

# DEPARTMENT OF BOTANY

## CITY COLLEGE

### REPORT ON LOCAL EXCURSION INDIAN BOTANICAL GARDEN, SHIBPUR, HOWRAH.

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

**Place :** Indian Botanical Garden, Shibpur, Howrah

**Participants :** Students of Sem II (General ) participated.

#### NAME OF THE TEACHERS:

- 1) Dr. Sujita Dutta Ghosh
- 2) Saayela Chowdhury
- 3) Sandhya Dutta

#### NAME OF THE STUDENTS:

- 1) Barnali Dash
- 2) Riya Sarkar
- 3) Tanisha Bramha
- 4) Riti Pal
- 5) Snigdha Ghosh
- 6) S.K. Mahek
- 7) Moupia Saha
- 8) Shuman Kumari Shaw
- 9) Bipasha Dutta
- 10) Shreya Mandal
- 11) Ruparna Bhowmik
- 12) Sahil Pandey
- 13) Aakash Das
- 14) Saurav Das
- 15) Chandan Shaw
- 16) Srijita Banerjee
- 17) Nisar Ahmed
- 18) Md. Shamim
- 19) Swarnadwip Mukherjee
- 20) Joydeep Das
- 21) Piyush Majhi
- 22) Soumyadwip Santra

- 23) Soham Banerjee
- 24) Debjit Sardar
- 25) Md. Saif Alam
- 26) Rahul Das
- 27) Sayan Kar
- 28) Shaswata Kirttunia
- 29) Deeya Ghosh
- 30) Puja Mondol
- 31) Diya Roy
- 32) Sathi Ghosh
- 33) Koyel Ghosh
- 34) Sayni Mukherjee
- 35) Heraa Jamil
- 36) Khushi Kumari
- 37) Samannita Chatterjee
- 38) Payel Das
- 39) Sonali Jana
- 40) Susmita Mondal
- 41) Ankita Neogi
- 42) Abdul Rahim Ansari

**Objective :**

1. To expose to the extensive collection of exotic and indigenous plants, labelled with both common and scientific names and their region of origin and habitat; an example of ex - situ conservation.
2. To understand the significance of herbaria by visiting the Central National Herbarium (CNH) in Plants Taxonomy and other fields of Botany.
3. To familiarize students with the wide varieties of plants having medicinal importance at Charak Udyan and uses of different plants and its parts by native peoples from different parts of India in the ETHNOBOTANICAL SECTION.

**Report :**

Students from different streams of Botany Department visited Indian Botanical Garden, Shibpur to study different types of rich and varied flora of both known and rare plants as mentioned in the syllabus (CBCS system), as it has enormous collection of Orchids, Bamboos, Palms, cactus, Hyacinths etc .By visitng Indian Botanical Garden students got wide and vast knowledge of different flora of Eastern Himalayas.

**Notice. :**

**City College,  
Department of Botany,  
Kolkata – 700009**

**NOTICE**

**SCHEDULE FOR LOCAL EXCURSION, 2023(CBCS, Semester – II General)**

Sl. No.	Date	Place	Class	Teachers Schedule to attend	Meeting Place	Time
1	12.05.2023	Accharya Jagadish Chandra Bose Indian botanic Garden(Shibpur botanical Garden), Howrah.	SEM –II 2CG	SGD,S.G1, SD,	Shibpur Botanical Garden Maingate(near Engineering college) ticket counter	10 AM

NOTE: All the students are requested to carry their college ID card, Excursion Card, Diary, Pen, Umbrella and Water bottle.

*Nandini Chaurabarti* 21/5/23

HOD, Dept. of Botany, City College, Kolkata-9  
**Associate Professor and Head  
Department of Botany  
City College, Kolkata-9**

*Silal Prasad Chattopadhyay* 02/05/23  
Principal, City College, Kol-9  
**Principal  
CITY COLLEGE  
KOL-9**

Copy to – Principal, Dept of Zoology, Chemistry, Physiology

**PRACTICAL- PLANT DIVERSITY I (PHYSIOLOGY, MYCOLOGY, PHYTOPATHOLOGY, BRYOPHYTES AND ANATOMY) (BOT-G-CC-1-1-P)**  
(Credits 2)

- 1. Work out:** Microscopic preparation, drawing and labeling of *Chlamydomonas*, *Chara*, *Ectocarpus*, *Rhizopus* and *Ascobolus*
- 2. Anatomical studies (following double staining method) of:** 2a. Stem- *Cucurbita*, sunflower and maize; 2b. Root- *Colocassia*, gram and orchid; 2c. Leaf- *Nerium*
- 3. Identification with reasons:** 3a. Cryptogamic specimens (macroscopic/microscopic as prescribed in the theoretical syllabus. 3b. Pathological specimens (herbarium sheets) of Late blight of potato, Brown spot of rice and stem rot of jute.
- 4. Laboratory records:** Laboratory note books (regularly signed) and slides (prepared in class) are to be submitted at the time of Practical Examination. Regular attendance in the class must be credited.
- Atleast one local excursion to be conducted to give an idea of plant diversity, habitat of algae and fungi

