

Govt. College BCGCW NCH

Lesson Plan (2023-2024)

Name of the Assistant/Associate Professor- Dr. Akhilesh Kumar

Sem- IVth

Class- B.Sc. (M)

Subject-

Botany-BOT-4.1

Month	Topics
12 th Jan, 2024 to 31 st Jan, 2024	Taxonomy and Systematics, fundamental components of taxonomy (identification, classification, description, nomenclature and phylogeny), Role of chemotaxonomy, cytotaxonomy and taxometrics in relation to taxonomy, Botanical Nomenclature, principles and rules, principle of priority, Keys to identification of plants.
1 st Feb, 2024 to 29 th Feb, 2024	Type concept, taxonomic ranks, Salient features of the systems of classification of angiosperms proposed by Bentham & Hooker and Engler & Prantl, Floral Terms and Types of Inflorescence
1 st March, 2024 To 31 March, 2024	Diversity of Flowering Plants: Diagnostic features and economic importance of the following families: Ranunculaceae, Brassicaceae, Malvaceae, Euphorbiaceae, Rutaceae, Fabaceae, Cucurbitaceae
1 st April, 2024 To 30 April, 2024	Diversity of Flowering Plants: Diagnostic features and economic importance of the families: Apiaceae, Asclepiadaceae, Lamiaceae, Solanaceae, Asteraceae, Liliaceae and Poaceae

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Lesson Plan (2023-2024)

Name of the Assistant/Associate Professor- Dr. Akhilesh Kumar Sem- VIth

Class- B.Sc. (M)

Subject- Botany-BOT-6.1

Month	Topics
12 th Jan, 2024 to 31 st Jan, 2024	Basics of Enzymology: Discovery and nomenclature; characteristics of enzymes; concept of holoenzyme, apoenzyme, coenzyme and co-factors; regulation of enzyme activity; mechanism of action.
1 st Feb, 2024 to 29 th Feb, 2024	Respiration: ATP – the biological energy currency; aerobic and anaerobic respiration; Krebs cycle; electron transport mechanism (chemiosmotic theory); redox -potential; oxidative phosphorylation; pentose phosphate pathway.
1 st March, 2024 To 31 March, 2024	Lipid metabolism: Structure and functions of lipids; fatty acid biosynthesis; β -oxidation; saturated and unsaturated fatty acids; storage and mobilization of fatty acids. Nitrogen metabolism: Biology of nitrogen fixation; importance of nitrate reductase and its regulation; ammonium assimilation.
1 st April, 2024 To 30 April, 2024	Genetic engineering and Biotechnology: Tools and techniques of recombinant DNA technology; cloning vectors; genomic and cDNA library; transposable elements; aspects of plant tissue culture; cellular totipotency, differentiation and morphogenesis; biology of Agrobacterium; vectors for gene delivery and marker genes.