

### **Project Study: Field Study and Report Submission**

- Topic:** i) A Study on the Curriculum of Vidya: The Living School, Subahi, Dhemaji, Assam  
ii) A Study on Text Books of Vidya: The Living School, Subahi, Dhemaji, Assam  
iii) A Study on Methods of Teaching of Vidya: The Living School, Subahi, Dhemaji, Assam  
iv) A Study on the Management of Vidya: The Living School, Subahi, Dhemaji, Assam

**Paper:** Discipline Specific Elective paper DSE 8

**Honours course:** BA in Education

**Semester:** 6<sup>th</sup> Semester

**Field:** Vidya: The Living School, Subahi, Dhemaji, Assam

**Date of study:** 02/04/2023

**Total students:** 29

**Total Report received:** 29

### **A BRIEF SUMMARY OF THE FIELD STUDY**

In BA 6<sup>th</sup> Semester Education (Honours), Project Report is an Honours Discipline Specific Elective paper DSE 8 of 80 marks. Based on the units given in the paper, the Department assigned four topics:

- i) A Study on the Curriculum of Vidya: The Living School, Subahi, Dhemaji, Assam
- ii) A Study on Text Books of Vidya: The Living School, Subahi, Dhemaji, Assam
- iii) A Study on Methods of Teaching of Vidya: The Living School, Subahi, Dhemaji, Assam
- iv) A Study on the Management of Vidya: The Living School, Subahi, Dhemaji, Assam

A total number of 29 students of BA 6<sup>th</sup> semester, 2022-2023 session were assigned to collect data on the above mentioned topics from Vidya: The Living School, Subahi, Dhemaji, Assam. All the 29 students submitted the report to the department.



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**Project Report**  
**Department of Chemistry**  
**Manohari Devi Kanoi Girls' College**

**Year 2022-23**

**Topics:**

1. Comparative study of mechanical strength and biodegradability of high strength binary blend films of potato starch – poly (vinyl alcohol) and rice starch – poly (vinyl alcohol).  
(Supervised by **Dr. Shreemoyee Bordoloi**)  
Total students: 5
2. Biosynthesis of copper nanoparticles using plant extract and-dye degradation of congo red, crystal violet and rhodamine B.  
(Supervised by **Rajjyoti Bordoloi**)  
Total students: 5
3. Green synthesis of BSA-Ag nanoparticles using flower extract of *Nyctanthes arbor tristis* and evaluation of their biological properties  
(Supervised by **Dr. Nishi Gandha Gogoi**)  
Total students: 3
4. Analysis of water samples from different resources  
(Supervised by **Acharjee Konwar**)  
Total students: 5

**Paper:** CHEMISTRY-DSE-603

**Core-Course:** Chemistry

**Semester:** 6<sup>th</sup> Semester

**Field:** Chemistry

**Duration of Study:** February to June 2023

**Total Students:** 18

## Summary of the project reports:

**Topic:** Comparative study of mechanical strength and biodegradability of high strength binary blend films of potato starch – poly (vinyl alcohol) and rice starch – poly (vinyl alcohol).

**(Supervised by Dr. Shreemoyee Bordoloi)**

The ever increasing demand for non biodegradable polymers is a big concern for the environmentalists. Non-biodegradable polymers take hundreds of years to decompose. It further produces harmful toxins into the soil. Hence, people are moving towards more eco-friendly options like biodegradable polymers or “bioplastics”. In nature, starch is available as a macromolecule which is composed of linear amylose and branched amylopectin. Polyvinyl alcohol (PVA) is also a biodegradable synthetic material having high tensile strength and film-forming properties. Hence, blending starch with PVA in presence of glycerin as cross linking agent yields biodegradable and eco-friendly packaging material at low price. In this project work we have prepared biodegradable polymers from starch/PVA. FTIR study reveals the incorporation of starch into the PVA polymer matrices. Starch and PVA were taken in 3:7 ratio respectively.

**Topic:** Biosynthesis of copper nanoparticles using plant extract and dye degradation of congo red, crystal violet and rhodamine B.

**(Supervised by Rajjyoti Bordoloi)**

The development of benign and efficient approaches for treating toxic organic dyes is a challenge. In this work, we have prepared copper oxide nanoparticles by a simple, environment friendly green synthesis by using plant extract. After characterization of the synthesised nanoparticles we also studied about its efficiency on dye degradation of various organic dyes like congo red, crystal violet and rhodamine B. Cu Nanoparticle showed excellent efficiency on dye degradation.

