XI ENGLISH							
Duration :	**Name of the book :**	**Name of the lesson :**	**Listening :**	**Speaking**	**Reading :**	**Writing :**	**Grammar :**
May	Hornbill	The Potrait of a lady	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	Writing about a person who one holds dear.Comprehensive and value based questions.	Use of word tell and take in the text.Words and their meanings.
May	Hornbill	A Photograph	Listen to the poem	Read the poem with appropriate stress ,pause and intonations.	Read the poem	Comprehensive and value based question/answers.	Poetic devices.
June	Snapshot	The summer of the beautiful white horse					
June	Hornbill	We are not afraid to die if we all be together.	Listen to the lesson being read by the teacher/student and infer its meaning.	Group Discussion	Read the text with appropriate stress,pause and intonations for better understanding	Label the parts of a yatch.Locate Amsterdam on a world map.	Compound words,similar words/

July	Hornbill	Discovering Tut: the saga continues.	Listen to the lesson being read by the teacher/student and infer its meaning.	Discussion with each pair in a group taking opposite points of view.	Read the text with appropriate stress,pause and intonations for better understanding	Find out different constellationsComprehensive and value based questions..	Interesting combination of words.
July	Snapshot	The Address	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	NA
July	Writing skill-1	Note making	Following the format.				
August	Hornbill	The Lebunum Top	Listen to the poem	Read the poem with appropriate stress ,pause and intonations.Finding out Laburnum in local language and also local birds like goldfinch.	ead the poem and try to infer the meaning.	Poetry writing on any Tree.Write down the sound words,the movement words and the dominant colour in the poem.Comprehensive and value based questions.	Figures of speech and imagery used.

August	Hornbill	Landscape of the soul	Listen to the lesson being read by the teacher/student and infer its meaning.	Discussing spiritual experiences.	Read the text with appropriate stress,pause and intonations for better understanding	Note on Environmental conservation.Comprehensive and value based questions.Corelation of Yin and Yan in other cultures.	Infer the meaning of the words panel and essence.Use of conjunctions to express contrast.
August	Writing skill-2	Summarising	Following the format.				
August	Snapshot	Ranga's marriage	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	NA
September	Hornbill	The voice of the rain	Listen to the poem	Relating th the process of rainfall scientifically.	Read the poem with appropriate stress ,pause and intonations and understand the sense of the poem.	.Comprehensive and value based questions	Literary devices

September	Hornbill	The Aliling planet	Listen to the lesson being read by the teacher/student and infer its meaning.	Group Discussion on topics related to Environmental Concerns .Group discussion and Talks on Envisioning the Future.	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions.Poster making on Environmental Conservation.	Finding out the meaning of Latin phrases.Studying the connotation in the poem.
September	Snapshot	Albert Einstein at school	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	NA
September	Writing skill-3	Sub-titling	Following the format.				
October	Hornbill	The Browning version	Listen to the play being read by the teacher/student and infer its meaning.	Talking about Teachers among riends and the manner you adapt when you talk about a teacher to other teachers.	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	Understanding meanings of different kinds of persons

October	Snapshot	Mother's day	Listen to the lesson being read by the teacher/student and infer its meaning.	Enacting the play.	Read the text with appropriate stress,pause and intonations for better understanding	Comprehensive and value based questions.Framing dialogues.	Describing persons.
October	Writing skill-4	Essay writing	Following the format.				
October	Hornbill	Childhood	Listen to the poem being read by the teacher/student and infer its meaning.	Recite the poem.	Read the poem with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions.Poster making on Environmental Conservation.	Poetic sensibilty.
November	Hornbill	The Adventure	Listen to the lesson being read by the teacher/student and infer its meaning.	Discussing in pairs on the statements from the text.	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions.Finding out about popular scientific theories.	Phrases and its meanings.Idiomatic expressions.

November	Snapshot	The Ghat of the only world.	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	NA
November	Writing skill-5	Letter writing	Following the format.				
November	Hornbill	Silk road	Listen to the lesson being read by the teacher/student and infer its meaning.	Discussion on sensitive behaviour of hill-lockand the accounts of exotic places in legends and the reality.	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions.Getting information about geographical formations.	Use of Adjectives I phrases.
December	Snapshot	Birth	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	NA

December	Writing skill-6	Creative writing	Following the format.			.Comprehensive and value based questions	
December	Hornbill	Father to son	Listen to the lesson being read by the teacher/student and infer its meaning.	Discussion on the Relationship between a father and a son.	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	Poeti devices
December	Snapshot	The Tale of Melon city	Listen to the lesson being read by the teacher/student and infer its meaning.	GD	Read the text with appropriate stress,pause and intonations for better understanding	.Comprehensive and value based questions	NA

