Class – XI (Science)(2026-2027)

Detailed Syllabus - 2026 -2027

ENGLISH CORE
Subject Code – 301
Classes XI (2026-27)

One Theory Paper **Marks: 80**

Section	Competencies	Total Marks
Reading Skills	Conceptual understanding, decoding, Analyzing, inferring, interpreting, appreciating, literary, conventions and vocabulary, summarizing and using appropriate format/s.	26
Grammar and Creative Writing Skills	Conceptual Understanding, application of rules, Analysis, Reasoning, appropriate style and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity.	23
Literature Text Book and Supplementary Reading Text	Recalling, reasoning, appreciating literary convention, inference, analysis, creativity with fluency, Critical Thinking.	31
	TOTAL	80
Internal Assessment	Assessment of Listening and Speaking Skills • Listening • Speaking	10 5+5
	Project Work	10
	GRAND TOTAL	**80**

COURSE STRUCTURE

Learning Objectives

- listen and comprehend live as well as recorded oral presentations on a variety of topics
- develop greater confidence and proficiency in the use of language skills necessary for social and academic purpose to participate in group discussions and interviews, by making short oral presentation on given topics
- perceive the overall meaning and organisation of the text (i.e., correlation of the vital portions of the text)
- identify the central/main point and supporting details, etc., to build communicative competence in various lexicons of English
- promote advanced language skills with an aim to develop the skills of reasoning, drawing inferences, etc. through meaningful activities
- translate texts from mother tongue(s) into English and vice versa
- develop ability and acquire knowledge required in order to engage in independent reflection and enquiry
- read and comprehend extended texts (prescribed and non-prescribed) in the following genres: science fiction, drama, poetry, biography, autobiography, travel and sports literature, etc.
- text-based writing (i.e., writing in response to questions or tasks based on prescribed or unseen texts), understand and respond to lectures, speeches, etc.
- write expository / argumentative essays, explaining or developing a topic, arguing a case, etc, write formal/informal letters and applications for different purposes

- make use of contextual clues to infer meanings of unfamiliar vocabulary
- select, compile and collate information for an oral presentation
- produce unified paragraphs with adequate details and support
- use grammatical structures accurately and appropriately
- write items related to the workplace (minutes, memoranda, notices, summaries, reports etc.
- filling up of forms, preparing CV, e-mail messages., making notes from reference materials, recorded talks etc

Month	Topic
April/ May	1. The Portrait of a Lady 2. A Photograph 3. Posters 4. Notice Writing 5. Discovering Tut , The Saga Continues 6. Invitations and replies 7. Advertisements
July	1. The voice of the rain 2. Childhood 3. Father to Son 4. Note - Making
August	1. The Address 2. Birth 3. Articles & Reports
September	1. Letter Writing 2. Revision
October	1. The Summer of a Beautiful White Horse 2. Speech & Debate
November	1. Mother's Day 2. The Tale of Melon City
December	1. A.L.S 2. Unseen Passage
January	1. Grammar 2. Revision

Prescribed Books:

1. Hornbill, Class XI, Published by NCERT
2. Snapshot, Class XI, Published by NCERT

ENGLISH CORE (301) - ASSESSMENT PLANNER -2026-27
XI ABCD

ASSESSMENT	SYLLABUS
PA 1 **(20 Marks)**	1. The Portrait of a Lady 2. A Photograph 3. Posters 4. Notice Writing
HALF YEALY EXAM **(80 Marks)**	1. The Portrait of a Lady 2. A Photograph 3. Posters 4. Notice Writing 5. Discovering Tut , The Saga Continues 6. Invitations and replies 7. Advertisements 8.The voice of the rain 9.Childhood 10. Father to Son 11. Note - Making
PA 2 **(20 Marks)**	1. Posters 2. Invitations and replies 3. Note – Making 4. Debate Writing 5. The Address
ANNUAL EXAM THEORY **(80 MARKS)**	Full Syllabus

Class XI – Maths (2026-2027)

No.	Units	Marks
I.	Sets and Functions	23
II.	Algebra	25
III.	Coordinate Geometry	12
IV.	Calculus	08
V.	Statistics and Probability	12
	Total	**80**
	Internal Assessment	**20**

LEARNING OUTCOMES

Higher secondary students are increasingly expected to engage in mathematical practices to help develop mathematical habits of their minds

The learners may be provided with opportunities individually or in groups and encouraged to think holistically. The student will be able to :