**Topic:** Green synthesis of BSA-Ag nanoparticles using flower extract of *Nyctanthes arbor tristis* and evaluation of their biological properties

**(Supervised by Dr. Nishi Gandha Gogoi)**

In this work, we adopted a green method of synthesis of Silver nanoparticles, AgNPs. The dried flower extract of *Nyctanthes arbor tristis* serves as a reducing agent in reduction of  $\text{Ag}^+$  ions to  $\text{Ag}^0$  in nanoparticles. Bovine Serum Albumin, BSA, a protein is used as capping group in AgNPs synthesis method. BSA in the outer layer will increase the solubility of AgNPs in aqueous medium. This property is important to study the use of this AgNPs as drug candidate. The stabilized AgNPs are characterized by XRD, SEM-EDX and TEM analytical techniques. The fabricated nanomaterial is found to have a face centred cubic lattice. AgNPs have antioxidant

property as evaluated by DPPH assay. AgNPs are found to be effective against both gram-positive and gram-negative bacterial pathogens, that would have applications as nanomedicines and in food packaging materials as sensors for microbial contamination.

**Topic:** Analysis of water samples from different resources.

**(Supervised by Acharjee Konwar)**

By analysing the water sample of the region of Thevara we want to understand the quality of water used by the people of this region. Water quality refers to the chemical, physical, biological, and radiological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and or to any human need or purpose. It is most frequently used by reference to a set of standards against which compliance can be assessed. Water samples for the analysis were collected from different areas nearby Dibrugarh District from different sources like well, bore well, river, pond etc.. The samples were analysed for parameters like pH, electrical conductivity, dissolved oxygen, biological oxygen demand, chemical oxygen demand, total hardness, alkalinity, total dissolved salts, total suspended solids and chloride. The values of each parameter gave interesting values which therefore were used to determine the quality.

## Use of ICP tools:

Each student has submitted three copies of their dissertation and presented it through PowerPoint Presentation mode in front of an external observer.

Some photographs of the students while they were presenting their presentation



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## RESEARCH PROJECTS : FIELD VISIT AND REPORT SUBMISSION

Topic : A Report on Taxonomic field visit Kaziranga

Paper: BC204T, BC410P

Core Course: Core course 4, Core course 10

Semester: 2<sup>nd</sup> and 4<sup>th</sup> semester

Field: Kaziranga National Park ,Golaghat District

Date of study: 14<sup>th</sup> May and 15<sup>th</sup> May 2022

Total student: 21

Total report received: 21

### A BRIEF SUMMARY OF THE FIELD STUDY

An excursion always widens the practical knowledge about the materials that we study in our books and courses. It helps us to see the things and analyse properly.

We started our journey on 14<sup>th</sup> may 2022at around 6:00am from dibugarh MDKG COLLEGE by a bus. We had our breakfast at Jorhat then again began our journey andreached our destination by 12:45 pm. We stayed in Tesco the Resort for one night.

On 14<sup>th</sup> may 2022itself after having our lunch we went out for Orchid garden at Kaziranga. We spend about an hour or two at Orchid Garden. At orchid garden we came to know about different types of orchids along with some medicinal plants etc. After our visit to orchidgarden we went back to our resort.

Next day at around 7 am we left for kaziranga National Park. There we enjoyed our jeepsafari inside the National Park witnessing various flora and fauna. We went back toour resort again, packed our luggage and then we returned back. We had our lunch at mid road in exotic kitchen near sukhapha memorial museum. At around 7 pm we reached Dibrugarh.

#### ABOUT ORCHID GARDEN:

Kaziranga National Orchid and Biodiversity, Park established at 2 km distance from Kohora Charialspanning a wide area of 5.95 acres of land at Durogapur village is the largest orchid park added a pride to kaziranga. Around S00 varieties of orchids are found here collected from different parts of North EastIndian state. Besides, orchids Kaziranga National Orchid and Biodiversity Park houses 132 species of sourfruits and leafy vegetables, 12 species of cane, 46 species of bamboo and large variety of local fishes. Thefounder of this magnificent place is Akhil Gogoi.

#### About Kaziranga National park:

Applauded for its greater one-horned rhinoceros conservation efforts, Kaziranga National Park is located in the Golaghat and Nagaon district of Assam. The popular national park is also a UNESCO World Heritage Site and houses two-third of the total world population of greater one-horned rhinoceros. Apart from the one-horned rhinos, the national park that sprawls in an area of 430 sq km also boasts high density of tigers, and a large breeding ground for elephants, swamp deer, and wild water buffaloes. The national park is also recognized an Important Bird Area (IBA) making it

Not only an ideal wildlife sighting destination in India but a birdwatcher's paradise as well.

Botanical excursion widens the course of study and knowledge. It helped us to gain a pleasing experience and gave us an opportunity to be a part of this excursion.





