



Internal Quality Assurance Cell

Behali Degree College

P.O.- Borgang, Biswanath, Assam-784167

Email: iqacbehali@gmail.com

PROGRAMME AND COURSE OUTCOME

DEPARTMENT OF BOTANY

BEHALI DEGREE COLLEGE, BORGANG, BISWANATH. 784167

Programme Name	Programme Outcome
B.Sc. Botany Honours	B.Sc. Botany Honours course provide a vast scope of research on traditional plant science as well as on growth and metabolism, biochemistry, chemical products, plant pathology, plant taxonomy along with molecular genetics, plant propagation, breeding and genetic modification. It is also related to some modern approaches and applications of plants related knowledge like Microbiology, Biotechnology, Genetics etc. After successful completion of the B.Sc. programme one can opt for M.Sc. in Botany from state and central universities. Also they can pursue their higher studies like Masters in Life Sciences, Masters in Ecology and Biotechnology. On this line there is a huge scope of further accessing higher studies programme like Ph.D in the relevant subject matter and pursue their career on either research line or teaching line. Another scope of the B.Sc. in Botany programme is that after its successful completion one can opt for national level exams like IFS under UPSC or different state level Govt. exams related to health and biodiversity conservation sector. One can also choose to carry on research projects under regional research institution across the country.

COURSE OUTCOME

Course Code and Course Name	Outcome
BOT-HC-1016 Phycology and Microbiology	After thorough study of this paper a student can have detailed knowledge on microbes, viruses and bacteria, and their importance in agriculture and medicine, knowledge on Algal classification, Economic and ecological importance of Algae, practical knowledge on structure of T-Phage and TMV, lytic and lysogenic life cycle and practical knowledge on microscopy of bacteria and algae.
BOT-HC-1026 Biomolecules and Cell Biology	After thorough study of this paper a student can learn the structure, classification and physicochemical properties of biomolecules and enzymes, earn detailed knowledge on structure, properties and functions of cell and its components, practical knowledge on properties of cell and cell membrane, DNA staining techniques and microscopy of plant cell and knowledge on qualitative tests of biomolecules.
BOT-HC-2016 Mycology and Phytopathology	With this paper a student can have the detailed knowledge on different classes of fungi, their structure, classification, life cycle and reproduction, knowledge on diseases in plants caused by viruses, bacteria and fungi and biotechnological applications of fungi, Structural analysis of different classes of fungi and their reproductive stages and knowledge on structures of symbiotic associations like Lichens, Mycorrhiza.
BOT-HC-2026 Archegoniate	A student from this paper can learn the morphology, anatomy, classification and properties of bryophytes, pteridophytes and gymnosperms, reproduction and economic importance and ecological significance of Archegoniates, practical knowledge on morphology and reproductive structures of archegoniates, spore dispersal mechanism and



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	male and female reproductive structures in gymnosperms.
BOT-HC-3016 Morphology and Anatomy of Angiosperms	After thorough study of this paper a student can learn the detail morphology of angiosperms and developmental biology of plant body, can gather knowledge on structural and anatomical organization of plant tissues and their classification, practical knowledge on inflorescences and fruits of angiosperms and practical knowledge on anatomical features.
BOT-HC-3026 Economic Botany	After thorough study of this paper a student can learn the morphology, uses and economic importance of different crop plants and uses of industrially important plants, practical knowledge on economically important plant parts and their products.
BOT-HC-3036 Genetics	After thorough study of this paper a student can earn knowledge on Mendelian genetics; structure, functions and properties of chromosome; chromosomal aberration, knowledge on structures and mutation of gene, population genetics; practical knowledge on chromosomal mapping and gene interaction studies and practical visualization of chromosomal anomalies
BOT-SE-3014 Biofertilizers	After thorough study of this paper a student can learn how the microbes are used as biofertilizer and understand the process of their isolation, identification, mass multiplication, carrier based inoculants and knowledge on Actinorrhizal symbiosis. They will also get cleared the concept on <i>Azospirillum</i> and <i>Azotobacter</i> with the crop response to <i>Azotobacter</i> , earn basic knowledge on Cyanobacteria including factors affecting growth of Cyanobacteria, concept on the nitrogen fixation and use of blue green algae in rice cultivation, brief knowledge on the Mycorrhizal association and understand the

