

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

CLASS – XI

SEMESTER - I

FULL MARKS: 35

| UNIT No. | TOPICS | HOURS | MARKS |
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| UNIT I : DIVERSITY OF LIVING ORGANISM | <u>Chapter-1: The Living World</u> Biodiversity; need for classification; three domains of life; Taxonomy and Systematics; concept of species; and taxonomical hierarchy; binomial nomenclature; Tools for study of Biodiversity; Museums; Zoological and Botanical Gardens; Herbaria (Definition: World's largest herbarium, name of the herbarium in Bengal, Importance of herbarium) | 2 | 8 |
| | <u>Chapter-2: Biological Classification</u> Five Kingdoms of Classification; Salient features and classification of Monera; Protista and Fungi into major groups; Lichens, Viruses, Viroids and Prions. | 5 | |
| | <u>Chapter-3: Plant Kingdom</u> Classification of Plants into major Groups, Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnosperm. | 5 | |
| | <u>Chapter-4: Animal Kingdom</u> Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level. | 7 | |
| UNIT II : STRUCTURAL ORGANIZATIONS IN PLANTS AND ANIMALS | <u>Chapter-5: Morphology of Flowering Plants</u> Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit, and seed. Description of families : Malvaceae, Solanaceae, Brassicaceae, Compositae, Leguminosae (Dicots), Poaceae, Liliaceae (Monocots). | 8 | 12 |
| | <u>Chapter-6: Anatomy of Flowering Plants</u> Plant tissue systems including Mechanical tissue systems, anatomy and functions of tissue systems in dicots and monocots. | 4 | |
| | <u>Chapter-7: Structural Organization in Animals</u> Animal Tissue Systems: epithelial, connective, muscular and nervous systems (structure, organization and function); morphology, anatomy and functions of different systems; digestive, circulatory, respiratory, nervous, and reproductive systems of frog. | 4 | |
| UNIT III (CELL STRUCTURE AND FUNCTIONS) | <u>Chapter-8: Cell- The Unit of Life</u> 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, nucleus, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, | 7 | 15 |

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| | microbodies, cytoskeleton, cilia, flagella, centrioles (ultra-structure and function). | | |
| | <u>Chapter-9: Biomolecules</u> Chemical constituents of living cells: biomolecules; structure and function of proteins; carbohydrates; lipids; and nucleic acids; Enzyme — types; properties; enzyme action. | 9 | |
| | <u>Chapter-10: Cell Cycle and Cell Division</u> Cell cycle; mitosis; meiosis; and their significance. | 4 | |

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