- develop the idea of Set from the earlier learnt concepts in number system , geometry etc.
- identify relations between different sets.
- relate earlier learnt concept of trigonometric ratios to functions and evolves the idea of trigonometric functions.
- demonstrate deductive thinking by using technique of mathematical induction for establishing generalized mathematical statements.
- extend the idea of real numbers to a larger system of complex numbers.
- demonstrate strategies for solving systems of linear inequalities.
- apply the ideas of permutations and combinations to daily life situations of arranging and grouping the objects.
- develop the idea of Binomial theorem for a positive integral index from the earlier learnt concepts of finding squares and cubes of binomials.
- extend the ideas related to Arithmetic progressions learnt earlier to new types of sequences and their series.
- construct different forms of a straight line using the earlier learnt concepts of coordinate geometry.
- analyse different curves like circles ellipses, parabolas and hyperbolas based on the ideas developed for straight lines using coordinates.
- develop strategies of locating a point in three dimensions based on the concepts of two dimensional coordinate geometry.
- evolve the concepts of limit and derivative of a function by analyzing the behaviour of functions when the corresponding variable approaches a certain value.
- relate deductive reasoning to the mathematical statements studied so far.
- apply Measures of dispersion to get a better interpretation of data of different daily life situations.
- build up the axiomatic approach to Probability through the terms, random experiment, Sample space, events etc.

MONTH	TOPIC
April	**Ch-3 Trigonometric Functions** • Introduction, Angles • Trigonometric Functions, Trigonometric functions of Sum and Difference of two angles • Trigonometric identities and it's applications.

May	**Ch-1 Sets** • Sets and the Representations • Empty Set, Finite and Infinite Sets, Equal sets • Subsets, Power Set, Universal Set • Venn Diagrams, Operations on Sets, Complement of a Set • Practical problem on Union and Intersection of Two Sets **Ch-2 Relations and Functions** • Introduction, Cartesian Product of Sets Relations, Functions
July	**Ch-4 Complex numbers and Quadratic Equations** • Introduction, Algebra of complex numbers • Modulus and the conjugate of a complex number • Quadratic equations **Ch-8 Sequence and Series** • Introduction to sequences, series • Arithmetic Progression • Geometric Progression • Relation between AM and GM
August	**Ch-6 Permutations and Combinations** • Introduction • Fundamental Principle of Counting • Permutations and combination applications **Ch-7 Binomial Theorem** • Introduction • Binomial theorem for Positive Integral indices
September	**Ch-5 Linear inequalities** • Introduction to inequalities • Algebraic solutions of Linear inequalities in one variable and the graphical representation
October	**Ch-9 Straight lines** • Brief recall of two-dimensional geometry from earlier classes. Slope of a line and angle between two lines. • Various forms of equations of a line: parallel to axis, point-slope form, slope-intercept form, two-point form, intercept form and normal form. General equation of a line. Distance of a point from a line. **Ch-10 Conic Sections** • Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section**.** • Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.
November	**Ch-13 Statistics** • Measures of Dispersion: Range, mean deviation, variance and standard deviation of ungrouped/grouped data. **Ch-14 Probability** • Events; occurrence of events, ‘not’, ‘and’ and ‘or’ events, exhaustive events, mutually exclusive events.
December	**Ch-14 Probability** • Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of ‘not’, ‘and’ and ‘or’ events **Ch- 12 Limits and derivatives** • Derivative introduced as rate of change both as that of distance function and geometrically, intuitive idea of limit, limits of polynomials and rational functions trigonometric, exponential and logarithmic functions, • Definition of derivative relate it to the slope of the tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.
January	Revision
February	ANNUAL EXAM

INTERNAL ASSESSMENT 20 MARKS
•Periodic Tests :- 10 Marks
•Mathematics Activities :- 10 Marks

Prescribed Books:
• Mathematics Textbook for Class XI, NCERT Publications
• Mathematics Lab Manual class XII, published by NCERT

ASSESSMENT PLANNER : SESSION 2026-2027

SUBJECT: Mathematics **CLASS :XI**

TEST	MAX. MARKS	SYLLABUS
PERIODIC ASSESSEMENT 1	20	• Sets • Trigonometry
MID TERM EXAMS	80	• Sets • Relations and Functions • Trigonometry • Complex numbers • Linear inequalities • Permutations and combinations • Binomial theorem • Sequence and series
PERIODIC ASSESSMENT 2	20	• Straight lines • Conic sections
ANNUAL EXAMS	80	• Sets • Relations and Functions • Trigonometry • Complex numbers • Linear inequalities • Permutations and combinations • Binomial theorem • Sequence and series • Straight lines • Conic sections • 3D • Statistics • Limits and Derivatives • Probability