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## RESEARCH PROJECTS : FIELD VISIT AND REPORT SUBMISSION

Topic : A Report on Taxonomic field visit Chroma Nursery

Paper: BC410P

Core Course: Core course 10

Semester: 4<sup>th</sup> semester

Field: Chroma Nursery

Date of study: 8<sup>th</sup> April 2024

Total student: 4

Total report received: 4

### A BRIEF SUMMARY OF THE FIELD STUDY

An excursion always widens the practical knowledge about the materials that we study in our books and courses. It helps us to see the things and analyse properly.

We started our journey on 8<sup>th</sup> April at around 11:30am from MDKG COLLEGE Dibrugarh. We reached our destination by 12:10 pm.

We spend about two hour or three at Chroma Nursery and Chroma Biotech LLP. At Chroma nursery our students came to know about different varieties of plants, gardening techniques and tissue culture techniques run by Chroma biotech tissue culture laboratory. Dr Amrita Kashyap Chaliha one of the managing partner and head of technical operations Chroma biotech LLP helped us a lot while we were looking at the nursery .She explained everything to us about different types of plants . She also took us to the tissue culture lab and explained all about tissue culture methods and our students had acquired immense knowledge about tissue culture lab, application, media, instrumentation room, diffent instruments etc.

#### About Chroma Nursery:

Chroma hydroponic nursery is one of the popular nursery and gardening store located in Mohanaghat ,South Amolapatty, Dibrugarh. Many varieties of plants are available there and all of them are kept separately in sections like Orchid section, medicinal, seasonal flowers tendril plants insectivorous plants section etc. The interesting thing about the lab is that all the people working there in the lab are women.

Botanical excursion widens the course of study and knowledge.It helped us to gain a pleasing experience and gave us an opportunity to be a part of this excursion.





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## **RESEARCH PROJECTS/FIELD REPORTS: REPORT SUBMISSION**

(2022-2023)

A. **Topic:** To submit a Project Report on any related topic based on theory syllabus.

**Paper:** Non-Chordates I: Protists to Pseudocoelomates(CBCS)

**Core-Course:** CC I

**Semester:** 1<sup>st</sup>

**Field:** Theoretical report (based on syllabus)

**Date of Study:** 16/08/2022

**Total Students:** 25

**Total Report Received:** 25

**Summary of the Reports:** the students were divided into three (3) groups under three teachers.

**Group no.1-** Project title "To study the Corals & Coral reef formation"

In this study, different types of Corals, their location and mechanism of formation were discussed with examples.

**Group no.2-** Project title "To study the national park"

Here, the students have discussed a detailed description of the criteria, structure of a national park and it's importance with reference to Kaziranga National Park.

**Group no.3-** Project title "Comparative study of the Life cycle between *Ascaris lumbricoides* and *Wuchereria bancrofti*" and "Comparative study of the Pathogenicity between *Ascaris lumbricoides* and *Wuchereria bancrofti*"

In this study a detailed description of life cycle of *Ascaris* land *Wuchereria* was studied. The anatomical and morphological aspects of the

worms and similarities and dissimilarities in the life cycle were studied along with the hosts involved in completing their life cycle. The study gave an idea on the mode of infection and infecting stages in the life cycle of each of the specimen and the methods of prevention and treatment of the diseases caused by it.

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B. **Topic:** To submit a Project Report on a visit to National Park/Biodiversity Park/ Wild life Sanctuary/Reserved Forest.

**Paper:** Principles of Ecology(CBCS)

**Core-Course:** CC II

**Semester:** 1<sup>st</sup>

**Field:** Theoretical report (based on syllabus)

**Date of Study:**21/10/2022

**Total Students:** 25

**Total Report Received:** 25

**Summary of the Reports:**In this study,the students have observed different animals including Pisces, Aves, Amphibian, Reptiles and Mammals during Jeep safari at Kaziranga National Park. The study gave an idea on the diversity of both animals and plants in the Kaziranga National Park.

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C. **Topic:** Identify nutrient rich sources of foods (fruits and vegetables), their seasonal availability and price

**Paper:** Food, Nutrition and Health(CBCS)

**Core-Course:** GE VI

**Semester:** 3<sup>rd</sup>

**Field:** Local fruits and Vegetable markets of Dibrugarh

**Date of Study:** 10/08/2022-10/10/2022

**Total Students:**04

**Total Report Received:** 04

**Summary of the Report:** The objectives of the study were to label the important food sources such as fruits and vegetables with higher nutritional values. Data for the nutritional values of food sources were collected online and their seasonal availability werestudied by visiting local market places. The outcome of the project was a detailed list of food stuff with day-to-day importance based on nutritional values, their seasonal availability, priceand supplied energy per serving.

