

# Flora

An annual newsletter of Department of Botany of Dhing College  
Volume I (2016)



## HIGHLIGHTS



### SCIENCE STUDENTS

- ◆ Visit to Research Stations
- ◆ Skill training programmes
  - ◆ Certificate Course
  - ◆ Field Visits/ Study Tours
- ◆ Attending Seminars/Workshops

### NATURE

- ◆ Planting Saplings
- Celebrating Relevant Days
- ◆ World Environment Day

*Edited by*  
**Dr. Sanjeeb Kumar Nath**  
**Associate Professor, Department of Botany**  
**Dhing college Dhing Nagaon Assam**

**Educational Excursion cum Field Study to Darjeeling, Mirik & Pasupati (Nepal)**

**Organized by Department of Botany, Dhing College**

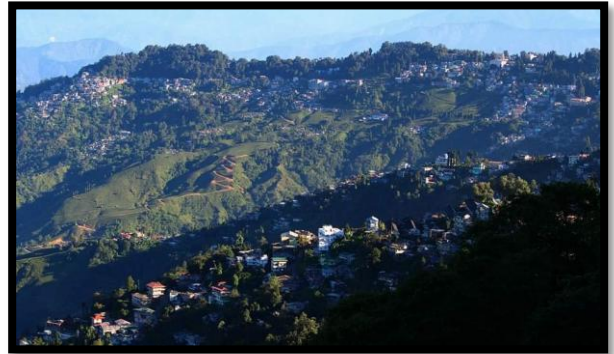
**From 18-10-2016 to 22-10-2016**

Total Number of students: 24

Number of Teacher-in-charge & Escort: 04



Kangchenjunga



Darjeeling



Darjeeling



Lloyd Botanic Garden, Darjeeling



Mirik



Pasupati (Nepal)

**Educational Excursion cum Field Study to Shillong (Meghalaya)**

**Organized by Department of Botany, Dhing College**

**From 26-10-2016 to 27-10-2016**

**Total Number of students: 27**

**Number of Teacher-in-charge & Escort: 05**



Cherapungi, Shillong  
Meghalaya



Mawsmai Cave  
Shillong, Meghalaya

**MOEF sponsored NATIONAL ENVIRONMENT AWARENESS CAMPAIGN 2014-15**

**State Level Seminar Biodiversity and information on Medicinal and aromatic plants of North East India held at Dhing College, April, 2016**

## **Advantages and Disadvantages Of Herbal Medicine**

Medicines made from various natural herbs have been popular from time immemorial with the native folks of many countries as an alternative form of treatment. Herbal or traditional medicines are made from various plants and plant extracts. Sometimes, fungal and bee products, minerals, shells and specific animal parts are also used in the preparation of herbal medicines. Many substances found in plants are useful in treating human ailments. Among them are aromatic substances, phenols and their oxygen-substituted derivatives like tannins. Secondary metabolites like alkaloids serve as defense mechanism against microorganisms and insects. Many herbs used by us while cooking have useful medicinal compounds.

### **Herbal Medicine: Advantages and Disadvantages**

There are numerous advantages and disadvantages of herbal medicine. Anyone considering using herbal medicine to treat health conditions should speak with a qualified health professional.

#### **Advantages**

There are a number advantages associated with using herbal medicines as opposed to pharmaceutical products. Examples include the following:

1. **Reduced risk of side effects:** Most herbal medicines are well tolerated by the patient, with fewer unintended consequences than pharmaceutical drugs. Herbs typically have fewer side effects than traditional medicine, and may be safer to use over time.
2. **Effectives with chronic conditions:** Herbal medicines tend to be more effective for long-standing health complaints that don't respond well to traditional medicine. One example is the herbs and alternative remedies used to treat arthritis. Vioxx, a well-known prescription drug used to treat arthritis, was recalled due to increased risk of cardiovascular complications. Alternative treatments for arthritis, on the other hand, have few side effects. Such treatments include dietary changes like adding simple herbs, eliminating vegetables from the nightshade family and reducing white sugar consumption.
3. **Lower cost:** Another advantage to herbal medicine is cost. Herbs cost much less than prescription medicines. Research, testing, and marketing add considerably to the cost of prescription medicines. Herbs tend to be inexpensive compared to drugs.
4. **Widespread availability:** Yet another advantage of herbal medicines is their availability. Herbs are available without a prescription. You can grow some simple herbs, such as peppermint and chamomile, at home. In some remote parts of the world, herbs may be the only treatment available to the majority of people.

#### **Disadvantages**

Herbs are not without disadvantages, and herbal medicine is not appropriate in all situations. These are a few of the disadvantages to consider:

1. **Inappropriate for many conditions:** Modern medicine treats sudden and serious illnesses and accidents much more effectively than herbal or alternative treatments. An herbalist would not be able to treat serious trauma, such as a broken leg, nor would he be able to heal appendicitis or a heart attack as effectively as a conventional doctor using modern diagnostic tests, surgery, and drugs.
2. **Lack of dosage instructions:** Another disadvantage of herbal medicine is the very real risks of doing yourself harm through self-dosing with herbs. While you can argue that the same thing can happen with medications, such as accidentally overdosing on cold remedies, many herbs do not come with instructions or package inserts. There's a very real risk of overdose.

3. **Poison risk associated with wild herbs:** Harvesting herbs in the wild is risky, if not foolhardy, yet some people try to identify and pick wild herbs. They run a very real risk of poisoning themselves if they don't correctly identify the herb, or if they use the wrong part of the plant.
4. **Medication interactions:** Herbal treatments can interact with medications. Nearly all herbs come with some warning, and many, like the herbs used for anxiety such as Valerian and St. John's Wort, can interact with prescription medication like antidepressants. It's important to discuss your medications and herbal supplements with your doctor to avoid dangerous interactions.
5. **Lack of regulation:** Because herbal products are not tightly regulated, consumers also run the risk of buying inferior quality herbs. The quality of herbal products may vary among batches, brands or manufacturers. This can make it much more difficult to prescribe the proper dose of an herb.

### **Can Herbal Medicine Be Part of Your Healthy Lifestyle?**

The bottom line is that herbs are medicines, and like other medications, they have some advantages and disadvantages. Visiting a physician for the correct diagnosis, consulting an herbalist for the proper herb and dosage, and embracing modern medicine when it makes the most practical sense may be the best of all possible worlds for those who wish to use alternative and complementary therapies.

