

DEPARTMENT OF ZOOLOGY

A Brief Activity Report on Ecological Field Study at Subhash Sarovar Lake, Beliaghata, Kolkata, West Bengal, India



CITY COLLEGE

Affiliated to the University of Calcutta
182/1, Raja Ram Mohan Sarani, Kolkata - 700009
Phone: 033 2350 1365, Office: 033 2360 7061
E-mail: principal.citycollege@gmail.com
Website: www.citycollegekolkata.org
GST No. : 19CALC00818D1DE

20/01/2024

Notice

It is hereby notified that an educational field trip as per the CU curriculum of Paper DSE-A-5-2 [Aquatic Biology] will be conducted under the Guidance of Dr Debasish Karmakar, Dr Krishnendu Das, Dr Pramita Garai, Assistant Professors in Zoology and Sri Pintu Hazra, Laboratory Attendant in Zoology, City College, Kolkata at Subhas Sarovar, Beliaghata on 20/01/2024 (Saturday) at 9.00 am. The students of all 5th SEM Bio General (ZOOG) Courses, City College, Kolkata, are asked to be present at the Gate of the Lake, opposite to Swavumi, by 8.45 am on the scheduled date with College Identity Card, Note Book, Biology Box and Pen, Pencil etc.



AQUATIC BIOLOGY, ZOOG-DSE-A-5-2-P

Full Marks 30	60 Hours	2 Credits
1. Determine the area of a lake using graphimetric and gravimetric method.		
2. Identify the important macrophytes, phytoplanktons and zooplanktons present in a lake ecosystem.		
3. Determine the amount of dissolved Oxygen, and free Carbon dioxide, in water collected from a nearby lake / water body.		
4. Visit to any aquatic Ecosystem and preparation and submission of report.		

City College

5th Semester Zoology General

List of Participants for Educational Tour at Subhash Sarovar, Beliaghata, Kolkatta on 20.01.2024

Sl. No.	Name of Teachers	Signature
1	Dr. Debasish Karmakar	<i>Debasish Karmakar</i>
2	Dr. Krishnendu Das	<i>Krishnendu Das</i>
3	Dr. Pramita Garai	<i>Pramita Garai</i>

Lab. Attendant	Sri Pintu Hazra	<i>Pintu Hazra</i>
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Sl. No.	Name of Students	College Roll No.	Attendance Signature
Group-IV			
1	Shahla Parveen	214901	
2	Nasreen Jahaan	214902	
3	Suparna Das	214905	<i>Suparna Das</i>
4	Rabia Parveen	214906	<i>Rabia Parveen</i>
5	Sanchari Mondal	214908	<i>Sanchari Mondal</i>
6	Astha Mishra	214918	<i>Astha Mishra</i>
7	Sukanya Ghosh	214920	
8	Maitreye Das	214921	<i>Maitreye Das</i>
9	Zaara Ali	214925	<i>Zaara Ali</i>
10	Camelia Sadhukhan	214926	<i>Camelia Sadhukhan</i>
11	Madhushree Chowdhury	214929	<i>Madhushree Chowdhury</i>
12	Ananya Bag	214932	<i>Ananya Bag</i>
13	Isita Mallick	214935	<i>Isita Mallick</i>
14	Barnali Das	214937	<i>Barnali Das</i>
15	Rohita Mondal	214938	<i>Rohita Mondal</i>
16	Surupa Giri	214939	<i>Surupa Giri</i>
17	Siya Sarkar	214942	<i>Siya Sarkar</i>
Group-V			
1	Shantanand Sandilya	214704	<i>Shantanand Sandilya</i>
2	Pradip Mondal	214706	
3	Andrew Lin Sardar	214709	<i>Andrew Lin Sardar</i>
4	Ravi Pal	214710	<i>Ravi Pal</i>
5	Dipak Kumar Barman	214711	<i>Dipak Kumar Barman</i>
6	Sayantana Das	214714	
7	Rajdeep Biswas	214715	<i>Rajdeep Biswas</i>
8	Rajdeep Saha	214716	
9	Dipayana Saha	214719	<i>Dipayana Saha</i>
10	Shantanu Bahadur	214720	<i>Shantanu Bahadur</i>
11	Bishal Mondal	214723	

12	Sourik Dutta	214724	
13	Arnab Dey	214725	
14	Sarafat Midda	214726	<i>Sarafat Midda</i>
15	Sujoy Sarkar	214728	
16	Suman Halder	214732	<i>Suman Halder</i>
17	Rajsheshkar Das	214733	<i>Rajsheshkar Das</i>
18	Monoraj Halder	214735	<i>Monoraj Halder</i>
19	Snehasish Halder	214739	<i>Snehasish Halder</i>
20	Shadab Alam	214744	<i>Shadab Alam</i>

[Signature]
20/01/2024
Head, Department of Zoology
City College, Kolkata-700002



- ♣ **Date of Visit:** Day 1: 20/01/2024 (Saturday) – From 09:00 AM to 12:00 Noon
- ♣ **Place of Visit:** “Subhash Sarovar” Lake, Beliaghata, Kolkata, West Bengal, India
- ♣ **Under the Guidance of:** Dr Debasish Karmakar, Assistant Professor in Zoology, City College, Kolkata
Dr Krishnendu Das, Assistant Professor in Zoology, City College, Kolkata
Dr Pramita Garai, Assistant Professor in Zoology, City College, Kolkata
Sri Pintu Hazra, Laboratory Attendant in Zoology, City College, Kolkata
- ♣ **No. of Participants:** 27 students (Semester – V, Zoology General)

