SYLLABUS FOR THE YEAR 2022-2023

CLASS : XI (SCIENCE)

SUBJECT ENGLISH CORE		
Term I	**Reading**	Unseen Passage to assess comprehension, interpretation and Inference. The passage may be factual, descriptive or literary. Unseen case-based passage with verbal/visual inputs like statistical data, charts etc. ***Multiple Choice Questions/ Objective Type Questions will be asked.*** Note Making and Summarization based on a passage.
	Writing	Short writing Task –Poster. Writing a Speech in 120-150 words on verbal/visual cues related to some contemporary/ age-appropriate topic
	Grammar	Questions on Gap filling (Tenses, Clauses) and re-ordering/transformation of sentences
	Literature : Hornbill : Prose	Chapter 1 – The Portrait of a Lady. Chapter 2 "We're Not Afraid to Die…… Chapter 3 – Discovering Tut the Saga Continues Chapter 7. The Adventure
	Poetry	A Photograph, The Laburnam Top and The Voice of the Rain
	Snapshots	Chapter 1- The Summer of the Beautiful White Horse Chapter 2. The Address Chapter 5. Mother's Day
Term II	**Reading**	Unseen Passage to assess comprehension, interpretation and Inference. The passage may be factual, descriptive or literary. ***Multiple Choice Questions/ Objective Type Questions will be asked.***
	Writing	Writing a Speech in 120-150 words on verbal/visual cues related to some contemporary/ age-appropriate topic. **Full Course according to CBSE Syllabus**
	Grammar	Tenses, Gap filling/ Transformation of Sentences **Full Course according to CBSE Syllabus**
	Prose: Hornbill	Chapter 8 Silk Road. **Full Course according to CBSE Syllabus**
	Poetry	Childhood, Father to Son. **Full Course according to CBSE Syllabus**
	Snapshot	Chapter 7 Birth and Chapter 8 The Tale of the Melon City **Full Course according to CBSE Syllabus**

SUBJECT ENGLISH CORE		
INTERNAL ASSESSMENT		Assessment of Listening Skills Assessment of Speaking Skills Project Work
DELETED CHAPTERS	**Hornbill**	Chapter 4. Landscape of the Soul Chapter 5. The Ailing Planet Chapter 6. Browning Version
	Snapshots	Chapter 3. Ranga's Marriage Chapter 4. Albert Einstein at School Chapter 6. The Ghat of the only World

PHYSICS	
Term I	**ACCORDING TO NCERT BOOK** CHAPTER: - 2 : UNITS AND MEASUREMENT CHAPTER: - 3 MOTION IN A STRAIGHT LINE CHAPTER: - 2 : UNITS AND MEASUREMENT CHAPTER: - 3 : MOTION IN A STRAIGHT LINE CHAPTER: - 4 : MOTION IN A PLANE CHAPTER: - 5 : LAWS OF MOTION

PHYSICS	
Term I	CHAPTER: - 6 : WORK, ENERGY, POWER CHAPTER: - 7 : SYSTEM OF PARTICLES AND ROTATIONAL MOTION CHAPTER: - 8 : GRAVITATION CHAPTER: - 9 : MECHANICAL PROPERTIES OF MATTER CHAPTER: - 10 : MECHANICAL PROPERTIES OF FLUIDS CHAPTER: - 11 : THERMAL PROPERTIES OF MATTER
Term II	**ACCORDING TO NCERT BOOK** CHAPTER: - 12 : THERMODYNAMICS **FULL COURSE AS PER CBSE SYLLABUS 2022-23**
IMPORTANT NOTE: - THE CONTENT INDICATED IN NCERT TEXTBOOKS AS EXCLUDED FOR THE SESSION 2022-23 IS NOT INCLUDED AND IS NOT TO BE TESTED IN ANY EXAMS. FOLLOW THE LATEST SYLLABUS STRICTLY FOR THE SESSION 2022-23.	