### **Status of herbal trading in india**

Nature always stands as a golden mark to exemplify the outstanding phenomena of symbiosis. In the western world, as the people are becoming aware of the potency and side effect of synthetic drugs, there is an increasing interest in the natural product remedies with a basic approach towards the nature. Throughout the history of mankind, many infectious diseases have been treated with herbals. A number of scientific investigations have highlighted the importance and the contribution of many plant families i.e. Asteraceae, Liliaceae, Apocynaceae, Solanaceae, Caesalpiniaceae, Rutaceae, Piperaceae, Sapotaceae used as medicinal plants. Medicinal plants play a vital role for the development of new drugs. The bioactive extract should be standardized on the basis of active compound. The bioactive extract should undergo safety studies. Almost, 70% modern medicines in India are derived from natural products. Medicinal plants play a central role not only as traditional medicines but also as trade commodities, meeting the demand of distant markets. India has a very small share (1.6%) of this ever-growing global market. To compete with the growing market, there is urgency to expeditiously utilize and scientifically validate more medicinally useful plants.

### ***Members of Editorial Board***

Pratul Chandra Sarma

Anju Deka Bora

Dr. Monoj Kumar Saikia

Dr. Sanjeeb Kumar Nath

### ***Editorial***

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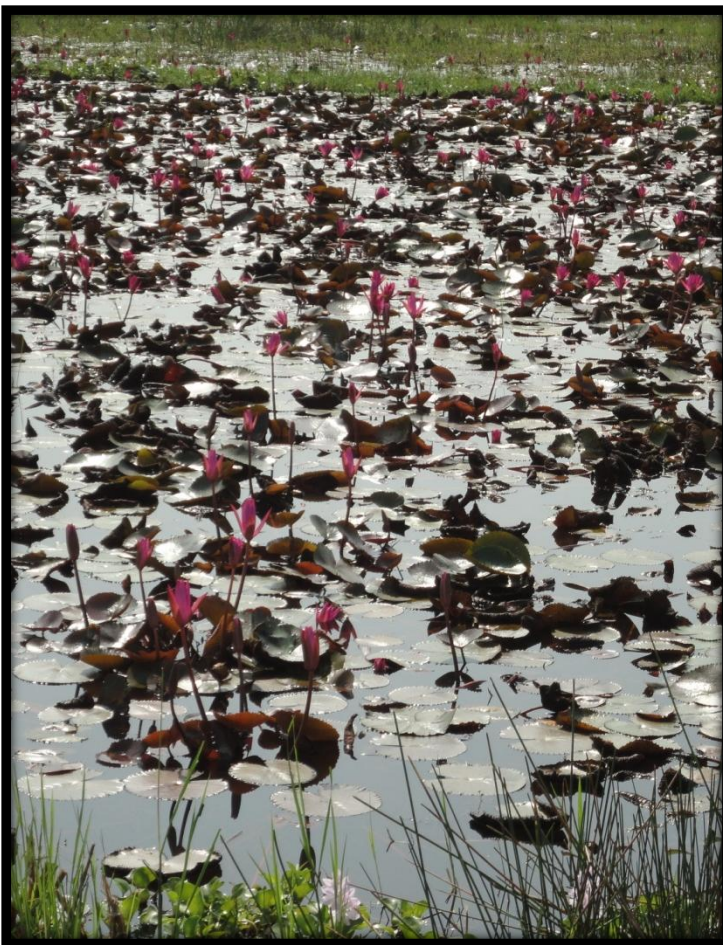


(Dr. S. K. Dutta)  
Principal,  
Dhing College, Dhing

**Principal**  
**Dhing College**  
**Dhing- 782123**

# Flora

An annual newsletter of Department of Botany of Dhing College  
Volume II (2017)



## HIGHLIGHTS



### SCIENCE

- ◆Seminar on Herbal Science
- ◆Seminar on Ethnobotany

### ◆ STUDENTS

- ◆Visit to Research Stations
- ◆Certificate Course
- ◆Field Visits/ Study Tours
- ◆Attending Seminars/Workshops

### NATURE

- ◆Planting Saplings
- Celebrating Relevant Days
- ◆World Environment Day

*Edited by*  
**Dr. Sanjeeb Kumar Nath**  
**Associate Professor, Department of Botany**  
**Dhing college Dhing Nagaon Assam**

**Educational Excursion cum Field Study to Shillong (Meghalaya)**

**Organized by Department of Botany, Dhing College**

**From 25-10-2017 to 30-10-2017**

**Total Number of students: 23**

**Number of Teacher-in-charge & Escort: 05**



### **Indigenous Knowledge**

The increasing attention indigenous knowledge is receiving by academia and the development institutions has not yet led to a unanimous perception of the concept of indigenous knowledge. Indigenous knowledge (IK) is the local knowledge – knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private firms. Indigenous Knowledge is (...) the information base for a society, which facilitates communication and decision-making. Indigenous information systems are dynamic, and are continually influenced by internal creativity and experimentation as well as by contact with external systems. While using similar definitions, the conclusions drawn by the various authors are, controversial in a number of aspects. The implications of this will be discussed in the section "Public debate on indigenous knowledge".

#### **Importance of Indigenous Knowledge**

In the emerging global knowledge economy a country's ability to build and mobilize knowledge capital, is equally essential for sustainable development as the availability of physical and financial capital. (World Bank, 1997) The basic component of any country's knowledge system is its indigenous knowledge. It encompasses the skills, experiences and insights of people, applied to maintain or improve their livelihood.

**Significant contributions to global knowledge have originated from indigenous people**, for instance in medicine and veterinary medicine with their intimate understanding of their environments. Indigenous knowledge is developed and adapted continuously to gradually changing environments and passed down from generation to generation and closely interwoven with people's cultural values. Indigenous knowledge is also the social capital of the poor, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives.

Today, many **indigenous knowledge systems are at risk of becoming extinct** because of rapidly changing natural environments and fast pacing economic, political, and cultural changes on a global scale. Practices vanish, as they become inappropriate for new challenges or because they adapt too slowly. However, many practices disappear only because of the intrusion of foreign technologies or development concepts that promise short-term gains or solutions to problems without being capable of sustaining them. The tragedy of the impending disappearance of indigenous knowledge is most obvious to those who have developed it and make a living through it. But the implication for others can be detrimental as well, when skills, technologies, artifacts, problem solving strategies and expertise are lost.

**Indigenous knowledge is part of the lives of the rural poor**; their livelihood depends almost entirely on specific skills and knowledge essential for their survival. Accordingly, for the **development process**, indigenous knowledge is of particular relevance for the following **sectors and strategies**:

- Agriculture
- Animal husbandry and ethnic veterinary medicine
- Use and management of natural resources
- Primary health care (PHC), preventive medicine and psychosocial care
- Saving and lending
- Community development
- Poverty alleviation

UGC sponsored State Level Conference on **HERBAL MEDICINE: A RATIONAL APPROACH IN HEALTH CARE SYSTEM WITH SPECIAL REFERENCE TO NORTH-EAST INDIA** held at Dhing College on 19th June, 2017.

