TEACHING PLAN

Department of Botany

Jagannath Barooah College(Auto), Jorhat

Academic Session: 2025-26

Name of the Teacher: Bubul Chandra Neog
Semester: UG odd and even sem.

Class/Semester	Title & Code of The Paper Allotted (Credit)	Method of Teaching	Teaching Material	Unit	Topic	Period/ Hours Required/Marks	Details of the Contents	Remarks / Books =""
UG Sem II (Even)	Archegoniate, BOTMJ-021 (4Cr = 3 Th + 1 Pr)	Lecture, Using ITC (PPT, Audio-Video), Interaction, Assessment and Evaluation,	Textbook, Diagrams, Models	Unit-4	Gymnosperms	12	Characters, classification, morphology, reproduction; Cycas, Pinus, Gnetum: Economic and ecological importance.	B R Vashishta E-resources: SWAYAM, N-List and NPTEL
UG Sem II (Even)	Archegoniate, BOTMI-021 (4Cr = 3 Th + 1 Pr)	Lecture, Using ITC (PPT, Audio-Video), Interaction, Assessment and Evaluation,	Textbook, Diagrams, Models	Unit-4	Gymnosperms	12	Characters, classification, morphology, reproduction; Cycas, Pinus, Gnetum: Economic and ecological importance.	B R Vashishta E-resources: SWAYAM, N-List and NPTEL
UG Sem II (Even)	Biofertilizers and Organic Farming, BOTSEC-021 (3Cr)	Lecture, Interaction, Assessment and Evaluation,	Textbook, Diagrams, Models	Unit-2	Azospirillum and Azotobacter	12	Characteristics, classification, Isolation,multiplication,inoculum,	N V Madhav et al.
UG Sem II (Odd)	Basics of Botany,BOTMD-	Lecture & Class Interaction,group	Class boards,	Unit1,2,5	Botany Discovery	06+02+10=18	History, branches,importance	A C Dutta, Class XII

	011 (3 Cr)	discussion	PPT.ITC.		Basics of plant Physiology		Gymnos and Angiosperms, Transpiration, photosynthesis, respiration	Biology
UG Sem IV (Even)	Economic Botany, BOTMJ-041 (4Cr= 3Cr+1Cr)	Lecture & Board work	models, Power point,	Unit-4 & 8	Source of sugars and starch, Drug yielding plants	05 + 05 = 10	Sugar cane, processing, products and byproducts, Potato morphology, propagation, uses. Chinchona, Rauwolfia, Clerodendron, Azadiracta, Tinospora	Sambamurty and Subramaniam
UG Sem IV (Even)	Basics of Genetics, BOTMJ-042 (4Cr= 3Cr+1Cr)	Lecture & Discussion	models, Power point,	Unit- 5 & 7	Gene mutations, Population and Evolutionary Genetics	07 + 07 = 14	Molecular basis, mutagens,agents, CIB methods, transposons and DNA repair, Allele, Genotype frequencies, selection, mutation, genetic drift, speciation	P Singh, Dr A C Gogoi, PS Verma & VK Agarwal
UG Sem IV (Even)	Molecular Biology, BOTMJ-043 (4Cr= 3Cr+1Cr	Lecture & Class Interaction	models, Power point,	Unit-1 & 2	Nucleic Acids, DNA and RNA/Nuclear materials	06 + 10 = 16	DNA as genetic material-evidences and experiments, Structure, organization in prokaryotes,viruses and eukaryotes, types, organelles, euchromatin, heterochromatin,constitutive andfacultative heterochromatin.	K K Gupta, R N Singh
UG Sem IV (Even)	Plant breeding, BOTMJ-044 (4Cr= 3Cr+1Cr	Lecture & Class Interaction	Boards, models, Power point,	Unit-1 & Unit 3	Plant Breeding, Quantitative inheritance	10 + 08 = !8	Objecives,modes of reproduction, achievements and consequences of plant breeding, Monogenic and polygenic inheritance, kernel and skin colour inheritance	B D Sing, K V Mohanan