DETAILED SYLLABUS
SUBJECT: PHYSICS
CLASS:…XI D (2026-27)

One Theory paper – 70 marks Practical Exam – 30 marks

UNIT	CHAPTER
1	Unit and Measurement (Dimensional Analysis)
2	Kinematics
3	Laws Of Motion
4	Work, Energy and Power
5	Motion of System of particles and rigid body
6	Gravitation
7	Properties of Bulk Matter
8	Thermodynamic
9	Kinetic Theory of Gases
10	Oscillation and Waves

Unit 1+ unit 2+ unit 3 --- 23 marks
Unit 4 +unit 5 + unit 6 ---17 marks
Unit 7 +unit 8 + unit 9 ---20 marks
Unit 10 --- 10 marks

LEARNING OUTCOMES

Students will be able to

- Develop scientific temper and scientific attitude
- Understand the importance of SI units .
- Understand the importance of dimensional analysis in deriving the physical equations .
- Develop the skill in performing experiments tabulating observations, plotting graphs and inferences from the same .
- Apply the knowledge to their daily life experiences.
- Develop the problem solving skills
- Realize that physics is not an independent subject but is interlinked with Maths and chemistry

Month	Chapter/ Topic
April	• Dimensional analysis • concept of differentiation and integration • Vectors
May	Chapter- Kinematics • motion in a straight line - speed , velocity and acceleration, graphical and calculus method of equation of motion , projectile motion
July	Chapter- laws Of Motion • Newton's laws of motion • impulse, inertia and linear momentum and its conservation • force of friction, angle of friction and angle of repose Chapter- work , Energy and Power • defining work , positive and negative work •Defining Energy , kinetic and gravitational potential energy • elastic potential energy in a spring • elastic and inelastic collision • Power
August	Chapter – Gravitation • Newton's law of Gravitation

	• acceleration due to gravity and its variation with height and depth • Gravitational potential and potential energy • Escape velocity • launching of a satellite- orbital velocity, height of a satellite and its time period • Kepler's laws of planetary motion
September	MID Term Exam Chapter – Centre of Mass and rotational motion • centre of mass for a two particle system • rotational motion , moment of inertia, Angular momentum and its conservation.
October	Chapter- properties of matter • Properties of solids- elastic and plastic substances, Hooke's Law, stress strain curve , elastic potential energy. • Properties of fluid – Pascal law , viscosity, Stokes law , terminal velocity, equation of continuity, surface tension angle of contact and capillarity.
November	Chapter - Thermodynamic • Heat as energy, 3 modes of transmission of heat, zero then law of thermodynamics, isothermal, adiabatic process their equation and work done during these process, P- V indicator diagram.
December	Chapter – oscillations • periodic and oscillatory motion , equation of SHM , solution of equation, examples of systems showing SHM and energy of system showing SHM .
January	Chapter – Waves • type of waves and its characteristics • equation of wave • travelling and stationary wave • phenomenon of beats • organ pipe , nodes and antinodes.
February	Revision Annual Exam.

ASSESSMENT PLANNER FOR XI D
SUBJECT- PHYSICS (2026- 27)

Periodic test 1 (20 marks)	Topic – • Dimensional Analysis • Integration , differentiation • Vectors – kind of vectors , parallelogram law of Vectors and resolution of vectors .
MID Term Exam (70 marks)	Chapters – • Motion in a straight line • Motion in a plane • Laws of motion • Work , Energy and Power • Gravitation • Centre of mass
Periodic test 2 (20 marks)	Chapter – • properties of solid • Properties of fluid

Annual Exam (70 marks)	Chapters – •Motion in a straight line •Motion in a plane • Laws of Motion • Work , Energy and Power •Gravitation •Centre of mass and rotational motion • Properties of Matter • Heat and Thermodynamic • Oscillation and Waves

CHEMISTRY
Subject Code – 043
Class XI (2026-27)

One Theory Paper **Marks: 70**

Units	Topics	Marks
I	Some Basic Concepts of Chemistry	7
II	Structure of Atom	9
III	Classification of Elements and Periodicity in Properties	6
IV	Chemical Bonding and Molecular Structure	7
VIII	Organic Chemistry	11
IX	Hydrocarbons	10
VII	Redox Reactions	4
V	Chemical Thermodynamics	9
VI	Equilibrium	7
	Total	**70**

Learning Objectives

A study of chemistry will inculcate among the pupils a few skills and thus, at the end of the session the students will be:

- Develop a basic conceptual knowledge and understanding of content and acquire a clear understanding of the laws, principles basic facts, and key concepts.
- Develop a better insight into the subject and thus encourage them to do further reference reading.
- Develop aesthetic sensibilities, process skills, creative and critical thinking, decision – making, communication, analytical, problem solving and drawing skills.
- Develop investigatory skills, the skills in performing experiments, tabulating observations, plotting graphs, and drawing inferences.
- Develop a scientific temperament and appreciation of scientific facts, a spirit of enquiry, a

systematic, creative, ethical, and meticulous approach towards problem solving.

