



গড়গাঁও মহাবিদ্যালয়

GARGAON COLLEGE

NAAC accredited with 'B' Grade

TEACHING PLAN
DEPARTMENT OF BOTANY
JULY 2022 - JUNE 2023



NAME OF THE TEACHER: DR. DIMBESHWAR DAS
DESIGNATION: ASSISTANT PROFESSOR
SESSION: JULY - DEC 2022

Teaching Plan

Name of the Teacher: Dr. Dimbeshwar Das
Designation: Assistant Professor
Session: July - Dec 2022

Sl. No.	Semester	Subject	Stream	Paper Code	Unit	Duration	Number of students	Teaching Methodology	Work Load	Learning Outcome
1	I	Microbiology and Phycology	HONS.	C 1	Unit 4: Algae Unit 5: Cyanophyta, Chlorophyta, Xanthophyta and Charophyta Unit 6: Phaeophyta and Rhodophyta	JULY - DEC 22	45	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	6 Hrs/Week	To provide knowledge to the students on various forms of microbes and algae - their characteristics and economic importance.
		Biomolecules and Cell Biology	HONS.	C 2	Unit 4: The Cell Unit 5: Cell Wall and Plasma Membrane Unit 6: Cell Organelles Unit 7: Cell Division	JULY - DEC 22				To expose the students on molecular organisations life and also discusses cellular and molecular processes of life.
2	III	Genetics	HONS.	C 7	Unit 1: Mendelism Genetics and its Extension Unit 2: Extrachromosomal Inheritance Unit 3: Linkage, Crossing Over and chromosome mapping Unit 4: Variation in chromosome number and structure	JULY - DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	6 Hrs/Week	To impart knowledge of the principles of heredity and different mechanisms of inheritance
		Basics of Vermicomposting	HONS.	SEC 1.1	Unit 1: Introduction to vermiculture Unit 2: The species of earthworms Unit 3: Biology of earthworms	JULY - DEC 22	20	Lecture Method, Audio-Visual Aids, Practical based classes and Filed Trips	2 Hrs/Week	vermicompost and the Economic importance of vermiculture. The students will be able to produce good quality of Vermicompost and Vermiculture. Acquire skills for entrepreneurship
3	V	Analytical Techniques in Plant Sciences	HONS.	DSE 1	Unit 1: Imaging and related techniques Unit 2: Cell fractionation Unit 3: Radioisotopes Unit 4: Spectrophotometry Unit 5: Chromatography Unit 6: Characterization of proteins and nucleic acids Unit 7: Biostatistics	JULY - DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	16 Hrs / Week	To expose the students to different techniques which can be used to study different Biological processes

Dr
VP

Vice Principal
Gargaon College
Sundargarh

Dr



NAME OF THE TEACHER: DR. DIMBESHWAR DAS
DESIGNATION: ASSISTANT PROFESSOR
SESSION: JAN - JUNE 2023

Teaching Plan

Name of the Teacher: Dr. Dimbeshwar Das
Designation: Assistant Professor (HoD)
Session: Jan - May 2023

