



DEPARTMENTAL ACTIVITIES

M. SC BOTANY

SESSION- 2018-2019

VISIT TO INDIAN INSTITUTE OF ADVANCED STUDIES

In October 2018, a group of M.Sc students embarked on a field visit to the Indian Institute of Advanced Studies with the primary objective of acquainting themselves with the rich flora of the area. This educational excursion aimed to provide students with practical exposure to diverse plant species and their ecological significance. Additionally, students had the opportunity to study ornamental plants cultivated in the institute's premises, enhancing their knowledge of horticulture and landscaping.

Objectives: The key objectives of the field visit were as follows:

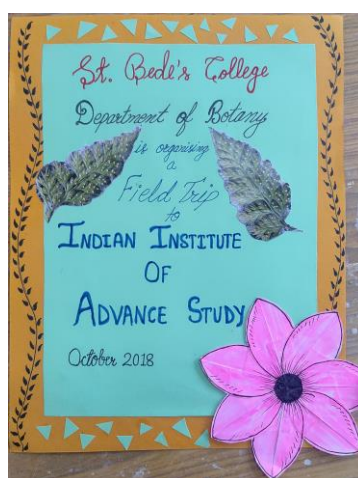
1. **Exploration of Local Flora:** To introduce students to the diverse plant species native to the region and foster an understanding of their ecological roles and adaptations.
2. **Study of Ornamental Plants:** To enable students to identify and learn about the cultivation and maintenance of ornamental plants, including their aesthetic and economic significance.
3. **Hands-on Learning:** To provide students with practical experience in plant identification, classification, and observation, promoting a deeper understanding of botanical concepts.

Outcome: The field visit to the Indian Institute of Advanced Studies proved to be a highly enriching experience for the M.Sc students, yielding several valuable outcomes:

1. **Enhanced Botanical Knowledge:** Students acquired a comprehensive understanding of various plant species indigenous to the region, including but not limited to Ginkgo, Geranium, Chrysanthemum, Gazania, and Fuchsia. They were able to identify and classify these plants and appreciate their unique characteristics.
2. **Ecological Awareness:** The visit deepened students' awareness of the importance of preserving native flora for ecological balance and sustainability. They gained insights into the interdependence of plants, wildlife, and the environment.
3. **Horticultural Insight:** By studying ornamental plants, students gained insights into the methods of cultivation, landscaping, and maintenance of these plants. They learned about the role of ornamental horticulture in beautifying public spaces and gardens.
4. **Practical Skills:** Through hands-on activities, such as plant identification exercises and guided tours, students developed practical skills in fieldwork and data collection. This experience will prove invaluable in their academic and professional endeavors.
5. **Interdisciplinary Learning:** The visit encouraged interdisciplinary learning, as students integrated knowledge from their M.Sc program with practical field observations, enriching their overall academic experience.



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EXCURSION TO CAMP POTTER HILL TO CELEBRATE WORLD EARTH DAY

On April 22, 2019, a group of M.Sc students embarked on an exciting excursion to Camp Potter Hill, Summerhill, with the aim of celebrating World Earth Day. The theme for this year's Earth Day was 'Protect Our Species,' highlighting the importance of conserving Earth's diverse flora and fauna. This event was organized in collaboration with HFRI (Himalayan Forest Research Institute). The students actively participated in various activities designed to raise awareness about environmental conservation and the significance of biodiversity.

Activities and Objectives: The objectives of the excursion were as follows:

1. **Celebrate World Earth Day:** The primary goal of the visit was to commemorate World Earth Day, emphasizing the importance of environmental protection and sustainable living.
2. **Raise Awareness:** Through a skit performance, students aimed to raise awareness about the 'Protect Our Species' theme, showcasing the role humans play in preserving or endangering Earth's biodiversity.
3. **Explore Local Flora:** Students were provided with an opportunity to explore the flora of the Camp Potter Hill area, gaining a better understanding of the rich plant diversity in the region.