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D. **Topic:** Field study of insects and submission of a project report on the insect diversity

**Paper:** Biology of Insecta(CBCS)

**Core-Course:** DSE 4

**Semester:** 5<sup>th</sup>

**Field:** Outskirts of Kaziranga National Park

**Date of Study:** 21/10/2022

**Total Students:** 37

**Total Report Received:**37

**Summary of the Report:** Using quadrat method, random sampling was taken at 10 different places in the outskirts of Kaziranga National Park to study the diversity of insects and its richness in the area. 7 different specimens of insects were observed and its population diversity in each of the quadrat was also noted. The Shannon-Weiner diversity index was calculated for each species. The study gave an idea about the species richness in a particular community (in each quadrat) and its relative abundance among all the samples taken for study.

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E. **Topic:** Visit a National park/wildlife sanctuary/ Reserved forest and submission of a project report on behaviour study of different animals

**Paper:** Animal Behaviour and Chronobiology(CBCS)

**Core-Course:** DSE 1

**Semester:** 5<sup>th</sup>

**Field:** Jeep Survey at Kaziranga National Park

**Date of Study:** 21/10/2022

**Total Students:** 37

**Total Report Received:**37

**Summary of the Report:** The individual behavioural patterns of different animals such as warning signals of birds, territory marking of Rhinoceros, feeding behaviour of water birds, Elephant, dears, wild buffalos and Primates, protecting behaviour of Primates and Rhinoceros, Hunting of Tiger etc.were observed during the jeep safari at the buffer zones of Kaziranga National Park.The data's were collected by taking photographs and video recording.

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F. **Topic:** To submit a Project Report on any related topic to larval forms of crustacean/Molluscs /echinoderm (based on theory syllabus)

**Paper:** Non-Chordates II: Coelomates(CBCS)

**Core-Course:** CC II

**Semester:** 2<sup>nd</sup>

**Field:** Theoretical report (based on syllabus)

**Date of Study:** 14/02/2023

**Total Students:** 21

**Total Report Received:** 21

**Summary of the Report:** In the study a detailed description of different larval forms involved in the life cycle of the phylum's crustacean/Molluscs /echinoderm was studied. The anatomical and morphological aspects of the larva were studied in detail. The study gave an idea of similarities and dissimilarities of the different larval forms and the evolutionary significance of these larvae in the different phylum.

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G. **Topic:** Submission of a project report on any one of the insect vectors and disease transmitted

**Paper:** Insect Vectors and Diseases(CBCS)

**Core-Course:** GE VIII

**Semester:** 2<sup>nd</sup>

**Field:** theoretical report

**Date of Study:** 05/02/2023

**Total Students:** 05

**Total Report Received:** 05

**Summary of the Report:** A mosquito vector causing disease was studied by the students. The physiological characters and mode of transmission of the disease was studied along with the life cycle of the pathogen. The hosts for completion of life cycle of the pathogen were identified and symptoms, prevention and diagnosis were studied in detail.

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H. **Topic:** Project report on Drosophila culture/chick embryo development

**Paper:** Developmental Biology(CBCS)

**Core-Course:** CC XIII

**Semester:** 6<sup>th</sup>

**Field:** Laboratory Report

**Date of Study:** 01/02/2023-01/04/2023

**Total Students:**37

**Total Report Received:** 37

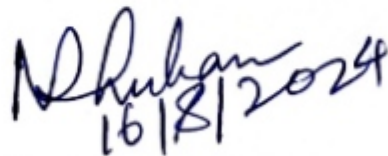
**Summary of the Report:** Methods of culture of *Drosophila melanogaster* was studied and performed in the laboratory. The different stages of culture/development were studied through detailed and routine observation. Temporary slides of larva and adult were prepared for minute observations and noted.

  
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I. **Topic:** Project Report on a visit to any fish farm/ pisciculture unit/Zebrafish rearing Lab.

**Paper:** Fish and Fisheries(CBCS)

**Core-Course:** DSE VII

**Semester:** 6<sup>th</sup>

**Field:** Fish Seed and Production Unit, Sukan Pukhuri, Dibrugarh, Assam

**Date of Study:** 19/04/2023

**Total Students:** 37

**Total Report Received:** 37

**Summary of the Report:** A field visit to "Fish Seed and Production Unit, Sukan Pukhuri, Dibrugarh" was organized on 19/04/2023 where the students were taken there to learn about the induced breeding of carp fish by hormonal injection, culture methods with specially constructed ponds. Different species of fishes with different rearing, breeding etc. methods were observed and noted.

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