UG Sem I (Odd)	Phycology and Microbiology,BOT MJ-011 (4 Cr= 3 Th + 1 Pr)	Lecture & Class Interaction	Boards, models, Power point, Lab. models, Power point,	Unit-4	Algae	08	Characteristics,classification, thallus organization, pigments, reserve foods, notable contributions,ecological and environmental roles.	G L Copra, B R Vashishta
UG Sem I (Odd)	Phycology and Microbiology,BOT MI-011 (4 Cr= 3 Th + 1 Pr)	Lecture & Class Interaction,group discussion	Boards, models, Power point, Lab.	Unit-4	Algae	08	Characteristics,classification, thallus organization, pigments, reserve foods, notable contributions,ecological and environmental roles.	G L Chopra, B R Vashishta
UG Sem I (Odd)	Basics of Botany,BOTMD-011 (3 Cr)	Lecture & Class Interaction,group discussion	Class boards, Powerpoint.	Unit1,2,5	Botany Discovery Basics of plant Physiology	06+02+10=18	History, branches,importance Gymnos and Angiosperms, Transpiration, photosynthesis, respiration	A C Dutta, Class XII Biology
UG Sem III (Odd)	Mycology and Phytopathology,BOTMJ-031 (4 Cr= 3 Th + 1 Pr)	Lecture & Discussion	Boards, models, Power point, Lab.	Unit-3	Ascomycota	06	Characteristics,reproduction,life cycles, classification, genera included	H K Verma, E J Butler
UG Sem III (Odd)	Biomolecules and Cell Biology, BOTMJ-032 (4 Cr= 3 Th + 1 Pr)	Lecture & Discussion	Boards, models,	Unit-1 & 2	Nucleic Acids, Bioenergetics	02 +06= 08	DNAs and RNAs, Thermodynamics, Exerogonic and Enderogonic Reactions, Coupled, Redox reactions, ATP	P K Gupta, A C Sahu
UG Sem III (Odd)	Morphology and Anatomy of Angiosperms,BOTMJ-033 (4 Cr= 3 Th	Lecture & Discussions	Boards, models, Power point,	Unit-1	Morphology of Angios.	08	Morphological details of roots, stems, leaves, inflorescences, flowers and epidermal out growths etc.	A J Eames, K K Esau, Dr K Das

	+ 1 Pr)		Lab.					
UG Sem III (Odd)	Biofertilizers and Organic Farming, BOTSEC-031 (3 Cr)	Lecture & Discussions	models, Power point,	Unit-2	Azospirillum and Azotobacter	12	Characteristics, classification, Isolation,multiplication,inoculum,	N V Madhav et al.
UG Sem V (Odd)	Plant Systematics,BOTMJ-051 (3 Cr= 3 Th + 1 Pr)	Lecture, Discussions,Assignments	Boards, models, Lab, home assignments	Unit-1	Significance of Plant Systematics	12	Introductions,classifications,Nomenclature, Evidences, Herbaria, Botanical gardens,Floras Monographs, Journals, Keys.	G Singh, A K Pandey
UG Sem V (Odd)	Reproductive Biology ofAngiosperms,BOTMJ-052 (4 Cr= 3 Th + 1Pr)	Lecture, Discussions,Assignments	Boards, models, Lab, home assignments	Unit-4	Ovule	08	Structure, types, special structures, megasporogenesis and megagametogenesis, embryosacs.	K E Baier, P Maheshwari,
UG Sem V (Odd)	Plant Physiology,BOTMJ-053 (4Cr= 3 Th + 1 Pr)	Lecture, Discussions,Assignments	Boards, models, Lab,	Unit-3 & 4	Nutrient uptake, Translocation in the Phloem	08 + 06=14	Transport across membrane, active and passive absorptions. uniport,co-transport, symport, antiport. Experimental evidences of translocations, pressure flow, loading unloading, source sink.	V K Jain, E Zeiger & L Taiz
UG Sem V (Odd)	Plant Ecology and Taxonomy,BOTMI-051 (4 Cr= 3 Th + 1 Pr)	Lecture, Group Discussions,Assignments	Boards, models, Lab, Power points	Unit-1	Ecological factors	07	Soil, water, precipitation, light, temperature, optimal and limiting factors, shelford law, hydrophytes and xerophytes.	P D Sharma, Kormondy, E P Odum.