DEPARTMENT OF BOTANY

LUMDING COLLEGE

PROJECT/ FIELDWORKS/ WORKSHOPS - 2022-23

SEMESTER WISE PAPERS

Semester	Paper Name	Paper Code
FYUGP 1st Sem SEC (SKILL)	Herbarium Techniques and its role in Modern Science	SEC0105503
FYUGP 2nd Sem SEC (SKILL)	Herbal Technology	SEC0205703
CBCS 3rd Sem SEC (SKILL)	Biofertilizer	BOT-SE-3014
CBCS 4th Sem SEC (SKILL)	Nursery and Gardening	BOT-SE-4014
CBCS 5th Sem SEC (SKILL)	Medicinal Botany	BOT-SE-5014
CBCS 6th Sem SEC (SKILL)	Ethnobotany	BOT-SE-6014
CBCS 6th Sem (H)	Project Work/ Dissertation (DSE-4)	BOT-HE-6036

ATTENDANCE OF DIFFERENT SEMESTER

FYUGP- 1st and 2nd Sem

	Roll No.	NAME	Marks of defaulter
	6	ROMON TERON	
	8	PUJA KUMARI	
	14	ANKITA CHAKRABORTY	
A	16	BANHIJITA BHATTACHARJEE	
	17	KARAN LANGTHASA	
	29	JYOTI RANI	
	30	PAYEL SHILL	
	A 34	SOCHIN SENGYUNG	
	37	BIJU DAS	
	42	SUSHMA KUMARI	
	A 47	SPANDAN BHOWMICK	
	49	HEMARI ENGHI	
	53	DILSHER SINGH	
	58	NEHA DAS	
	62	BINITA KUMARI	
	A 69	SANTANU MAZUMDER	
	85	DEPAK SINGH	

CBCS- 3rd and 4th Sem

Roll No.	NAME
13	SRIYA PAUL
26	ANKIT PANDIT
27	ABHAY KUMAR CHAUHAN
34	JUBIN DIPHUSA
36	TEMSHI AO
X 38	RONSRING LANGTHASA
48	ROSTOM TERON
62	MONDIAL RONGHANG
66	JAGADISH DAS
65	Satabdi Mazumder

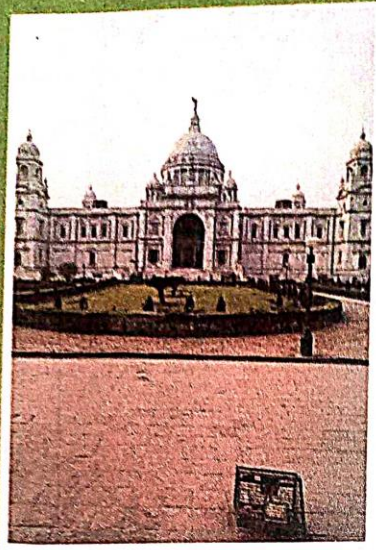
CBCS- 5th and 6th Sem

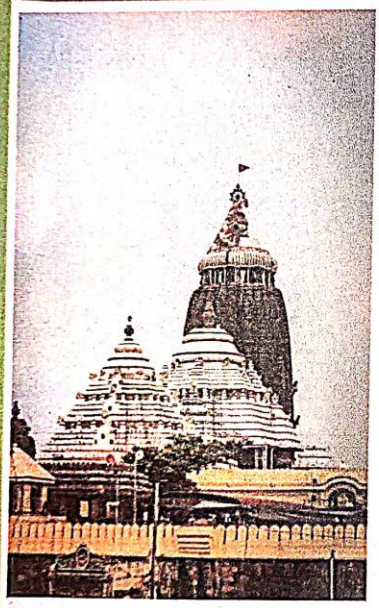
Roll No.	NAME
23	BIJAY CHAUHAN
40	JANSMAIDI NAPENSA
44	SAJENDRA NAPENSA
62	PANKAJ DAS
82	SANJANA DIPHUSA
86	SONIA NUNISA