UGC sponsored State Level Conference on **PROSPECT OF APPLIED ETHNOBOTANY IN NORTH EASTERN REGION OF INDIA** held at Dhing College on 21st June, 2017.

***Members of Editorial Board***

Pratul Chandra Sarma

Anju Deka Bora

Dr. Monoj Kumar Saikia

Dr. Sanjeeb Kumar Nath

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# Flora

An annual newsletter of Department of Botany of Dhing College  
Volume III (2018)



## HIGHLIGHTS



## SCIENCE



## STUDENTS

- ◆ Visit to Research Stations
- ◆ Certificate Course
- ◆ Field Visits/ Study Tours
- ◆ Attending Seminars/Workshops

## NATURE

- ◆ Planting Saplings
- Celebrating Relevant Days
- ◆ World Environment Day

***Edited by***  
**Dr. Sanjeeb Kumar Nath**  
**Associate Professor, Department of Botany**  
**Dhing college Dhing Nagaon Assam**

**Educational Excursion cum Field Study to Panimur District Dima Hasao (Assam)**

**Organized by Department of Botany, Dhing College**

**From 06-02-2018 to 06-02-2018**

**Total Number of students: 43**

**Number of Teacher-in-charge & Escort: 05**



Panimur Waterfalls



**Educational Excursion cum Field Study to NEDFI, Khetri (Assam)**

**Organized by Department of Botany, Dhing College**

**From 10-04-2018 to 10-04-2018**

**Total Number of students: 15**

**Number of Teacher-in-charge & Escort: 03**



**Educational Excursion cum Field Study to Regional Agricultural Research Station, Shillongani, Nagaon (Assam)**

**Organized by Department of Botany, Dhing College**

**From 5-11-2018 to 5-11-2018**

**Total Number of students: 20**

**Number of Teacher-in-charge & Escort: 02**



## **Herbarium**

First of all you must know the definition of herbarium “The herbarium is a place where dried and mounted specimens are stored according to any recognized system of classification and are available for any reference”. It can also be considered as “a warehouse of information about plant diversity”.

### **Functions of Herbarium**

- Plants specimens are permanently preserved in herbaria, and hence they are the major sources of information about plant diversity and vegetation.
- A representation of all species of a genus, or all the genera of a family may be gathered from the herbarium.
- Preserved plant specimens of herbaria are used in almost all types of taxonomic research programmes of fundamental as well as applied nature.
  - The classification of the world’s flora is based mainly on the herbarium specimens.
  - A list of the endangered species of any region may be prepared after herbarium consultation.
  - A list of the plant species with their medicinal as well as other ethnobotanical values may be prepared after herbarium consultation. A herbarium preserves national plant wealth including type material.
- Limited individual collections are identified only with the help of herbaria.
- Monographs of genera or families are prepared only after the study of herbarium specimens.
- A herbarium can give knowledge about the distribution and occurrence of plant species.
  - Big herbaria organise training courses for young generation and thus provide job opportunities to young workers.
- Herbarium material is used in studying the palynology, anatomy and chemical aspects of desired plants.
- Herbaria provide loan of specimens for study at other institutions.
- Herbaria provide scientific information to the public regarding the plants.

**Information of some important herbaria are mentioned below**

- 1) Herbarium of Royal Botanic Gardens, Kew, Richmond, Surrey, UK.
- 2) Herbarium of British Museum of Natural History, London, UK.
- 3) Herbarium of New York Botanical Garden, New York, U.S.A.
- 4) Herbarium of Missouri Botanical Garden, St. Louis, U.S.A
- 5) Herbarium of Museum National d' Histoire Naturelle, Paris, France,
- 6) Herbarium of Komarov Botanical Institute, St. Petersburg, Russia, Block 3 Plant Taxonomy – Tools and Evidences 34
- 7) Central National Herbarium (Herbarium of Indian Botanic Garden, (earlier called Calcutta Herbarium), Howrah, India.
- 8) Herbarium of Forest Research Institute, Dehradun, India.
- 9) Southern Circle Herbarium of BSI, (earlier called the Madras Herbarium) Coimbatore, India.
- 10) Western Circle Herbarium, of BSI, Pune (Poona), India.
- 11) Eastern Circle Herbarium, of BSI, Shillong, (earlier called the Assam Herbarium) Meghalaya, India.
- 12) Herbarium of National Botanical Research Institute, Lucknow, India.
- 13) Herbarium of Indian Agricultural Research Institute, New Delhi, India.

***Members of Editorial Board***

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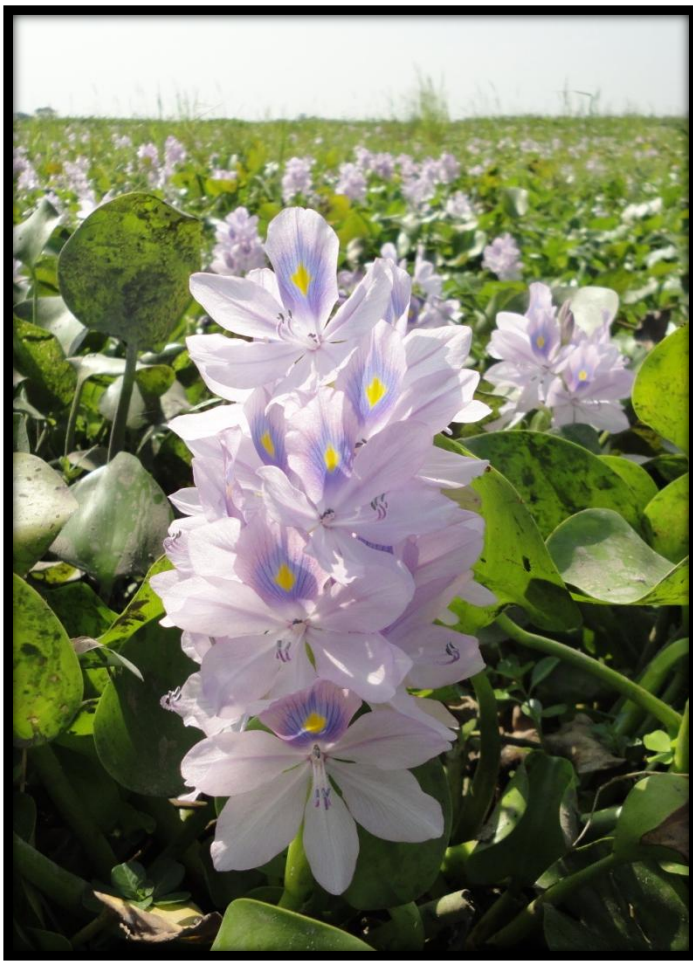


