Government College Chhachhrauli

Summary of Lesson Plan

Name: SWATI Academic Session: 2025-26.

Class: B.Sc Life Science (1st Year) Semester: Even

Subject & Code: **Plant Taxonomy and Ecology (BOT 201)**

Sr. No.	Unit	Topics/Chapters to be covered	Duration	Assignments and Tests
1.	I	Botanical nomenclature and major rules of ICBN and ICN; Keys to identification of plants. General introduction and importance of herbaria and botanical gardens.	29.01.2026 – 10.02.2026	Class-test
2.	I	Documentation of Floristic Diversity: Brief idea about floras, monographs and journals. Brief idea of taxonomic evidences. Types of inflorescence, flower and parts of flower.	11.02.2026 – 24.02.2026	Class-test
3.	II	Artificial, natural and phylogenetic classifications. Bentham and Hooker system of classification (upto series), Angiosperm Phylogeny Group- general account.	25.02.2026 – 15.03.2026	Class-test
4.	II	Diagnostic features and economic importance of the following families: Ranunculaceae, Brassicaceae, Malvaceae, Euphorbiaceae, Rutaceae, Leguminosae, Apocynaceae, Lamiaceae, Solanaceae, Asteraceae, Poaceae and Orchidaceae.	16.03.2026 – 24.03.2026	Assignment- 1
5.	III	Ecology: Definition; scope and importance; levels of organization. Environmental factors- climatic factors, edaphic factors, topographic; and Biotic factors. Population Ecology: Basic concept; characteristics; biotic potential, growth curves; ecotypes and ecads.	25.03.2026 – 08.04.2026	Class-test
6.	III	Community Ecology: Concepts; characteristics (qualitative and quantitative-analytical and synthetic); methods of analysis; ecological succession.	08.04.2026 – 18.04.2026	Mid-term examination

7.	IV	Ecosystem: Structure and functions (trophic levels, food chains, food webs, ecological pyramids and energy flow). Phyto-geography: Phyto-geographical regions of India; vegetation types of India (forests).	19.04.2026 – 27.04.2026	Class-test
8.	IV	Environmental Pollution: Sources, types and control of air and water pollution. Global Change: Greenhouse effect and greenhouse gases; impacts of global warming; carbon trading. Biodiversity: levels, types, significance, threats and conservation.	27.04.2026- 05.05.2026	Revision

Note:-

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Students can ask any query on my E-Mail ID also

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Government College Chhachhrauli

Summary of Lesson Plan

Name: SWATI Academic Session: 2025-26.

Class: B.Sc Life Science (2nd Year) Semester: Even

Subject & Code: **Cytology and Genetics (BOT-401)**

Sr. No.	Unit	Topics/Chapters to be covered	Duration	Assignments and Tests
1.	I	Cell as a unit of Life; The Cell Theory; Prokaryotic and eukaryotic cells; Eukaryotic Cell components Structure and functions of Cell Wall, Plasma Membrane, nucleus.	29.01.2026 – 10.02.2026	Class-test
2.	I	Nuclear Envelope- structure of nuclear pore complex, Golgi Apparatus, Ribosome, Endoplasmic Reticulum, Chloroplast, Mitochondria, Lysosomes, Peroxisomes and Vacuoles.	11.02.2026 – 24.02.2026	Class-test
3.	II	Cell Division: Mitosis and Meiosis. Chromosome: structural organization, ultrastructure of Centromere and Telomere.	25.02.2026 – 15.03.2026	Class-test
4.	II	lampbrush and polytene chromosomes. DNA: structure, types and replication. RNA: structure and types. Genetic code.	16.03.2026 – 24.03.2026	Assignment- 1
5.	III	Mendel's laws of Inheritance. Lethal Genes; Codominance, incomplete dominance; Gene interaction (inter- and intra-allelic); Multiple allelism; Pleiotropism.	25.03.2026 – 08.04.2026	Class-test
6.	III	Chi Square test; Pedigree Analysis. Cytoplasmic Inheritance: Kappa particles in Paramecium, leaf variegation in Mirabilis jalapa, Shell coiling.	08.04.2026 – 18.04.2026	Mid-term examination

7.	IV	Complete &incomplete linkage, recombination frequency, crossing over. Chromosomal aberrations-deletions, duplications, translocations, inversions.	19.04.2026 – 27.04.2026	Class-test
8.	IV	Variations in chromosome number- aneuploidy, polyploidy; sex chromosomes and sex determination. Types of mutations, effects of physical & chemical mutagens.	27.04.2026- 05.05.2026	Revision

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Government College Chhachhrauli

Summary of Lesson Plan

Name: SWATI Academic Session: 2025-26.

Class: B.Sc Life Science (3rd Year) Semester: Even

Subject & Code: **Plant Anatomy and Embryology (BOT-601)**

Sr. No.	Unit	Topics/Chapters to be covered	Duration	Assignments and Tests
1.	I	Introduction, objective and scope of plant anatomy, meristematic andpermanent tissues, complex tissues, plant secretory tissues, mechanicaltissues and their distribution.	29.01.2026 – 10.02.2026	Class-test
2.	I	Tissue systems (epidermal, ground and vascular), cambium, types of vascular bundles, vascular skeleton at nodes and internodes.	11.02.2026 – 24.02.2026	Class-test
3.	II	SAM anatomy, theories of histological organization of shoot apex, anatomy of monocot and dicot stem, secondary growth, anomaloussecondary growth (Dracaena, Boerhaavia, and Mirabilis). Phyllotaxy, anatomy of dicot and monocot leaf, Kranz anatomy..	25.02.2026 – 15.03.2026	Class-test
4.	II	RAM anatomy, types of roots in monocots and dicots, quiescent centre, root-stem transition, secondary growth in dicot root, structuralmodifications in respiratory (Rhizophora) storage (Beta) and epiphytic(Vanda) roots	16.03.2026 – 24.03.2026	Assignment- 1
5.	III	History and scope of plant embryology, flower-a modified shoot, floralorgans. Microsporangium, its wall and dehiscence mechanism, microsporogenesis.	25.03.2026 – 08.04.2026	Class-test
6.	III	pollen grains and its structure (pollen wall), scopeof palynology. Pollen-pistil interaction, self-incompatibility. Pollination types and agencies, pollen germination and development.	08.04.2026 – 18.04.2026	Mid –term examination

7.	IV	Structure of megasporangium, megasporogenesis and megagametogenesis, types of female gametophyte.	19.04.2026 – 27.04.2026	Class-test
8.	IV	Double fertilization, endosperm types, embryogenesis in dicots andmonocots; polyembryony, apomixis. Structure of dicot and monocot seed, dispersal mechanisms in fruitsand seeds.	27.04.2026- 05.05.2026	Revision

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