



DEPARTMENTAL ACTIVITIES

M.SC. BOTANY

SESSION- 2022-2023

ENVIRONMENT DAY CELEBRATION

On June 5, 2022, the students of the 4th semester M.Sc. Botany program came together to participate in a cleanliness drive at Naldehra Heights. This initiative was conducted under the banner of the Green India mission and aimed to promote the mission of a cleaner and greener India. The event involved active participation from the students, who were organized into groups and assigned specific areas to clean.

Highlights of the Cleanliness Drive:

1. Green India Mission:
 - The cleanliness drive was organized in alignment with the Green India mission, which focuses on environmental conservation and cleanliness.
2. Volunteer Participation:
 - Students from the 4th semester of the M.Sc. Botany program enthusiastically volunteered for the drive.
 - The volunteers were divided into groups, each tasked with cleaning specific areas within Naldehra Heights.
3. Clean-Up Activities:
 - The primary objective of the drive was to clean up the designated areas. Students and volunteers collected trash and glass bottles scattered in these areas.
 - They meticulously cleaned the surroundings, ensuring that all waste was gathered and separated for proper disposal.
4. Support from Municipal Corporation:
 - The municipal corporation played a crucial role in the success of the cleanliness drive by providing assistance in the form of trucks and additional manpower.
 - This support facilitated the efficient removal and disposal of the collected waste.
5. Awareness Banners:
 - Banners promoting the importance of cleanliness and environmental conservation were displayed at the site.
 - These banners aimed to raise awareness among the community and inspire everyone to take responsibility for maintaining a clean environment.

Outcome:

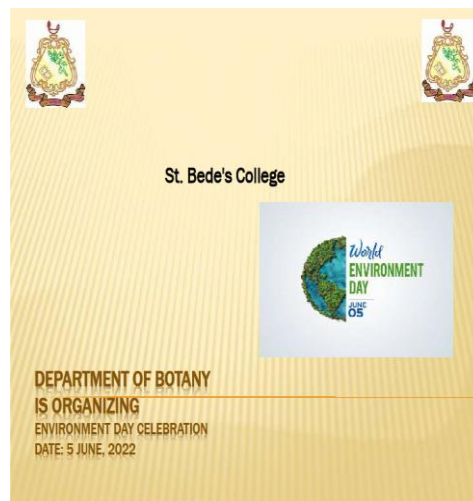
The cleanliness drive on June 5, 2022, had several significant outcomes:

1. Environmental Impact: The drive contributed to the immediate improvement of the cleanliness and hygiene of the designated areas, making a positive environmental impact.
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2. **Community Engagement:** It encouraged active participation from students and community members, fostering a sense of collective responsibility for the environment.
3. **Awareness Promotion:** The banners and community involvement helped raise awareness about the importance of cleanliness and the need for ongoing efforts to keep the environment clean.
4. **Green India Mission:** The event aligned with the Green India mission's goals and demonstrated a commitment to environmental conservation.
5. **Educational Experience:** Students gained hands-on experience in environmental stewardship, reinforcing the principles of sustainability and responsible citizenship.





FIELD VISIT TO WESTERN HIMALAYAN TEMPERATE ARBORETUM, POTTER'S HILL

On October 20, 2022, a field trip to Potter Hill Nature Park was organized for M.Sc. Botany students from both the first and third semesters. The objective of this trip was to explore the Western Himalayan flora, gain knowledge about the diverse plant species found in Himachal Pradesh, learn about cultivation techniques, and understand the various uses of these plants. The students were guided by a knowledgeable host who provided detailed explanations about different high-altitude plants and their applications.

Highlights of the Field Trip:

1. Exploration of Western Himalayan Flora:
 - The primary goal of the field trip was to discover and study the Western Himalayan flora. This region is known for its rich biodiversity and unique plant species.
2. Educational Objectives:
 - The trip aimed to educate students about the wide variety of flora found in Himachal Pradesh, including their characteristics, habitat, and ecological significance.
3. Guided Tour:
 - The students were guided by a host who had expertise in the region's plant life. The host provided detailed explanations about various plants, their growth patterns, and their uses.
4. Introduction to Uncommon Species:
 - Students had the opportunity to learn about plant species that are not commonly cultivated in Himachal Pradesh. For example, Ginkgo biloba, known for its medicinal properties, was introduced.
5. High-Altitude Plants:
 - The field trip also included the exploration of plants typically found at higher altitudes in Himachal Pradesh, such as Betula utilis (Himalayan Birch). Students learned about the adaptation of these plants to challenging environmental conditions.
6. Botanical Knowledge:
 - The trip provided students with a wealth of information about Western Himalayan flora, enhancing their botanical knowledge and understanding of plant diversity.

