

# BIOLOGY

## II PUC

### UNIT VI REPRODUCTION

RETAINED PORTION	DELETED PORTION
1 : Reproduction in Organisms 1.2 Sexual reproduction 2 : Sexual Reproduction in Flowering Plants 3 : Human Reproduction 4 : Reproductive Health	<b>Chapter-1: Reproduction in Organism</b>  Reproduction, a characteristic feature of all organisms for continuation of species; modes of reproduction - asexual and sexual reproduction; asexual reproduction - binary fission, sporulation, budding, gemmule formation, fragmentation; vegetative propagation in plants

### UNIT VII GENETICS AND EVOLUTION

RETAINED PORTION	DELETED PORTION
5 : Principles of Inheritance and Variation 6 : Molecular Basis of Inheritance	<b>Chapter-7: Evolution</b> Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; adaptive radiation; human evolution.

### UNIT VIII BIOLOGY IN HUMAN WELFARE

RETAINED PORTION	DELETED PORTION
Chapter 8 : Human Health and Disease  Chapter 10 : Microbes in Human Welfare	<b>Chapter 9: Strategies for Enhancement in Food Production</b> Animal husbandry, Plant breeding, tissue culture, single cell protein

### UNIT IX BIOTECHNOLOGY

RETAINED PORTION	DELETED PORTION
Chapter 11 : Biotechnology : Principles and Processes	Nil

UNIT X ECOLOGY

RETAINED PORTION	DELETED PORTION
<p>13 : Organisms and Populations 15 : Biodiversity and Conservation</p>	<p><b>Chapter-14: Ecosystem</b> Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy; nutrient cycles (carbon and phosphorous); ecological succession; ecological services - carbon fixation, pollination, seed dispersal, oxygen release (in brief).</p> <p><b>Chapter 16: Environmental Issues</b> Air pollution and its control; water pollution and its control; agrochemicals and their effects; solid waste management; radioactive waste management; greenhouse effect and climate change impact and mitigation; ozone layer depletion; deforestation; exemplifying case study as success story addressing environmental issue(s).</p>

Practical

The following portion to be retained

- Exercise-1 To study the reproductive parts of commonly available flowers
- Exercise-2 To calculate percentage of pollen germination
- Exercise-3 To study study pollen tube growth on stigma
- Exercise-4 To study the discrete stages of gametogenesis in mammalian testis and ovary
- Exercise-5 To study and identify various stages of female gametophyte development in the ovary of a flower
- Exercise-6 Preparation and study of mitosis in onion root tips
- Exercise-7 Study of stages of meiosis using permanent slides
- Exercise-8 To study the blastula stage of embryonic development in mammal, with the help of permanent slide, chart, model or photographs
- Exercise-9 Preparation and analysis of pedigree charts
- Exercise-10 Staining of nucleic acid by acetocarmine
- Exercise-11 To identify common disease-causing organisms and the symptoms of the diseases
- Exercise-12 To study the texture of soil samples
- Exercise-13 To determine water holding capacity of soils
- Exercise-14 To study the ecological adaptations in plants living in xeric and hydric conditions

- Exercise-15 To study the adaptations in animals living in xeric and hydric conditions
- Exercise-16 To determine the pH of different water and soil samples
- Exercise-17 To study turbidity of water samples
- Exercise-18 To analyse living organisms in water samples
- Exercise-19 Study of homologous and analogous organs in plants and animals

**DELETED PORTIONS CLASS XII: PRACTICAL**

**A: List of Experiments**

1. Study the presence of suspended particulate matter in air at two widely different sites.
2. Study the plant population density by quadrat method.
3. Study the plant population frequency by quadrat method.

**B. Study/Observer of the following (spotting)**

1. Pollen germination on stigma through a permanent slide or scanning electron micrograph.
2. Mendelian inheritance using seeds of different colour/sizes of any plant.
3. Controlled pollination - emasculation, tagging and bagging.