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# Flora

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Volume IV (2019)



## HIGHLIGHTS



### SCIENCE STUDENTS

- ◆ Visit to Research Stations
- ◆ Certificate Course
- ◆ Field Visits/ Study Tours
- ◆ Attending Seminars/Workshops

### NATURE

- ◆ Planting Saplings
- Celebrating Relevant Days
- ◆ World Environment Day

*Edited by*  
**Dr. Sanjeeb Kumar Nath**  
**Associate Professor, Department of Botany**  
**Dhing college Dhing Nagaon Assam**

**Educational Excursion cum Field Study to Silghat, Nagaon (Assam)**

**Organized by Department of Botany, Dhing College**

**From 02-11-2019 to 02-11-2019**

**Total Number of students: 20**

**Number of Teacher-in-charge & Escort: 02**



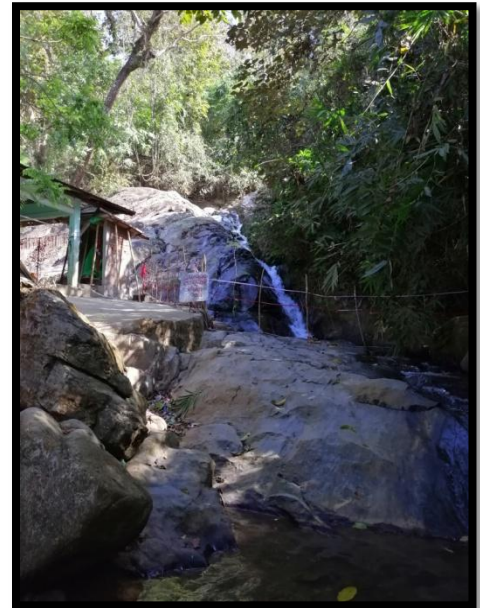
**Educational Excursion cum Field Study to Amsoi (Assam)**

**Organized by Department of Botany, Dhing College**

**From 12-02-2019 to 12-02-2019**

**Total Number of students: 26**

**Number of Teacher-in-charge & Escort: 03**



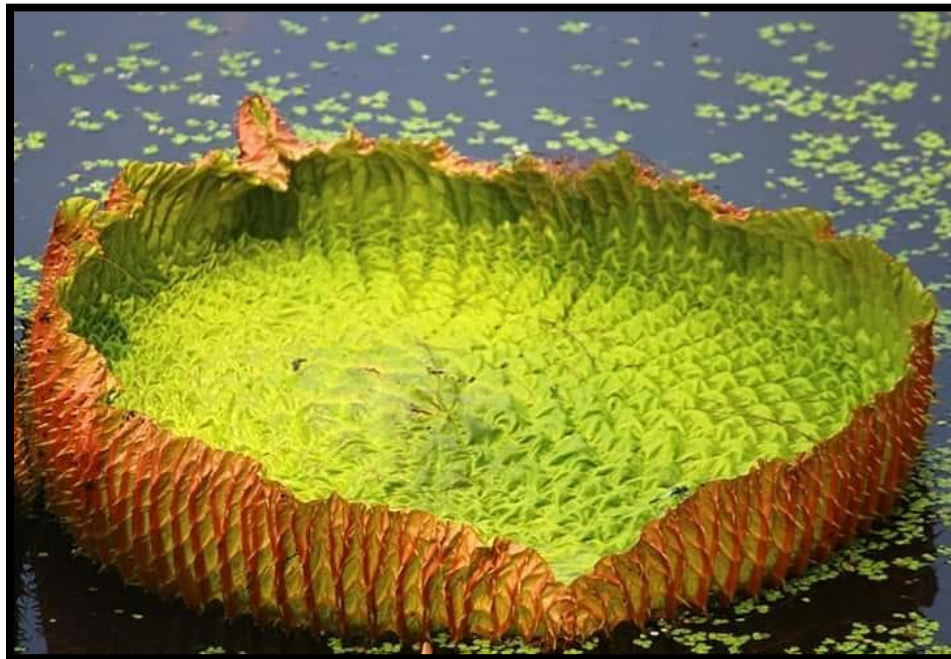
**Educational Excursion cum Field Study to Kolkata & Mandarmani (West Bengal)**

**Organized by Department of Botany, Dhing College**

**From 01-03-2019 to 07-03-2019**

Total Number of students: 22

Number of Teacher-in-charge & Escort: 04



### **Botanical Garden**

A botanical garden is essentially a collection of living plants maintained for both pure and functional studies. According to Jackson (1999), "A botanic garden is an institution holding a documented collection of living plants for the purpose of scientific research, conservation, display and education". It is a place for ex-situ conservation, as well as a place where economically and endangered plants are displayed for purpose of research and education. Public parks and gardens are centres of aesthetic beauty and serve as places of recreation. The Botanic Garden is a living repository of plants arranged and maintained on scientific basis with accurate taxonomic identification of plants. A good botanic garden explains:

- importance of afforestation;
- evolution of cultivation of plants;
- horticultural practices for a layman; and
- distributes guides to go around the garden to look for plants of our liking and It also enables people to get interested in gardening.

### **Role of a Botanic Garden**

A botanic garden makes us to simply enjoy the beauty and variety of nature. The pleasure of admiring turns us into good naturalists. We can also appreciate the beauty of foliage and flowers. The role of botanic gardens is to:

- cultivate and maintain plants of interest on scientific basis;
- show vegetation of the world on geographical characteristics i.e. Himalayan flora, Alpine flora;
- maintain plants which are in danger of extinction and save species;
- plan germplasm collection;
- serve as research centres in various fields;
- facilitate taxonomic studies by preserved and live plants;
- promote educational programmes and research in experimental botany and ornamental horticulture; and
- exchange of material – live, dried and "Index semidum" i.e. list of seeds offered for exchange.

### **Botanic Gardens and Conservation**

The UN Convention on Environment and Development held at Rio-de-Janerio in June 1992 led to the signing of the "Convention on Biodiversity" by 187 countries by April 2002. As many as 10 Articles of the CBD have emphasized the important role of botanic gardens. These are significant for developing "Global Strategies for Conservation". This adds to the major roles of botanic gardens listed above.

## THE HISTORY OF BOTANTICAL GARDENS

Botanical gardens are often run by universities or scientific research organisations. Their role is to maintain documented collections of living plants for the purposes of conservation, scientific research, display, and education.

The origin of botanical gardens can be traced back to European medieval medicinal gardens known as physic gardens. The Chelsea Physic Garden in London was founded in 1673 to study the medicinal qualities of plants and it became one of the most important centres of botany and plant exchange in the world.