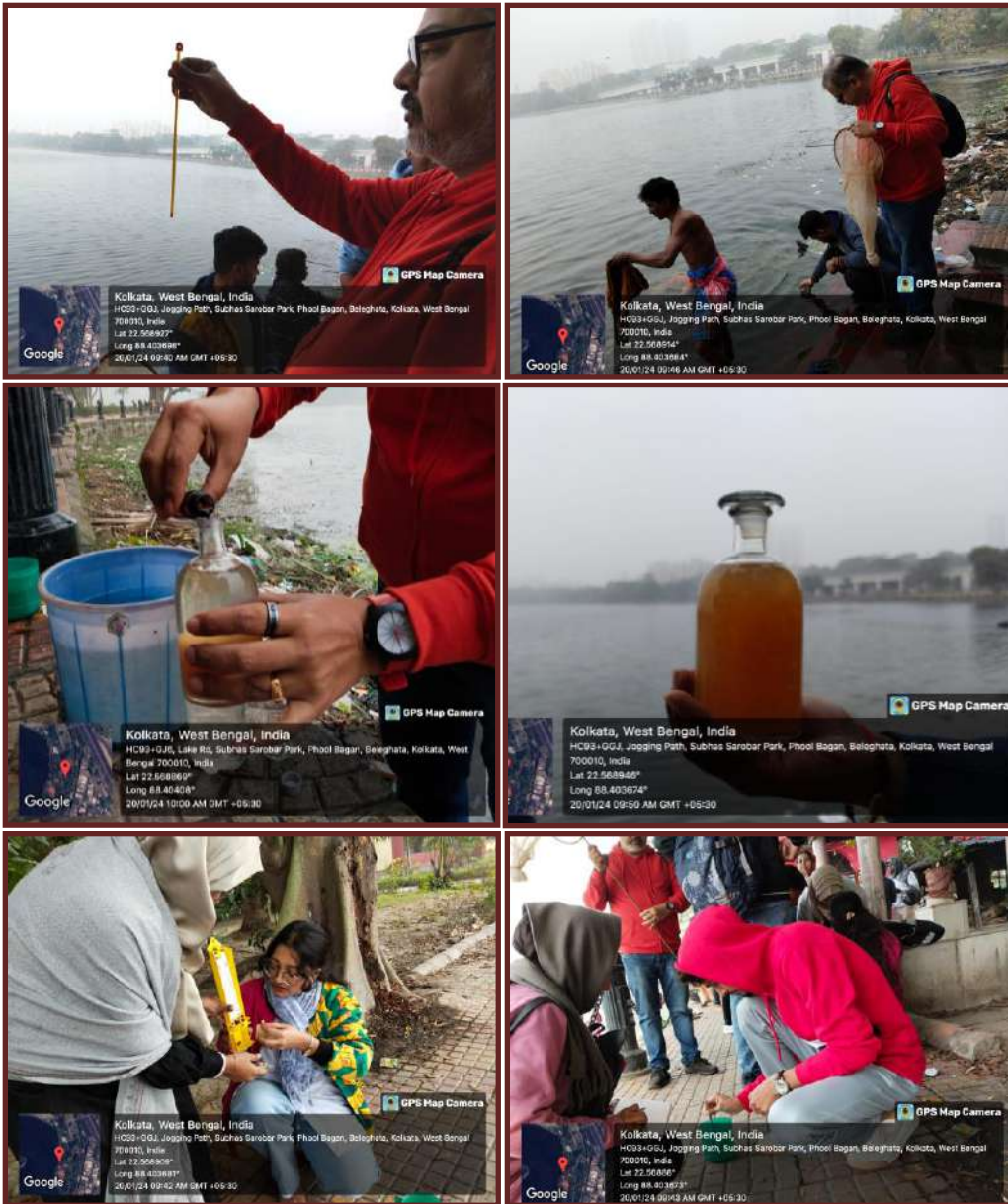
Brief Report

A total of 27 B.Sc Zoology (General) Vth semester students had participated in the ecological field study at Subhash Sarovar Lake, Beliaghata on 20.01.2024 under the guidance of three teachers from Department of Zoology, City College - Dr Debasish Karmakar, Dr Krishnendu Das and Dr Pramita Garai along with lab attendant Sri Pintu Hazra.

Subhash Sarovar represents the lung of East Calcutta and the lake ecosystem plays a key role in maintaining the oxygen balance. The vast water body and its two islands have potential for attracting various species of residential as well as migratory birds. This ecosystem also acts as a natural sink through the removal of pollutants from the surrounding environment. This lake, named after Netaji Subhash Chandra Bose as “Subhash Sarovar Lake”, has a total area of about 98 acres including the water bodies. Its length from east to west is 533.3 m and width at broadest point, south to north, is about 366 m. The increasing anthropogenic activities have led to the deterioration of lake water quality, which consequently threatens the sustainable development of aquatic and terrestrial ecosystem of the area.

Considering the curriculum of the concerned paper (Aquatic Biology), the aim of the present study was to study the macrophytes and planktons present in the lake water and also to estimate some common water parameters, like dissolved oxygen concentration, free carbon di-oxide concentration, pH, temperature, relative humidity etc. to get an overview regarding the condition of the lake-water. Aquatic macrophytes like *Eichornia* sp, *Lemna* sp, *Spirodella* sp and *Hydrilla* sp were observed. The population and variety of macrophytes and emergent vegetation was observed very low and the water was quite turbid. This might be due to low organic and high inorganic load in the lake water. The estimated value of dissolved oxygen in the water sample was 7.7 mg.L⁻¹ at 19.5° C (recorded water temperature), quiet lower in respect to the referred value of APHA, 1992. In contrast, the estimated value of free carbon-di-oxide in the collected water sample was quite higher, i.e. 72.2 mg.L⁻¹, indicating that the condition of the lake water is not very suitable for household purposes and sustainability of aquatic life. The value of pH (6.0) also indicated the inclination towards acidification of the water of the lake.

Students had observed exorbitant dumping of the non-biodegradable substances, mainly plastic wares along with indiscriminate washing of clothes and utensils by local people. The discharge of industrial and domestic effluents and excessive use of lake water by local people for various purposes is undesirable and should be monitored strictly. Students were made aware about the impact of water quality degradation and its long-term consequences on environmental sustainability.



**Some Glimpses of One Day Field Trip to Study Fresh Water Aquatic Body
At Subhash Sarovar on 20/01/2024**

