Class – XI Syllabus (Science Group)

Computer Science (083)

Unit Test – 1st (Apr to 15th July course) UT-I date (17th July to 26th July)

Chapter – 1 Computer System Overview

Chapter – 2 Data Representation

Chapter – 3 Boolean Logic

Unit Test I + Half Yearly Exam (Aug to Sep course)- H.Y Exam date [4th Oct to 18th Oct 2025]

Chapter – 5 Introduction to Problem solving

Chapter - 6 Getting started with python

Chapter – 7 Python Fundamentals

Chapter – 8 Data Handling

Unit Test – 2nd (Oct course) – Unit Test-II date [14th Dec to 24th Dec 2025]

Chapter – 9 Flow of control

Chapter – 10 String Manipulation

Remaining Course (Nov to Jan)

Chapter – 11 List Manipulations

Chapter – 12 Tuples

Chapter – 13 Dictionaries

Chapter - -- Introduction to Python modules

Chapter – 17 Society, Law and Ethics

Annual Exam [29th Feb to 13th March 2026]--Complete Course (Whole course)

Practical: 1. Lab Test (12 marks)

2. Report File + Viva (10 marks) Report file: Minimum 20 Python programs

3. Project (that uses most of the concepts that have been learnt 8 marks)

(See CS-XII for the rules regarding the projects)

Physics (042)

Unit Test – 1st (Apr to 15th July course) UT-I date (17th July to 26th July)

Chapter – 1 Unit and Measurement

Chapter – 2 Motion in Straight line

Half Yearly Exam (Aug to Sep course)- H.Y Exam date [4th Oct to 18th Oct 2025]

Unit Test I +

Chapter – 3 Motion in Plane

Chapter – 4 Laws of Motion

Chapter – 5 Work power and energy

Chapter - 6 System of particle rotational motion

Chapter – 7 Gravitation

Unit Test – 2nd (Oct course) – Unit Test-II date [14th Dec to 24th Dec 2025]

Chapter – 8 Mechanical properties of solid

Chapter – 9 Mechanical properties of fluids

Chapter – 11 Thermal properties of matter

Chapter – 12 Thermodynamics

Remaining course- (Nov to Jan)

Chapter – 13 Kinetic theory

Chapter – 14 Oscillations

Chapter – 15 Waves

Annual Exam [29th Feb to 13th March 2026]--Complete Course

Practical:

EVALUATION SCHEME

Time 3 hours Max. Marks: 30

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

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 determine the mass of two different objects using a beam balance.

6. To find the weight of a given body using parallelogram law of vectors.

7. Using a simple pendulum, plot its L-T2 graph and use it to find the effective length of second's pendulum.

8. 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.

9. 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.

10. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting graph between force and Sinθ.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).
7. 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 variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and 1/V.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. To determine specific heat capacity of a given solid by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.
9. To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. 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 note the change in level of liquid in a container on heating and interpret the observations.

4. To study the effect of detergent on surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded at (i) its end (ii) in the middle.
7. To observe the decrease in pressure with increase in velocity of a fluid.

CHEMISTRY (043)

Unit Test – 1st (Apr to 15th July course) UT-I date (17th July to 26th July)

Chapter – 1 Some basic concepts of chemistry

Chapter – 2 Structure of atom

Half Yearly Exam (Aug to Sep course)- H.Y Exam date [4th Oct to 18th Oct 2025]

Chapter – 3 Classification of elements and periodicity in properties.

Chapter – 4 Chemical bonding and molecular structure

Chapter – 5 Redox Reaction **+U.T-I course**

Unit Test – 2nd (Oct course) – Unit Test-II date[14th Dec to 24th Dec 2025]

Chapter – 6 Organic Chemistry: Some basic principle and techniques.

Chapter – 7 Hydrocarbon

Remaining Course (Nov to Jan)

Chapter – 8 Chemical Equilibrium

Chapter – 9 Chemical Thermodynamics

Annual Exam [29th Feb to 13th March 2026]--Complete Course

PRACTICALS

3 HOURS/ 30 Marks

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

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

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 base using 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(H2O)6]2+ and chloride ions by changing the 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 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.

