

Botany Department

Name of the department : BOTANY DEPARTMENT

Year of Establishment : 1955

Courses offered : B.A. / B.Sc. (General) – 3 Year Degree Course –UG

(Eligibility Criteria- Applicants to the department are admitted to the undergraduate General course on the basis of their Plus Two level examination performance. Both aggregate and subject marks are considered here, following the norms set by the University of Calcutta).

Faculty profile with name, qualification, designation, specialization:

Name	Qualification	Designation	Specialization	No. of Years of Experience
Dr. Usha Keshan	M.Sc., Ph.D.	Associate Professor	Plant Physiology & Biochemistry	22 years
Srijita Mondal Ghosh	M.Sc.	Assistant Professor	Plant Physiology & Biochemistry	2 years
Krishna Basu	M.Sc. (Environment)	Instructor	-	37 years
Papri Saha	M.Sc.	Part-time Lecturer (Govt. Approved)	Plant Physiology & Biochemistry	10 years

Details of Infrastructural facilities

a) Library: Number of Books -1100 (approx.) (College + UGC Grant) and with computerized author index, title index

b) Internet facilities for Staff & Students: BSNL Broadband

c) Laboratories: Botany Department

- Computerized **Herbarium** according to Bentham and Hooker's system
- **Laptop**, one **Computer** with Printer, Scanner, DVD writer
- **Audiovisual/ visual facilities-**
 - coloured Television and tripod stand with video light
 - SLR , Digital Camera
 - White Screen with stand
 - Pocket & Olympus Binocular
- **Equipments** – different types of Instruments – viz.
 - Autoclave, Incubator, Hot air oven, Hot plate, Water Bath
 - Digital pH meter,
 - Centrifuge, Micro-centrifuge, Colorimeter
 - Inoculation Chamber with UV Tube (Laminar airflow)
 - Electric Balance, Chemical balance, Pan balance

- Distillation plant, Refrigerator (Cooling chamber), Slide Cabinet
- Microscope- Simple & Compound Microscope, Micro- microscope with TV connectivity, Photo attachment for compound microscope, Stereoscopic Binocular Microscope, Oil Immersion Lens, Eye- piece Pointer, Stage & Ocular Micrometer

ACTIVITIES CONDUCTED BY THE DEPARTMENT-

- **Excursion** – College Garden, Local spots & Outstation - As part of course curriculum of UG, the department organizes educational tour for the students to acquaint with the floral diversity and vegetation of different Phytogeographical areas.
 - **Class Tests** – both theoretical & Practical regularly.
 - **Parent-Teacher meetings** are held at regular intervals.
 - **Departmental meetings** are held at regular interval.
 - Events and workshops.
- 1) **UGC sponsored** - State Level Seminar entitled "SUNDERBANS – THE ENDANGERED ECOSYSTEM" ORGANISED by Dept. Of Botany & Geography, Muralidhar College, Kolkata in collaboration with Dept. of Botany, Sivanath Sastri College, Kolkata - held in Muralidhar Girls' College premises, dated 6th Feb.2016.
 - 2) **Seminar organized by the Botany Department (Dated 18th March, 2016)**
Topic: Biodiversity of medicinal Plants & their uses.
Resource person: Dr. Prabir Ranjan Sur (Retired Senior Scientist, Botanical Survey of India).
 - 3) **Poster Presentation** –
Topic: Pharmacological Potential of Selected Secondary Metabolites as Drug against Protozoan Diseases in the National Symposium on Advances in Biology : Exploitation of Phyto-resources.
Organised by- Department of Botany, A.P.J. Abdul Kalam Govt. College, New Town, Kolkata held on Nov 02 to 03, 2017 at Ramkrishna Mission Institute of Culture ,Kolkata.
 - 4) **Publication of Wall Magazine:** The department also demonstrated its awareness in the field of Environment, such as publication of wall magazine by departmental students and teachers on the occasion of **National Science Day (28/02/18)**, on different aspects of Environment like pros and cons of Gm crops, Venus Flytrap, a Mysterious Carnivorous plants and food of Dinosaur's era to enhance student's knowledge and interest about the environment and our Mother Earth.
- **Ongoing minor research project –Sponsored by College**
Research: Faculty members are also involved in an interdisciplinary research project of IQAC in collaboration with Dept. of Philosophy & Sanskrit on "**REVOLUTIONARY JOURNEY OF MEDICINAL PLANTS FROM ANCIENT CIVILISATION TO MODERN DAYS**", and students of all three departments are also involved in this undergoing project work sponsored by Sivanath Sastri College.
 An educational local survey was also conducted on 14th September, 2018 at Sonarpur and its adjoining areas to acquaint ourselves about the thoughts and beliefs of the local people about these medicinal plants.