Outcome:

The field trip to Potter Hill Nature Park on October 20, 2022, yielded several significant outcomes:

1. Botanical Knowledge Enhancement: Students gained a deeper understanding of the Western Himalayan flora, including the identification and characteristics of various plant species.
 2. Cultivation Techniques: Learning about cultivation techniques was valuable for students interested in horticulture and plant cultivation.
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3. Practical Learning: The hands-on experience of observing plants in their natural habitat provided practical insights beyond classroom learning.
4. Ecological Awareness: Students developed an increased awareness of the ecological importance of preserving native plant species.
5. Diverse Plant Uses: Understanding the uses of different plants, including their medicinal, culinary, and cultural significance, broadened students' perspectives.
6. Appreciation of Biodiversity: The trip fostered an appreciation for the rich biodiversity of the Western Himalayan region and the need for its conservation.





INTERDEPARTMENTAL ACTIVITY

On December 13th, 2022, Ms. Madhu Thakur, an Assistant Professor in the Department of Chemistry, delivered a guest lecture to the students of M.Sc. Botany 1st Semester. The lecture was designed to provide students with fundamental knowledge in chemistry, particularly focusing on topics related to thermodynamics, redox potential, and enzyme kinetics.

Highlights of the Guest Lecture:

1. **Thermodynamics:**
 - The lecture began with an introduction to the basic principles of thermodynamics. Students learned about concepts such as energy, heat, and work in chemical processes.
2. **Enthalpy and Entropy:**
 - The discussion included explanations of enthalpy and entropy, key thermodynamic parameters that play crucial roles in chemical reactions.
 - Students learned how these parameters are used to predict the spontaneity and direction of chemical reactions.
3. **Redox Potential:**
 - Redox potential, a critical concept in chemistry, was explained. Students learned how redox reactions influence the transfer of electrons and energy in biological systems.
4. **Enzyme Kinetics and Michaelis-Menten Equation:**
 - The lecture covered enzyme kinetics, a critical topic in biochemistry. Students were introduced to the Michaelis-Menten equation, which describes enzyme-substrate interactions and reaction rates.
 - Understanding enzyme kinetics is essential for comprehending biochemical processes in living organisms.

Outcome:

The guest lecture by Ms. Madhu Thakur on December 13, 2022, had several significant outcomes:

1. **Foundational Knowledge:** Students gained foundational knowledge in chemistry, particularly in thermodynamics and redox reactions, which are essential for understanding biochemical processes.
 2. **Relevance to Botany:** The lecture highlighted the relevance of chemistry concepts to the field of botany, emphasizing how chemical principles play a role in plant metabolism and physiology.
 3. **Enzyme Understanding:** Learning about enzyme kinetics and the Michaelis-Menten equation provided students with insights into the mechanisms of enzymatic reactions in plants.
 4. **Interdisciplinary Learning:** The lecture encouraged interdisciplinary learning by bridging the gap between chemistry and botany, demonstrating how these fields intersect in the study of plant biology.
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5. Preparation for Advanced Topics: The lecture laid the groundwork for more advanced topics in biochemistry and molecular biology, which students may encounter in later semesters.
6. Enhanced Learning Experience: Understanding the principles discussed in the lecture could have enriched the overall learning experience for M.Sc. Botany students.



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INTERDEPARTMENTAL ACTIVITY
Department of Botany
invites you to an interactive session on
Principals of Thermodynamics

Date 13 December, 2022
Venue: Seminar room



LOCAL FIELD VISIT TO DIRECTORATE OF HORTICULTURE

On December 22nd, 2022, the Department of Botany organized a research tour for M.Sc. students to the Department of Horticulture in Navbahar, Shimla. The primary objectives of this tour were to acquire knowledge about various species of flowering plants and to learn about the valuable products obtained from them. The students had the opportunity to interact with scientists from the institute, attend informative lectures on floriculture, and explore the nurseries and greenhouses.