As time has moved forward, botanical gardens have responded to the interests of botany and horticulture. Presently most botanical gardens display a mix of themes; having strong connections with the public, there is the opportunity to provide visitors with information relating to the environmental issues facing the world, especially those relating to plant conservation.

Recently botanic gardens have seen a revival as scientific institutions due to the emergence of the conservation movement. They are now seen as hugely important due to their existing collections and the scientific knowledge they possess in the propagation of plant species. There are now estimated to be 1775 botanic gardens in 148 countries around the world with many more under construction.

### ***Members of Editorial Board***

Pratul Chandra Sarma

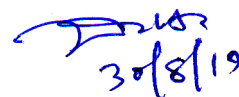
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Principal,

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Volume V (2020)



HIGHLIGHTS  
SCIENCE  
STUDENTS

- ◆ Visit to Research Stations
- ◆ Field Visits/ Study Tours
- ◆ Attending Seminars/Workshops

NATURE

- ◆ Planting Saplings
- Celebrating Relevant Days
- ◆ World Environment Day
- Organizing Webinars

*Edited by*  
**Dr. Sanjeeb Kumar Nath**  
**Associate Professor, Department of Botany**  
**Dhing college Dhing Nagaon Assam**

## National and International Webinar held at Dhing College

Organized by Department of Botany, Dhing College

From 08-09-2020 to 28-10-2020

Total Number of participants: 75

**DHING COLLEGE**  
(AFFILIATED TO GAUHATI UNIVERSITY)  
DHNG-782123, NAGAON, ASSAM

**NATIONAL WEBINAR ON**  
**JOB, PLACEMENT & ENTREPRENEURSHIP**

ORGANISED BY DEPARTMENT OF BOTANY, DHING COLLEGE  
IN ASSOCIATION WITH IQAC, DHING COLLEGE & ECO-CLUB, DHING COLLEGE

**Chief Guest**  
Prof. M. R. Sinha  
Vice Chancellor, Netaji Subhas University, Jharkhand

**Resource Person**  
Dr. A. K. Shrivastava  
HOD, Department of Botany & Microbiology, Govt. D.T. PG College, Utai, Durg, Chhattisgarh

**Inaugurator**  
Dr. Biman Hazarika  
Principal, Dhing College

**Co-ordinator**  
Dr. Sanjeeb Kr. Nath

8<sup>th</sup> SEPTEMBER, 2020 | 11: AM

WhatsApp Group Link  
Telegram Group Link

Registration closes: 07.09.2020, 3 PM

E-certificates will be issued to all the registered participants.

**1<sup>st</sup> Webinar (National)  
Organised by Dhing College**

The Covid 19 pandemic and subsequent lockdown has necessitated need to know different aspects of Job, Placement and Entrepreneurship in the present scenario. To be precise, the pandemic almost certainly usher in broader effects on the above mentioned different aspects and the present webinar tried to throw light on the same.

The webinar was formally inaugurated by the respected Dr. Biman Hazarika, Principal of Dhing College, who welcomed the Chief Guest, resource person and the participants present for an intense discussion of a burning problem of today and covid 19 pandemic. The chief Guest and resource person, Professor Manoj Ranjan Sinha Vice Chancellor of Netaji Shubas University, Jamsedpur, Jharkhand and Dr. Awadhesh Kumar Shrivastava HOD Department of Botany and Microbiology, Govt. D.T. PG College, Utai, Durg, Chhattisgarh was introduced to the participants by Dr. Sanjeeb Kumar Nath, Associate Professor, Department of Botany and the co-ordinator of the webinar.

**NATIONAL WEBINAR ON**  
**BIODIVERSITY LOSS: RESTORATION & CONSERVATION STRATEGIES**

**Resource Person**

**Dr. Biman Hazarika**  
Principal  
Dhing College

**Dr. Bijoy Neog**  
Professor  
Department of Life Sciences  
Dibrugarh University

**Dr. Pradip Ch. Deka**  
Principal  
Sipajhar College

**Organized by**  
Department of BOTANY  
Dhing College, Nagaon, Assam  
Department of ZOOLOGY  
Sipajhar College, Darrang, Assam  
In collaboration with Eco-Club, Dhing College

**Co-ordinator**  
Dr. S K Nath

**Meeting Platform**  
YouTube

**Date and time**  
23<sup>rd</sup> September  
10:00 AM

**Dr. M K Saikia**  
Assoc. Prof. Botany,  
Dhing College

**Dr. D J Saikia, HOD,**  
Zoology, Sipajhar College

**Mrs. M. Mahanta**  
Convener

WhatsApp Link: [CLICK HERE](#)

Registration Link: [PLEASE CLICK HERE](#)

Contact: zoologysipajharcollege@gmail.com

Registration closes: 22<sup>nd</sup> September

E-certificates will be provided

**3<sup>rd</sup> Webinar (National)  
Organised by Dhing College**

The Covid 19 pandemic and subsequent lockdown has renewed the polluted earth and necessitated need to know about the status of biodiversity in the present scenario. To be precise, the pandemic almost certainly usher in broader effects on the above mentioned different aspects and the present webinar tried to throw light on the same.

The webinar was formally inaugurated by the respected Principal of Dhing College, Dr. Biman Hazarika who welcomed the Chief Guest and resource person, and the participants present for an evening of intense and thorough discussions on writing. The resource person, Prof. Bijoy Neog, Department of Life Sciences, Dibrugarh, Assam was introduced to the participants by Dr. Sanjeeb Kumar Nath, Associate Professor, Department of Botany and the Co-ordinator of the webinar.

## National and International Webinar held at Dhing College

Organized by Department of Botany, Dhing College

From 08-09-2020 to 28-10-2020

Total Number of participants: 75



NATIONAL WEBINAR  
ON

**YOGA - THE NATURAL IMMUNITY  
BOOSTER**



Dr. Biman Hazarika  
Principal  
Dhing College



Dr. S K Nath  
Coordinator



Dr. Binod Kashyap  
National Joint General Secretary  
International Naturopathy  
Organization (INO)



Mrs. A D Bora, HOD,  
Botany, Dhing College

Organized by  
Department of BOTANY  
Dhing College, Nagaon, Assam  
&  
Arogya Yoga Kendra, Dhing  
Dhing, Nagaon, Assam

In collaboration with Eco-Club, Dhing College



Dr. M K Saikia  
Assoc. Prof, Botany,  
Dhing College

Meeting Platform  
YouTube



Rupa Kar  
Instructor & Co-founder of Arogya Yoga  
Kendra, Dhing  
Block Co-Ordinator of  
International Naturopathy Organization (INO)

Date and time  
5<sup>th</sup> October,  
11:00 AM

WhatsApp Link: [CLICK HERE](#)

Registration Link: [PLEASE CLICK HERE](#)

Contact: botanydhingcollege@gmail.com

Registration closes: 04<sup>th</sup> October

E-certificates will be provided

COVID-19 pandemic outbreak has brought the entire world on its knees. To maintain the optimum health conditions the body's natural defense system should be enhanced. As Covid-19 scare grapples the whole country, people are getting concerned about their health. Regular practice of yoga has shown effective results. Different asanas boost immunity, build the body's strength, increase energy levels, bring down anxiety and stress, infuses positivity and freshness in the mind.