DEPARTMENTAL ACTIVITY REPORT

An interdisciplinary Research Project -

“Revolutionary Journey of Medicinal Plants from Ancient Days to Modern Civilizations”

Project was a strategic plan of the college to focus on Research

Governing body approved the objective of collaborative Research

Project work of IQAC has been divided into three segments viz. a field Survey, one day workshop and seminar and a concise publication.

Field Survey: Students were taken to a field visit on 14th September, 2018 in a village in Sonarpur area for collecting indigenous knowledge of local people about the different uses and importance of selected medicinal plants through interviewing and interacting with local people.



Staffs and students of Botany Department – in village near Sonarpur

One day workshop and seminar: One day seminar and workshop on “**Revolutionary Journey of medicinal plants from ancient days to modern civilization**” was organized by the three departments of Sivanath Sastri College (viz. Dept. of Botany, Philosophy and Sanskrit) on 27.09.19 as a part of ongoing MRP.

- ❖ **Invitee speaker from Botany** - Dr. Prabir Ranjan Sur (Retd. Scientist, Botanical Survey of India) delivered the informative lecture on the above topic.



Seminar



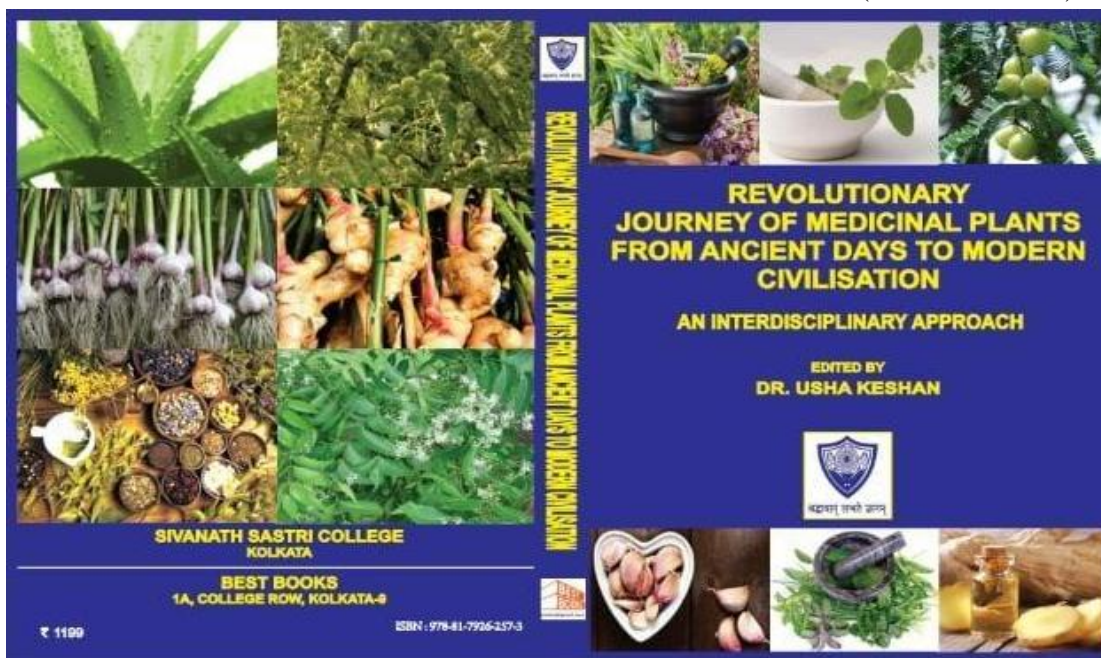
Workshop

- ❖ **Poster:** Students of the Botany department under the guidance of Faculty prepared the posters on six widely used medicinal plants viz. *Aloe*, *Amla*, *Garlic*, *Ginger*, *Neem*, *Tulsi*)



Poster by Sem II Botany Students (Ishita Chakraborty, Sumi Mondal, Ayesha Hasib, Poushali Debnath)

- ❖ After the pandemic the project was published in the form of a book (Publishers “Best Books” at “Press Corner” in the “**45th International Kolkata Book Fair**” (8th March 2022).