Sl. No.	Semester	Subject	Stream	Paper Code	Unit	Duration	No. of students	Teaching Methodology	Work Load	Learning Outcome
1	II	Mycology and Phytopathology	HONS.	C 3	Unit 6: Phytopathology	JAN - MAY 2023	37	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	6 Hrs/Week	To expose the students on the fungal world, different fungal diseases, their economic importance, etc
		Archegoniate	HONS.	C 4	Unit 1: Introduction Unit 2: Bryophytes Unit 3: Type Studies-Bryophytes Unit 6: Fossil Plants	JAN - MAY 2023				To expose the students on Bryophyte, Gymnosperms and Fossil Plants
2	IV	Molecular Biology	HONS.	C 8	Unit 1: Nucleic Acids: Carriers of genetic information Unit 2: The structure of DNA and RNA Unit 3: The replication of DNA	JAN - MAY 2023	27	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	10 Hrs/Week	To impart knowledge of the principles of heredity and different mechanisms of inheritance
		Plant Systematics	HONS.	C 10	Unit 1: Significance of Plant systematics Unit 3: Morphology and Botanical nomenclature Unit 7: Major families of Angiosperms	JAN - MAY 2023	27	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips		To expose the students to identification, classification and nomenclature of higher plants
		Vermicompost Technology	HONS.	SEC 1.2	Unit 1: Small scale Vermicomposting Unit 2: Nutritional composition of vermicompost Unit 3: Identification of Earthworms, Preparation, packaging of vermicompost	JAN - MAY 2023	09	Lecture Method, Audio-Visual Aids, Practical based classes and Filed Trips	2 Hrs/Week	To impart knowledge of the vermicompost and the Economic importance of vermiculture. The students will be able to produce good quality of Vermicompost and Vermiculture. Acquire skills for entrepreneurship
3	VI	Plant Biotechnology	HONS.	C 14	Unit 1: Plant Tissue Culture Unit 5: Applications of Biotechnology	JAN - MAY 2023	34	Lecture Method, Audio-Visual Aids, Practical based classes and Filed Trips	12 Hrs/ Week	To expose the students to application of modern tools and techniques in Biology
		Plant Breeding	HONS.	DSE 3	Unit 1: Plant Breeding Unit 2: Methods of crop improvement Unit 3: Quantitative inheritance Unit 4: Inbreeding depression and heterosis Unit 5: Crop improvement and breeding	JAN - MAY 2023	34	Lecture Method, Audio-Visual Aids, Practical based classes and Filed Trips		To expose the students to different methods of plant improvement and breeding techniques.
		Biostatistics	HONS.	DSE 4	Unit 1: Biostatistics Unit 2: Collection of data primary and secondary Unit 3: Measures of central tendency Unit 4: Correlation Unit 5: Statistical inference	JAN - MAY 2023	34	Lecture Method, ICT Tools and Practical based classes		To expose the students to different statistical tools for Biological data analysis

Signature
VP

Vice Principal
Gargaon College
Srinagar.

Signature



NAME OF THE TEACHER: MISS. SANDEEPA AGARWALA
DESIGNATION: ASSISTANT PROFESSOR
SESSION: JULY - DEC 2022


Teaching Plan

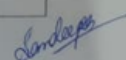
Name of the Teacher: Miss Sandeepa Agarwalla

Designation: Assistant Professor

Session: July - Dec 2022

Sl. No.	Semester	Subject	Stream	Paper Code	Unit	Duration	Number of students	Teaching Methodology	Work Load	Learning Outcome
1	I	Microbiology and Phycology	HONS.	C 1	Unit 4: Algae Unit 5: Cyanophyta, Chlorophyta, Xanthophyta and Charophyta Unit 6: Phaeophyta and Rhodophyta	JULY- DEC 22	45	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	5 Hrs/ Week	To provide knowledge to the students on various forms of microbes and algae - their characteristics and economic importance.
		Biomolecules and Cell Biology	HONS.	C 2	Unit 1: Biomolecules Unit 2: Biogenesis Unit 3: Enzymes	JULY- DEC 22				
		Biodiversity (Microbes, Algae, Fungi and Archeogoniate)	GE	GE 1	Unit 5: Introduction to Archeogonites Unit 6: Bryophytes Unit 7: Pteridophytes Unit 8: Gymnosperms	JULY- DEC 22	25	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars and Class tests	2 Hrs / Week	To expose the students to different forms of plant life
2	III	Anatomy of Angiosperms	HONS.	C 5	Unit 4: Apical Meristem Unit 5: Vascular cambium and Wood Unit 6: Adaptive and Protective system Unit 5: Fine Structure of Gene	JULY- DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	6 Hrs / Week	To expose the students on the structural and anatomical organisations of plant tissues and their development
		Genetics	HONS.	C 7	Unit 6: Gene Mutations Unit 7: Population and Evolutionary Genetics	JULY- DEC 22	34			
		Plant Anatomy and Embryology	GE	GE 3	Unit 1: Meristematic and permanent tissues Unit 2: Organs Unit 5: Structural organization of flowers Unit 6: Pollination and fertilization	JULY- DEC 22	25	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	4 Hrs / Week	To expose the students to the types of plant tissues their arrangement and also to plant reproduction
3	V	Reproductive Biology of Angiosperms	HONS.	C 11	Unit 1: Introduction Unit 2: Reproductive development Unit 3: Anther and Pollen Biology Unit 4: Ovule Unit 5: Pollination and fertilization Unit 6: Self incompatibility	JULY- DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	12 Hrs / Week	To expose the students to the process and mechanisms of plant reproduction.
		Bioinformatics	HONS.	DSE 2	Unit 1: Introduction to Bioinformatics Unit 2: Databases in Bioinformatics Unit 3: Biological Sequence Databases Unit 4: Sequence Alignments Unit 5: Molecular Phylogeny Unit 6: Applications of Bioinformatics	JULY- DEC 22	34			