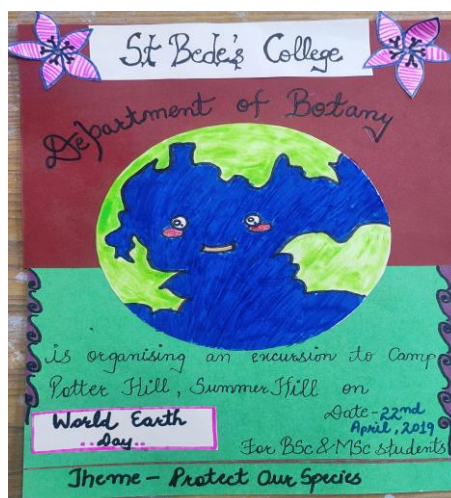


4. **Guest Lecture:** Mr. Raja Bhasin, a renowned environmentalist and resource person, delivered an insightful lecture. He emphasized the need to respect and responsibly manage Earth's resources. He also discussed sustainable resource utilization and the critical role individuals can play in biodiversity conservation.

Outcome: The excursion was a resounding success, yielding the following outcomes:

1. **Environmental Awareness:** The event succeeded in raising environmental consciousness among the M.Sc students, helping them understand the urgent need for species protection and biodiversity conservation.
2. **Artistic Expression:** The skit performance provided students with a creative platform to express their concerns about the environment, conveying important messages about responsible environmental stewardship.
3. **Botanical Knowledge:** Students had the opportunity to identify and learn about the local flora, expanding their botanical knowledge and appreciation for indigenous plant species.
4. **Sustainability Insights:** Mr. Raja Bhasin's lecture left a lasting impact, encouraging students to adopt sustainable practices in their lives. His insights on resource management resonated with the audience, inspiring them to take action.
5. **Commitment to Conservation:** The excursion reinforced the commitment of M.Sc students to environmental conservation and the protection of Earth's species. It instilled a sense of responsibility to preserve and respect the natural world.





PROJECTS MADE BY M.SC STUDENTS

During December 2018, students in the first semester of the M.Sc program engaged in comprehensive research projects that revolved around plants holding significant ethnobotanical importance. These projects spanned diverse categories of plant species, each with its own distinct significance in the field of ethnobotany. The project categories are as follows:

1. **Timber Woods Projects:** In this category, students conducted research on trees and woody plants that are valuable for their wood, exploring their various uses in construction, carpentry, and furniture making. These projects examined the properties, growth patterns, and sustainable harvesting methods of these timber resources.
2. **Poisonous Plants Projects:** This area of study involved the identification and analysis of plants known for their toxic properties. Students researched the chemical compounds responsible for toxicity, their effects on humans and animals, as well as traditional and contemporary uses, including medicinal and cultural contexts.
3. **Wild Edible Plants Projects:** Students investigated wild plants that are edible and traditionally consumed by local communities. These projects explored the nutritional value, culinary uses, and gathering practices associated with these plants, as well as their role in traditional diets.
4. **Gum and Resin Plants Projects:** This category focused on plants known for producing gums and resins with various applications. Students examined the extraction processes, chemical composition, and economic significance of these natural exudates. Additionally, they explored traditional and modern uses, such as in perfumes, adhesives, or traditional medicines.
5. **Aromatic Plants Projects:** Students studied plants valued for their aromatic properties, such as herbs and spices. Research in this category encompassed the cultivation, essential oil extraction, and medicinal or culinary uses of aromatic plants. Additionally, students explored the cultural and commercial importance of these plants.

These ethnobotanical projects undertaken by M.Sc students represented a holistic exploration of the relationships between plants and human societies. They encompassed ecological,



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cultural, economic, and medicinal aspects, shedding light on the multifaceted roles that various plant species play in our lives.



In the fourth semester of their M.Sc. program, 18 students undertook project work focused on documenting the flora of various localities in Himachal Pradesh. These projects involved fieldwork where students captured photographs of plants in their natural habitats and explored the ethnobotanical significance of these plant species.

The key components and objectives of these projects can be summarized as follows:

Flora Documentation: The primary goal of these projects was to document the plant species found in different localities across Himachal Pradesh. Students conducted field surveys and photographed various plants, ensuring a comprehensive record of the region's botanical diversity.