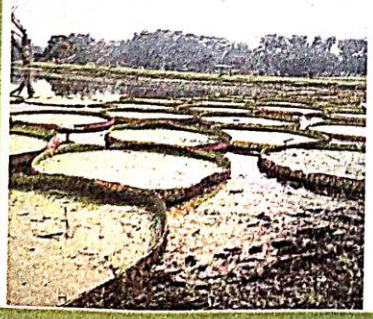
CBCS 6th Semester (H)

	Roll No.	NAME
Oct	8	DEEPAK YADAV
	9	MUKESH YADAV
	10	SUJAY CHAUHAN
	16	SARITA KUMARI CHAUHAN
	20	KINGSON KATHAR
	22	SUMITRA BALA DAS
	25	PRIYA SARKAR
	26	SANCHITA PAUL
	30	MANJIL ROY
	33	RAHUL DEBNATH
	43	RAVI KUMAR PRASAD
	45	ISHIKA DEY
	46	RUSTOM TERANG
	60	AMAR BARUA
Oct	63	SASANKAR DAS
	68	MONISHA CHAUHAN
	75	BINONG ENGTI
	76	VISHAL SAH
	80	SAMAR GHOSH
Oct	92	PRATAP SINGH CHAUHAN
	93	SOBINA TERANGPI
	98	TANOYDEEP SARKAR
	105	NISHA SHARMA
	106	SARKIRI INGTI
	108	ROHIT SING RAM

PICTURE OF PROJECT REPORT/ ASSIGNMENT







BOTANICAL FIELD VISIT TO

ODISHA & KOLKATA

LUMDING COLLEGE : LUMDING
ESTD 1959

DEPARTMENT OF BOTANY

SUBMITTED BY:

NAME : AMAR BARUA

CLASS : 5th SEMETER

ROLL NO : US-211-304-003

UNDER THE GUDANCE OF:

SRI. NIRMALYA SHEKAR INGHA CHODHURY

Mr. SHALEH AKRAM

Mr RANTUM0NI SHARMA

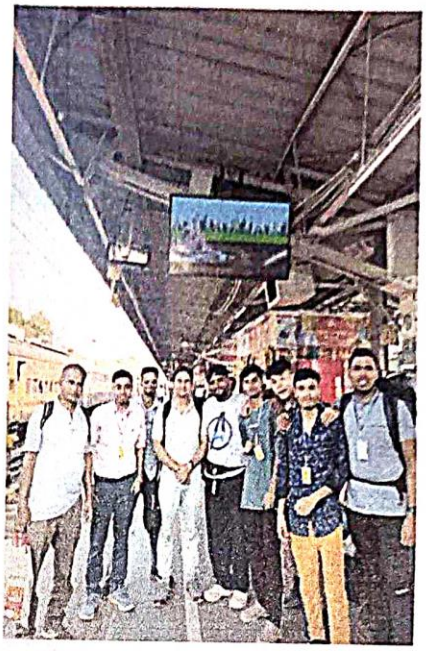
ACKNOWLEDMENT

I Have great in expressing My deep Sense of great fullne to **Sri. N.S.S choudhury**, Sir.HOD of Department of Botany, **Mr.Shaleh Akram** and **Mr.Rantumoni Sharma**, Assistant professor, Department of botany, for untiring precios guidance and contant encouragment during the coure.

My profound sense of gratitude and sincere appreciation I always due to **Dr.Mrinal kanti paul Sir**, Principal Lumding collage, Lumding, Hojai, Assam for giving u a chance for viiting Odisha and kolkata for the fulliment of Gauhati Univerity CBCS 5th Semester Botany Syllabus.