Head
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NAME OF THE TEACHER: MISS. SANDEEPA AGARWALA
DESIGNATION: ASSISTANT PROFESSOR
SESSION: JAN - JUNE 2023

Teaching Plan

Name of the Teacher: Miss Sandeepa Agarwalla
Designation: Assistant Professor,
Session: Jan - May 2023

Sl. No.	Semester	Subject	Stream	Paper Code	Unit	Duration	Number of students	Teaching Methodology	Work Load	Learning Outcome
1	II	Mycology and Phytopathology	HONS.	C 3	Unit 4: Symbiotic Association	JAN - MAY 2023	37	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	6 Hrs / Week	To expose the students on the fungal world and their economic importance, etc
					Unit 5: Applied Mycology					
		Archegoniate	HONS.	C 4	Unit 4: Pteridophytes	JAN - MAY 2023	37	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips		To expose the students on Pteridophytes, Gymnosperms and Fossil Plants
2	IV	Plant Physiology and Metabolism	GE	GE 2	Unit 1: Plant water relations	JAN - MAY 2023	9	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars and Class tests	4 Hrs / Week	To expose the students to different physiological processes metabolic processes involved with plant life
					Unit 2: Mineral Nutrition					
					Unit 3: Translocation in phloem					
2	IV	Molecular Biology	HONS.	C 8	Unit 4: Central Dogma and Genetic Code	JAN - MAY 2023	27	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	5 Hrs / Week	To impart knowledge of the principles of heredity and different mechanisms of inheritance
					Unit 5: Transcription					
					Unit 6: Processing and modification of RNA					
2	IV	Plant Ecology & Phytogeography	HONS.	C 9	Unit 7: Translation	JAN - MAY 2023	27	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars and Class tests	5 Hrs / Week	To expose the students to different physiological processes metabolic processes involved with plant life
					Unit 3: Biotic Interaction					
					Unit 5: Plant Communities					
2	IV	Plant Ecology and Taxonomy	GE	GE 4	Unit 6: Ecosystem: Structure and Function	JAN - MAY 2023	25	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars and Class tests	4 Hrs / Week	To expose the students to interaction of plant life with the surroundings and also to identification, classification and nomenclature of plants
					Unit 7: Phytogeography					
					Unit 4: Ecosystem					
3	VI	Plant Metabolism	HONS.	C 13	Unit 5: ATP-Synthesis	JAN - MAY 2023	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars and Class tests	12 Hrs / Week	To expose the students to various metabolic processes involved with plant life
					Unit 6: Lipid metabolism					
					Unit 7: Nitrogen metabolism					
3	VI	Plant Biotechnology	HONS.	C 14	Unit 8: Mechanisms of signal transduction	JAN - MAY 2023	34	Lecture Method, Audio-Visual Aids, Practical based classes and Filed Trips	12 Hrs / Week	To expose the students to application of modern tools and techniques in Biology
					Unit 2: Recombinant DNA technology					
					Unit 3: Gene Cloning					
					Unit 4: Methods of gene transfer					

Sandeepa
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Sandeepa



NAME OF THE TEACHER: SANGEETA CHETIA
DESIGNATION: ASSISTANT PROFESSOR
SESSION: JULY - DEC 2022

Teaching Plan

Name of the Teacher: Mrs. Sangeeta Chetia
Designation: Assistant Professor
Session: July - Dec 2022