- Apply the knowledge gained to daily life situation and problems, thus making chemistry learning more relevant, meaning, and interesting.
- Apply the knowledge gained to integrate physical principles with music, dance, art, sports, tricks, and magic.
- Be able to collaborate, innovate, organize, brainstorm, and communicate new ideas and technology.

COURSE CONTENT

Month	Topic
April/May	**UNIT I Some Basic Concepts of Chemistry** The topics in this unit are: General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry **UNIT II Structure of Atom** The topics in this unit are: Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations.
July / August	**UNIT II Structure of Atom** concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals **UNIT III Classification of elements :** Different theories to classify different elements law of triad, law of octave, modern periodic table, Mendeleev's periodic table, features of both the table , different properties like atomic size**,** ionization energy. electron affinity ,electron gain enthalpies how it varies in the periodic table
September	**Revision and mid term exams**
October	**UNIT IV Chemical Bonding and Molecular Structure** The topics in this unit are: Valence electrons, ionic bond, covalent bond, bond parameters, Lewis's structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond

November	**UNIT VIII Organic Chemistry** – Some Basic Principles and Techniques General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions. **UNIT IX Hydrocarbons** Classification of Hydrocarbons Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, the structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, the structure of triple bond (ethyne), physical properties , methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of the functional group in monosubstituted benzene. Carcinogenicity and toxicity.
December	**UNIT VII Redox Reactions** The topics in this unit are: Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.
January	**UNIT V Chemical Thermodynamics** The topics in this unit are: Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics - internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH, Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction) Introduction of entropy as a state function, Gibb's energy change for spontaneous and non- spontaneous processes, criteria for equilibrium. Third law of thermodynamics (brief introduction) **UNIT VI Equilibrium** The topics in this unit are: Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), solubility product, common ion effect (with illustrative examples).
February	**Revision and Annual exam**

Practical Marks 30

Prescribed Books:

1. Chemistry, Class XII, Published by NCERT

ASSESSMENT PLANNER 2026-27

SUBJECT –CHEMISTRY **CLASS XI D**

TEST	SYLLABUS
First periodic Test (20 Marks)	1. Some Basic Concepts of Chemistry
Class Test (20 Marks)	2. Structure of Atom
Mid term exam (70 Marks)	1. Some Basic Concepts of Chemistry 2. Structure of Atom 3. Classification of Elements and Periodicity in Properties
Second periodic test (20 Marks)	1. Chemical Bonding and Molecular Structure
Class Test (20 Marks)	1. Organic Chemistry
Annual examination (70 Marks)	Full syllabus

BIOLOGY
Subject Code – 044
Class XI (2026-27)

One Theory Paper **Marks: 70**

Units	Topics	Marks
I	Diversity in the living world	15
II	Structural organization in plants and animals	10
III	Cell: Structure and functions	15
IV	Plant Physiology	12
V	Human Physiology	18
	Total	70

COURSE STRUCTURE:

Learning outcomes:

A study of biology will inculcate among the students a few skills and thus at the end of the session the student will:

. Acquire the ability to utilize technology and information for the betterment of human kind.

. Strengthen knowledge & attitude related to livelihood skills & promote life long learning.

. Uphold human dignity of individual & unity and integrity of the nation by encouraging value based learning activities. Integrate innovation. Help in making students perceptive

about nature and environment, technology breakthrough in science.

Term 1 & 2:

Month:	Topic:
April:	Chapter 5. Morphology of flowering plants. Root; stem; leaf; inflorescence; flower; fruit; seed; semi-technical description of a typical flowering plant. Chapter 6. Anatomy of flowering plants. The tissue system; anatomy of dicotyledonous and monocotyledonous plants.
May:	Chapter 1. The living world. Diversity in the living world; taxonomic categories. Chapter 2. Biological classification. Kingdom Monera; Protista; Fungi; Plantae; Animalia; Viruses, Viroids, Prions, Lichens.
July:	Chapter 3. Plant Kingdom. Algae; Bryophytes; Pteridophytes; Gymnosperms; Angiosperms. Chapter 4. Animal kingdom. Basis of classification; classification of animals.
August:	Chapter 7. Structural organization in animals. Organ and organ system; frogs. Chapter 8. Cell: The unit of life. What is a cell; cell theory; an overview of cell; prokaryotic cell; eukaryotic cell. Chapter 10. Cell cycle and cell division. Cell cycle; M phase; significance of mitosis; meiosis; significance of meiosis.
September:	Revision & mid term examination.
October:	Chapter 9. Biomolecules. How to analyze chemical composition; primary and secondary metabolites; biomacromolecules; proteins; polysaccharides; nucleic acids; structure of proteins; enzymes. Chapter 11. Photosynthesis in higher plants. Early experiments; where does photosynthesis takes place; how many types of pigments are involved in photosynthesis; what is light reaction; the electron transport; where are ATP and NADPH used; C4 pathway; photorespiration;factors affecting photosynthesis. Chapter 12. Respiration in plants. Do plants breathe; glycolysis; fermentation; aerobic respiration; respiratory balance sheet; amphibolic pathway; respiratory quotient.
November:	Chapter 17. Locomotion and movement. Types of movement; muscle; skeletal system; joints; disorders of muscular and skeletal system. Chapter 13. Plant growth and development. Growth; differentiation, dedifferentiation; redifferentiation; development; plant growth regulators. Chapter 14. Breathing and exchange of gases. Respiratory organs; mechanism of breathing; exchange of gases; transport of gases; regulation of respiration; disorders of respiratory system. (Chapter 15. Art integrated activity)
December:	Chapter 16. Excretory products and their elimination. Human excretory system; mechanism of concentration of the filtrate; regulation of kidney function; micturition; role of other organs in excretion; disorders of excretory system. Chapter 18. Neural control and coordination. Neural system; human neural system; neuron; central neural system.
January:	Chapter 19. Chemical coordination and integration: Endocrine glands and hormones; human endocrine system; hormones of heart, kidney and gastrointestinal tract; mechanism of hormone action.
Practical (30 Marks)	Core Experiments: 6 Spottings: 5 Practical Record Investigatory Project File Activity book (Art integrated learning)

Prescribed books:

1.Biology, Class XI, Published by NCERT.

2. Comprehensive Laboratory Manual in Biology for Class XI.

BIOLOGY – ASSESSMENT PLANNER – 2026-27

XI D

TEST	SYLLABUS
PA 1 (20 Marks)	Chapter 5. Morphology of flowering plants. Chapter 1. The living world.
HALF YEARLY EXAM (70 Marks)	Chapter 1. The living world. Chapter 2. Biological classification. Chapter 3. Plant kingdom. Chapter 4. Animal kingdom

	Chapter 5. Morphology of flowering plants. Chapter 6. Anatomy of flowering plants. Chapter 7. Structural organization in animals. Chapter 8. Cell: The unit of life. Chapter 10. Cell cycle and cell division.
PA 2 (20 Marks)	Chapter 11. Photosynthesis in higher plants. Chapter 12. Respiration in plants.
ANNUAL EXAM THEORY (70 MARKS)	Chapter 1. The living world. Chapter 2. Biological classification. Chapter 3. Plant kingdom. Chapter 4. Animal Kingdom. Chapter 5. Morphology of flowering plants. Chapter 6. Anatomy of flowering plants. Chapter7. Structural organization in animals. Chapter 8. Cell: The unit of life. Chapter 9. Biomolecules. Chapter 10. Cell cycle and cell division. Chapter 11. Photosynthesis in higher plants. Chapter 12. Respiration in plants. Chapter 13. Plant growth and development. Chapter 14. Breathing and exchange of gases. Chapter 15. (Art integrated learning) Chapter 16. Excretory products and their elimination. Chapter 17. Locomotion and movement. Chapter 18. Neural control and coordination. Chapter 19. Chemical coordination and integration.

COMPUTER SCIENCE
Subject Code – 083
Classes XI (2026-27)

Theory Paper

Units	Topics	Marks
1	COMPUTER SYSTEMS AND ORGANISATION	10
2	COMPUTATIONAL THINKING AND PROGRAMMING-1	45
3	SOCIETY , LAW AND ETHICS	15
	Total	**70**

Learning Outcomes

Students should be able to :

a) develop basic computational thinking
b) explain and use data types
c) appreciate the notion of algorithms
d) develop a basic understanding of computer systems – architecture and operating system
e) explain cyber ethics , cyber safety and cybercrime
f) understand the value of technology in societies along with consideration of gender and disability issues.

