**The Camford International School, Coimbatore**

**Annual Lesson Plan- 2021-2022**

**SUBJECT: BIOLOGY (044)**

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| **MONTH** | **CHAPTER** | **DETAIL CONCEPTS TO BE COVERED** | **ACTIVITY** |
| **JUNE** | **CHAPTER 1**  **CHAPTER 2**  **CHAPTER 3** | What is living? Biodiversity; Need for classification; three domains of life; concept of species and taxonomical hierarchy; binomial nomenclature.  Five kingdom classifications; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.  Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta and Gymnospermae. (Salient and distinguishing features and a few examples of each category). | **AIL** |
| **JULY** | **CHAPTER 4**  **CHAPTER 5**  **CHAPTER 7**  **CHAPTER 8** | Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level (salient features and distinguishing features of a few examples of each category). (No live animals or specimen should be displayed.)  Morphology of inflorescence and flower, Description of 01 family: Solanaceae or Liliaceae (to be dealt along with the relevant experiments of the Practical Syllabus).  Animal tissues.  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. | **AIL** |
| **AUGUST** | **CHAPTER 9**  **CHAPTER 10**  **CHAPTER 13**  **CHAPTER 15** | ChemicaLconstituents  of  living  cells:  biomolecules,  structure  and  function  of  proteins, carbohydrates, lipids, nucleic acids; Enzymes- types, properties, enzyme action.  Cell cycle, mitosis, meiosis and their significance  Growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA.  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; |  |
| **SEPTEMBER** | **CHAPTER 13**  **CHAPTER 14**  **CHAPTER 17** | Chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis.  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.  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. | **AIL** |
| **OCTOBER** | **CHAPTER 18**  **CHAPTER 19**  **CHAPTER 20** | 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.   Ammoniotelic, 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.  Skeletal muscle, contractile proteins and muscle contraction. | **AIL** |
| **NOVEMBER** | **CHAPTER 21**  **CHAPTER 22** | Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse.  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, goitre, exophthalmic goitre, diabetes, Addison's disease. | **AIL** |