Natural Habitat Photography: Students captured photographs of these plants within their natural habitats, providing visual documentation of the plants as they exist in the wild. These photographs not only serve as a valuable reference but also showcase the beauty and ecological context of these plant species.

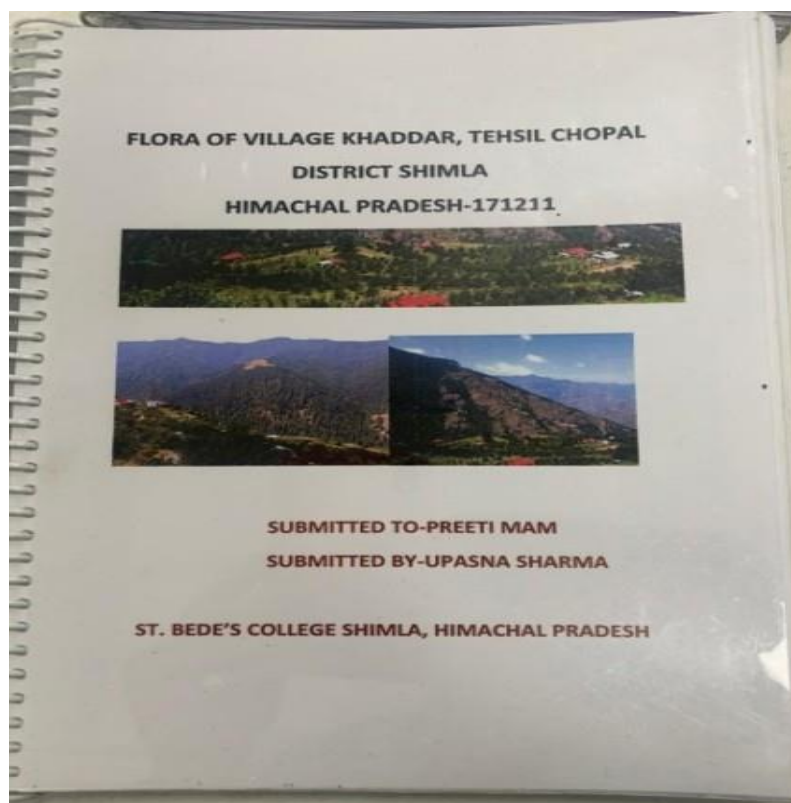
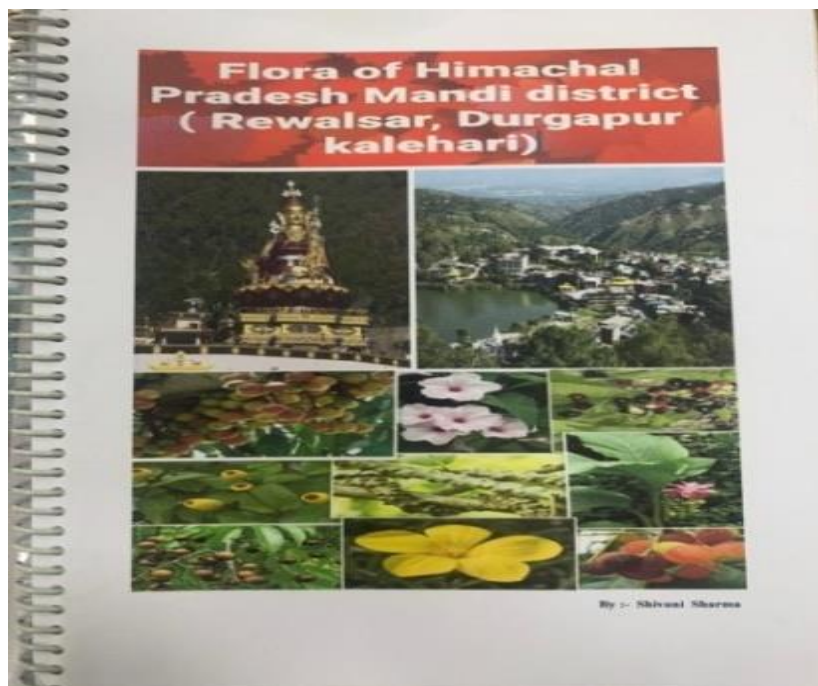
Ethnobotanical Importance: In addition to cataloging plant species, the projects explored the ethnobotanical importance of these plants. This aspect involved researching and documenting the traditional and cultural uses of these plants by local communities.