F. Qualitative Analysis

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

Cation:

$Pb^{2+,}$ Cu^{2+} As^{3+}, $A\ell^{3+}$, Fe^{3+}, Mn^{2+}, Zn^{2+}, Ni^{2+}, Ca_2+, Sr_2+, Ba^{2+}, Mg^{2+}, NH^{4+}

Anions:

$(CO_3)^{2-}$, S2-, $(SO_3)^{2-}$, $(NO_2)^{-}$, $(SO_4)^{2-}$, $C\ell^{-}$, Br^{-}, I^{-}, $(PO_4)^{3-}$, $(C_2O_4)^{2-}$, CH_3COO^{-}, NO_3^{-}

(Note: Insoluble salts excluded)

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

G. PROJECTS

Scientific investigations involving laboratory testing and collecting information from other sources.

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.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

Class – 11th (Biology) (044)

Unit Test – 1st (Apr to 15th July course) UT-I date (17th July to 26th July)

Unit – 1

Chapters

1. The living world
2. Biological Classification
3. Plant Kingdom
4. Animal Kingdom

Half Yearly Exam (Aug to Sep course)- H.Y Exam date [4th Oct to 18th Oct 2025]

Unit – 2

Chapters

5. Morphology of Flowering plants
6. Anatomy of Flowering plants
7. Structural Organisation in Animals

Unit – 3

Chapters

8. Cell the Unit of Life
9. Biomolecules
10. Cell Cycle & Cell Division

Practical

A Major Experiments

A. Study and Describe locally available common flowering plant
B. Preparation and study T.S. of Dicot and Monocot Roots and stems

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.

Unit Test – 2nd (Oct course) – Unit Test-II date [14th Dec to 24th Dec 2025]

Unit – 4

Chapters

13. Photosynthesis in Higher plants
14. Respiration in plants
15. Plant growth and development

Remaining Course (Nov to Jan)

Unit – 5

Chapters

17. Breathing and exchange of Gases
18. Body Fluids and Circulation
19. Excretory products and their elimination
20. Locomotion and Movement
21. Neural control and Coordination
22. Chemical Coordination and integration

Annual Exam [29th Feb to 13th March 2026]--Complete Course

Practical

1. Study of Osmosis by potato Osmometer
2. Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale leaves of onion bulb).
3. Study of distribution of stomata on the upper and lower surfaces of leaves.
4. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.
5. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.
6. Separation of plant pigments through paper chromatography.
7. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
8. Test for presence of urea in urine.
9. Test for presence of sugar in urine.
10. Test for presence of albumin in urine.

11. Test for presence of bile salts in urine.

B. 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.

Mathematics (041)

Unit Test – 1st (Apr to 15th July course)

1. Sets

2. Relations & Functions

4. Complex Numbers & Quadratic Equations

Lab Activity/ Project – to be given by the teacher

Half Yearly Exam (Aug to Sep course)-

3. Trigonometric Functions

8. Sequence & Series

12. Limit & Derivatives

Unit Test – 2nd (Oct course) –

5. Linear Inequalities

6. Permutation & Combination

7. Binomial Theorem

9. Straight Lines

Lab Activity/ Project to be given by the teacher.

Remaining Course (Nov to Jan)

10. Conic Section
11. Introduction to 3-D Geometry
13. Statistics
14. Probability

Annual Exam [29th Feb to 13th March 2026]--Complete Course

HINDI (302)

क्षितिज भाग–1

Unit Test – 1st (Apr to 15th July course) UT-I date (17th July to 26th July)

काव्य खण्ड

पाठ–1 हम तौ एक–एक करि जाना (कबीरदास) पाठ-1 मेरे तो गरिधर गोपाल दूसरो ना कोई (मीरा)

गद्य खण्ड

पाठ–1 नमक का दारोगा (प्रेमचंद)

व्याकरण

पाठ–15 स्ववृत्त लेखन और रोज़गार संबंधी आवेदन पत्र

Half Yearly Exam (Aug to Sep course)- H.Y Exam date [4th Oct to 18th Oct 2025]