Aman Barua.
Signature

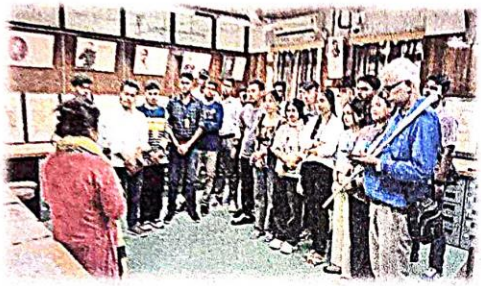
Way to Odisha



On 3rd November 2023, we the student of 5th sem Lumding Collage, with our respected teacher, **Sri.N.S.S choudhury, Mr.Shaleh Akram and Mr. Rantumoi Sharma** started our journey from Lumding and we reached Odisha at 5th of Nov midnight.

INDIAN BOTANICAL GARDEN AND BSI




Our last trip was to the Indian Botanical Garden and BSI.

The Acharya Jagadish Chandra Bose Indian Botanic Garden, previously known as Indian Botanic Garden and the Calcutta Botanic Garden, is a botanical garden situated in Shibpur, Howrah near Kolkata. They are commonly known as the Calcutta Botanical Garden and previously as the Royal Botanic Garden, Calcutta. The gardens exhibit a wide variety of rare plants and a total collection of over **12,000 specimens** spread over **109 hectares**. It is under Botanical Survey of India (BSI) of Ministry of Environment and Forests, Government of India.

Botanical Survey of India (BSI) located in Kolkata, West Bengal, India. It was founded on **13 February 1890**, is Government of India Ministry of Environment, Forest and Climate Change's organization for survey, research and conservation of plant wealth of India, flora and endangered species of India, including by collecting and maintaining germplasm and gene bank of endangered, patent and vulnerable plant species.

Dissertation submitted for the fulfillment of the B.Sc 6th Semester Honours Course under the syllabus assigned by Gauhati University

A PROJECT REPORT ON

Isolation and pure culture of *Pleurotus ostreatus* towards standardization of spawn production and harvesting techniques in Oyster Mushroom

Lumding College

Submitted by

Name: Joyram Enghi

Class: B.Sc 6th Semester (H)

Roll no.: US-201-304-0012

Registration no.: 20061286

Session/Year: 2022-23

Subject: Botany (Honours)

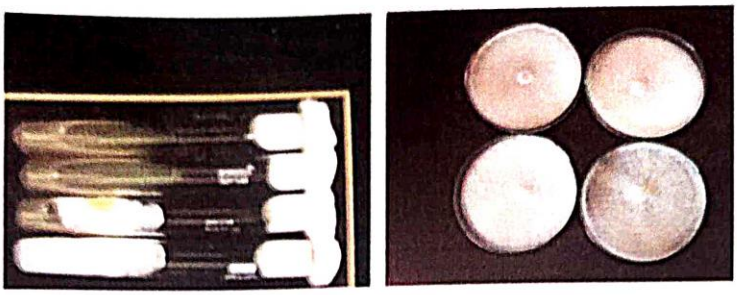


Fig. Agar slants and pure culture of a mushroom in test tubes
Fig. Pure cultures of a mushroom in agar medium in Petri dishes.

Fig. The inoculated tubes and Petri dishes kept for incubation in B.O.D incubator
Fig. Pure cultures in tubes and Petri dishes stored in refrigerator

Sub-culturing:

The pure culture of edible mushroom, once established either through spore culture or tissue culture technique, is maintained properly in cool atmosphere or a refrigerator. Sub-culturing is done from time to time by aseptically transferring a small piece of growing pure culture along with the culture medium on thetest tube slants containing same or other suitable medium.

b. Spawning:

- The process of spawn making is the same as in ***Agaricus***. The normal rate of spawning in pasteurized substrate is 1.5-2.0 % of the wet substrate, however it is slightly higher (2.0- 2.5%) in unpasteurized material. The spawning is usually done in layers or even in thorough spawning care should be taken that the spawn gets uniformly mixed with the substrate, while in layer method the spawn is mixed after each layer of 3-4 cm thickness of straw.
- Polythene bags (50X75cm) have been found to be the best and cheap container for ***Pleurotus*** cultivation. Before filling the substrate in polythene bags, holes of about 1cm diameter should be made at 10-15 cm distance all over the surface for diffusion of gasesand heat generated inside. After filling the substrate in the bags, the mouth of the bag should be tied with thread and kept at 22-26°C temperature on shelves in a mushroom house for spawn run. R.H. of mushroom house should be maintained between 80-85%.