Physics Practical

The record, to be submitted by the students, at the time of their annual examination, has to include:

- Record of at least 8 Experiments [with 4 from each section], to be performed by the students.
- Record of at least 6 Activities [with 3 each from section A and section B], to be performed by the students.
- Report of the project carried out by the students.

EVALUATION SCHEME

Time 3 hours Max. Marks: 30

Topic	Marks
Two experiments one from each section	7+7
One activity from any section	3
Practical record (experiment and activities)	5
Investigatory Project	3
Viva on experiments, activities and project	5
Total	**30**

Section-A

Experiments

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.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To find the weight of a given body using parallelogram law of vectors.
6. Using a simple pendulum, plot its L-T2 graph and use it to find the effective length of second's pendulum.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).
3. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

Section-B

Experiments:-

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting a graph between load and extension.
3. To study the relation between frequency and length of a given wire under constant tension using sonometer.
4. To study the relation between the length of a given wire and tension for constant frequency using sonometer.

5. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

Activities:-

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To study the effect of detergent on surface tension of water by observing capillary rise.

CHEMISTRY	
Term I	Chapter No. 1 Some Basic Concepts of Chemistry Chapter No. 2 : Structure of Atom Chapter No. 3 : Classification of Elements and Periodicity in Properties Chapter No. : 4 : Chemical Bonding and Molecular Structure Chapter No. 5 : Chemical Thermodynamics Chapter No. 7 : Redox Reactions Chapter No. 8 : Organic Chemistry : Some Basic Principles and Techniques
Term II	Chapter No. 6 : Equilibrium
	Full Course (As per the CBSE reduced Syllabus 2022-23)

Chemistry Practical

Time 3 hours Max. Marks: 30

Evaluation Scheme for Examination	**Marks**
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project Work	04
Class record and viva	04
Total	**30**

PRACTICAL SYLLABUS **Total Periods: 60**

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, CopperSulphate, Benzoic Acid.

C. Experiments based on pH

1. Any one of the following experiments:

- 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.
- Comparing the pH of solutions of strong and weak acids of same concentration. Study the pH change in the titration of a strong baseusing universal indicator.

2. Study the pH change by common-ion in case of weak acids and weak bases.

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 $[Co(H_2O)6]^{2+}$ and chloride ions by changingthe concentration of either of the ions.

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 itagainst 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.

F. Qualitative Analysis

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

Cation:

Pb^{2+}, Cu^{2+} As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Zn^{2+}, Ni^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH^{+}

Anions:

$(CO_3)^{2-}$, S^{2-}, $(SO_3)^{2-}$, $(NO_2)^{-}$, $(SO_4)^{2-}$, Cl^{-}, Br^{-}, I^{-}, $(PO_4)^{3-}$, $(C_2O_4)^{2-}$, CH_3COO^{-}, NO^{-}

(Note: Insoluble salts excluded)

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

G. PROJECTS

Scientific investigations involving laboratory testing and collecting information from othersources.
A few suggested Projects

- Checking the bacterial contamination in drinking water by testing sulphide ion
- Study of the methods of purification of water
- Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
- Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it
- Study the acidity of different samples of tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study the effect of acids and bases on the tensile strength of fibers.
- Study of acidity of fruit and vegetable juices.

BIOLOGY	
Term I	Chapter 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14 and 15
Term II	Chapter 17, 18, 19 Full Course Chapter 1 to 22
	(Deleted Chapters 11, 12 and 16)

BIOLOGY PRACTICALS

Time: 03 Hours Max. Marks: 30

Evaluation Scheme		Marks
One Major Experiment Part A (Experiment No- 1,3,7,8)		5 Marks
One Minor Experiment Part A (Experiment No- 6,9,10,11,12,13)		4 Marks
Slide Preparation Part A (Experiment No- 2,4,5)		5 Marks
Spotting Part B		7 Marks
Practical Record + Viva Voce	(Credit to the students' work over the academic session may be given)	4 Marks
Project Record + Viva Voce		5 Marks
Total		30Marks

A: List of Experiments

1. Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can besubstituted 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).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale leaves of

onion bulb).