Sl. No.	Semester	Subject	Stream	Paper Code	Unit	Duration	Number of students	Teaching Methodology	Work Load	Learning Outcome
1	I	Microbiology and Physiology	HONS.	C 1	Unit 1: Introduction to Bacterial World Unit 2: Bacteria Unit 3: Viruses	JULY- DEC 22	45	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	11 Hrs / Week	To provide knowledge to the students on various forms of microbes and algae - their characteristics and economic
		Biodiversity (Microbes, Algae, Fungi and Archegoniate)	GE	GE 1	Unit 1: Microbes Unit 2: Algae Unit 3: Fungi Unit 4: Lichen	JULY- DEC 22	25	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	5 Hrs / Week	To expose the students to different forms of plant life
2	III	Anatomy of Angiosperms	HONS.	C 5	Unit 1: Introduction and scope of Plant Anatomy Unit 2: Structure and development of plant body Unit 3: Tissues	JULY- DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	8 Hrs / Week	To expose the students on the structural and anatomical organisations of plant tissues and their development
		Economic Botany	HONS.	C 6	Unit 1: Origin of cultivated Plants Unit 2: Cereals Unit 3: Legumes Unit 4: Sources of sugar and starches Unit 5: Spices Unit 6: Beverages Unit 7: Sources of oils and fats Unit 8: Natural rubber Unit 9: Drug yielding plants Unit 10: Timber plants Unit 11: Fibres Unit 12: Aromatic and Petrosepta	JULY- DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips		To expose the students on various economically important plants and plant products
		Plant Anatomy and Embryology	GE	GE 3	Unit 3: Secondary Growth Unit 4: Adaptive and protective systems Unit 7: Embryo and endosperm Unit 8: Apomixis and poly embryony	JULY- DEC 22	25	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	5 Hrs / Week	To expose the students to the types of plant tissues their arrangement and also to plant reproduction
3	V	Plant Physiology	HONS.	C 12	Unit 1: Plant water relations Unit 2: Mineral nutrition Unit 3: Nutrient uptake Unit 4: Translocation in the phloem Unit 5: Plant Growth regulators Unit 6: Physiology of flowering Unit 7: Phytochromes, Cryptochromes and phototropism	JULY- DEC 22	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	4 Hrs / Week	To expose the students to different physiological processes in plant life

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Sangeeta Chetia



NAME OF THE TEACHER: SANGEETA CHETIA
DESIGNATION: ASSISTANT PROFESSOR
SESSION: JAN - JUNE 2023

Teaching Plan

Name of the Teacher: Mrs. Sangeeta Chetia
Designation: Assistant Professor
Session: Jan - May 2023

Sl. No.	Semester	Subject	Stream	Paper Code	Unit	Duration	Number of students	Teaching Methodology	Work Load	Learning Outcome					
1	II	Mycology and Phytopathology	HONS.	C 3	Unit 1: Introduction to Fungi Unit 2: Chytridiomycota, Zygomycota, Ascomycota and Basidiomycota Unit 3: Allied Fungi and Oomycota	JAN - MAY 2023	37	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	4 Hrs / Week	To expose the students on the fungal world, different fungal diseases; their economic importance, etc					
		Plant Physiology and Metabolism	GE	GE 2	Unit 4: Photosynthesis Unit 5: Respiration Unit 8: Plant growth regulators Unit 9: Plant response to light and temperatures										
2	IV	Plant Ecology & Phytogeography	HONS.	C 9	Unit 1: Introduction Unit 2: Soil Unit 4: Population Ecology	JAN - MAY 2023	27	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	6 Hrs / Week	To expose the students to interaction of plant with its surroundings and also the geographic distribution of different plants					
		Plant Systematics	HONS.	C 10	Unit 2: Taxonomic hierarchy Unit 4: Systems of classification Unit 5: Biometrics, numerical taxonomy and cladistics Unit 6: Phylogeny of Angiosperms						JAN - MAY 2023	27	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars, Class tests and Filed Trips	To expose the students to identification, classification and nomenclature of higher plants	
		Plant Ecology and Taxonomy	GE	GE 4	Unit 1: Introduction Unit 2: ecological factors Unit 3: Plant communities Unit 9: Taxonomic hierarchy Unit 10: Botanical Nomenclature Unit 11: Classification										JAN - MAY 2023
3	VI	Plant Metabolism	HONS.	C 13	Unit 1: Concept of metabolism Unit 2: Carbon assimilation Unit 3: Carbohydrate metabolism Unit 4: Carbon Oxidation	JAN - MAY 2023	34	Lecture Method, Audio-Visual Aids, Practical based classes, Student Seminars and Class tests	9 Hrs / Week	To expose the students to various metabolic processes involved with plant life					

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