C. Cropping and management:

- Within 15-18 days of filling and spawning, white cottony growth of the mycelium spreads in these bags which can be noticed easily. These bags are cut open and kept in mushroom house on racks, 25-30cm apart from one another or these may also be hanged on nylon ropes keeping some distance between them. Water is sprayed over them in the morning and evening hours to maintain 80-85 % RH in mushroom house and also temperature between 22-26°C. Pinning starts in next 4-5 days and fruit bodies become fully grown within a week of pinning.

Botany Core Assignment

Topic :- Importance of Botanical Knowledge in our daily life and Scientific Progressio

Name - Binita Kumari
Class - 1st Semester
Roll no - 62
Subject - Botnay core

Botany

"Botany is the branch of Biology that deals with the study of plant."

The term botany is derived from an adjective 'botanic' that is again derived from the Greek word "botane" which means "grass" or "pasture".

Botany is one of the world's oldest natural science. Initially, Botany included all the plant like organism such as algae, lichen, fern, fungi mosses along with actual plant. But bacteria algae, fungi belong to a different Kingdon.

The Greek scholar "Theophrastus was one of the early Botanists of the world. He also known as "father of Bontany". one of his book "Enquiry into plants" classified the plant based on the geographically ranges. Size, uses and growth patterns. The other work called "on the causes of plants" explained the economic of growing plants. Plant are the major source of life on earth. They provide food, oxygen and a verisety of raw materials for various industrial and domestic purposes.

Importance of Botany

Plants are an integral part of human life. They are used in various aspects of day-to day lives. Botany study the characteristic and uses of these plants and hence are very important.

- Some importance point about botany use:

1. Botany deals with the study of different kind of plant its uses and characteristics to influence the fields of science, medicine and cosmetics.
2. Botany is the Key to the developm of biofuels such as biomas and methane gas that are used as alternatives to fossil fuels.
3. Botany is important in the area of economic productivity because it is involved in the study of crops and ideal growing techniques that helps formers increase crop yield.
4. The study of plants is also important in environment protection. The Botanists list the different type of plant present on earth and can sense when the plant populations start declining.

Branches of Botany

Categorigation of botany in different branch on the baris of to study about botany on diffent way in diffrent field. for developing new concept or deeply study of botany.

- Plant Pathalogy –

It is study of organism and environmental condition that are responsible for causing diseases in plants, the machanisms by which the disease occurs, and the methods of controlling plant diseases.

- Plant Ecology –

Plant ecology studies the distribution of plant, how do the environmental factors affect plants and the interaction between plants and other organisms.

- Palaeobotany –

This is the branch of botany that deals with the recovery and identification of plant fossils, thereby, studying the evolutionary history of plants

- Archaeobotany –

It is the branch of botany in which the scientists study as to how were the plants used by the people in past. Understanding a plant also help in understanding the madicinal and spiritual significances of a plant in the past.

LUMDING COLLEGE

ESTD- 1959

Assignment on "Important of Botanical knowledge in our daily life And scientific PHOgression".

subject : Botany.

SUBMITTED BY :

NAME : Sochin Sengyung

CLASS : 1sem B.Sc FYUGP

ROLL NO : 34

Permanent Address : Mandendisa

Mobile NO. : 6002175674

Signature : Sochin Sengyung

* Botany is the branch of biology that studies about plants, structure, genetic ecology, classification.

* The word 'botany' comes from the greek word 'Botane' which means herb.

* Botanists are scientists that studies the biology of plants, fungi and other organism. * such as lichen and algae. The botanical research increase and improve our supply of medicines, foods, fibers, building materials and other plant products.