GRADE XI–MATHEMATICS

S.NO	DURATION	NO. OF PERIODS	Unit/TOPIC	SUB-TOPIC
1.	JUNE	15 periods	UNIT 1: Sets	• Sets and their representations • Empty set • Finite and Infinite sets • Equal sets. Subsets • Subsets of a set of real numbers especially intervals (With notations) • Power set • Universal Set • Venn diagrams • Union and Intersection of sets • Difference of sets • Complement of set • Properties of complement sets • Practical Problems based on sets

2.	JUNE – JULY	15 periods	Unit 1 : Relations and functions	• Cartesian product of sets – Ordered pairs • Number of elements in the cartesian product of two finite sets • Relations – Pictorial diagrams, Domains, Codomains, Range of a relation • Function – Function has a special kind of relation from one set to another • Real valued function domain and range of these functions – Constant, Identity, Polynomial, Rational, Modulus, Signum, Exponential, Greatest integer function (With there graphs) • Sum difference product and quotients of functions

3.	JULY-AUGUST	12 periods	Unit 2 : Complex Numbers and quadratic equations	• Complex numbers • Algebra of Complex Numbers – addition ,subtraction, multiplication, division of complex numbers, power of i, square root of negative real number • Modulus and conjugate of complex numbers • Argand plane and polar representation • Quadratic equations
4	AUGUST	10 periods	Unit 2 : Sequence and Series	• Sequences • Series • Arithmetic progression – Arithmetic mean • Geometric progression – General term of a GP, sum to n terms of a GP, Geometric Mean • Relationship between A.M and G.M

5.	SEPTEMBER	10 periods	Unit 3 : Straight Lines	• Slope of line – coordinate of any two points on the line are given, coordinates for parallelism and perpendicularity in terms of their slops, angle between two lines • Various forms of equation of a line – Horizontal and vertical lines, point slop form, Two point form, Slope-intercept form, Intercept form, Normal form • General equation of a line – Slope- intercept form, Intercept form, Normal form • Distance of a point from a line – distance between two parallel lines.
6.	SEPTEMBER - OCTOBER	15 periods	Unit 5 : Statistics	• Measures of dispersion • Range • Mean deviation (Ungrouped and Grouped data) – Mean Deviation about median, Mean deviation about mean • Variance and Standard Deviation – SD of discrete frequency and continuous

				frequency distribution.
7.	OCTOBER	18 periods	Unit 4 : Limits and Derivatives	• Intuitive idea of limit • Limits of Polynomial and rational functions • Limits of Trigonometric , exponential and logarithmic functions • Derivatives • Algebra of derivative of functions • Derivative of Polynomials and Trigonometric functions
8.	NOVEMBER	13 periods	Unit 1: Trigonometric Functions	• Angles – Degree measure and Radian measure, Relationship between degree and radian, Notational convention • Trigonometric functions – Sign of trigonometric functions, Domain and Range of Trigonometric functions • Trigonometric functions of sum and difference of two angles
9.	NOVEMBER	10 periods	Unit 2: Linear Inequalities	• Inequalities • Algebraic and graphical solutions of linear inequalities in one variable • Graphical solution of linear inequalities in two variables. • Solution of system of linear inequalities in two variables

10	DECEMBER	10 periods	Unit 2: Permutations and combination.	• Fundamental principle of counting. • Permutations – All the object are distinct, factorial notations, All objects are not distinct. • Combination
11	DECEMBER - JANUARY	15 Period	Unit 3: Conic Section	• Sections of a cone – Circle, Ellipse, Parabola, and Hyperbola • Circle • Parabola – Standard equations of parabola, Latus rectum

				• Ellipse – Relationship between semi-major and semi-minor axis, Eccentricity, Standard equation of a limit, Latus rectum • Hyperbola – eccentricity, Standard equation of hyperbola, Latus rectum
12	JANUARY	8 Period	Unit 3: Introduction to three-dimensional geometry	• Coordinate axes and coordinate plane in 3D space • Coordinates of a point in space • Distance between 2 points • Section formula
13	JANUARY - FEBRUARY	15 Period	Unit 5: Probability	• Random experiments – Outcomes, sample spaces • Event – Occurrence of an event, Compilatory event, The event A or B, The event A & B, The event A but not B, Exhaustive events, Mutually exclusive events. • Probability of an event - Probability of the event A or B, Probability of event not A