5. Study of distribution of stomata on the upper and lower surfaces of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.
7. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.
8. Separation of plant pigments through paper chromatography.
9. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
10. Test for presence of urea in urine.
11. Test for presence of sugar in urine.
12. Test for presence of albumin in urine.
13. Test for presence of bile salts in urine.

B. 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.
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.

<table>
<tr><th colspan="3">MATHEMATICS</th></tr>
<tr><td>Term I</td><td colspan="2">Chapter 1, 2, 3, 5, 6, 7, 9, 10, 12, 15 and 16</td></tr>
<tr><td>Term II</td><td colspan="2">33% internal choices will be given
Full Course other than Chapter 4, 14
*Please refer CBSE reduced syllabus 2023</td></tr>
<tr><td colspan="3">Maths Activity : Throughout the Academic Session any 10 activities shall be performed by a student out of 10, One will be given in an year end test on the activity. Activities No. 1, 2, 3, 6, 10, 13, 15, 28, 32, 33 from Mathematics Lab Manual Class XI Published by NCERT.</td></tr>
<tr><td></td><td><table>
<tr><td>Record Keeping</td><td>5 marks</td></tr>
<tr><td>Year End Test</td><td>3 marks</td></tr>
<tr><td>Viva Voce</td><td>2 marks</td></tr>
<tr><td>Total</td><td>10 marks</td></tr>
<tr><td>Grand Total</td><td>20 marks</td></tr>
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<tr><th colspan="3">ENTREPRENEURSHIP</th></tr>
<tr><td>Term I</td><td colspan="2">Unit 1 : Entrepreneurship : Concept and Functions
Unit 2 : An Entrepreneur
Unit 3: Entrepreneurial Journey
Unit 4: Entrepreneurship as innovation and problem solving.</td></tr>
<tr><td>Term II</td><td colspan="2">Unit 5: Concept of Market
Unit 6: Business Finance and Arithmetic
Unit 7: Resource mobilization
Unit 1, 2, 3, 4, 5, 6 and 7 + Project Work</td></tr>
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CLASS: XI (Sub: Computer Sc. [New]083)

Term I

Unit I: Computer Systems and Organization

- Basic Computer Organisation
- Types of Softwares
- Operating systems
- Boolean Logic
- Number System
- Encoding Schemes
- Concept of Compiler and Interpreter

Unit II: Computational Thinking and Programming-1

- Introduction to problem solving
- Familiarization with the basics of Python Programming

1. Features of Python, Character set, token, identifiers, keywords, literals, delimiters, operators, comments, notion of a variable and methods of manipulate it.
2. Knowledge of Data Types and operators, operator types and operations.
3. Operators, Expressions, statement, type conversion and Input/output.
4. Errors
5. Flow of Control
6. Conditional statements

Unit-II: Computational Thinking and Programming-1 continued….

7. Iterative computation and control flow
8. Strings
9. Lists

Weightage Unit-I : 20 marks Unit-II : 50 marks **Total :** 70 marks

Practical Examination and Project as per CBSE Guidelines

Term II

Unit II: Computational Thinking and Programming-1 continued….

10. Tuples
11. Dictionary
12. Introduction to python modules

Unit III: Society, Law, and Ethics

- Digital Footprints
- Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR(plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)

Term II

- Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls, andbullying
- Safely accessing web sites: malware, viruses, trojans, adware
- E-waste management: proper disposal of used electronic gadgets
- Indian Information Technology Act (IT Act)
- Technology & Society: Gender and disability issues while teaching and using computers

Weightage Unit-I: 10 marks Unit-II:45 marks Unit-III:15 marks **Total:** 70 marks

Note: **Revision:** Term I

Practical Examination and Project as per CBSE guidelines