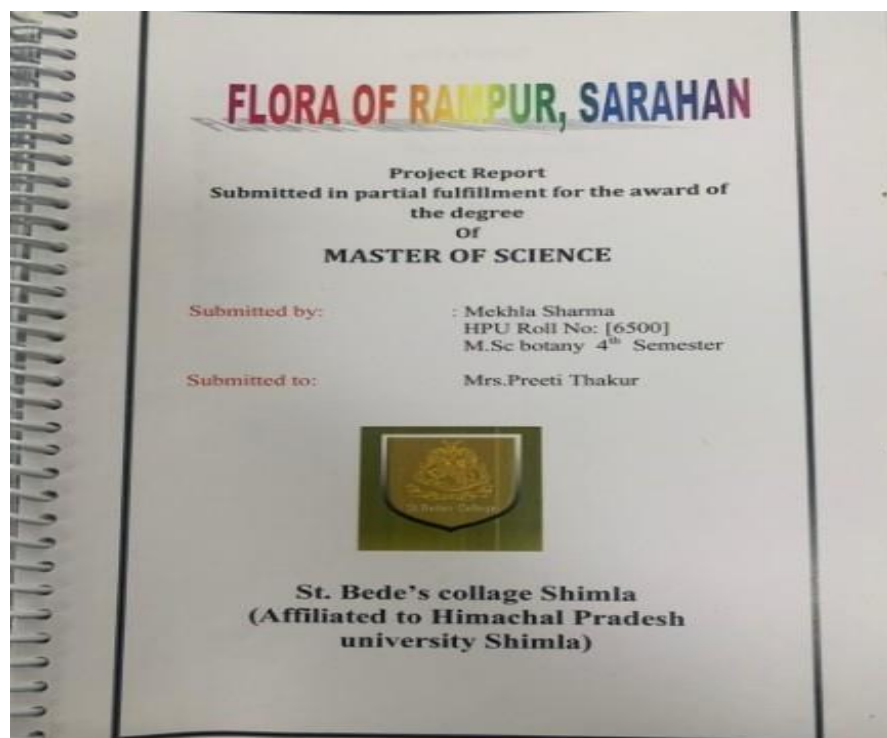
Biodiversity Conservation: Through their work, students contributed to the conservation of biodiversity in Himachal Pradesh. By identifying and understanding the importance of these plant species, they highlighted the need for their preservation and sustainable management.



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Scientific Contribution: These projects also had a scientific dimension, as students aimed to contribute to the body of knowledge regarding the flora of Himachal Pradesh. Their research findings and photographic documentation could be valuable for future botanical studies and conservation efforts.





ONE DAY NATIONAL SEMINAR ON INDIAN SCIENCE: FROM PAST TO FUTURE

On September 13, 2018, a One Day National Seminar on "Indian Science: From Past to Future" was organized in association with the Indian Science Congress Association, Shimla. The seminar featured two informative lectures, a thought-provoking movie screening, and a quiz centered around the seminar's theme. Additionally, students from various local schools actively participated in this enlightening event, making it a comprehensive and enriching experience.

Activities and Highlights: The seminar was designed to achieve the following objectives:

1. **Educational Lectures:** The seminar commenced with two enlightening lectures delivered by distinguished speakers. These lectures delved into the rich history of Indian science, highlighting significant contributions and milestones, while also addressing the future of science and technology in India.
2. **Movie Screening:** A thoughtfully selected movie was screened, further illustrating the evolution of Indian science and its role in shaping the nation's progress. The film provided a visual journey through the scientific achievements of the country.
3. **Quiz Competition:** A quiz competition based on the seminar's theme allowed participants to test their knowledge and gain deeper insights into the history and future prospects of Indian science. It encouraged active participation and friendly competition among students.
4. **Display of Student Projects:** M.Sc. Botany students seized the opportunity to showcase various projects they had undertaken. This not only displayed their dedication



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and hard work but also facilitated knowledge sharing and interaction with other participants.