The webinar was formally inaugurated by the respected Principal of Dhing College, Dr. Biman Hazarika who welcomed the resource person, and the participants present about the history of yoga and highlighted the need in the present context. The resource person Dr. Vinod Kashyap and Yoga instructor Rupa Kar were introduced to the participants by Dr. Sanjeeb Kumar Nath, Associate Professor, Department of Botany and the co-ordinator of the webinar.

**7th Webinar (National)  
Organised by Dhing College**

**International Webinar on**  
**POLAR WARMING IMPACTS & IMPLICATIONS FOR US**  
 Organised by Department of Botany, Dhing College in association with IQAC & Eco-Club, Dhing College

					
<b>INAUGURATOR</b>	<b>RESOURCE PERSON</b>	<b>RESOURCE PERSON</b>	<b>CO-ORDINATOR</b>		
<b>Dr. Biman Hazarika,</b> Principal, Dhing College, Dhing	<b>Mr. Rituraj Phukan,</b> National Coordinator for Biodiversity, The Climate Reality Project India, COO, Walk For Water Secretary General, Green Guard Nature Organization	<b>Dr. Guy R Tanner,</b> B. Sc., Ph.D., GRIC FCQI, Chairman, The Human Nature Network	<b>Dr. Sanjeeb Kr. Nath,</b> Assoc. Prof., Dept. of Botany, Dhing College	<b>Anju Deka Bora,</b> HoD, Dept. of Botany, Dhing College	<b>Dr. Manoj Kr. Saikia,</b> Assoc. Prof., Dept. of Botany, Dhing College

**28th October, 2020 at 03:00 P.M. (IST)**

The webinar and other information will be provided in WhatsApp group. Interested participants are requested to join. E-certificate will be provided to all attending participants.

<b>Meeting Platform</b>	<b>Registration Form Link</b>	<b>Contact Info.</b>
 	 <b>WhatsApp Group Link-1</b>  <b>WhatsApp Group Link-2</b>  <b>Youtube Streaming Link</b>	Email Id: botanydhingcollege@gmail.com Mobile No: +917002694736

**1<sup>st</sup> Webinar(International)  
Organised by Dhing College**

Directly or indirectly, the pandemic has affected human life and the global economy, which ultimately affected the environment and climate. It reminds us how we have neglected the environmental components and enforced human induced climate change. Moreover, the global response of COVID-19 also teaches us to work together to combat against the threat to mankind. Though the impacts of COVID-19 on the environment are short-term, united and proposed time-oriented effort can strengthen environmental sustainability and save the earth from the effects of global climate change. The Covid 19 pandemic and subsequent lockdown has necessitated need to know about the polar warming impacts and implications on us. To be precise, the pandemic almost certainly usher in broader effects on the above mentioned different aspects and the present webinar tried to focus on it.

The webinar was formally inaugurated by the respected Principal of Dhing College, Dr. Biman Hazarika who welcomed the Chief Guest and resource person, and the participants present for an evening of intense and thorough discussions on writing. The resource persons, Dr. Guy R Tanner and Rituraj Phukan were introduced to the participants by Dr. Sanjeeb Kumar Nath, Associate Professor, Department of Botany and the co-ordinator of the webinar.

## Scope of microbiology

### **1. Ecology and environment:**

- Bacteria are primary decomposers – recycle nutrients back into the environment (sewage treatment plants)
- Winogradsky and M. Beijerinck studied soil microbes and their role in the biochemical cycles of sulfur, carbon, nitrogen etc.
- Insect Pest Control: some bacteria are used as bio-pesticides to control Insects pest. Eg. *Bacillus thuringiensis*
- Bioremediation: microbes are also used to clean up pollutants and toxic wastes. Eg. *Pseudomonas putida*; used to remove petroleum spill.

### **2. Food microbiology:**

- Microbes are used in various food and dairy industries to produce various food products
  1. cheese, pickles, sauerkraut, green olives
  2. yogurt, soy sauce, vinegar, bread
  3. Beer, Wine, Alcohol
- Pasteur (1856) describe fermentation technology

### **3. Medicine: clinical and pharmaceutical microbiology**

- Disease Treatment: Microbes are used to produce Antibiotics
- Eg. *Penicillium notatum* (Penicillin); discovered by Alexander Fleming (1928)
- Bacteria also synthesize vitamins which is needed for our body.
- Example: *E. coli*
- Vitamin-B; needed for metabolism
- Vitamin-K; needed for blood clotting
- Gene therapy for treatment of genetic diseases

### **4. Vaccine and immunology:**

- Vaccine activates immune response.
- Edward Jenner inoculated people with cowpox to protect against smallpox.
- Pasteur developed the rabies vaccine (1885).
- Von Behring and Kitasato (1890) produced toxoid vaccine against diphtheria and tetanus.
- Metchnikoff (1884) described role of phagocytic cell in defense.

### **5. Genetic engineering:**

- Microorganisms are used in Recombinant DNA Technology or Genetic Engineering to manipulate their gene for the production of useful products such as enzymes, hormones, interferons, etc
- Microorganisms are used as model organism in molecular biology.

### **6. Biochemistry and physiology:**

- Microorganisms are used as a model for study of many biochemical and physiological processes.

### **7. Industrial microbiology:**

- Microbes are used in economic and industrial purposes.
- Biotechnology, fermentation technology, food and beverages etc are now established on large industrial scale for income.
- Patients right of procedure

### **8. Agriculture microbiology:**

- Genetic engineering is used for the production of transgenic plants and animals.
- Animal and plant improvement by biotechnology for better production, resistant to

environmental fluctuation.

