

Academic planner-2025-2026
Class -XI Biology

Date & number of	Topics/ Content	Learning outcome	Mode of assessment	Assignment/ H.W	Teaching pedagogy	Interdisciplinary & SDG	21st century skills	Lab activity/Practical
1/4/25-15/4/25, No.of days-10	Revision	Students will recall class IX & X concepts	Interactive Quizzes/Science Concept map	Assignment containing NCERT and extra questions	Collaborative peer to peer learning	Laws of reflection & refraction, image formation in microscope	Creativity Collaboration Communication	
16/4/2025 - 30/4/2025 No.of days-12	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.	Help students to understand 1.concept of species and taxonomical hierarchy 2. binomial nomenclature.	Interactive Quizzes/Science Concept map	Assignment containing NCERT and extra questions	Concept Mapping – Visually organizing information to enhance understanding.	Image formation and concept of magnification	Flexibility problem solving collaboration Adaptability	To study the parts of the compound microscope

1/5/25- 15/5/25 No.of days- 11	Chapter-2: Biological Classification Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups: Lichens, Viruses and Viroids.	Students to understand 1. Biological Classification 2. five kingdom classification and their Salient features	Class test group assignments and projects/ Information gathering	Assignment containing NCERT and extra questions	Direct instruction collaborative learning	Image formation and concept of magnification	Problem solving Adaptability Analytic reasoning	To study the parts of the compound microscope
1/7/25- 15/7/25 No.of days- 12	Chapter-1 & 2 quick revision. Chapter-3: Plant Kingdom Salient features and distinguishing features of plants into major groups - Algae, Bryophyta, Pteridophyta, Gymnospermae	Help students to 1. understand Biological Classification 2. five kingdom classification and Salient features of Salient features and classification of Monera, Protista and Fungi into major groups	Oral assessments viva voce student presentations of concepts	Assignment containing NCERT and extra questions	Experiential Learning: Learning should be based on experiences, allowing students to connect scientific concepts to	SDG 15	Initiative and self direction	Study of plant Specimens/slides/ model and identifications with reasons, Bacteria, yeast, oscillatoria, spirogyra, Rhizopus, mushroom,
16/7/20 25 - 31/7/20 25 No.of days- 14	Chapter-3: Plant Kingdom Salient features and distinguishing features of plants into major groups - Algae, Bryophyta, Pteridophyta, Gymnospermae	1. Draws labelled diagrams, flow charts, concept maps 2. Understands different classification systems 3. Classification of plants into major groups - Algae, Bryophyta, Pteridophyta, Gymnospermae and their features	Oral assessments viva voce student presentations of concepts	Assignment containing NCERT and extra questions	Critical thinking Creativity Collaboration Communication	SDG 15 & 17	self direction problem solving collaboration	To demonstrate osmosis by potato osmometer

<p>1/8/2025 - 15/8/2025 No. of days- 11</p>	<p>Chapter-4: Animal Kingdom salient features and classification of animals non-chordates up to phyla level and chordates up to chordates up to class level (three to five salient features and at least two examples of each category).</p>	<p>1. Draws labelled diagrams, flow charts, concept maps 2. Understands features and classification of animals non-chordates up to phyla level 3. Is able to record observations in the lab after observing slides and specimens.</p>	<p>Class test Self-Assessment and Reflection, Peer Review</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Concept Mapping – Visually organizing information to enhance understanding.</p>	<p>SDG 15 & 17</p>	<p>Initiative and self direction</p>	<p>Study of virtual specimens/slides/ model and identification with reason of Amoeba, hydra, liver fluke, honey bee, snail, ascaris, leech, earthworm, prawn, silkworm, starfish, shark, rohu(fish) frog, calotes(lizard), pigeon and</p>
<p>16/8/25 - 31/8/25 No. of days- 12</p>	<p>Chapter-5: Morphology of different flowering plants, the root, stem, leaf, inflorescence, flower, fruit, seed. Description of family Solanaceae Chapter 6: Anatomy of flowering plants leaf, inflorescence, flower, fruit, seed. Chapter -7 Structural organisation in animals Morphology, Anatomy and functions of different systems(digestive, circulatory, respiratory, nervous and reproductive) of frog.</p>	<p>1. Is able to make practical observation of morphology of different flowering plants, the root, stem, leaf, inflorescence 2. Draws labelled diagrams, flow charts, concept maps, graphs and floral diagrams & writes floral formulae in technical language based on floral diagrams 3. Take sections of plant material</p>	<p>Class test Self-Assessment and Reflection Peer Review</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Animated videos on evolution would be shown</p>	<p>SDG 15 & 17</p>	<p>self direction problem solving collaboration</p>	<p>To Study modifications of roots, leaves and stem. Study & identify different types of inflorescences(Cymose and racemose) Preparation and study of TS of dicot and monocot roots and stems(Primary)</p>