Outcome: The One Day National Seminar on Indian Science proved to be a highly beneficial and enriching experience for all participants, including M.Sc students and faculty members. The outcomes included:

1. **Increased Awareness:** Students gained a deeper understanding of the significant contributions of Indian scientists throughout history and the importance of fostering scientific research in the country.
2. **Educational Enrichment:** The lectures and movie screening broadened participants' knowledge about India's scientific heritage and provided insights into the promising future of scientific advancements.
3. **Student Engagement:** The quiz competition stimulated intellectual engagement among students, fostering critical thinking and a thirst for knowledge.
4. **Interactions and Networking:** The participation of students from various local schools allowed for valuable interactions and knowledge exchange, promoting a sense of scientific community.
5. **Project Showcasing:** M.Sc. Botany students had the opportunity to present their projects, receiving feedback and recognition for their hard work and innovative research.





PLANTATION OF ORNAMENTAL PLANTS IN COLLEGE CAMPUS

The students pursuing their M.Sc. were actively encouraged to engage in the cultivation of ornamental plants, both in pots and within the herbal garden. This initiative aimed to provide them with practical, hands-on experience in gardening. Here's a more detailed explanation:

Objectives

1. **Hands-On Learning:** The primary objective of encouraging students to grow ornamental plants was to offer them hands-on learning experience in horticulture and gardening practices.
2. **Practical Application:** By tending to ornamental plants, students were able to apply theoretical knowledge gained in their coursework to real-life scenarios. This practical exposure helped solidify their understanding of plant care and cultivation techniques.
3. **Skill Development:** Gardening activities promoted the development of essential skills such as plant propagation, soil management, pest control, and plant care. These skills are valuable in various professional settings, including agriculture, landscaping, and environmental science.
4. **Aesthetic Appreciation:** Cultivating ornamental plants allowed students to appreciate the aesthetic qualities of different plant species, helping them understand the importance of green spaces and landscaping in both urban and rural environments.

Methods:

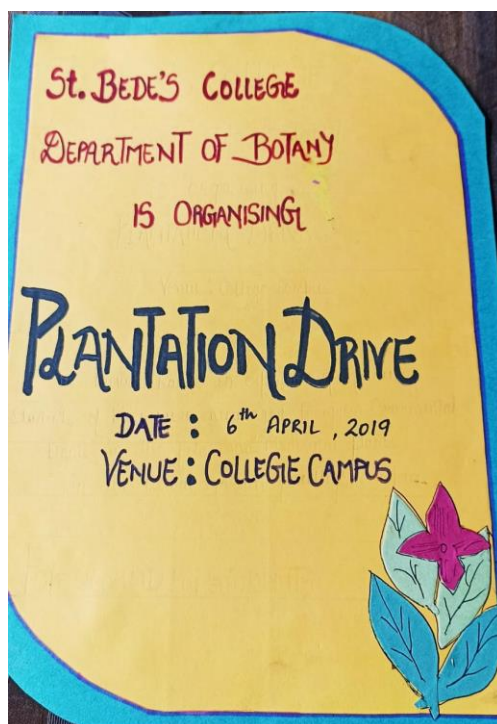
1. **Potted Plants:** Students were provided with pots and the necessary resources to grow ornamental plants. They selected a variety of plant species known for their decorative and aesthetic appeal.
2. **Herbal Garden:** In addition to growing ornamental plants in pots, students were encouraged to contribute to the establishment and maintenance of a herbal garden. This garden has included a wide range of medicinal and aromatic plants, serving both educational and practical purposes.

Outcomes:

1. **Practical Skills:** Engaging in gardening activities allowed students to acquire practical skills related to plant cultivation, nurturing, and maintenance. These skills can be applied in future careers or personal gardening pursuits.
2. **Environmental Awareness:** Gardening fosters an appreciation for nature and the environment. Students developed a greater understanding of the ecological importance of plants and green spaces.
3. **Aesthetic Sensibility:** Students developed an enhanced sense of aesthetics and design through the cultivation of ornamental plants, which can be valuable in careers related to landscaping and horticulture.
4. **Educational Value:** The herbal garden serves as an educational resource for the entire academic community, offering insights into the properties and uses of medicinal and aromatic plants.