GRADE XI-PHYSICS

Sl no	Duration	No of periods	Topic	Sub topic
			TERM I	
1.	May, June	16	Motion in a straight line	• Elementary concepts of differentiation and integration of describing motion • Uniform and non-uniform motion • Average seed and instantaneous velocity • Uniformly accelerated motion • Velocity time graph • Position time graph
2	July	16	Motion in a plane	• Scalar and vector quantities • Position and displacement vectors • General vectors and their notations • Equality of vectors • Multiplication of vectors by a real number • Addition and subtraction of vectors • Relative velocity • Unit vector • Resolution of vector in a plane • Rectangular components • Scalar and vector product of vectors • Motion in a plane • Cases of uniform velocity and uniform accelerated-Projectile motion • Uniform circular motion
3	**August**	**10**	**Laws of motion**	• Intuitive concept of force • Newton's first law of motion

				• Momentum of Newton second law of motion • Impulse • Newton third law of motion • Law of conservation of linear momentum and its applications • Equilibrium of concurrent forces • Static and kinetic friction • Law of friction • Rolling friction • Lubrication • Dynamics of uniform circular motion • Centripetal force • Static and kinetic friction • Laws of friction • Rolling friction • Lubrication • Dynamics of uniform circular motion • Centripetal force • Examples of circular motion (Vehicle on a circular road, vehicle on a banked road)
4.	August		Work ,Energy and power	• Work done by a constant force and a variable force • Kinetic energy • Work-energy theorem • Power • Notation of potential energy • Potential energy of a spring • Conservative forces • Conservation of mechanical energy

				(kinetic and Potential energies) • Non-conservative forces • Motion in a vertical circle • Elastic and inelastic collisions in one and two dimensions
5	September	16	System of particles and Rotational Motion	• Centre of mass of a two particle system • Momentum conservation and center of mass motion • Centre of mass of a rigid body • Centre of mass of a uniform rod • Moment of force • Torque • Angular momentum • Law of conservation of angular momentum and its applications • Equilibrium of rigid bodies • Rigid body rotation and equations of rotational motion • Comparison of linear and rotational motions • Moment of inertia • Radius of gyration • Values of moment of inertia for simple geometrical objects (No derivation)
6	September	8 periods	Gravitation	• Universal law of gravitation • Acceleration due to gravity

				and its variation with altitude and depth • Gravitational potential energy • Gravitational potential • Escape velocity • Orbital velocity of a satellite • Geo-stationary satellites
TERM II				
7	October November	22	Properties of Bulk Matter	**Mechanical properties of solids** • Stress-strain relationship • Hooke's law • Young's modulus • Bulk modulus **Mechanical Properties of Fluids** • Pressure due to a fluid column • Pascal's law and its application (hydraulic lift and hydraulic brakes) • Effect of gravity on fluid pressure • Viscosity • Stoke's law • Terminal velocity • Steam line and turbulent flow • Critical velocity • Bernoulli's theorem and its applications • Surface energy and surface tension • Angle of contact • Excess of pressure across a curved surface • Application of surface tension ideas to drops,

				bubbles and capillary rise **Thermal properties of Matter** • Heat ,temperature • Thermal expansion • Thermal expansion of solids, liquids and gases • Anomalous expansion of water • Specific heat capacity • Cp,Cv-calorimetry • Change of state-latent heat capacity • Heat transfer- conduction, convection and radiation(Recapitulation only) • Thermal conductivity • Qualitative ideas of Black body radiation • Wein's displacement law • Stefan's law • Green house effect
8	December	20	Thermodynamics	**Thermodynamics** • Thermal equilibrium and definition of temperature (Zeroth law of thermodynamics) • Heat • Work and internal energy • First law of thermodynamics • Isothermal and adiabatic processes • Second law of thermodynamics • Reversible and irreversible processes **Behaviour of perfect gases and kinetic theory of gases**

				Kinetic Theory • Equations of state of a perfect gas • Work done in compressing a gas • Kinetic theory of gases-assumptions • Concept of pressure • Kinetic interpretation of temperature • Rms speed of gas molecules • Degree of freedom • Law of equi-partition of energy (statement only)and application to specific heat capacities of gases • Concept of mean free paths • Avagadro's number
9	January	23	Oscillations and waves	**Oscillations** • Periodic motion-time period, frequency , displacement as a function of time • Periodic function • Simple Harmonic motion(SHM)and its equation • Phase • Oscillations of a loaded spring-Restoring force and force constant • Energy in SHM • Kinetic and potential energies • Simple pendulum • Derivation of expression for its time period • Free, forced and damped oscillations(Qualitative ideas only) • Resonance