* Theophrastus is a greek natura-list the father of Botany.

* Botany is the branch of biology dealing with plants anatomy (structure) and plants physiology (functions) including Environmental factors that affect their growth.

* Botany covers a wide range of scientific discipline including →

- Structure.
- Growth.
- Reproduction.
- Metabolism.
- Development.
- diseases.

* Botany began with human efforts to identify edible, medicine and poisonous plants.

* Botany, branch of biology that deals with the study of plants, including their structure and bio-chemical processes.

* Plant Pathology it is the study of organism and environmental conditions which is responsible for causing diseases in plants. Archaeobotany and Palaeobotany are two method by which plant diseases can be controled.

fig 1. Branch of Botany

Name :- Sarita Kumari Chauhan

College :- Lumding College

Mobile no :- 6002022704

Date :- 16-10-2023

class :- B.Sc 5th Sem

Permanent (Home) Address :-

Vill :- Walizon no-2

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P.S :- Kherone

Dist :- West Karbi anglong

State :- Assam

Pin :- 782448

Sarita Kumari Chauhan

Importance of botanical knowlege in our daily leive and scientific progression

Introduction :—

Botanical knowlege hold immense importance in our daily leives and is a fundamental pillar for scientific progression. It's just about identifying flowers or trees: g+is about understanding the intricate world of plant and how it profoundly impacts our leives and advancement of science.

Botanical knowlege in our daily life and scientific progression :—

In our daily routines, plant play a vital role in providing sustence and nourishment. Understanding the nutritional value of various plants help us make informed dietary choices, promoting a healthy lifestyle. Fruit, vegetables, grains and other plant-based foods are essential components of balanced diet, contributing to our well-being and longevity.

Moreover, botanical knowlege extends to the field of medicine. many life-saving drugs and therapeutic compounds are derived from plant. Herbal medicine, a practice deeply rooted in botanical understanding has been utilized for centuries across cultures. modern pharmaceuticals often trace their origins to botanical research with scientists studying plants to identify potential treatment for various ailments.

plant also contribute significantly to ecological balance. They play a crucial role in Carbon dioxide absorption and oxygen production through photo-synthesis, a process that sustains life on earth. Understanding the complex interaction between plants, animals and the environment is vital for maintaining biodiversity and stable ecosystem.

Furthermost, botanical knowlege is essential for agricultural advancement. It helps optimize crop yield, develop disease-resistant plants, and enhance agricultural practices to feed the growing global population. genetic engineering and biotechnology, offer innovative solutions to agricultural challenges and promote sustainable farming practicses.

In face of climate change and environmental degradation, botanical knowledge becomes even more critical. Plants can indicate changes in environmental condition and are cendral to strategies and adaptation. Studying plant responses to shifting climates help us develop strategies to protect and restore threatened ecosystems.

Conservation efforts heavily rely on botanical knowlege. Understanding plant species, their habitats, and threats to

SYLLABUS

FYUGP-NEP- 1st Sem SEC

32. Herbarium Techniques and its role in Modern Science

Name of the Paper: **Herbarium techniques and its role in Modern Sciences**

Total Lectures: **36** Credits: **3**

THEORY

UNIT 1: Introduction- Historical account, Significance, Functions, Types of Herbaria, Acronym, important Herbaria of the world, major Herbaria in NE India, Digital Herbarium.

(4 lectures)

UNIT 2: Herbarium Methodology-Herbarium Sheets, Field and Laboratory equipment, colour preservation techniques, basic techniques for herbarium sheets preparation and storage.

(6 lectures)

UNIT 3: Role of Herbarium in- Teaching and Research, Plant Taxonomy, Assessment of Plant Biodiversity, Pharmacy Education and Research, Herbal Drug discovery, Ecology, Forestry,Ethno-botany, Evolution and Conservation biology. (8 lectures)

UNIT 4: Herbarium curation and Digitization techniques, Accession Register, Fumigation, Pest Management, Herbarium specimens on Loan, Herbarium Ethics. (6 lectures)

UNIT 5:PRACTICAL (12 lectures)

Hands-on-Herbarium sheet preparation for Bryophytes, Pteridophytes and Higher Plants.
Searching Digital Herbarium online for consultation.