**SEMESTER II**

**CORE COURSE 2**

**PLANT DIVERSITY II (PTERIDOPHYTES, GYMNOSPERMS, PALAEOBOTANY, MORPHOLOGY AND TAXONOMY) (BOT-G-CC-2-2-TH)**

**THEORETICAL**

(Credits 4, Lectures 60)

- 1. Pteridophytes**
  - 1.1 Diagnostic characters and examples of Psilophyta, Lycophyta, Sphenophyta & Filicophyta (Gifford & Foster 1989). 1.2 Life histories of *Selaginella* and *Pteris*; 1.3 Economic importance.

.....12 lectures

**2. Gymnosperms**

- 2.1 Progymnosperms (brief idea), 2.2 Diagnostic characters and examples of Cycadophyta, Coniferophyta and Gnetophyta (Gifford & Foster 1989). 2.3 Life histories of *Cycas* and *Pinus*; 2.4 *Willamsonia* (reconstructed); 2.5 Economic importance of Gymnosperms.

.....12 lectures

**3. Paleobotany & Palynology**

- 3.1 Fossil, fossilization process and factors of fossilization; 3.2 Importance of fossil study. 3.3 Geological time scale; 3.4 Palynology - Definition, spore & pollen (brief idea), Applications.

.....10 lectures

**4. Angiosperm Morphology**

- 4.1 Inflorescence types with examples; 4.2 Flower; 4.3 Fruits and seeds- type and examples.

.....12 lectures

**5. Taxonomy of Angiosperms**

- 5.1 Artificial, Natural and Phylogenetic systems of classification with one example each. 5.2 Diagnostic features of following Families- Malvaceae, Leguminosae (Fabaceae), Cucurbitaceae,

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Rubiaceae, Compositae (Asteraceae), Solanaceae, Acanthaceae, Labiate (Lamiaceae), Orchidaceae, Gramineae (Poaceae).

.....14 lectures

**PRACTICAL- PLANT DIVERSITY II (PTERIDOPHYTES, GYMNOSPERMS, PALAEOBOTANY, MORPHOLOGY AND TAXONOMY) (BOT-G-CC-2-2-P)**  
(Credits 2)

1. Dissection, drawing and labelling, description of angiospermic plants and floral parts, floral formula and floral diagram, identification (family) from the following families: Leguminosae (Fabaceae), Malvaceae, Solanaceae, Labiatea (Lamiaceae), Acanthaceae.

**2. Identification with reasons:**

Macroscopic specimens of *Selaginella* and *Pteris*; male and female strobilus of *Cycas* and *Pinus*, Anatomical slides (stellar types, transfusion tissue, sieve tube, sunken stomata, lenticels), inflorescence types.

**3. Spot Identification** of the following Angiospermic plants (scientific names and families): *Sida rhombifolia* (Malvaceae), *Abutilon indicum* (Malvaceae), *Cassia sophora* (Fabaceae), *Tephrosia halimifolia* (Fabaceae), *Crotalaria pallida* (Fabaceae), *Coccinia grandis* (Cucurbitaceae), *Solanum indicum* (Solanaceae), *Nicotiana glauca* (Solanaceae), *Leucas aspera* (Lamiaceae),

*Leonurus sibiricus* (Lamiaceae), *Parthenium hysterophorus* (Asteraceae), *Tridax procumbens* (Asteraceae), *Eclipta prostrata* (Asteraceae), *Eragrostis tenella* (Poaceae), *Chrysopsisgon aciculatus* (Poaceae), *Eleusine indica* (Poaceae), *Vanda taesellata* (Orchidaceae).

- 4. Laboratory records:** Laboratory note books (regularly signed) and slides (prepared in class) are to be submitted at the time of Practical Examination. Regular attendance in the class must be credited.

**5. Field excursion:** Local Excursions (at least two including one to Acharya Jagadish Chandra Bose Botanic Garden, Shilpur, Howrah)

- 6. Field Records:** Field note book and 15 herbarium sheets of common Angiospermic weeds are to be prepared and submitted at the time of Practical Examination. Regular attendance in the class must be credited.

**SEMESTER III**

**CORE COURSE 3**

**CELL BIOLOGY, GENETICS AND MICROBIOLOGY (BOT-G-CC-3-3-TH)**

**THEORETICAL**

(Credits 4, Lectures 60)

**1. Cell Biology and Genetics**

- 1.1 Ultrastructure of nuclear envelope, nucleolus and their functions, 1.2 Molecular organisation of metaphase chromosome (Nucleosome concept).

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**Syllabus:**