Ist Term **(July - September)**

April -May **Unit 1: Computer Systems and Organisation**

- **Basic Computer Organisation**: Introduction to Computer System, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (bit, byte, KB, MB, GB, TB, PB)

- **Types of softwar**e: System software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & Interpreter), application software

- **Operating System (OS**): functions of operating system, OS user interface

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

- **Number system**: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems.

- **Encoding schemes**: ASCII, ISCII and UNICODE (UTF8, UTF32)

July **Unit 2: Computational Thinking and Programming - 1**

- **Introduction to Problem-solving**: Steps for Problem-solving (analyzing the problem, developing an algorithm, coding, testing and debugging). Representation of algorithms using flow chart and pseudo code, decomposition

- **Familiarization with the basics of Python programming**: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments

- **Knowledge of data types**: Number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types

- **Operators**: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators(is, is not), membership operators(in, not in)

- **Expressions, statement, type conversion & input/output:** precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output

- **Errors**: syntax errors, logical errors, runtime errors

August

- **Flow of control:** introduction, use of indentation, sequential flow, conditional and iterative flow

- **Conditional statements**: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number

- **Iterative statement**: for loop, range function, while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number etc

- **Strings:** introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions/methods: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()

September

- **Revision**

2nd Term **(October – February)**

October

- **Lists:** introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list

November

- **Tuples:** introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions/methods: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple

- **Dictionary:** introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy(); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them

December

- **Introduction to Python modules**: Importing module using 'import ' and using from statement, Importing math module (pi, e,sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean(), median(), mode())

******* Detailed Home Assignment & Project Work for 2nd Term

January **Unit 3: 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)
- Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime
- Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.
- 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

February Revision

ASSESSMENT PLANNER

SUBJECT: **Computer Science (083)** CLASS: **XI**

TEST	SYLLABUS
Periodic Test – 1 **20 Marks**	1. COMPUTER SYSTEMS AND ORGANISATION 2. DATA REPRESENTATION
Revision Test	**1.** BOOLEAN LOGIC **2.** GETTING STARTED WITH PYTHON **3.** PYTHON PROGRAMMING FUNDAMENTALS **4.** CONDITIONAL AND LOOPING CONSTRUCTS
Mid Term Exam **Theory / Practical** **70 / 30**	1. COMPUTER SYSTEMS AND ORGANISATION 2. DATA REPRESENTATION 3. BOOLEAN LOGIC 4. GETTING STARTED WITH PYTHON 5. PYTHON PROGRAMMING FUNDAMENTALS 6. CONDITIONAL AND LOOPING CONSTRUCTS 7. STRINGS
Periodic Test – 2 **20 Marks**	1. LISTS 2. TUPLES
Revision Test **20 Marks**	1. DICTIONARIES 2. SOCIETY , LAW & ETHICS
Annual Examination **Theory / Practical** **70 / 30**	COMPUTER SCIENCE WITH PYTHON SULTANCHAND & SONS (Main Course Book) & NCERT TEXT BOOK (Reference Book)

PSYCHOLOGY
Subject Code – 037
Classes XI (2026-27)

One Theory Paper **Marks: 70**

Units	Topics	Marks
I	What is Psychology?	11
II	Methods of Enquiry in Psychology	13
IV	Human Development	11
V	Sensory, Attentional and Perceptual Processes	8
VI	Learning	9
VII	Human Memory	8
VIII	Thinking	5
IX	Motivation and Emotion	5
	TOTAL	**70**

COURSE STRUCTURE

Learning Objectives

● To help students understand the nature of psychological knowledge and its relevance to different aspects of life.

● To encourage students to be observant, socially aware, and reflective.

● To reduce stigma and increase awareness of psychological well-being by educating students about mental health.

● To help students understand their own thoughts, emotions and behaviors fostering personal growth and resilience, preparing them to become responsible global members of society.

Month	Topic
April/ May	**Unit I What is Psychology?** The topics in this unit are: 1. Introduction 2. What is Psychology? • Psychology as a Discipline • Psychology as a Natural Science • Psychology as a Social Science 3. Understanding Mind and Behaviour 4. Popular Notions about the Discipline of Psychology 5. Evolution of Psychology 6. Development of Psychology in India 7. Branches of Psychology 8. Psychology and Other Disciplines 9. Psychology in Everyday Life
July	**Unit II Methods of Enquiry in Psychology** The topics in this unit are: 1. Introduction 2. Goals of Psychological Enquiry • Steps in Conducting Scientific Research • Alternative Paradigms of Research 3. Nature of Psychological Data 4. Some Important Methods in Psychology • Observational Method • Experimental Method • Correlational Research • Survey Research • Psychological Testing • Case Study 5. Analysis of Data • Quantitative Method • Qualitative Method 6. Limitations of Psychological Enquiry 7. Ethical Issues
August	**Unit III Human Development** The topics in this unit are: 1. Introduction 2. Meaning of Development