Suggested Readings:

1. Jain S K andRao RR 1977. A Handbook of Field and Herbarium Methods. Today & Tomorrow's Printers and Publishers, New Delhi.

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FYUGP-NEP- 2nd Sem SEC

57	Herbal Technology	SEC0205703	3	40-60

Herbal Technology

Total Lectures : 33 Credits : 3 (Theory -2, practical -1)

THEORY

RMS Unit 1: Herbal medicines: history and scope - definition of medical terms - cultivation harvesting-processing- storage -marketing and utilization of medicinal plants. (4 Lectures)

PMC Unit 2: Pharmacognosy - systematic position and medicinal uses of the following herbs in curing various ailments; Tulsi, Ginger, Black pepper, Turmeric. (6 Lectures)

SA Unit 3: Phytochemistry - active principles and methods of their testing - identification and utilization of the medicinal herbs; Catharanthus roseus (cardiotonic), Clerodendron phlomoides (anti-rheumatic) and Centella asiatica (memory booster). (6 Lectures)

SA Unit 4: Analytical pharmacognosy: Biological testing of herbal drugs - Phytochemical screening tests for secondary metabolites (alkaloids, flavonoids, steroids, triterpenoids, phenolic compounds) (6 Lectures)

PRACTICAL

1. preparation of herbarium of the medicinal plants included in the syllabus (5 lectures)
2. Preliminary Phytochemical screening tests for secondary metabolites (alkaloids, flavonoids, steroids, triterpenoids, phenolic compounds) (6 lectures)

Suggested Readings

1. Glossary of Indian medicinal plants, R.N.Chopra, S.L.Nayar and I.C.Chopra, 1956. C.S.I.R,New Delhi.
2. The indigenous drugs of India, Kanny, Lall, Dey and Raj Bahadur, 1984. International Book Distributors.
3. Herbal plants and Drugs Agnes Arber, 1999. Mangal Deep Publications.
4. Ayurvedic drugs and their plant source. V.V. Sivarajan and Balachandran Indra 1994.Oxford IBH publishing Co.
5. Ayurveda and Aromatherapy. Miller, Light and Miller, Bryan, 1998. Banarsidass, Delhi.
6. Pharmacognosy, Dr.C.K.Kokate et al. 1999. Nirali Prakashan.

CBCS- 3rd Sem - SEC

1

BOT-SE-3014
Biofertilizers

Total Lectures : 60 Credits : 4

Unit 1 : General account about the microbes used as biofertilizer – Rhizobium – isolation, identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.

(8 lectures)

Unit 2 : *Azospirillum:* isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms.*Azotobacter*: classification, characteristics – crop response to *Azotobacter* inoculum, maintenance and mass multiplication. **(16 lectures)**

Unit 3 : Cyanobacteria (blue green algae), *Azolla* and *Anabaena azollae* association, nitrogen fixation, factors affecting growth, blue green algae and *Azolla* in rice cultivation.

(8 lectures)

Unit 4 : Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.

(16 lectures)

Unit 5 : Organic farming – Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and Industrial wastes – biocompost making methods, types and method of vermicomposting – field Application. **(12 lectures)**

Suggested Readings

1. Dubey, R.C., 2005 A Text book of Biotechnology S.Chand & Co, New Delhi.
2. Kumaresan, V. 2005, Biotechnology, Saras Publications, New Delhi.
3. John Jothi Prakash, E. 2004. Outlines of Plant Biotechnology. Emkay Publication, New Delhi.
4. Sathe, T.V. 2004 Vermiculture and Organic Farming. Daya publishers.
5. Subha Rao, N.S. 2000, Soil Microbiology, Oxford & IBH Publishers, New Delhi.
6. Vayas,S.C, Vayas, S. and Modi, H.A. 1998 Bio-fertilizers and organic Farming Akta Prakashan, Nadiad