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INTER-DEPARTMENTAL ACTIVITIES

On 28th Sept 2018, the lecture delivered by a faculty member of Botany to Geography students on the topic 'Bio-Geography' and a faculty member of Geography to Botany students on the topic 'Application of Geographic Information Systems (GIS) and Remote Sensing techniques in Botany' represents an interdisciplinary approach that combines elements of biology and geography.

Objective: The primary objective of this lecture was to introduce Geography students to the field of Biogeography. Biogeography is the study of the distribution of living organisms on Earth and the factors influencing their distribution. This lecture aimed to provide students with insights into the relationship between biological processes and geographical patterns.



Key Topics Covered: During the lecture, students explored various aspects of Biogeography, which included:

1. Biogeographical Regions: Understanding the different biogeographical regions around the world and the unique flora and fauna found in each region.
2. Species Distribution: Examining how species are distributed across continents, islands, and ecosystems, and the ecological and geographical factors that influence these distributions.
3. Migration and Dispersal: Learning about the movement of species over time and the mechanisms by which organisms disperse to new habitats.
4. Biodiversity Hotspots: Identifying regions with exceptionally high levels of biodiversity and the conservation challenges associated with these areas.
5. Climate and Habitats: Exploring how climate, topography, and habitat types impact the distribution of plant and animal species.

Outcome: The lecture on Biogeography had several positive outcomes for Geography students:

1. Interdisciplinary Perspective: It provided students with a broader perspective by integrating biological concepts into their geographical studies.
2. Environmental Awareness: Students gained insights into the intricate relationship between ecosystems, climate, and species distribution, fostering a deeper appreciation for environmental issues.
3. Cross-Disciplinary Knowledge: The lecture equipped students with knowledge that can be valuable in addressing complex environmental challenges and conducting research at the intersection of biology and geography.
4. Career Opportunities: Understanding Biogeography can open up career opportunities in fields such as environmental science, conservation biology, and ecosystem management.



Ms. Preeti Kaundal, delivering lecture to Geography Students

The lecture delivered by the Assistant Professor of Geography to Botany students on the application of Geographic Information Systems (GIS) and Remote Sensing techniques in Botany highlights the interdisciplinary nature of these technologies and their relevance across various fields. Here's a brief overview:

Objective: The primary objective of this lecture was to introduce Botany students to the practical applications of GIS and Remote Sensing in their field of study. GIS involves the capture, analysis, and visualization of geographic data, while Remote Sensing uses satellite or aerial imagery to gather information about the Earth's surface. Both technologies have diverse applications in Botany, from habitat mapping to vegetation analysis.

Key Topics Covered: During the lecture, students explored various topics related to the application of GIS and Remote Sensing in Botany:

Habitat Mapping: Using GIS and Remote Sensing to map and monitor different types of habitats and ecosystems, which is essential for biodiversity conservation and ecosystem management.

Vegetation Analysis: Demonstrating how these technologies can be used to assess vegetation health, density, and distribution, aiding in the study of plant communities and their changes over time.



Species Distribution: Exploring how GIS can help track the distribution of plant species, particularly in relation to environmental factors like climate and soil.

Ecological Modeling: Discussing the creation of ecological models using GIS data to predict how changes in the environment might impact plant populations.

Environmental Monitoring: Highlighting the role of GIS and Remote Sensing in monitoring environmental factors such as land use changes, deforestation, and climate-related shifts, all of which can affect plant life.

Outcome: The lecture on the application of GIS and Remote Sensing techniques in Botany had several positive outcomes for Botany students:

Interdisciplinary Knowledge: It introduced students to the integration of geographical and botanical concepts, fostering interdisciplinary thinking.

Practical Skills: Students gained insights into the practical application of GIS and Remote Sensing tools, which can be valuable in research and fieldwork.

Environmental Conservation: Understanding how these technologies can aid in habitat and species conservation efforts.

Career Opportunities: Knowledge of GIS and Remote Sensing can open up career opportunities in environmental consulting, conservation biology, and ecosystem management.



Dr. Pankaj Ashish, delivering lecture to Botany Students