काव्य खण्ड

पाठ–5 घर की याद (भवानीप्रसाद मिश्र)

पाठ–6 चंपा काले काले अक्षर नही चीन्हती (त्रिलोचन) पाठ - 7 ग़ज़ल (दुष्यंत कुमार)

गद्य खण्ड

पाठ–2 मियॉ नसीरूद्दीन (कृष्णा सोवती)

पाठ–3 अपू के साथ ढाई साल (सत्यजित राय)

वितान भाग–1

पाठ–1 भारतीय गायिकाओं मे बेजोड़ लता मंगेशकर (कुमार गंधर्व)

अभिव्यक्ति और माध्यम

पाठ–1 जनसंचार माध्यम

पाठ–2 पत्रकारिता के विविध आयाम **+UT-I Course**

Unit Test – 2nd (Oct course) – Unit Test-II date[14th Dec to 24th Dec 2025]

काव्य खण्ड

पाठ–8 (i) हे भूख! मत मचल (अक्क महादेवी)

(ii) हे मेरे जूही के फूल जैसे ईश्वर

गद्य खण्ड

पाठ–4 विदाई संभाषण (बालमुकुन्द गुप्त)

पाठ–5 गलता लोहा (शेखर जोशी)

वितान भाग–1

पाठ–2 राजस्थान की रजत बूँदे (अनुपम मिश्र)

अभिव्यक्ति और माध्यम

पाठ–9 डायरी लिखने की कला
पाठ–10 कथा–पटकथा

Remaining Course (Nov to Jan)
काव्य खण्ड
पाठ–9 सबसे खतरनाक (अवतार सिंह पाश)
पाठ–10 आओ, मिलकर बचाएँ (निर्मला पुतुल)
गद्य खण्ड
पाठ–7 रजनी (मन्नू भण्डारी)
पाठ–8 जामुन का पेड़ (कृश्नचंदर)
पाठ–9 भारत माता (जवाहर लाल नेहरू)

वितान भाग–1

पाठ–3 आलो ऑधारि (बेबी हालदार)
अभिव्यक्ति और माध्यम
पाठ–14 कार्यालयी लेखन और प्रक्रिया
पाठ–16 कोश– एक परिचय
Annual Exam [29th Feb to 13th March 2026]--Complete Course

English

Unit Test – I (Apr to 15th July course) UT-I date (17th July to 26th July)

Horn Bill

- The Portrait of a lady (Prose)
- We're not Afraid to die (Prose)
- A Photograph (Poem)

Snap Shot

- The Summer of the Beautiful White horse

Grammar

- Tenses
- Sentences Reordering

Writing Skill

- Notice

Half Yearly (Aug to Sep course) H.Y Exam date (4th Oct to 18th Oct 2025) Unseen Passage

Section – B Writing & Grammar

- Notice
- Speech
- Debate

Grammar

- Tenses
- Re-ordering Sentences

Section – C (Literature & Supplementary)

Horn Bill

- Discovering Tut the saga continues
- The Laburnum top (Poem)

Snapshot

- The address

Project – Significance of school uniform

[Including Unit Test – I course]

Unit Test – II (Oct course)- UT-II date (14th Dec to 24th Dec 2025)

Unseen seen Passage (Section – A) Reading Skill

- Note Making

Section – B (Writing & Grammar)

- Poster Making
- Speech
- Questions based on error and correction (Grammar)

Section – C [Literature and supplementary]

Horn Bill

- The Adventure (Prose)
- The Voice of Rain (Poem)

Snap Shot

- Mothers day

Remaining course (Nov to Jan)

Section – A Reading Skill

- Unseen Passages
- Note making unseen

Section – B (Writing and Grammar)

- Posters
- Debate
- Speech
- Transformation of Sentences (Grammar)

Section – C (Literature and Supplementary)

Horn Bill

- Child Hood (Poem)
- Silk Road (Prose)
- Father to Son (Poem)

Snapshot

- Birth
- The tale of melon city

Project- Traditional media v/s Online/ Digital Media

[Including Unit Test – II Course]

Annual Examination – (29th Feb to 13th March 2026) - Complete course