Highlights of the Research Tour:

1. Lecture on Floriculture:
 - The tour began with an informative lecture on floriculture, delivered by scientists from the Department of Horticulture. This lecture covered topics related to the cultivation and management of flowering plants, including their importance in horticulture.
 2. Interactive Session:
 - Following the lecture, an interactive session was conducted, allowing students to ask questions and engage in discussions with the scientists. This session provided a platform for students to deepen their understanding of floriculture.
 3. Visit to Nurseries and Greenhouses:
 - The main highlight of the tour was the visit to nurseries and greenhouses within the Department of Horticulture. Students had the opportunity to observe a diverse collection of flowering and medicinal plants.
 - Some of the plant species observed during the tour included Magnolia, Vinca major, Thuja, Asparagus, Tradescantia, Daisy (Asteraceae), Strelitzia (Bird of Paradise), Geranium, Utricularia, Rumex obtusifolius (Bitter dock), and Smilax.
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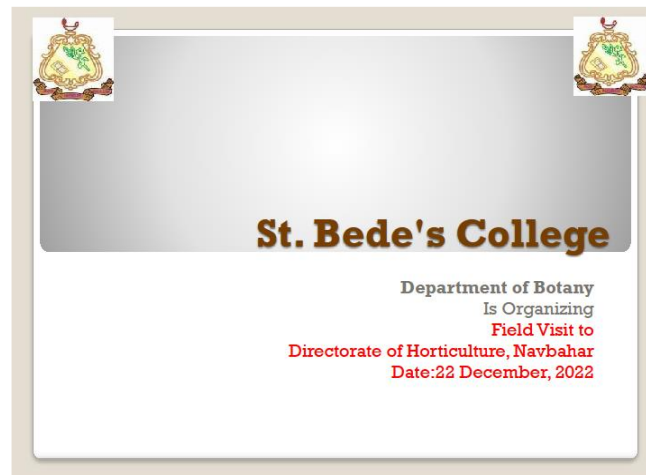
4. Learning About Plant Uses:

- During the tour, students learned about the various uses of the observed plants, including their roles in ornamental horticulture, medicinal properties, and economic significance.

Outcome:

The research tour to the Department of Horticulture in Navbahar, Shimla, on December 22, 2022, resulted in several notable outcomes:

1. Botanical Knowledge: M.Sc. students gained valuable knowledge about a wide range of flowering plants, expanding their botanical understanding.
2. Floriculture Insights: The tour provided insights into the principles and practices of floriculture, enhancing students' comprehension of plant cultivation.
3. Practical Learning: Observing plants in nurseries and greenhouses offered practical experience that complemented classroom-based learning.
4. Awareness of Plant Uses: Students acquired knowledge about the diverse uses of flowering and medicinal plants, fostering a holistic understanding of plant science.
5. Interaction with Experts: The interactive session with scientists allowed students to engage with experts in the field, encouraging curiosity and exploration.
6. Interest in Horticulture: The experience sparked interest in horticulture and its applications among the students, potentially influencing their career paths.





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NATIONAL CONFERENCE ON “NOVEL PROGRESSIONS IN SCIENCE AND TECHNOLOGY

The Science faculty of St. Bede's College, Shimla, organized a two-day National Conference titled "Novel Progressions in Science and Technology-2022" on November 28th and 29th, 2022. The conference provided a platform for renowned speakers and researchers from across the country to present and discuss various topics related to Science and Technology. Faculty members and students from the Botany Department actively participated in the event and played key roles in the organizing committee. Ms. Preeti Kaundal, Assistant Professor in Botany, served as the organizing secretary of the conference.

Conference Highlights:

1. **Renowned Speakers:** The conference featured talks by distinguished speakers who shared their expertise on a wide range of topics in the field of Science and Technology. These talks provided valuable insights and updates to the attendees.
2. **Oral Research Papers:** Researchers from different parts of the country presented a total of 20 oral research papers during the conference. These research presentations covered diverse areas within the realm of Science and Technology.
3. **Poster Presentations:** In addition to oral presentations, 15 poster presentations were also included in the conference. Posters offered a visual means for researchers to showcase their work and engage with the audience.
4. **Interdisciplinary Exchange:** The conference fostered interdisciplinary discussions, allowing participants to explore the intersections of various scientific disciplines and exchange ideas.
5. **Participation of Botany Department:** Faculty members and students from the Botany Department actively participated in the conference. Their enthusiastic involvement contributed to the success of the event.
6. **Organizing Committee:** Ms. Preeti Kaundal, an Assistant Professor in Botany, played a pivotal role as the organizing secretary, demonstrating the department's commitment to the conference's success.

