

Course Outcome

Department of Science

Subject: Botany

B. N. M. College, Barhiya



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Contents: Plant Diversity-I Paper I

After completion of this course students will gain knowledge of -

CO1: Characterize Viruses and their economic importance, Bacteria, Mycoplasma, Cyanobacteria, and describe the Algae such as-Oedogonium, Chara, Vaucheria, Ectocarpus

CO2: Describe the Algae such as- Albugo, Mucor, Penicillium, Puccinia, etc.

CO3: Explain the Lichens and Plant pathology-Viral, Fungal, Bacterial diseases.

Contents: Plant Diversity-II Paper II

After completion of this course students will gain knowledge of -

CO1: Classify, General characteristic and economic importance of Bryophyta such as - Riccia, Anthoceros and Funaria and Classification, General characteristic and economic importance of

Pteridophyta such as - Rhynia, Selaginella, Equisetum, Marsilea.

CO3: Evaluate Geological time scale, Fossils, types of Fossils.

(Practical Work)

Contents: Plant Diversity-I & Plant Diversity-II

After completion of this course-

CO1: Identify different types of cyanobacteria.

CO2: Classify and identify the Algal and fungal genus and specimen included.

CO3: Make micro preparation of the material of Pteridophyta and bryophytes and identify them anatomically.

CO4: Make student can make micro preparation of the material of Gymnosperm and identify them anatomically.

Contents: Plant Morphology & Anatomy

After completion of this course students will gain knowledge of -

CO1: Understand vegetative morphology of Angiosperm such as Root, Stem, Leaves and reproductive morphology of Angiosperm such as inflorescent flower and fruit types.

CO2 :Explain Apical meristem of Root & Shoot, types of tissues, Vascular Bundles, Xylem, Phloem, Cambium, Periderm.

CO3: Compare the primary structure of -Dicot root, stem, leaf. Monocot root, stem, leaf.

Contents: Taxonomy & Diversity of Angiosperms

After completion of this course students will gain knowledge of -

CO1: The Fossil Angiosperm, Botanical nomenclature.

CO2: Classify Angiosperms, botanical nomenclature.

CO3: Comparison of flowering plants Dicot families such as- Malvaceae, Solanaceae, Brassicaceae,

Fabaceae and Diversity of flowering plants Dicot families such as- Lamiaceae, Apocynaceae, Asteraceae.

CO4: Explain the flowering plants Monocot families such as- Liliaceae, Poaceae, Orchidaceae.

(Laboratory Work)

Contents: Plant Morphology & Anatomy & Taxonomy & Diversity of Angiosperms

After completion of this course-



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- CO1:** Develop the skill and be able to prepare double stained micro preparation of the given material and identify on the basis of observation.
- CO2:** Develop the skill to identify the fossil specimen.

PART II

Contents: Reproductive Biology and development in Angiosperm

After completion of this course students will gain knowledge of -

- CO1:** Study the structure of Stamen, Pistil, Ovule, Embryo Sac, Pollination types.
- CO2:** Comparison of double fertilization, formation of seed, seed dormancy and strategies of seed disease cell.
- CO3:** Understand the growth of development growth regulators movements in the plants.
- CO4:** Physiology of flowering, Phytochromes, Photoperiodism, and Senescence and abscission.

Contents: Plant Biochemistry & Plant Physiology

After completion of this course students will gain knowledge of -

- CO1:** Comparison of structure, properties and uses of Carbohydrates, Lipids and Proteins.
- CO2:** Understand the structure, properties, mechanism of Enzymes and Metabolism of Nitrogen.
- CO3:** Plants, Water related function of Ascent of Sap, Transpiration, Absorption and phloem transport.
- CO4:** Mechanism of Photosynthesis and Respiration.
- CO5:** Classification, General characteristic and economic importance of Gymnosperm such as – Cycas, Pinus.