				Waves • Wave motion • Transverse and longitudinal waves • Speed of travelling wave • Displacement relation for a progressive wave • Principle of superposition of waves • Reflection of waves • Standing waves in strings and organ pipes • Beats

GRADE XI– CHEMISTRY

Sl no	Duration	No of periods	Topic	Sub topic
1	April	20	Some basic concepts of chemistry	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.
2	June	22	Structure of Atom	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, 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.
3	July	20	Classification of Elements and Periodicity in Properties	Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements - atomic radii, ionic radii, inert gas radii Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic

				number greater than 100.
4	August	22	Chemical Bonding and Molecular Structure	Valence electrons, ionic bond, covalent bond; bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules.
5	September	20	Chemical Bonding and Molecular Structure	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.
6	October	22	States of Matter: Gases and Liquids	Three states of matter, intermolecular interactions, types of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro's number,

7	November	20	s -Block Elements	Group 1 and Group 2 Elements General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.
8	December	20	Hydrogen	Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen, hydrides-ionic covalent and interstitial; physical and chemical properties of water, heavy water, hydrogen peroxide -preparation, reactions and structure and use; hydrogen as a fuel.
9	January	22	Some Basic Principles and	General introduction, methods of purification,

			Technique	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, carbocation, carbanions, electrophiles and nucleophiles, types of organic reactions.

GRADE XI– BIOLOGY

S.No	Duration	No. of periods	Topic	Sub topic
1	June	19	**Chapter-1: The Living World**	**Chapter-1: The Living World** What is living? Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature; tools for study of taxonomy-museums, zoological parks, herbaria, botanical gardens, keys for identification.
			Chapter-2: Biological Classification	**Chapter-2: Biological Classification** Five kingdom classification; Salient featuresand classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.
			Chapter-3: Plant Kingdom	**Chapter-3: Plant Kingdom** Salient features and classification of plantsinto major groups - Algae, Bryophyta,
		2	Practical	Study and describe three locally available common flowering plants, one from each of

				the families Solanaceae, Fabaceae and Liliaceae (Poaceae, Asteraceae or Brassicaceaecan be substituted in case of particular geographical location) including dissection anddisplay of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams). Types of root (Tap and adventitious); types of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound). Parts of a compound microscope.
2	July	15	**Pre mid** **Chapter-4: Animal Kingdom**	**Chapter-3: Plant Kingdom** Pteridophyta, Gymnospermae and Angiospermae (salient and distinguishing features and a few examples of each category); Angiosperms - classification up toclass, characteristic features and examples **Chapter-4: Animal Kingdom** Salient features and classification of animals, non-chordates up to phyla level and chordatesup to class level (salient features and distinguishing features of a few examples of each category). (No live animals or specimen should be displayed.)

	Practical	8	Practical	Part-A 2.Preparation and study of T.S. of dicot and monocot roots and stems (primary). Part-B 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, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit. 4. Tissues and diversity in shape and size of plant cells (palisade cells, guard cells, 6 parenchyma, collenchyma, sclerenchyma, xylem and phloem) through temporary and permanent slides.
3	August	21	**Unit-II Structural Organization in Animals**	**Chapter-5: Morphology of Flowering Plants** Morphology and modifications: Morphology of different parts of flowering plants: root, stem,

		8	**and Plants** **Chapter-5: Morphology of Flowering Plants** **Chapter-6: Anatomy of Flowering Plants****Chapter-7: Structural Organisation in Animals** **Practical**	leaf, inflorescence, flower, fruit and seed. Description of families: Fabaceae, Solanaceae and Liliaceae (to be dealt along with the relevant experiments of the Practical Syllabus). **Chapter-6: Anatomy of Flowering Plants** Anatomy and functions of different tissues and tissue systems in dicots and monocots. Secondary growth. **Chapter-7: Structural Organisation in Animals**Animal tissues; Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of an insect-cockroach (a brief account only) Part-A 5. Study of distribution of stomata in the upper and lower surfaces of leaves. 6. Comparative study of the rates of transpiration in the upper and lower surface of leaves. 7. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials. Part-5 5.Tissues and diversity in shape and size of animal cells (squamous epithelium, smooth, skeletal and cardiac muscle fibers and mammalian blood smear) through