	• Life-Span Perspective on Development 3. Factors Influencing Development 4. Context of Development 5. Overview of Developmental Stages • Prenatal Stage • Infancy • Childhood • Challenges of Adolescence • Adulthood and Old Age
October	**Unit IV Sensory, Attentional and Perceptual Processes** The topics in this unit are: 1. Introduction 2. Knowing the world 3. Nature and varieties of Stimulus 4. Sense Modalities • Functional limitation of sense organs 5. Attentional Processes • Selective Attention • Sustained Attention 6. Perceptual Processes • Processing Approaches in Perception 7. The Perceiver 8. Principles of Perceptual Organisation 9. Perception of Space, Depth and Distance • Monocular Cues and Binocular Cues 1 10. Perceptual Constancies 11. Illusions 12. Socio-Cultural Influences on Perception
November	**Unit V Learning** The topics in this unit are: 1. Introduction 2. Nature of Learning 3. Paradigms of Learning 4. Classical Conditioning • Determinants of Classical Conditioning 5. Operant/Instrumental Conditioning • Determinants of Operant Conditioning • Key Learning Processes 6. Observational Learning 7. Cognitive Learning 8. Verbal Learning 9. Skill Learning 10. Factors Facilitating Learning 11. Learning Disabilities
	Unit VI Human Memory The topics in this unit are: 1. Introduction 2. Nature of memory 3. Information Processing Approach: The Stage Model 4. Memory Systems: Sensory, Short-term and Long term Memories 5. Levels of Processing 6. Types of Long-term Memory

	• Declarative and Procedural; Episodic and Semantic 7. Nature and Causes of Forgetting
December	**Unit VII Thinking** The topics in this unit are: 1. Introduction 2. Nature of Thinking • Building Blocks of Thought 3. The Processes of Thinking 4. Problem Solving 5. Reasoning 6. Decision-making 7. Nature and Process of Creative Thinking • Nature of Creative Thinking • Process of Creative Thinking 8. Thought and Language 9. Development of Language and Language Use
January	**Unit VIII Motivation and Emotion** The topics in this unit are: 1. Introduction 2. Nature of Motivation 3. Types of Motives • Biological Motives • Psychosocial Motives 4. Maslow's Hierarchy of Needs 5. Nature of Emotions 6. Expression of Emotions • Culture and Emotional Expression • Culture and Emotional Labelling 7. Managing Negative Emotions 8. Enhancing Positive Emotions

Practical (30 marks)

- One Project
- Two Experiments.

Prescribed Books:

3. Psychology, Class XI, Published by NCERT

PSYCHOLOGY - ASSESSMENT PLANNER -2026-27
XI ABD

ASSESSMENT	SYLLABUS
PA 1 **(20 Marks)**	Unit -1 What is Psychology?
HALF YEALY EXAM **(70 Marks)**	Unit -1 What is Psychology? Unit -2 Methods of Enquiry in Psychology Unit - 4 Human Development Unit – 5 Sensory, Attentional and Perceptual
PA 2 **(20 Marks)**	Unit – 6 Learning
ANNUAL EXAM **THEORY** **(70 MARKS)**	Unit -1 What is Psychology? Unit – 2 Methods of Enquiry in Psychology Unit – 4 Human Development Unit – 5 Sensory, Attentional and Perceptual Unit – 6 Learning Unit – 7 Human Memory Unit – 8 Thinking Unit – 9 Motivation & Emotion

PHYSICAL EDUCATION
Subject Code – 048
Classes XI (2026-27)

One Theory Paper **Marks: 70**

Units	Topics	Marks
I	Changing Trends and Careers In Physical Education	8
II	Olympism Value Education	5
III	Yoga	7
IV	Physical Education and Sports for Children with Special Needs	7
V	Physical Fitness, Wellness and Lifestyle	5
VI	Test, Measurement and Evaluation	8
VII	Fundamentals of Anatomy, Physiology in Sports	8

VIII	Fundamentals of Kinesiology and Biomechanics in Sorts	8
IX	Psychology and Sports	**7**
X	Training and Doping in Sports	**7**
	Total	**70**

