

BIOLOGY

I PUC

UNIT 1 DIVERSITY IN THE LIVING WORLD

RETAINED PORTION	DELETED PORTION
1 The Living World 2 Biological Classification 3 Plant Kingdom 4 Animal Kingdom	Chapter-1: The Living World Taxonomy and systematics; Tools for study of taxonomy- museums, zoological parks, herbaria, botanical gardens, keys for identification. Chapter-3: Plant Kingdom Angiospermae; Angiosperms - classification up to class, characteristic features and examples.

UNIT 2 STRUCTURAL ORGANISATION IN PLANTS AND ANIMALS

RETAINED PORTION	DELETED PORTION
5 Morphology of Flowering Plants 6 Anatomy of Flowering Plants 7 Structural Organisation in Animals	Chapter-5: Morphology of Flowering Plants Morphology and modifications: Morphology of different parts of flowering plants: root, stem, leaf, fruit and seed. Description of families: - Fabaceae Chapter-6: Anatomy of Flowering Plants Anatomy and functions of different tissues and tissue systems in dicots and monocots. Secondary growth Chapter-7: Structural Organisation in Animals Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of an insect (cockroach), (a brief account only).

UNIT 3 CELL : STRUCTURE AND FUNCTIONS

RETAINED PORTION	DELETED PORTION
8. Cell : The Unit of Life 9. Bio molecules 10. Cell Cycle and Cell Division	Nil

UNIT 4 PLANT PHYSIOLOGY

RETAINED PORTION	DELETED PORTION
11 Transport in Plants 12 Mineral Nutrition 13 Photosynthesis in Higher Plants 14 Respiration in Plants 15 Plant Growth and Development	Chapter-11: Transport in Plants Movement of water, gases and nutrients; cell to cell transport, diffusion, facilitated diffusion, active transport; plant-water relations, imbibition, water potential, osmosis, plasmolysis; long distance transport of water - Absorption, apoplast, symplast, transpiration pull, root pressure and guttation; transpiration, opening and closing of stomata; Uptake and translocation of mineral nutrients -Transport of food, phloem transport, mass flow hypothesis. Chapter-12: Mineral Nutrition 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. Chapter-15: 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; Seed dormancy; vernalisation; photoperiodism

UNIT 5 HUMAN PHYSIOLOGY

RETAINED PORTION	DELETED PORTION
16 Digestion and Absorption 17 Breathing and Exchange of Gases 18 Body Fluids and Circulation 19 Excretory Products and their Elimination 20 Locomotion and Movement	Chapter-16: Digestion and Absorption 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

21 Neural Control and Coordination	and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhoea.
22 Chemical Coordination and Integration	Chapter-20: Locomotion and Movement Types of movement - ciliary, flagellar, muscular; Skeletal system and its functions; joints; disorders of muscular and skeletal systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout. Chapter-21: Neural Control and Coordination Reflex action; sensory perception; sense organs; elementary structure and functions of eye and ear

Practical

The following portion to be retained

- Exercise-1 To study parts of a compound microscope
- Exercise-2 To identify and study the morphology of representative types of bacteria, fungi and different plant groups
- Exercise-3 To study some selected animals on the basis of their external features
- Exercise-4 Preparation of temporary slides of animal tissues and their study
- Exercise-5 Study of mitosis
- Exercise-6 Preparation of herbarium sheets of flowering plants
- Exercise-7 Study of external morphology of animals through models
- Exercise-8 Study of imbibition in raisins or seeds
- Exercise-9 To study the distribution of stomata on the upper surface and the lower surfaces of leaves
- Exercise-10 Separation of plant pigments (Chloroplast pigments) by paper chromatography
- Exercise-11 To study the rate of respiration in flower buds/ germinating seeds
- Exercise-12 Observation and comment on the setup
- Exercise-13 To study the enzymatic action of salivary amylase on starch
- Exercise-14 To study the effect of temperature on the activity of salivary amylase
- Exercise-15 To study the effect of pH on the action of salivary amylase
- Exercise-16 To test the presence of sugar in the given sample of urine
- Exercise-17 To detect the presence of albumin in the given sample of urine

DELETED PORTIONS CLASS XI: PRACTICAL

A: List of Experiments

1. Description of Family Fabaceae; Types of root (Tap and adventitious); types of stem (herbaceous and woody); leaf(arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary)
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale leaves of onion bulb).
5. Comparative study of the rates of transpiration in the upper and lower surface of leaves.
6. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.

7. Test for presence of urea in urine.

8. Test for presence of bile salts in urine.

B. Study/Observation of the following (spotting)

1. Tissues and diversity in shape and size of plant cells (palisade cells, guard cells, parenchyma, collenchyma, sclerenchyma, xylem and phloem) through temporary and permanent slides.
2. Different modifications in roots, stems and leaves.
3. Different types of inflorescence (cymose and racemose).
4. Human skeleton and different types of joints with the help of virtual images/models only

