability and Disorder
- Types of Disability, its causes & nature (Intellectual disability, Physical disability)
- Aim & Objective of Adaptive Physical Education
- Role of various professionals for children with special needs (Counsellor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist & Special Educator)

#### 4. July

#### Unit V Physical Fitness, Health and Wellness

- Meaning and Importance of Wellness, Health and Physical Fitness
- Components/Dimensions of Wellness, Health and Physical Fitness
- Traditional Sports & Regional Games for promoting wellness

#### Periodic Test I Begin

Syllabus covered in the month of April to July

#### 5. August

#### **Unit VI Test, Measurement & Evaluation**

- Concept of Test, Measurement & Evaluation in Physical Education & sports.
- Classification of Test in Physical Education and Sports.
- Test administration guidelines in physical education and sports

#### 6. September

#### Unit VII Fundamentals of Anatomy, Physiology in Sports

- Definition and Importance of Anatomy and Physiology in exercise and sports
- Functions of Skeletal system, classification of bone and types of joints.
- Function and Structure of Circulatory system and heart.
- Function and Structure of Respiratory system.

#### **Half Yearly Examination Begin**

Syllabus covered from April to August

#### 7. October

#### **Unit VIII Fundamentals of Kinesiology and Biomechanics in Sports**

- Definition and Importance of Kinesiology and Biomechanics in sports
- Principles of Biomechanics
- Types of Body Movements Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation
- Axis and Planes Concept and its application in body movements

#### 8. November

#### **Unit IX Psychology & Sports**

- Definition & Importance of Psychology in Physical Education & Sports
- Adolescent Problems & Their Management
- Team Cohesion and Sports

#### 9. December

#### **Unit X Training and Doping in Sports**

- Concept and Principles of Sports Training
- Training Load: Over Load, Adaptation, and Recovery
- Concept of Doping and its disadvantages

#### Periodic Test II Begin

Syllabus covered in the month of October and November

- 10. January
- **REVISION**
- 11. February

Pre-final

12. March

Final Exams Begin.

**SUBJECT: COMPUTER** 

#### 1. April Computer System and Organisation.

Basic computer organisation: description of a computer system and mobile system, CPU, memory, harddisk, I/O, battery.

Types of software :application, System, utility Memory Units: bit, byte, MB, GB, TB, and PB

Boolean logic: OR, AND, NAND, NOR, XOR, NOT, truth tables, De Morgan's laws

Information representation: numbers in base 2, 8, 16, binary addition Strings: ASCII, UTF8, UTF32, ISCII (Indian script code), Unicode Basic concepts of Flowchart

Concept of Compiler & Interpreter

Running a program: Notion of an operating system, how an operating system runs a program, idea of loading, operating system as are source manager.

Concept of cloud computing, cloud (public/private), introduction to parallel computing.

#### 2. May Unit -II Computational Thinking and Programming

Basics of Computational Thinking: Decomposition, Pattern Recognition/Data representation, Generalization/Data Abstraction and algorithm.

Familiarization with the basics of Python programming: a simple "hello world" program, process of writing approgram (Interactive & Script mode), running it, and print statements; simple data - types: integer, float, string

- Features of Python, Python Character Set, Token & Identifiers, Keywords, Literals, Delimiters, operators.
- Comments: (Single line & Multiline / Continuation statements), Clarity & Simplification of expression.
- Introduce the notion of a variable, and methods to manipulate it (Concept of L-value and R-value even if not taught explicitly).
- Knowledge of data types and operators: accepting input from the console, assignment Statement, expressions, operators and their precedence.

### 3. July Unit - II Computational Thinking and Programming

Operators & types: Binary operators-Arithmetic, Relational operators, Logical Operators, Augmented Assignment operators.

- Conditional statements: if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, and divisibility.
- Notion of iterative computation and control flow: for range (), Len (), while, flowcharts, suggested programs: interest calculation and factorials, etc.
- Idea of debugging: errors and exceptions; debugging: pdb, break points.
- Lists, tuples and dictionary: finding the maximum, minimum, mean; linear search on list/tuple of numbers, and counting the frequency of elements in a list using a dictionary. Introduce the notion of accessing elements in a collection using numbers and names.
- Sorting algorithm: bubble and insertion sort; count the number of operation while sorting.
- Strings: Traversing, compare, concat, substring.
- Introduction to Python modules: Importing math (sqrt, cell, floor, pow, abs, sin, cos, tan, random (random, randint, randrange), statistics (mean, median, mode) modules.

Make 10 programs on if ,if else, elif and iterative statements

Periodic Test - I Begin Syllabus covered up to July

**5. August** *Unit 3 Data Management* 

Relational data bases: Concept of a database, relations, attributes and tuples, keyscandidate key, primary key, alternate key, foreign key; Degree and cardinality of a table. Use SQL – DDL/DML commands to CREATE TABLE, INSERT INTO, UPDATE TABLE,

DELETE FROM, ALTERTABLE, MODIFY TABLE, DROP TABLE.

