BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session 2025-26

Class: XI

Subject: BIOLOGY

SYLLABUS			
MONTH	**CHAPTER (NCERT Text book)**	**CONTENT (Topics)**	**Practical/Activities**
April	Chapter-14: Breathing and Exchange of Gases Chapter-15: Body Fluids and Circulation	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. 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,	1.Parts of a compound microscope. 2.Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.
May	Chapter-15: Body Fluids and Circulation (Cont.) Chapter-16: Excretory Products and their Elimination	ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease,angina pectoris, heart failure. 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 and diabetes insipidus; role of other organs in	3.Test for presence of urea in urine. 4. Test for presence of sugar in urine. 5. Test for presence of albumin in urine. 6.Test for presence of bile salts in urine.

		excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.	7. Human skeleton and different types of joints with the help of virtual images/models only.
	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 systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.	
	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.	
July	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 goitre, diabetes, Addison's disease.	8. Separation of plant pigments through paper chromatography. 9. Study of distribution of stomata on the upper and lower surfaces of leaves. 10. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.
	Digestion and Absorption (**The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments.)**	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-11: 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.	
August	Chapter-12: Respiration in Plants Chapter-13: Plant - Growth and Development Chapter-8: Cell-The Unit of Life	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. 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; plant growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA. 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.	11.Study of the rate of respiration in flower buds/leaf tissue and germinating seeds. 12.Study of osmosis by potato osmometer. 13. Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale the leaves of the onion bulb).
September	Chapter-10: Cell Cycle and Cell Division	Cell cycle, mitosis, meiosis and their significance	14. Mitosis in onion root tip cells and animal cells (grasshopper) from permanent slides.

October	Chapter-9: Biomolecules Chapter-5: Morphology of Flowering Plants	Chemical constituents of living cells: biomolecules, structure and function of proteins,carbohydrates, lipids, and nucleic acids; Enzyme - types, properties, enzyme action. (Topics excluded: Nature of Bond Linking Monomers in a Polymer, Dynamic State of Body, Constituents Concept of Metabolism, Metabolic Basis of Living, The Living State) Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed. Description of family Solanaceae	15.Different types of inflorescence (cymose and racemose). 16. Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams), type of root (tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
November	Chapter-6: Anatomy of Flowering Plants Chapter-7: Structural Organisation in Animals Chapter-1: The Living World	Anatomy and functions of tissue systems in dicots and monocots. Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of frog. Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomic hierarchy; binomial nomenclature	17. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
December	Chapter-2: Biological Classification	Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.	18.Specimens/slides/models and identification with reason - Bacteria, Oscillatoria, Spirogyra, Rhizopus,

	Chapter-3: Plant Kingdom	Classification of plants into major groups; Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnosperms and Angiosperms.	mushroom, yeast, liverwort, moss, fern, pine, one monocot plant, one dicot plant and one lichen.
January	Chapter-3: Plant Kingdom (Cont.) Chapter-4: Animal Kingdom	Classification of plants into major groups; Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnosperms and Angiosperms. Salient features and classification of animals, non-chordates up to phyla level and chordates upto class level (salient features and at a few examples of each category).	19. Virtual specimens/ slides/models and identifying features of - Amoeba, Hydra, liver fluke, Ascaris, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
February	Revision Annual practical exam Annual Examination		
March	Annual Examination		
ASSESSMENT SYLLABUS			
PERIODIC ASSESSMENT -1		Chapter-14: Breathing and Exchange of Gases Chapter-15: Body Fluids and Circulation Chapter-16: Excretory Products and their Elimination Chapter-17: Locomotion and Movement	
PERIODIC ASSESSMENT -2		Chapter-5: Morphology of Flowering Plants Chapter-6: Anatomy of Flowering Plants Chapter-9: Biomolecules Chapter-10: Cell Cycle and Cell Division	
MID TERM EXAM		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: Body Fluids and Circulation Chapter-16: Excretory Products and their Elimination Chapter-17: Locomotion and Movement Chapter-18: Neural Control and Coordination Chapter-19: Chemical Coordination and Integration	
FINAL EXAMINATION	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 Organisation 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: Body Fluids and Circulation Chapter-16: Excretory Products and their Elimination Chapter-17: Locomotion and Movement Chapter-18: Neural Control and Coordination Chapter-19: Chemical Coordination and Integration	