

# DEPARTMENT OF BOTANY

## CITY COLLEGE

### REPORT ON LOCAL EXCURSION: BON – BITAN, KOLKATA

**Date of Visit :** 12/05/2023 (Friday)

**Place :** Bon - Bitan, Kolkata

**Paper:** CC8

**Participants :** Students of Sem IV (Hons) participated.

NAME OF THE TEACHERS:

- 1) Dr. Arghya Hait

NAME OF THE STUDENTS:

- 1) Rohit Das
- 2) Devansh Kar
- 3) Devakash Kar
- 4) Deepbendu Kar
- 5) Sahil Akhtar
- 6) Prateek Tiwari
- 7) Sreeparna Maity
- 8) Ahana Chandra
- 9) Mukti Singh
- 10) Iqra Alam
- 11) Zonena Khatoun
- 12) Sneha China

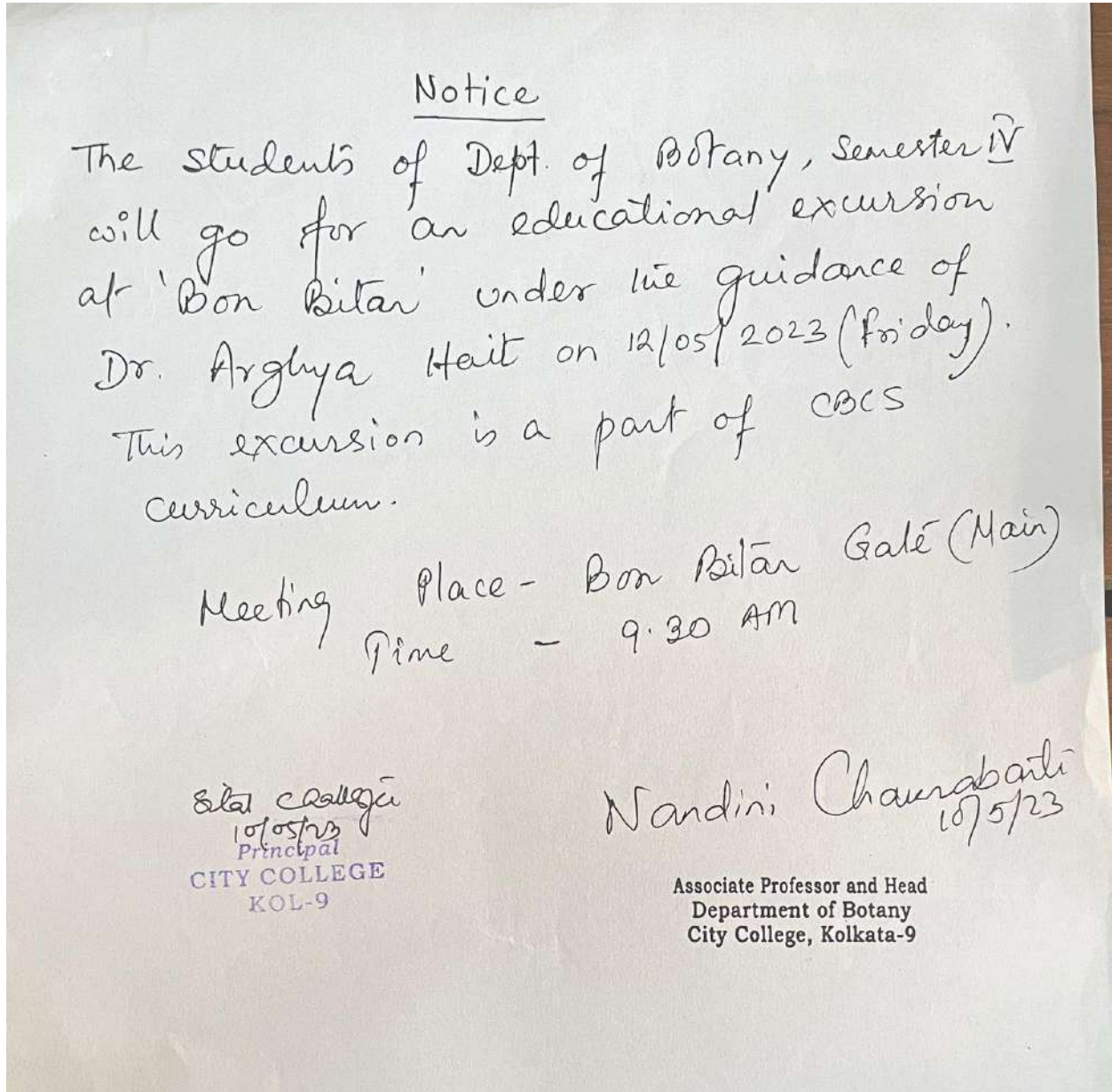
#### **Objective of Field Study:**

1. To provide the students the opportunity to apply theoretical knowledge, methods and techniques of documentation, collection and preservation of plant specimens belonging to different plant groups both qualitatively (Survey) and quantitatively (quadrat study).
2. To develop observational skills; practicing both individual and team work.
3. To experience unfamiliar places (different Phyto-Geographical regions) including vegetation, forest types and ecosystems and interactions between them.
4. To make new observations; get new impressions, perspective and ideas and creating life long memories.

**Report:**

Students from Sem IV (Hons.) of Botany Department visited the area for Ecological studies which helps them to deal with study of living plants of different families existing in their natural habitat and interaction with the various environmental factors. Also students got enriched to know about different ecological factors responsible for various types of plants in different phytogeographical regions of the world.

**Notice:**



**Syllabus:**

Indian hotspots, 4.3. *In-situ* and *ex-situ* conservation, 4.4. Seed banks, 4.5. Cryopreservation  
.....16 lectures

#### **EVOLUTION**

1.1. Introduction, 1.2. Theories of evolution: Natural selection, Group selection, Neutral theory of molecular evolution, 1.3. Phyletic gradualism, Punctuated equilibrium and Stasis  
.....6 lectures

2.1. Brief idea on: Stabilizing directional, disruptive and sexual selection; Speciation: Sympatric and allopatric speciation; Coevolution, Adaptive radiation, Reproductive isolation  
.....4 lectures

3.1. Simplified phylogeny of bacteria, algae, fungi, bryophyte, pteridophyte and gymnosperm, 3.2. Phylogenetic tree.  
.....6 lectures

#### **PRACTICAL- PLANT GEOGRAPHY, ECOLOGY AND EVOLUTION (BOT-A-CC-4-B-P)**

**(Credits 2)**

1. Workout on ecological parameters

2. Classroom performance: (Lab records)

3. Field Records (field note book of phytogeographical study and ecological study)

