

DEPARTMENT OF BOTANY

CITY COLLEGE

Report on Local Excursion: INDIAN BOTANICAL GARDEN, SHIBPUR, HOWRAH.

Date of visit: 20/09/2022 (Tuesday)

Place : Indian Botanical Garden, Shibpur, Howrah

Paper: Sem II (Hons): CC4, Sem V (Hons): and Sem V (General): SEC.

Participants : Students of Sem II (Hons), Sem V (Hons) and Sem V (General) participated.

NAME OF THE TEACHERS:

- 1) Dr. Arkajo Majumdar
- 2) Dr. Partha Karak
- 3) Saayela Chowdhury
- 4) Sutapa Gupta
- 5) Sandhya Dutta

NAME OF THE STUDENTS:

- 1) Disha Halder
- 2) Pinky Mandal
- 3) Trisha Nandy
- 4) Trisha Ghosh
- 5) Rituparna Bhar
- 6) Tanushree Debnath
- 7) Supreety Dassarma
- 8) Souvik Pan
- 9) Arghya Kanungo
- 10) Krishnendu Dasgupta
- 11) Rohit Das
- 12) Devansh Kar
- 13) Devakash Kar
- 14) Deepbendu Kar

- 15) Sahil Akhtar
- 16) Prateek Tiwari
- 17) Sreeparna Maity
- 18) Ahana Chandra
- 19) Mukti Singh
- 20) Iqra Alam
- 21) Zonena Khatoon
- 22) Sneha China

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

Affiliated to the University of Calcutta
102/1, Raja Rammohan Sarani, Kolkata – 700009
Phone : 033 2350 1565, Office : 033 2360 7463
E-mail : principal.citycollege@gmail.com
Website : www.citycollegekolkata.org
GST No. : 19CALC00619D1DE

Ref. No. :

Date: 02.09.2022

NOTICE

This is to inform all the students of Botany **Semester V (Hons.), Semester V (General)** and **Semester III (Hons.)** that Department of Botany, City College is going to conduct an educational excursion on 20.09.2022 (Tuesday) at Acharya Jagadish Chandra Bose Indian Botanic Garden (Shibpur Botanical Garden), Howrah. This educational excursion is a part of CU undergraduate curriculum.

Students are requested to be present positively at **10.00 am at Shibpur Botanical Garden main gate (near engineering college) ticket counter on 20.09.2022 (Tuesday).**

Thanking You.

Nandini Chakrabarti
HOD, Dept. of Botany . 7/9/22

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

Copy to:-

1. HOD Dept. of Zoology, Physiology, Chemistry.

Syllabus:

Physicochemical characteristics and Multiplication, 1.5. One step growth curve, 1.6. Lytic cycle (T4 phage) and lysogenic cycle (lambda phage), Significance of lysogeny, 1.7. Virioids and Prions.

.....10 lectures

2. Bacteria:

2.1. Discovery, 2.2. Distinguishing features of Archaea and Bacteria, 2.3. Characteristics of some major groups: Proteobacteria (Enterobacteria), Firmicutes, Mollicutes, Actinobacteria, Spirochaetes, Chlamydiae, 2.4. Bacterial growth curve and generation time, 2.5. Flagella (ultrastructure) & flag. 2.6. Cell wall – chemical structure and differences between Gram +ve & Gram –ve bacteria, 2.7. Bacterial genome and plasmid, 2.8. Endospore - formation, structure and function, 2.9. Genetic Recombination (a) Transformation – with special emphasis on Natural and Induced competence and DNA uptake, (b) Conjugation– F- factor, F⁺ X F⁻, Hfr X F⁻, concept of F⁻, chromosome mobilization, (c) Transduction– Generalised and specialised.

.....20 lectures

PRACTICAL- PHYCOLOGY AND MICROBIOLOGY (BOT-A-CC-1-1P)

(Credits 2)

1. Work out: Algae, Bacterial staining
2. Identification with reasons: (Algae and bacteria)
3. Classroom performance (lab notebook, submission and permanent slides)
4. Viva-voce

ALGAE

1. Work out of the following algae with reproductive structure (Free hand drawing and drawing under drawing prism with magnification): *Oedogonium*, *Chara*, *Ectocarpus*.
2. Study of (a) Permanent slides : *Glaucotrichia*, *Volvox*, *Vaucheria*, *Coleochaete*, *Polysiphonia*, Centric and Pennate diatom; (b) Macroscopic specimens : *Laminaria*, *Sargassum*.

MICROBIOLOGY

1. Preparation of bacterial media – (a) Nutrient agar and nutrient broth, (b) Preparation of slants and pouring Petri-plates.

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2. Sub-culturing of bacterial culture.
3. Gram staining from bacterial culture.

4. Microscopic examination of bacteria from natural habitat (air) by simple staining.

FIELD WORK

At least one local excursion to be conducted for study and collection of algae (only 5 from natural habitat) and another local excursion should be conducted to give an introductory idea about plant diversity (Collection not required).

CLASSROOM PERFORMANCE

1. Laboratory Note Book of each section must be signed by the respective teacher with date during practical classes.
2. Slides (permanent) prepared during practical classes.
3. Submission (5 algae collected from natural habitat and identified latter)

CORE COURSE 2 MYCOLOGY AND PHYTO-PATHOLOGY (BOT-A-CC-1-2-TH)

THEORETICAL

(Credits 4, Lectures 60)

MYCOLOGY

1. General Account:

- 1.1. Hyphal forms, 1.2. Fungal spore forms and mode of liberation, 1.3. Sexual reproduction and degeneration of sex, 1.4. Parasexuality and sexual compatibility, 1.5. Life cycle patterns.

.....6 lectures

2. Classification:

- 2.1. Classification of Fungi (Ainsworth, 1973) upto sub-division with diagnostic characters and examples. 2.2. General Characteristics of Myxomycota, Oomycota, Zygomycota, Ascomycota, Basidiomycota, Deuteromycota

.....6 lectures

3. Life history:

- 3.1. *Synchytrium*, 3.2. *Rhizopus*, 3.3. *Ascobolus*, 3.4. *Agaricus*.

.....10 lectures

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