COURSE STRUCTURE

Learning Objectives	
* Physical Education plays a vital role in the holistic development of children by nurturing their physical, intellectual, emotional, and social well-being. * It helps build essential skills such as event management, leadership, and teamwork, while enhancing motor abilities like strength, coordination, and agility. * It also deepens understanding of the human body and its response to physical activity. *Key areas of focus include sports participation, daily yoga practice, nutrition, sports science, physical fitness assessment, inclusion of individuals with special needs, and awareness of training-related aspects, including those specific to women athletes.	
Month	**Topic**
April/ May	**Unit I Changing Trends and Careers in Physical Eduction** ***** Concept Aims and Objectives of Education * Development of Physical Education in India – Post Independence *Changing Trends in Sports- playing surface, wearable gear and sports equipment, technological advancements *Career options in Physical Education * Khelo-India Program and Fit – India Program **Unit II Olympism Value Education** ***** Olympism – Concept and Olympics Values (Excellence, Friendship & Respect) *. Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind * Ancient and Modern Olympics * Olympics - Symbols, Motto, Flag, Oath, and Anthem * Olympic Movement Structure - IOC, NOC, IFS, Other members **Unit III Yoga** ***** Meaning and Importance of Yoga * Introduction to Ashtanga Yoga * Yogic Kriyas (Shat Karma) * Pranayama and its types * Active Lifestyle and stress management through yoga
July	**Unit IV Physical Education and Sports for Children with Special Needs** *. Concept of Disability and Disorder *Types of Disability, its causes & nature (Intellectual disability, Physical disability). *Disability Etiquette *Aim and objectives of Adaptive Physical Education. *. Role of various professionals for children with special needs (Counselor, Occupational Therapist,Physiotherapist, Physical Education Teacher, Speech Therapist, and Special Educator
August/Septemb	**Unit V Physical Fitness ,Wellness and Lifestyle**

er	***** Meaning & importance of Wellness, Health,and Physical Fitness. ***** Components/Dimensions of Wellness, Health, and Physical Fitness *****Traditional Sports & Regional Games for promoting wellness ***** Leadership through Physical Activity and Sports * . Introduction to First Aid – PRICE **Unit VI Test, Measurement and Evaluation** ***** Define Test, Measurements and Evaluation * Importance of Test, Measurements and Evaluation in Sports. *Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site) * Somato Types (Endomorphy, Mesomorphy & Ectomorphy) *. Measurements of health-related fitness
October	**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 Bones, and Types of Joints. *****. Properties and Functions of Muscles. *****Structure and Functions of Circulatory System and Heart *****Structure and Functions of Respiratory System.
November	**Unit VIII Fundamentals of Kinesiology and Biomechanics in Sports** * Definition and Importance of Kinesiology and Biomechanics inSports. *Principles of Biomechanics * Kinetics and Kinematics in Sports *Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation * Axis and Planes –Concept and its application in body movements
December	**Unit IX Psychology and Sports** ***** Definition & Importance of Psychology in Physical Education & Sports; *****Developmental Characteristics at Different Stages of Development ***** Adolescent Problems & their Management; *****Team Cohesion and Sports *****. Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness
January	**Unit X Training and Doping in Sports** * Concept and Principles of Sports Training * Training Load : Over Load . Adaptation and Recovery * Warming-up & Limbering Down –Types, Method & Importance *. Concept of Skill, Technique, Tactics & Strategies *. Concept of Doping and its disadvantages
February	*** Revision** *** Final Examination**
Practical (30 marks) Viva + Practical(Physical fitness test , Yoga and record File.	

PHYSICAL EDUCATION - ASSESSMENT PLANNER -2026-27

XI ABC&D

ASSESSMENT	SYLLABUS
PA 1 **(20 Marks)**	Unit -1 Changing Trends & Career in Physical Education Unit -2 Olympism Value Education
HALF YEARLY EXAM **(70 Marks)**	Unit -1 Changing Trends & Career in Physical Education Unit -2 Olympism Value Education Unit -3 Yoga Unit -4 Physical Edu. and Sports for CWSN Unit -5 Physical Fitness ,Wellness and Lifestyle
PA 2 **(20 Marks)**	Unit – 6 Test, Measurement and Evaluation
ANNUAL EXAM THEORY **(70 MARKS)**	Unit -1 ChangingTrends & Career in Physical Education Unit -2 Olympism Value Education Unit- 3 Yoga Unit -4 Physical Edu. and Sports for CWSN Unit- 5 Physical Fitness , Wellness and Lifestyle Unit-6 Test, Measurement and Evaluation Unit-7 Fundamentals of Anatomy, Physiology in Sports Unit- 8 Fundamentals of Kinesiology and Biomechanics in Sports Unit- 9 Psychology and Sports Unit- 10 Training and Doping in Sports