Class test - Syllabus covered in the month of August

Activity - Make 10 basic programs in python

**6. September** *Unit 4 Data Management* 

keys, and foreign keys; to view content of a table: SELECT FROM- WHERE-ORDERBY

along with BETWEEN, IN,LIKE, (Queries only on single table)

Aggregate functions-MIN, MAX, AVG, COUNT, SUM

Basics of NoSQL databases.

Class test - Syllabus covered up to September

**Half Yearly Examination Begin** 

Syllabus covered From April to September

**7. October** *Unit 5 Society, Law and Ethics-Cyber safety* 

• Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying

networks, cyber trons and bunying

• Appropriate usage of social networks: spread of rumours, and common social networking sites Twitter, LinkedIn, and Facebook) and specific usage rules.

Class test- Syllabus covered in the month of October

**Activity** Make 10 programs on list, tuple and Dictionary

**8. November** *Unit 6 Society, Law and Ethics-Cyber safety* 

• Safely accessing websites: adware, malware, viruses, Trojans

• Safelycommunicatingdata:secureconnections,eavesdropping,phishingand identity

verification

Periodic Test - II Begin

Syllabus covered in the month of October & November

Class test - Syllabus covered in the month of November

9. December Class test - Syllabus covered in the month December

Make a chart on Cyber safety and Rules.

10. January Class test and Revision of whole Syllabus covered

11. February Class test and Revision of whole Syllabus covered

12. March Annual Examination Begins

Syllabus covered from April to February

## **SUBJECT: HOME SCIENCE**

S. No. Month Syllabus to be covered

**1.** April Unit I: Introduction to Home Science

2.	May	Unit II:	Understanding oneself: Adolescence	
		Chapter-02-	Understanding the Self	
3.	June	SUMMER VACATIONS		
4.	July	Chapter-03-	Food, Nutrition, Health and Fitness	
		Class Test-	Chapters/ topics covered in month of July.	
5.	August	Chapter-04 -	Management of Resources	
		Chapter-05-	Fabric Around us	
		Chapter-06-	Media and Communication Technology	
		Class Test-	Chapters/topics covered in month of August.	
6.	September	Unit III:	Understating family, community and society	
		Chapter-07 -	Concerns and needs in diverse contexts:	
		a. Nutrition, I	Health and Hygiene	
		b. Resources A	Availability and Management	
		HALF YEAR	LY EXAMS	
7.	October	Unit IV:	Childhood	
		Chapter-08-	Survival, Growth and Development	
		Chapter-09-	Nutrition, Health and Wellbeing	
		Chapter-10-	Our Apparel	
		Class Test-	Chapters/ topics covered in month of October.	
8.	November	Unit: V	Adulthood	
		Chapter-11-	Health and Wellness	
		Chapter-12-	Financial Management and planning	
		Chapter-13-	Care and Maintenance of fabrics Class	
		Test-	Chapters/topics covered in month of November.	
9.	December	Revision		
		Class Test-	Chapters/topics covered in month December.	
10.	January	Revision		
11.	February	EXTERNALI	PRACTICLES	
		REVISION		
12.	March	FINAL EXAN	<b>MS</b>	

**SUBJECT: PAINTING** 

S. No.	Month	Syllabus to be covered		
1.	April	UNIT - 1 - Activity -	Introduction of art Land scape	
2.	May	Topic - Activity -	Six limbs of Indian Art, Principles and elements of Visual art Still life – (pot, fruits, bottle)	
3.	June	Revision -	Introduction of Indian Art (Pal school, Jain School ,Central Indian School)	
4.	July	Revision - -	Syllabus covered in the month of April to July. Periodic Test I Begin	
5.	August	UNIT-2 - -	Origin and development of Rajasthani School of art  Any composition	
6.	September	Topic - Class Test -	Sub school of Rajasthani school of art (Mewar and its painting Maru ragini) Topics covered in month of August and September HALF YEARLY EXAMS	
7.	October	Sub school Activity - Class Test -	Bikaner, Kishangarh, Jaipur, Jodhpur. Main features of Rajasthani School of art Painting of Radha (Bani-Thani) Topics covered in month of October	
8.	November	UNIT-3 - Sub school - Activity -	Origin and development of Pahari School of art Kangra and Basohli (Sub-school) Folk art	
9.	December	- Class Test - -	Paintings of Pahari School of art. Main features of Pahari School of art Topics covered in month of November and December. Periodic Test II Begin Syllabus covered in the month of October to December.	
10.	January	-	Revision / Pre-final exams	
11.	February	-	Revision / Pre-final exams	

- FINAL EXAMS

**12.** 

March