4	September	22	**Unit-III Cell: Structure and FunctionChapter-8: Cell-The Unit of Life** Cell **Chapter-9: Biomolecules** **Chapter-10: Cell Cycle and Cell Division**	temporary/permanent slides. 6. Mitosis in onion root tip cells and animalscells (grasshopper) from permanent slides. **-8: Cell-The Unit of Life** Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell;cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus. **Chapter-9: Biomolecules** Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzymes-types, properties, enzyme action. **Chapter-10: Cell Cycle and Cell Division** Cellcycle, mitosis, meiosis and their significance
		8	Practical	Part-A 8. Separation of plant pigments through paper chromatography. Part-B 9. Study of the rate of respiration in flower

				buds/leaf tissue and germinating seeds.
5	October	18 8	**Unit-IV Plant Physiology** **Chapter-11: Transport in** **PlantsChapter-12: Mineral** **Nutrition** **Practical**	**Chapter-11: Transport in Plants** Movement of water, gases and nutrients; cell to cell transport, diffusion, facilitated diffusion, activetransport; plant-water relations, imbibition, water potential, osmosis, plasmolysis; long distance transport of water - Absorption, apoplast, symplast, transpiration pull, root pressure and guttation; transpiration, openingand closing of stomata; Uptake and translocation of mineral nutrients - Transport of food, phloem transport, mass flow hypothesis. **Chapter-12: Mineral Nutrition** Essential minerals, macro- and micronutrients and their role; deficiency symptoms; mineral toxicity; elementary idea of hydroponics as a method to study mineral nutrition; nitrogen metabolism, nitrogen cycle, biological nitrogenfixation. 7. Different modifications in roots, stems and leaves. 8. Different types of inflorescence (cymose and racemose).

6	November	23	**Chapter-13: Photosynthesis in Higher Plants** **Chapter-14: Respiration in PlantsChapter-15: Plant - Growth and Development**	**Chapter-13: Photosynthesis in Higher Plants** Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis. **Chapter-14: Respiration in Plants** Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient. **Chapter-15: Plant - Growth and Development** Seed germination; phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA; seed dormancy; vernalisation;

				photoperiodism. Part-A 10Test for presence of urea in urine. 11. Test for presence of sugar in urine.
	December	4 22	**Practical** **Unit-V Human Physiology** **Chapter-16: Digestion and Absorption** **Chapter-17: Breathing and Exchange of Gases** **Chapter-18: Body Fluids and Circulation** **Chapter-19: Excretory Products and theirElimination** **Chapter-20: Locomotion and Movement**	**Chapter-16: Digestion and Absorption** Alimentary canal and digestive glands, role of digestive enzymes and gastrointestinal hormones; Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats; calorific values of proteins, carbohydrates and fats; egestion; nutritional and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhoea. **Chapter-17: Breathing and Exchange of Gases** Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration - asthma, emphysema, occupational respiratory disorders. **Chapter-18: Body Fluids and Circulation** Composition of blood, blood groups, coagulation of blood; composition of lymph

				and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure. **Chapter-19: Excretory Products and their Elimination** Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system – structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH anddiabetes insipidus; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant. **Chapter-20: Locomotion and Movement** Types of movement - ciliary, flagellar, muscular; skeletal muscle, contractile proteinsand muscle contraction; skeletal system and its functions; joints; disorders of muscular andskeletal systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.
		8	Practical	Part-A Test for presence of albumin in urine. 13. Test for presence of bile salts in urine.

				Part-B Human skeleton and different types of jointswith the help of virtual images/models only.
8	January	21	**Chapter-21: Neural Control and Coordination** **Chapter-22: Chemical Coordination and Integration**	**Chapter-21: Neural Control and Coordination**Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse; reflex action; sensory perception; sense organs; elementary structure and functions ofeye and ear **Chapter-22: Chemical Coordination and Integration** Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease. **Note:** Diseases related to all the human physiological systems to be taught in brief.

9	February	20	**Revision**	

GRADE XI– COMPUTER SCIENCE

S. no	Duration	Topic	Sub topic
TERM I			
1.	May & June	Computer Systems and Organization	• Basic Computer Organisation • Types of software • Operating System • Boolean Logic • Number System • Encoding Schemes
2	July	Computer Systems and Organization	• Introduction to problem solving • Basics of python programming • Knowledge of data types. • Insight into program execution
3	August	Computational Thinking and Programming 1	• Data handling • Data types • Operators
4	September	Computational Thinking and Programming 1	• Expressions • Flow of control • Different types of conditional statements • Different types of loops

TERM II			
5	October November	Computational Thinking and Programming 1	• Conditional Statements • Iterative statements • String Manipulation • Lists
6	December	Computational Thinking and Programming 1	• Tuples • Dictionary • Python modules
7	January	Society Law and Ethics	• Digital protection • Cyber crime • Cyber safety • E-waste management • Safely accessing websites • IT Act • Technology & Society