CBCS - 4th Sem - SEC

3

BOT-SE-4014
Nursery and Gardening

Total Lectures : 60 Credits : 4

Unit 1: Nursery: definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities - Planting - direct seeding and transplants. **(8 Lectures)**

Unit 2: Seed: Structure and types - Seed dormancy; causes and methods of breaking dormancy - Seed storage: Seed banks, factors affecting seed viability, genetic erosion – Seed production technology - seed testing and certification. **(12 Lectures)**

Unit 3: Vegetative propagation: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants – green house - mist chamber, shed root, shade house and glass house. **(12 Lectures)**

Unit 4: Gardening: definition, objectives and scope - different types of gardening - landscape and home gardening - parks and its components - plant materials and design - computer applications in landscaping - Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting. **(16 Lectures)**

Unit 5: Sowing/raising of seeds and seedlings - Transplanting of seedlings - Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes, and carrots - Storage and marketing procedures. **(12 Lectures)**

Suggested Readings

1. Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
4. Edmond Musser & Andres, Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi.
5. Agrawal, P.K. 1993, Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
6. Janick Jules. 1979. Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, USA.

CBCS- 5th sem - SEC

6

BOT-SE-5014
Medicinal Botany

Total Lectures : 60 Credits : 4

Unit 1: History. Scope and Importance of Medicinal Plants. Indigenous Medicinal Sciences: Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments, Siddha: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. Unani: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations.

(20 Lectures)

Unit 2: Conservation of endangered and endemic medicinal plants. Definition: endemic and endangered medicinal plants, Red list criteria; In situ conservation: Biosphere reserves, sacred groves, National Parks; Ex situ conservation: Botanic Gardens, Ethnomedicinal plant Gardens. Propagation of Medicinal Plants: Objectives of the nursery, its classification, important components of a nursery, sowing, pricking, use of green house for nursery production, propagation through cuttings, layering, grafting and budding.

(20 Lectures)

Unit 3: Ethnobotany and Folk medicines. Definition; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany: National interacts, Palaeo-ethnobotany, folk medicines of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India. Application of natural products to certain diseases- Jaundice, cardiac, infertility, diabetics. Blood pressure and skin diseases.

(20 Lectures)

CBCS - 6th Sem - SEC

8

BOT-SE-6014 (RMS)

Ethnobotany

Total Lectures : 60 Credits : 4

Unit 1 : *Ethnobotany* **(12 Lectures)**

Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany in the present context; Major and minor ethnic groups or Tribals of India, and their life styles. Plants used by the tribals: a) Food plants b) intoxicants and beverages c) Resins and oils and miscellaneous uses.

Unit 2: *Methodology of Ethnobotanical studies* (12 Lectures)

a) Field work b) Herbarium c) Ancient Literature d) Archaeological findings e) temples and sacred places.

Unit 3 : *Role of ethnobotany in modern Medicine* (20 Lectures)

Medico-ethnobotanical sources in India;Significance of the following plants in ethno botanical practices (along with their habitat and morphology) a) Azadiractha indica b) Ocimum sanctum c) Vitex negundo. d) Gloriosa superba e) Tribulus terrestris f) Pongamia pinnata g) Cassia auriculata h) Indigofera tinctoria. Role of ethnobotany in modern medicine with special example Rauvolfia sepentina, Trichopus zeylanicus, Artemisia, Withania.

Role of ethnic groups in conservation of plant genetic resources. Endangered taxa and forest management (participatory forest management).