This Research Project aims to provide a comprehensive view on selected six Medicinal plants viz. *Aloe vera*, Amla, Ginger, Garlic, Neem and Tulsi which will enable the undergraduate students, research scholars and enthusiastic readers to grasp the subject. Each plant species has been described with religious, spiritual, social importance, botanical description and identification and traditional (in Ayurvedic medicine) as well as modern uses and properties attributed to those medicinal plants.

This book brings together for the first time a comprehensive review of important knowledge on medicinal plants viz., *Aloe vera*, Amla, Ginger, Garlic, Neem and Tulsi. Owing to the fast paced world and the lifestyle that we are living in, we are getting far from nature. By introducing small changes in our daily life we can go a long way, keeping us healthy and energetic. Hence the importance of Ayurveda holds true in today's life as it is based on the principle of bringing us close to nature and relying on its natural powers to cure us and keep us healthy. Moreover, herbal medicine is effective in curing even the most dangerous illnesses. It is safe to use and does not have harmful chemicals in it which could trigger other diseases. Herbal medicine has the great advantage of having low chemical composition. The range of diseases which can be cured by herbal medicine is broader when compared to the range of diseases which can be cured by a single drug.

The projects focus on the medicinal and antibiotic properties of the plants which can be easily used in our daily life for relieving and curing ailments. These medicinal plants still have their place in modern therapy. The project also focuses the involvement of these plants in spiritual and cultural practices by different communities which indirectly helps to make people more involved in the conservation method of these plants. Moreover the project highlights the enormous efficiency of these above-mentioned plants to combat different pollution, due to which mankind and the environment is facing serious challenges.

Books are available on Amazon or on Flipkart. Links are given below:

https://www.amazon.in/dp/817926257X?ref=myi_title_dp

<https://www.flipkart.com/revolutionary-journey-medicinal-plants-ancient-days-modern-civilisation/p/itm03ccd26d77e9a?pid=RBKGCP3CCN7DVCDY>

Educational Excursion

Topchanchi wildlife sanctuary (25.11.2022 to 27.11.2022): A three day Study tour to **Topchanchi** (Jharkhand) [Wildlife Sanctuary an elevation of 304 meters (997 feet), lying between 86°06' and 86°15' E longitudes and 23°50' and 23°56' N latitudes, an area of 8.75 Sq. Km] and its adjoining areas have been arranged for the Botany **Sem I and V** General students and it was organized by the Botany Dept. The purpose of the excursion is to provide an opportunity to explore and study flora of different altitudes. During the excursion students explored the flora of high altitude.

Identification and collection of different plant materials were carried out by the students with the help of the accompanying faculty members. A proper documentation of the entire procedure was prepared by each student. Each student submitted a field report on the aforesaid excursion in the university practical examination. The Project area is environmentally rich for its Flora and Fauna. The Topchanchi Water Reservoir spread over an area of 214 acres. The big water reservoir supplies water to Dhanbad and its suburbs.

In addition basic knowledge about the preservation process of different plant materials and preparation of herbarium sheets was also provided to them. Students prepared herbarium sheets of the collected specimens for submission in the university practical examination.

The forest here is of dry mixed deciduous type:

1. **Flora type:** Huge variety of trees such as Sal, Bijasal, Dhow, Semal, Kendu, Piar Karam, Siris, Sidha etc. The sanctuary is also blessed with a tinge of sprawling grassland and varieties of bamboo trees.
2. **Fauna type:** animals like barking deer, jungle cats, cheetah, langur, wild boar, wild rabbit, jackal, mongoose, fox, wild dogs and in winter migratory birds like pochards, red crested pochards, cods. It is the resident of bronze winged jacanas, herons, egrets etc.

This field has a high scope of research of its flora and fauna.



Roadside collection of plants near Topchanchi by students