D.A.V. Public School
Sector – 3 Dhurwa Ranchi – 4

Biology Syllabus(2019-20)

Class -XI

Prescribed Books:

- **N.C.E.R.T Science.(044)**

Months	No of working days/periods	Unit/chapter	Subject/Topic	Exam/Text portion
July	23	Unit - 1 Chapter-1 Diversity of living organisms. Chapter-1 The living world.	*What is living. *Biodiversity. *Need for classification, Three domains of life, Taxonomy and systematic, concept of species and taxonomical hierarchy, Binomial nomenclature, Tools for taxonomy musems , Zoological parks, herbaria, Botanical gardens. *Five kingdom classification, salient features and classification of monera, protista and fungi into major groups, Lichens, Viruses and Viroids. *Salient features and classifications of plants into major groups- Algae, Bryophyta, Pteridophyta , Gymnospermae and Angiospermae. Angiosperms – classification upto class, characteristic features and examples.	
		Chapter-2 Biological classification.	*Salient features and classifications of animals, non – chordates upto phyla level and chordates upto class level (3 to 5 features with examples) no live animals or specimen should be displayed.	

		Chapter-3 Plant kingdom. **Chapter-4 Animal kingdom.**	***salient features and classification of plants into major groups- Algae, Bryophyta, Pteridophyta, Gymnospermae and Angiospermae, (three to five salient and distinguishing features and at least two examples of each category), Angiospeems- classification upto calss , characteristic features and examples.** ***Salient features and classifications of animals, non-chordates upto phyla level and chordates upto class level.**	
August	**23**	**Unit-2 Structural organization in animals and plants.** **Chapter-5 Morphology of flowering plants.** **Chapter-6 Anatomy of flowering plants.** **Chapter-7 Structural organisation in animals.**	***Morphology and modification, morphology of different parts of flowering plants,root , stem, leaf, inflowrescence , flower, fruit and seed** ***Anatomy and functions of different tissues and tissue systems.** ***Animal tissues, Morphology, Anatomy and functions of different systems (digestive , circulatory, repiratory, nervous and reproductive) of an insect (cockroach).**	
Septemb er	**23**	**Unit-3 Cell structure and function.** **Chapter-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, endo membrane system, endo plasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies, cytoskeletom, cilia, flagella, centrioles (**	**Half Yearly Exam - 2019**

			ultra structure and functions, nucleus)	
October	**15**	**Chapter-9 Biomolecules.** **Chapter-10 Cell cycle and cell division.**	***Chemical constituents of living cells , bio molecules , structure and functions of proteins, carbohydrates, libids, nucleic acids, enzymes-types , properties, enzyme actions.** ***Cell cycle , mitosis, meiosis and their significance.**	
November	**20**	**Unit-4 Plant physiology.** **Chapter-11 Transport in plants.** **Chapter-12 Mineral nutrition** **Chapter-13 Photosynthesis in higher plants**	***Movement of water, gases and nutrients, cell to cell transport, diffusion, facilitated diffusion, active transport, plant – water relations, imbibitions, water potential, osmosis , plasmolysis, long distance transport of water- absorption, apoplast, symplast, transpiration pull,root pressure and guttation ,transpiration,opening and closing stomata,uptake and translocation of mineral nutrients-transport of food,phloem transport,mass flow hypothesis** ***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 nitrogen fixation** ***Photosynthesis as a means of autotrophic nutrition,site of photosynthesis,pigments involved in photosynthesis,photochemical and biosynthetic phases of photosynthesis,cyclc and non cyclic photophosphorylation,chemiosmotic hypothesis,photorespiration, c3 and c4 pathdays, factors affecting photosynthesis.**	

Decembe r	**20**	**Chapter-14 Respiration in plants** **Chapter-15 Plant- growth and development .**	***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 process in a plant cell, growth regulators- auxin, gibberellins , cytokinin, ethylene, ABA, seed dormancy, vernalisation , photoperiodism.**	
January	**26**	**Unit –V Human Physiology. Chapter-16 Digestion and absorption** **Chapter-17 Breathing and exchange of gases.** **Chapter-18 Body fluids and circulation.**	***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.** ***Respiratory organs in animals (recall only) , respiratory system in humans, mechanism of breathing and its regulations in humans- exchange of gases, transport of gases and regulations of respiratory , 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.ECG,double circulation,regulation of cardiac**	

			activity,disorders of circulatory systems-hypertention,coronary artery disease,angina pectoris,heart faiiure.	
		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 and diabetes insipidus,role of other organs in excretion,disorders-uraemia,renal failure,renal calculi,nephritis,dialysis and artificial kidney,kidney transplant.**	
Februar y	**20**	**Chapter-20 Locomotion and movement**	***Types of movement-ciliary, flagellar, muscular, skeletal muscle-contractile proteins and muscle contraction, skeletal system and functions, joints, disorders of muscular and skeletal system- myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.**	
		Chapter-21 Neural Control and Coordination.	***Neuron and nerves, Nervous system in human- 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 of eye and ear.**	**Annual Exam 2020**
		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.**	