<p>1/9/2025-15/9/2025 No.of days-11</p>	<p>Chapter- 8 Cell : The unit of life Cell theory & cell as basic unit of life, structure of prokaryotic & eukaryotic cells Plant and animal cell; cell envelope;cell membrane cell wall; the cell organelles,structure and function of endomembrane system,endoplasmic reticulum, golgi bodies, lysosomes, vacuoles mitochondria, mitochondria, plastids, ribosomes, cytoskeleton, cilia and ribosomes, plastids ,ribosomes, flagella, nucleus and types of chromosomes</p>	<p>understands the of contribution of scientists and cell structure and functions</p>	<p>Group assignments and projects</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Inquiry-Based Learning: Students are encouraged to ask questions, explore, and investigate scientific concepts through inquiry-based methods</p>	<p>SDG 15 & 17</p>	<p>Critical thinking Creativity Collaboration Communication Information literacy</p>	<p>Study of distribution of stomata on the upper & lower surfaces of leaf</p>
<p>16/9/25 - 30/9/25 days-12</p>	<p>Term I examination</p>							

<p>1/10/25 - 15/10/25 No.of days-8</p>	<p>Chapter-9: Biomolecules Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids, enzymes, types, properties, enzyme action</p>	<p>1. Draws labelled diagrams, flow charts, concept maps 2. Understands biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids, enzymes, process of enzymatic activity 3. Handles laboratory tools, and apparatuses, instruments and devices properly for performing activities/ experiments/ investigations</p>	<p>Think-Pair-Share/Student Presentations</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Padlet and sway making(Microsoft tools)</p>	<p>Chemical structures of proteins sugars and DNA</p>	<p>Critical thinking Creativity Collaboration Communication Information literacy</p>	<p>To test for glucose, sucrose, starch, proteins & fats & to show their presence in suitable plant & animal materials.</p>
<p>16/10/25 - 31/10/25 No.of days-10</p>	<p>Chapter-10: Cell Cycle and Cell Division Cell cycle, mitosis, meiosis and their significance</p>	<p>Understands Cell Cycle and Cell Division , mitosis, meiosis and their significance</p>	<p>Online quiz</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Concept Mapping – Visually organizing information to enhance understanding</p>	<p>SDG 15</p>	<p>self direction problem solving collaboration</p>	<p>Study of mitosis in onion root tip and animal cells from permanent slides.</p>

<p>1/11/25 - 15/11/25 5 No.of days- 11</p>	<p>Chapter-11: Photosynthesis in Higher Plants photosynthesis as a mean 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-12: 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.</p>	<p>1.understands photosynthesis in higher Plants 2. Is able to separate & study the Plant Pigments by Paper Chromatography 3. Analyses and interprets graphs and figures 4. Understands respiration and its steps RQ</p>	<p>Class test group assignments and projects/ Information gathering</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Concept Mapping – Visually organizing information to enhance understanding.</p>	<p>Handling & interpretation of graphical data</p>	<p>Critical thinking Creativity Collaboration Communication Information literacy</p>	<p>To separate & study the Plant Pigments by Paper Chromatography.</p>
--	---	--	---	--	--	--	--	--