(Laboratory Work)

Contents: Reproductive Biology and development in Angiosperm & Plant Biochemistry and Physiology

- CO1:** Analyze experiment in practical demonstrate/Study- Physiological and Biochemistry.
- CO2:** Understand the photographs, permanent slides, herbarium sheets and other submission of the assignment given to them.

Contents: Cell Biology, Biotechnology & Genetics

After completion of this course students will gain knowledge of -

- CO1:** Compare the structure & function of cell inclusion, cell division, DNA- RNA types and their structure.
- CO2:** Explain Mendelism laws and interaction of gene and extra nuclear genome and the linkage, crossing over, variation, mutation and structural changes in chromosome numbers.
- CO3:** Understand plant tissue culture, genetic engineering regulation of genes.

Contents: Plant Ecology

After completion of this course students will gain knowledge of -

- CO1:** Study the ecological and climatic, abiotic and biotic factors
- CO2:** Compare ecosystem, biogeochemical cycle and environmental Pollution and autecology and synecology their characters and importance and the plant succession and phytography.

(Laboratory Work)

Contents: Cell Biology, Biotechnology & Genetics & Plant Ecology

- CO1:** Conduct the laboratory exercise based on paper.



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CO2: Conduct laboratory experiments based on paper.

PART III

Contents: Plant Physiology & Biochemistry Paper III

After completion of this course -

CO1: Understand the idea about plant water relation, function and mechanism of Ascent of sap, Transpiration, Phloem transport.

CO2: Understand the Lipid, Nitrogen metabolism, water theories of mineral absorption.

CO3: Compare the structure, properties and use of Lipids and Carbohydrates and know the chemical structure of Amino acid, protein and basic enzymology.

Contents: Plant Ecology

After completion of this course -

CO1: Study the ecological and climatic, abiotic and biotic factors

CO2: Explain the expected to understand ecosystem, biogeochemical cycle and environmental Pollution.

CO3: Define the autecology and synecology their characters and importance

CO4: The knowledge of plant succession and phytography.

(Laboratory Work)

Contents: Plant Physiology & Biochemistry & Plant Ecology

After completion of this course-

CO1: Understand the phenomenon of Dispersion, Adsorption, and Imbibition.

Student to perform the Ascent of Sap.

Student will also understand the Plant Biochemistry experiments.

CO2: Understand the Hydorphytes, Xerophytes, Halophyte, Epiphyte, and Parasite.

Student will have developed knowledge about distribution of various plant species by quadrat Method.

Contents: Plant Physiology, Growth & development

After completion of this course students will be able to -

CO1: Define the process photosynthesis and types of Dark reactions.

CO2: Define the process aerobic and anaerobic respiration, glycolysis, TCA, ETS and ATP Synthesis.

CO3: Explain growth and development, plant growth regulators, plant movement.

CO4: Understand the concept of Photoperiodism, physiology of flowering, seed dormancy, Senescence and Abscission.

Contents: Ethno Botany & applied Botany

After completion of this course -

CO1: Compare the methodology and importance of Ethnobotany and contribution of ethnic-Societies in India.

CO2: Understand importance of ethno medicinal plants and narcotics, Ethno vegetable fruit and seed for various diseases and the knowledge of applied botany such as Agroforestry, Biofertilizer, Vermiculture and composting.



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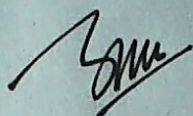
CO3: Student will be able to understand the process of floriculture, mushroom culture, apiculture and its application in rural area.

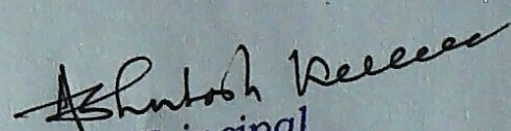
(Lab Work)

Contents: Plant Physiology, Growth & development & Ethno Botany & applied Botany

CO1: Student will perform the experiment on suggested laboratory plant growth and development

CO2: Visit to see the projects working of nearby.




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