Outcome:

The "Novel Progressions in Science and Technology-2022" National Conference had several significant outcomes:

1. **Knowledge Exchange:** The conference facilitated the exchange of knowledge and ideas among scientists, researchers, and students from diverse scientific backgrounds.
 2. **Research Dissemination:** Researchers had the opportunity to disseminate their findings and receive feedback from peers and experts in their respective fields.
 3. **Interdisciplinary Insights:** Interactions among participants encouraged interdisciplinary insights and collaborations, potentially leading to future research projects.
 4. **Skill Development:** Attendees, including students, had the chance to enhance their presentation and communication skills through oral and poster presentations.
 5. **Academic Networking:** The conference promoted networking and collaboration among scientists and institutions, strengthening the scientific community.
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6. **Botany Department Engagement:** The active participation of the Botany Department's faculty and students showcased their commitment to academic and scientific advancement.



NATIONAL SCIENCE DAY CELEBRATION

The Science Departments of St. Bede's College, Shimla, in collaboration with Physics Teachers (IAPT) and the Indian Science Congress Association, Shimla Chapter (ISCA), organized a two-day program titled "Discoveries in Science and Sustainable Development" on February 28 and March 1, 2023. This program aimed to raise awareness and promote scientific thinking among students and the general public in celebration of National Science Day, with the theme "Global Science for Global Well Being." The event attracted students from various colleges in Himachal Pradesh.

Program Highlights:

1. **Collaboration:** The program was a collaborative effort involving educational institutions, professional organizations (Physics Teachers - IAPT), and a scientific association (ISCA).
 2. **Duration:** The program spanned two days, offering a comprehensive experience for participants.
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3. **Awareness and Promotion:** The central aim of the program was to raise awareness about the significance of scientific discoveries and their role in global well-being.
4. **National Science Day:** The event was organized in celebration of National Science Day, which marks the discovery of the Raman Effect by Sir C.V. Raman.
5. **Activities:** The program featured a diverse range of activities, including talks by renowned speakers, a film screening on cyclotron, demonstration sessions, sky watching, an inter-college science quiz competition, and an exhibition by science students.
6. **Inter-College Science Quiz:** Six teams participated in the inter-college science quiz competition, encouraging friendly competition and testing participants' scientific knowledge.
7. **Lecture on Microplastics:** Professor S.S. Kanwar delivered a talk on "Microplastics: Omnipresent Pollutant and Health Issue." His lecture focused on the environmental concerns associated with microplastic pollution and its potential health impacts on humans and wildlife. He also discussed initiatives to address the issue.

Outcome:

The "Discoveries in Science and Sustainable Development" program had several notable outcomes:

1. **Scientific Awareness:** The program successfully raised awareness about the importance of science in addressing global challenges and promoting well-being.
 2. **Scientific Thinking:** Students and the general public had the opportunity to engage in scientific discussions, fostering a culture of scientific thinking.
 3. **Knowledge Exchange:** Renowned speakers shared their expertise, enhancing participants' understanding of various scientific topics.
 4. **Interdisciplinary Learning:** The program encouraged interdisciplinary learning by addressing issues related to sustainable development that require collaboration across scientific disciplines.
 5. **Student Participation:** Science students had the chance to showcase their research and projects through exhibitions and engage in friendly competition through the inter-college science quiz.
 6. **Environmental Awareness:** The lecture on microplastics highlighted the pressing issue of plastic pollution and its implications for the environment and health.
 7. **Promotion of Sustainable Practices:** Initiatives to reduce plastic waste and promote sustainable production and consumption patterns were discussed, contributing to environmental consciousness.
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St. Bede's College
(NAAC Re-Accredited 'A+' College)
in collaboration with
Indian Association of Physics Teachers & Indian Science Congress Association
Organizes
Two Days Program to Celebrate
NATIONAL SCIENCE DAY-2023
on
"Discoveries in Science and Sustainable Development"
Dedicated to Prof. H. S. Hans (A Cyclotron Pioneer) on his Centenary Celebrations

Highlights	Eminent Speakers
Invited Talks by Eminent Speakers	Prof. P. K. Ahluwalia, President, IAPT
Movie on Cyclotron & On the Spot Quiz	Prof. Neeraj Sharma, Convener, ISCA
Demonstration Sessions & Sky Watching	Prof. S. S. Kanwar, HPU Shimla
Cash Prizes For Winners	Prof. M. S. Marwah, GGSC Chandigarh
Inter College Science Quiz Competition	Prof. Hemant Kumar, Secretary, IAPT RC03
Exhibition by Science Departments	Dr. Arun Kumar, Govt. College Ghumarwin

Date: 28th Feb. - 1st Mar. 2023
Venue: College Auditorium
Time: 10.00 am to 3.00 pm
No Registration Fee!

Patron: Prof. (Sr.) Molly Abraham
Principal
Convener: Dr. Sapna Sharma
Assoc. Prof.
St. Bede's College

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