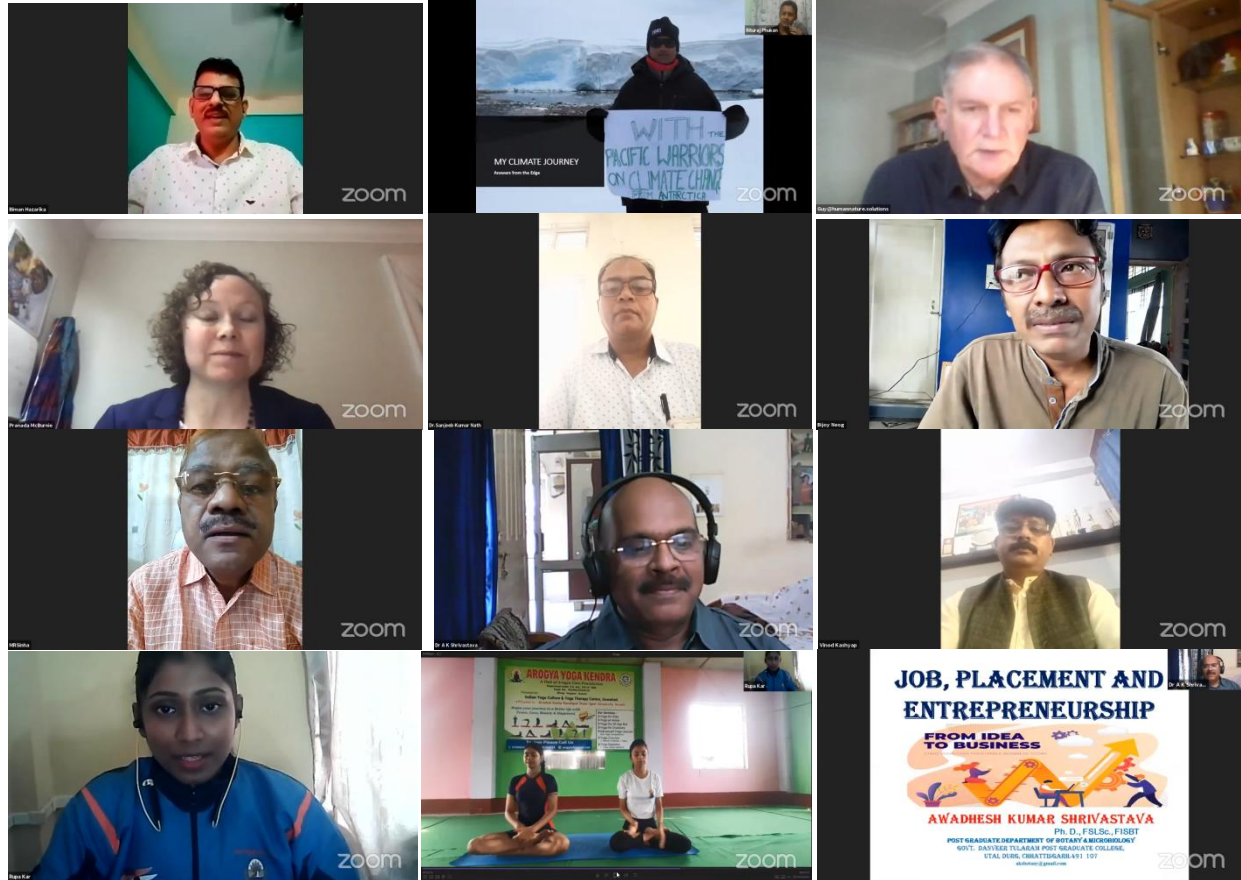
- Molecular farming: transgenic animal or plant are used as bioreactor for mass production

### 9. Geochemical microbiology;

- Bioleaching: recovery of minerals from low grade ores
- Role of microorganism in geochemical cycle

### 10. Exomicrobiology:

- Exploring for life in outer space




Screenshot of the national and international webinars organized by Department of Botany Dhing College

### Members of Editorial Board

Anju Deka Bora  
Dr. Monoj Kumar Saikia  
Dr. Sanjeeb Kumar Nath

### Editorial

It is with great pleasure we are presenting the Department of Botany, Dhing College newsletter the “Flora” to our esteemed readers. The scope of the newsletter is to enhance the scientific aspect for undergraduate students of Botany and also to highlight the various innovative activities of the Department which has been carried out throughout the year. This a initiative on our part.

  
(Sri Sujit Kr. Sarmah)  
Principal i/c  
Dhing College, Dhing  
Principal i/c  
Dhing College  
Dhing- 782103

# Flora

An annual newsletter of Department of Botany of Dhing College  
Volume VI (2021)



## HIGHLIGHTS



### SCIENCE

- ◆ Seminar on 'When ozone is gone'
- ◆ Interactive sessions with eminent scientists
- ◆ Interactive sessions with research scholars
- ◆ Hands on training in 'Molecular Biology'

### STUDENTS

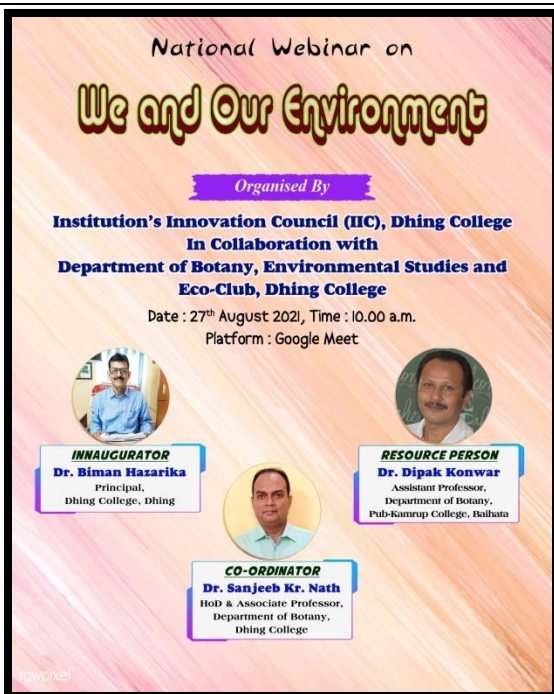
- ◆ Visit to Research Stations
- ◆ Skill training programmes
  - ◆ Certificate Course
  - ◆ Field Visits/ Study Tours
- ◆ Attending Seminars/Workshops

### NATURE

- ◆ Planting Saplings
- ◆ Celebrating Relevant Days
  - ◆ World Environment Day

***Edited by***  
**Dr. Sanjeeb Kumar Nath**  
**Associate Professor, Department of Botany**  
**Dhing college Dhing Nagaon Assam**

**National Webinar held at Dhing College**  
**Organized by Department of Botany, Dhing College**  
**From 27-08-2021 to 28-08-2021**  
**Total Number of participants: 50**



**Introduction:** In the present day context and the Covid 19 pandemic and subsequent lockdown has necessitated need to know about we and our environment in the present scenario.

**Objectives:**

To study the direct and indirect effects of the pandemic on environment

To reflect upon the role of the various organizations both government and non-governmental on it in the present status of environment.

The webinar was formally inaugurated by the respected Principal of Dhing College, Dr. Biman Hazarika. The resource person, Dr. Dipak Konwar, Assistant Professor, Department of Botany, Pub Kamrup College, Baihata, Assam and Dr. Konwar was introduced to the participants by Dr. Sanjeeb Kumar Nath, Associate Professor, Department of Botany and the Co-ordinator of the webinar.