5

BOT-HE-6036

Project Work/Dissertation

Credits : 6

PHOTOGRAPHS

(GROUP DISCUSSION, PROJECT WORKS AND WORKSHOP: SESSION 2022-23)

At BSI, Ganktok

At MG Marg, Ganktok

At Changu Lake, Sikkim

At BSI, Kolkata

At BSI, Kolkata

At BSI, Kolkata

At BSI, Kolkata

At BSI, Kolkata

At IIT Guwahati, Biotech Park

At IIT Guwahati, Biotech Park

At IIT Guwahati, Biotech Park

At Botanical Garden, Lumding College, Bee Keeping Workshop

At Botanical Garden, Lumding College, Bee Keeping Workshop

At Botanical Garden, Lumding College, Mushroom Cultivation Workshop

At Botanical Garden, Lumding College, Vermicomposting Workshop

At Department of Botany, Lumding College, Group discussion

At Department of Botany, Lumding College, Group discussion

At Department of Botany, Lumding College, Group discussion

At Department of Botany, Lumding College, Group discussion

At Conference Hall, Lumding College, Seminar

At Conference Hall, Lumding College, Seminar

At Conference Hall, Lumding College, Seminar

A few certificates of students participated in a hands-on training program at IIT Guwahati, Biotech Park

Certificate No-GBP/SSTF/23-24/854

অসম চৰকাৰ

सत्यमेव जयते

SCIENCE TECHNOLOGY AND CLIMATE CHANGE DEPARTMENT GOVERNMENT OF ASSAM

GUWAHATI BIOTECH PARK
Discovering Through Partnership

CERTIFICATE

This is to certify that **Ajoy Das**, B.Sc 6th sem (Botany Dept.) of Lumding College has successfully completed the 2 days hands on training on **"Basics of Molecular Biology"** during 2nd & 3rd June , 2023.

During the program at Guwahati Biotech Park, he was found sincere, hardworking and of good conduct. I wish him a bright and successful future.

Dr. Rajiv Ch. Dev Goswami
RA, Supervisor
Guwahati Biotech Park

Dr. Bula Choudhury
Senior Scientist & Program Co- ordinator
Guwahati Biotech Park

Smti. J Keerthi, IAS
Chief Executive Officer
Guwahati Biotech Park

Certificate No-GBP/SSTF/23-24/879

অসম চৰকাৰ

सत्यमेव जयते

SCIENCE TECHNOLOGY AND CLIMATE CHANGE DEPARTMENT GOVERNMENT OF ASSAM

GUWAHATI BIOTECH PARK
Discovering Through Partnership

CERTIFICATE

This is to certify that **Joyram Enghi**, B.Sc 6th sem (Botany Dept.) of Lumding College has successfully completed the 2 days hands on training on **"Basics of Molecular Biology"** during 2nd & 3rd June , 2023.

During the program at Guwahati Biotech Park, he was found sincere, hardworking and of good conduct. I wish him a bright and successful future.

Dr. Rajiv Ch. Dev Goswami
RA, Supervisor
Guwahati Biotech Park

Dr. Bula Choudhury
Senior Scientist & Program Co- ordinator
Guwahati Biotech Park

Smti. J Keerthi, IAS
Chief Executive Officer
Guwahati Biotech Park

Certificate No-GBP/SSSP/23-24/877

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CERTIFICATE

This is to certify that **Sangita Das**, B.Sc 6th sem (Botany Dept.) of Lumding College has successfully completed the 2 days hands on training on "**Basics of Molecular Biology**" during 2nd & 3rd June , 2023.

During the program at Guwahati Biotech Park, she was found sincere, hardworking and of good conduct. I wish her a bright and successful future.

Dr. Rajiv Ch. Dev Goswami
RA, Supervisor
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Dr. Bula Choudhury
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GUWAHATI BIOTECH PARK
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This is to certify that **Sersika Terongpi**, B.Sc 6th sem (Botany Dept.) of Lumding College has successfully completed the 2 days hands on training on "**Basics of Molecular Biology**" during 2nd & 3rd June , 2023.

During the program at Guwahati Biotech Park, she was found sincere, hardworking and of good conduct. I wish her a bright and successful future.

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