Nimapara Autonomous College
Department of Botany
Programme: B.Sc. Botany

Programme Outcomes (PO)

PO 1: Application of Botany in agriculture through study of Economic botany and plant pathology.
PO 2: Paleo botany to trace the evolution of plants.
PO 3: To assess the diversity of plants.
PO 4: The role of plants in the proper functioning of the global ecosystem.
PO 5: To apply analytical techniques for Biochemical estimation in Molecular Biology, Biochemistry, Biotechnology, Plant Tissue culture experiments.
PO 6: Application of Statistics to interpret the biological data.

Programme Specific Outcomes (PSO)

Students will be specifically able to:
PSO 1: Identify, classify and naming the plants by using the important characters.
PSO 2: To do artificial propagation of plants via tissue culture techniques.
PSO 3: To relate and distinguish the features of lower and higher groups of plants.
PSO 4: Gain knowledge through experiments will generate skilled personnel in various priority areas such as genetics, cell and molecular biology, plant systematics and biotechnology.
PSO 5: Know the importance of natural resources and environment.

Course Outcome (CO)
Core Paper I
MICROBIOLOGY AND PHYCOLOGY

CO 1- To know the world of microorganisms and algae.
CO 2- To know the adaptive approaches of microbes and algae.
CO 3- To study the economic importance of algae, bacteria and viruses.
CO 4- To know the application of algae in agriculture.
CO 5- To study the evolutionary significance of green algae as ancestors of land plants.

Core Paper II
BIOMOLECULES AND CELL BIOLOGY

CO 1-To know the biochemical nature and composition of cell.
CO 2- To know the properties and chemical nature of biomolecules.
CO 3-To know the economic importance of enzymes in industry.
CO 4- To know the properties and chemical nature of an enzymes.

CO 5- To know the importance of pH, buffers in catabolic and anabolic reactions of the cell.

Core Paper III
MYCOLOGY AND PHYTOPATHOLOGY

CO 1- To understand the world of fungi.
CO 2- To know the symptoms of several plants diseases and their by undertake different control measures to protect plants or crops from disaster.
CO 3- Knowledge on the different disease management and usage of various control agent's against various pathogens.

Core Paper IV
ARCHEGONIATE

CO 1- To know the habits and habitats of archegoniate.
CO 2- To appreciate the importance of Paleobotany and its applications.
CO 3- To understand the evolutionary trends in Bryophytes, Pteridophytes and Gymnosperms.

Core Paper V
ANATOMY OF ANGIOSPERMS

CO 1- To understand the various components of stem and wood during its secondary growth.
CO 2- To know the age of the plants through dendrochronology.

Core Paper VI
ECONOMIC BOTANY

CO 1- To know the importance plants in human welfare.
CO 2- To Know importance of plants & plant products.
CO 3- To evaluate the chemical contents of the plant products.
CO 4- To Know about the utility of plant resources.

Core Paper VII
GENETICS

CO 1- To know the basic principles of genetics and several mechanism of inheritance of characters from generation to generation.
CO 2- To gain a clear outlook of the mechanism of heredity.
CO 3- To know the basic processes of plant breeding and crop improvement using different breeding techniques.

Core Paper VIII

MOLECULAR BIOLOGY

CO 1- To understand the ultra-structure and functioning of cell in the sub-microscopic and molecular level.
CO 2- To understand the process of central dogma.
CO 3- Learn the scope and importance of molecular biology.

Core Paper IX
PLANT ECOLOGY AND PHYTOGEOGRAPHY

CO 1- Understand plant communities and ecological adaptations in plants learn about biodiversity and its conservation.
CO 2- Study botanical regions of India and different vegetation types.
CO 3- Understand bioremediation, global warming and climate change.

Core Paper X
PLANT SYSTEMATICS

CO 1-Study plant morphology.
CO 2- Identification of genus and species of locally available wild plants.
CO3- Preparation of botanical keys at generic level by locating key Characters

Core Paper XI
REPRODUCTIVE BIOLOGY OF ANGIOSPERMS

CO 1- To know the importance of palynology and its aspects and prospects.
CO 2- To know the process of fertilization, endosperm and embryogeny.
CO 3- Understand the process of development of micro and mega spores and its involvement in the process of plant development

Core Paper XII and XIII
PLANT PHYSIOLOGY

CO 1- To understand the relationship of plant with water.
CO 2- To understand the importance of photosynthesis and respiration in higher plants.
CO 3- To know the application of phytohormones in horticulture.
CO 4- To know the mechanism of translocation of food from source to sink or sink to source.

Core Paper XIV
PLANT BIOTECHNOLOGY

CO 1- To understand scope of plant biotechnology in India.
CO 2- To Know influence of plant biotechnology on socioeconomic aspects of

Life.

CO 3- To understand the importance of interdisciplinary and industrial approaches of Biotechnology.

CO 4- To know the plant tissue culture.

CO 5- To know about Somatic embryogenesis, protoplast isolation, regeneration of protoplasts and protoplasts fusion, Synthetic seeds, generation of cybrid and hybrids, Cryopreservation technique, Recombinant DNA technology, Gene cloning, Vectors, Role of Agrobacterium and Gene cloning techniques.

Head of the Department Botany
Nimapara Autonomous College