4. Viva

#### **PLANT GEOGRAPHY**

1. Field visit- at least one long excursion at different phytogeographical region of India.

2. Study of local flora and submission of a project report highlighting phytogeographical characteristics of the region.

#### **ECOLOGY**

1. Study of community structure by quadrat method and determination of (i) Minimal size of the quadrat, (ii) Frequency, density and abundance of components. (to be done during excursion/ field visit).

2. Comparative anatomical studies of leaves from polluted and less polluted areas.

3. Measurement of dissolved O<sub>2</sub> by azide modification of Winkler's method.

4. Comparison of free CO<sub>2</sub> from different sources.

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#### **CORE COURSE: 9 ECONOMIC BOTANY (BOT-A-CC-4-9-TN)**

##### **THEORETICAL**

**(Credits 4, Lectures 60)**

1. Origin of cultivated crops: Concepts of centre of origin, their importance with reference to Vavilov's work. Examples of major plant introductions; crop domestication and loss of genetic diversity; evolution of new crops/ varieties; importance of germplasm diversity.  
.....6 lectures

2. Cereals: Rice and wheat (origin, morphology, processing and uses).  
.....6 lectures

3. Legumes: Origin, morphology and uses of gram and mung bean. Importance to man and environment.  
.....6 lectures

4. Sugar and starches: Morphology and processing of sugarcane, products and byproducts of sugarcane industry, Potato- morphology, propagation and uses.  
.....5 lectures

5. Spices: Listing of important spices, their family and part used.  
.....6 lectures

6. Beverages: Tea (morphology, processing and uses).  
.....5 lectures

7. Oil and fats: General description, classification, extraction, their uses and health implications of mustard, soybean, coconut (botanical name, family and uses). Essential oils- general account, extraction methods, comparison with fatty oils and their uses.  
.....10 lectures

8. Drug-yielding plants: Therapeutic and habit forming drugs with special reference to Cinchona, Digitalis, Papaver, Cannabis and Tobacco (morphology, processing, uses and health hazards).  
.....8 lectures

9. Timber: general account with special reference to Sal and Teak  
.....4 lectures

10. Fibers: Cotton and Jute (Morphology, extraction and uses).  
.....4 lectures

#### **PRACTICAL ECONOMIC BOTANY (BOT-A-CC-4-9-P)**

**(Credits 2)**

1. Workout, micro-chemical tests

2. Identification- T.S./L.S. of permanent slides

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Photo:

