BIDHANNAGAR COLLEGE
Course Outcome
4 - Year Under Graduate Programme (Honours) in Botany
Under NEP Based Credit System
w.e.f. session 2023- 2024

	SEMESTER I
Course Name:	**Major (DSC)**
Course Code:	**DS - 1T AND DS - 1P**
Topic Name:	**Microbiology and Phycology**
Course Outcome:	After successful completion of both theory and practical modules of this course student learns: - 1) The microbial world in general. 2) Properties of virus, structure and reproduction. 3) The cell structure of bacteria, its distribution in nature and systematic position, reproduction. 4) Uses of virus as vaccine. Economic importance of bacteria in agriculture and industry. 5) Distribution of algae in land, water and sea, cell's structure, morphology reserve food materials and uses of algae. 6) Study of the diverse algae - green to red algae. 7) Sterile environment, instrument uses to sterile glass goods and chemical sterilant, process of aseptically transfer of organisms. 8) Observe bacteria under microscope after proper staining. 9) Drawings and measurement of microscopic organisms like algae and observe cell structure of algae under microscope.
Course Name:	**Minor 1**
Course Code:	**MA -1**
Topic Name:	**Biodiversity (Microbes, Algae, Fungi and Archegoniatae)**
Course Outcome:	After successful completion of both theory and practical modules of this course student learns: - **1)** Basic concept of the microbial world, virus, bacteria **2)** Diversity of algal form. **3)** The diversity of fungi, the different groups. Plant disease and preventive measures. **4)** Introduction to the Archegoniatae group. **5)** Diversity and characteristics of bryophytes, pteridophytes and gymnosperms. Their classifications, ecological and economic values. **6)** In practical staining techniques and study of vegetative and reproductive parts of algae, fungi, bryophytes, pteridophytes and gymnosperms
Course Name:	**SEC**
Course Code:	**SE -1**
Topic Name:	**Floriculture and Gardening**
Course Outcome:	It will make students understand the details of nursery and gardening. They will be able to distinguish and choose the plant species for developing a nursery as means of livelihood. Matters related to design and lay garden and marketing skills will also develop.

	SEMESTER II
Course Name:	**Major (DSC)**
Course Code:	**DS - 2T AND DS - 2P**
Topic Name:	**Fungi and Phytopathology**
Course Outcome:	After successful completion of both theory and practical modules of this course student learns: - 1) Basic concepts of Fungi, their unique features, mode of reproduction and classification. 2) General characteristic features, ecology, thallus organization, life cycle pattern of Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota, Oomycota and Allied Fungi. 3) Brief idea of symbiotic associations of Lichen and Mycorrhiza. 4) Role of Fungi in Biotechnology and their applications. 5) Concepts of Phytopathology, host-parasitic interaction and disease management and control. 6) Different plant diseases and remedial measures. 7) Hands on practical on different fungi and diseased plants.
Course Name:	**Minor 2**
Course Code:	**MA - 2**
Topic Name:	**Plant Ecology and Taxonomy**
Course Outcome:	At the end of this course (both theoretical and practical) a student learns - 1)The physical and the biotic factors and their interplay 2) Aspects of Community ecology 3) Ecosystem functioning – energy flow & biogeochemical cycling 4) Knowledge of Biome and Biosphere, phytogeographical regions 5) Handling weather monitoring instruments, soil-water analysis and phytosociology. 6) Systematics- identification, nomenclature and classification. 7)Data sources analysis for plant systematics evidences from palynology, cytology, phytochemistry and molecular data. 8) Principles of ICN, typification, author citation, priority, valid publication. 9) Brief idea of classification of Bentham Hooker, Englar Prantle and Angiosperm Phylogeny Group. 10) Numerical Taxonomy and Phylogeny of Angiosperms.
Course Name:	**SEC**
Course Code:	**SE -2**
Topic Name:	**Mushroom Cultivation Technique**
Course Outcome:	It will make students understand the details of mushroom cultivation. They will be able to distinguish between edible and non edible ones. Designing and setting up mushroom beds and taking preventive measures. Harvesting, packaging and marketing skills will also develop.

PROGRAMME OUTCOME

After the completion of one year, spread over two semesters, the students will be awarded the Certificate in Botany (should they choose to leave the course). They will have acquired only rudimentary knowledge of Botany as a subject since the syllabus only covers the microbial, algal and fungal parts. Vast areas of structural botany as well as the functional aspects of higher plants remains to be covered. But the Skill Enhancement Courses will train the students in finding self employment opportunities. These courses are aligned with Botany but with commercial prospects since gardening - floriculture and mushroom cultivation are much in demand.