Dr. Saharia focused on we and our environment. The session ended with curious queries from the participant's end various aspects of Environment.

**Introduction:** The Covid 19 pandemic and subsequent lockdown has renewed the status of the environment and necessitated need to know about it in the present scenario.

**Objectives:**

To study the direct and indirect effects of the pandemic on environment

To reflect upon the role of the various organizations both government and non-governmental on it in the present status of environment.

The webinar was formally inaugurated by the respected Principal of Dhing College, Dr. Biman Hazarika. The resource person, Dr. Siba Saharia, HOD, Department of Botany, Nowgong College (Autonomous) Assam and Dr. Saharia was introduced to the participants by Dr. Sanjeeb Kumar Nath, Associate Professor, Department of Botany and the Co-ordinator of the webinar.

Dr. Saharia focused on the scope, importance and multidisciplinary nature of Environmental Studies. The session ended with curious queries from the participant's end various aspects of Environment.

## **Herbal Garden**

Herb gardens are beautiful and beneficial. This site is dedicated to providing information about herb gardens, organic gardening, information on growing herbs, flowers, vegetables and your entire landscaping. Crafts made with herbs can fill your home with sweet fragrance and healthful products, such as bath salts, essential oils and potpourri. Don't search the net looking for herb gardens, we have all the info on herb gardens right here that you will ever need!

Establishment of Herbal garden is a part of the house hold landscape throughout the world since time immemorial and all such gardens are often valued for their essence and beauty. The main aim of the herbal garden is to preserve and promote the medicinal values of the plants which grow mostly wild, in our surrounding and whose properties are beneficial in maintaining a balance between man and nature. The herbal garden generally consists of all the herbs which have medicinal and aromatic properties. Herbal gardens are the precious source of raw material for medicinal remedies used in primary health care. Presently medicinal and aromatic plants are becoming increasingly economically important due to growing demand for herbal products in the domestic and global market and over 90% of the medicinal plants used by pharmaceutical industry are harvested from the wild in an unsustainable manner. As a result of destructive harvesting of medicinal plants and loss and fragmentation of natural habitats majority of the species now in red list of the international union of conservation of nature (IUCN) Both the folk medicinal culture and the codified classical health system of medicine is eroding due to economic, cultural and political pressure not because they are in-effective. Numbers of advantages will be gained from the establishment of herbal garden as is ready fresh natural resource available for ingredients medicinally. Keeping in view the importance of herbal garden the primary objective of the project is to set up Botanical Garden for ornamental and medicinal plant to demonstrate the importance of these plants for the environment.

Moreover the large amount of biodegradable organic wastes are generated everywhere. So the production of biodegradable organic wastes and its safe disposal has become the current problem of today. Hence there is a growing realization that adoption of ecological and sustainable practices can lead to environmental protection. This biodegradable wastes can be converted to compost. The compost produced can be used in the nursery beds. The compost produced will also be sold to generate income and make the project self sustaining in the long run. The saplings grown in the nursery will also be sold.

### **UNITS OF HERBAL GARDEN**

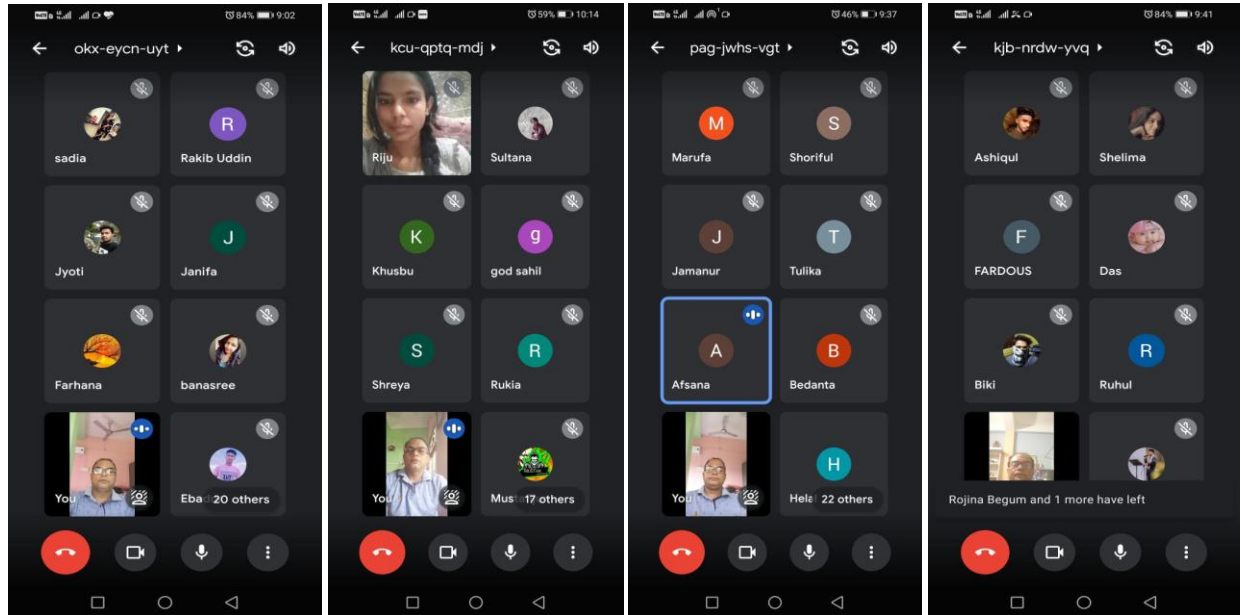
- Herbal plant introduction unit
- Herbal potted plant unit
- Experimental unit of Herbal plants
- Climbers unit of Herbal plants
- Germplasm repositories of Herbal plants
- Propagation sites of Herbal plants
- Herbal plant arboretum

### **OBJECTIVES**

- To introduce the plants from different geographical zones for having medicinal importance at commercial level.
- To design the agro-techniques for cultivation and propagation of medicinal plants and standardize them.
- Document and inventorise all the medicinal plants growing in herbal garden on the basis of their

passport data.

- Raising the biomass (ex-situ conservation) for research and teaching departments and for exchange programmes.
- To study and assess various environmental stresses on the medicinal plants affecting their secondary metabolites.
- To establish Germplasm bank , seed bank /gene bank for all the accessions collected and transplanted from various agro-climatic zones.



Screenshot of online classes of Department of Botany, Dhing College

### ***Members of Editorial Board***


Dr. Monoj Kumar Saikia

Dr. Sanjeeb Kumar Nath

### ***Editorial***

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(Dr. Biman Hazarika)  
Principal,  
Dhing College, Dhing  
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