<p>16/11/25 - 30/11/25 No. of days- 12</p>	<p>Chapter-12: 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-13: 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 Chapter 14 Breathing and exchange of gases : Respiratory organs in animals (recall only): Respiratory system</p>	<p>1. Analyses and interprets graphs and figures such as growth versus time graphs, oxygen dissociation curve etc. 2. Plans and conducts investigations and experiments to arrive at and verify the facts, principles, phenomena, or to seek answers to queries on their own. 3. understands plant - Growth and Development Seed germination phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and</p>	<p>Interactive Quizzes/Science Concept map</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Cooperative learning Concept Mapping – Visually organizing information to enhance understanding.</p>	<p>Chemical nature of plant growth regulators and properties of respiratory gases</p>	<p>self direction problem solving collaboration</p>	<p>To demonstrate plasmolysis & deplasmolysis in leaf peels</p>
--	--	--	--	--	---	---	---	---

<p>1/12/25 - 15/12/25 5 No. of days - 12</p>	<p>Chapter-14 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-15 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.</p>	<p>1. Draws labelled diagrams, flow charts, concept maps 2. Understands causes symptoms and preventive steps of diseases 3. is able to draw conclusions after observing set ups 4. Understands body Fluids and Circulation Composition of blood, blood groups, coagulation of blood, heart and ECG</p>	<p>Class test Self-Assessment and Reflection, Peer Review</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Concept Mapping – Visually organizing information to enhance understanding.</p>	<p>SDG 2 & 3</p>	<p>Critical thinking Creativity Collaboration Communication Information literacy</p>	<p>To compare the rate of transpiration from the upper & lower surfaces of the leaf</p>
--	---	---	--	---	---	-----------------------------	---	--

<p>16/12/25-31/12/25 No. of days - 13</p>	<p>Chapter-16: 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 - angiotensinatrial natriuretic factor, ADH and diabetes insipidus; role of other organs in excretion; disorders - uraemia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant Chapter-17: Locomotion and Movement Types of movement - ciliary, flagellar, muscular; skeletal muscle- contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal system - myasthenia gravis, tetany, muscular dystrophy, arthritis</p>	<p>1. Draws labelled diagrams, flow charts, concept maps 2. Understands causes symptoms and preventive steps of diseases 3. is able to draw conclusions after observing set ups on respiration using different seeds 4. understands excretion and locomotion and movements in humans.</p>	<p>Class test Self-Assessment and Reflection, Peer Review</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Collaborative peer to peer learning</p>	<p>SDG 2 & 3</p>	<p>Critical thinking Creativity Collaboration Communication Information literacy</p>	<p>To study the rate of respiration in germinating seeds having different substances such as wheat, groundnut and gram</p>
<p>winter break</p>								
<p>15/1/25</p>								

<p>16/1/25 - 31/1/25 No.of days- 13</p>	<p>Chapter-18: 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 Chapter 19 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 diseases,</p>	<p>1. Understands neural Control and Coordination Neuron and nerves; Nervous system in humans 2. Understands causes symptoms and preventive steps of diseases 3. Is able to draw conclusions after performing urine tests 4. understands 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);</p>	<p>Class test group assignments and projects/ Information gathering</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Collaborative peer to peer learning Concept Mapping – Visually organizing information to enhance understanding.</p>	<p>SDG 2 & 3</p>	<p>self direction problem solving collaboration</p>	<p>To test the given sample of urine for the presence of urea, sugar, albumin & bile salts Study & identification of human bones & joints with the help of virtual images models</p>
<p>1/2/26 - 15/2/26 No.of days- 11</p>	<p>Doubts and problems to be taken up</p>	<p>*Draws labelled diagrams, flow charts, concept maps</p>	<p>Think-Pair-Share/Student Presentations</p>	<p>Assignment containing NCERT and extra questions</p>	<p>Concept Mapping – Visually organizing information to enhance understanding</p>	<p>SDG 2 & 3</p>	<p>Critical thinking Creativity Collaboration Communication</p>	<p>Study & description of some flowers & their parts from solanaceae</p>
<p>Annual Examination</p>								