	details of various types, taxonomy, occurrence, distribution and growth parameters of Mycorrhiza, knowledge about the organic farming, maintenance and recycling of biodegradable waste material and understand the methods of making biocompost and vermicompost with application.
BOT-HC-4016 Molecular Biology	After thorough study of this paper a student can learn the structure of nucleic acids, organization of DNA in organisms, models of replication and the factors associated with it, detailed knowledge on transcriptional and post transcriptional events in a cell, translation of proteins; practical understanding of isolation and quantification of DNA from plants and knowledge on photographic study of RNA polymerases and RNA modification machinery.
BOT-HC-4026 Plant Ecology and Phytogeography	After thorough study of this paper a student can learn the origin, formation and properties of abiotic components of the ecosystem, adaptation in plants; properties of communities in a population and trophical and habitat organization in an ecosystem; practical knowledge on property analysis of abiotic components of the ecosystem and practical understanding on vegetation study of different ecological sites.
BOT-HC-4036 Plant Systematics	With this paper one can earn the knowledge on plant identification, classification and nomenclature, phylogenetic and evolutionary relationships of angiosperms, practical knowledge on foliar morphology and taxonomic study of angiosperms.
BOT-SE-4014 Nursery and Gardening	After thorough study of this paper a student can earn knowledge on brief idea about objectives, scope, infrastructure and maintenance of Nursery; concept on structure, types and dormancy of seeds and brief idea about seed storage including types and process and



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	knowledge on seed production technology; various modes of vegetative propagation and maintenance of plants in green house; brief idea about development and maintenance of gardening including scope and types and understand the various gardening operations including management of pests and diseases; detail knowledge on managements of seeds and seedlings and concept about cultivation, storage and marketing of important vegetables
BOT-HC-5016 Reproductive Biology of Angiosperms	After thorough study of this paper a student can learn the detail morphological and anatomical study of reproductive structures of angiosperms; embryology and embryological abnormalities in angiosperms and practical knowledge on developmental biology of embryo and endosperms.
BOT-HC-5026 Plant Physiology	After thorough study of this paper a student can learn the mechanisms of water, minerals and nutrient absorption in plants; roles of plant hormones and mechanism of flowering in plants; practical understanding on effects of growth regulators on plant parts and on determination of osmotic and water potential.

BOT-HE-5016 Natural Resource Management	After thorough study of this paper a student can earn comprehensive knowledge on different types of natural resources and their ecological, economical and socio-cultural values; basic understandings of land, water and forest resources; overall knowledge on resource degradation, their judicious use and management for sustainability; biodiversity - its importance, management and bioprospecting; knowledge on IPR, and global arena on resource management, conservation and benefit sharing; practical understanding of the domestic solid waste estimation and determining its impact on land degradation; forest study using tools like GPS/GIS, and understanding of ecological importance of forest resources.
BOT-HE-5026 Horticultural Practices and Post Harvest Technology	After thorough study of this paper a student can learn the basics of horticultural science and its importance in employment generation and socio-economic development; classification of horticultural crops, identification of potential horticultural crops – their cultivation, production, management and commercialization; horticultural techniques, landscaping and gardening; overall knowledge on post-harvest technology, disease management, and germplasm management for horticulture; field knowledge of gardening, nurseries, standing crops of horticultural importance.
BOT-HC-6016 Plant Metabolism	After thorough study of this paper a student can learn about the metabolic events of photosynthesis and nutrient metabolism; signalling molecules and pathways in the plant cell; practical knowledge on different types of chromatographic techniques and estimation of TAN, sugar and protein contents in plant sample.



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BOT-HC-6026 Plant Biotechnology	After thorough study of this paper a student can have understanding of applications of tissue culture techniques, construction of recombinant DNA and transformation into hosts, construction of DNA libraries; development of transgenic plants for agricultural or industrial use; practical utility on isolation of plasmid DNA, its digestion and separation of fragments through gel electrophoresis; hands on training on preparation of media for tissue culture techniques; photographic study of plant tissue culture and photographic study of generating transgenic plants for agriculture.
BOT-HE-6016 Industrial and Environmental Microbiology	After thorough study of this paper a student can learn about the roles of microbes in industries and environment; basic knowledge of different kinds of bioreactors and fermentation processes; production processes of some microbial products in industries through site Visits; application of enzymes in industries and diversity and distribution of microbes in air, water and soil; understandings water microbiology and water analysis methods; usefulness of microbes in agriculture and bioremediation of contaminated soils; practical experiences on basic microbiological techniques and handlings.
BOT-HE-6036 Project Work/Dissertation	This paper will help a student to gather practical knowledge on addressing relevant scientific questions through experimentation and case studies.


Co-ordinator
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