

CRITERIA- VII

Key Indicator - 7.1 Institutional Values and Social Responsibilities (50)

7.1.3: QnM Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following (10)

- 1. Green audit / Environment audit
- 2. Energy audit
- 3. Clean and green campus initiatives
- 4. Beyond the campus environmental promotion activities

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No. Sc.

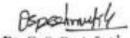
Date :

Self Declaration

This is to certify that, the information, reports, true copies of the supporting documents, numerical data, and weblinks furnished in this file are verified by IQAC and the head of the institution and found correct.

Delation-

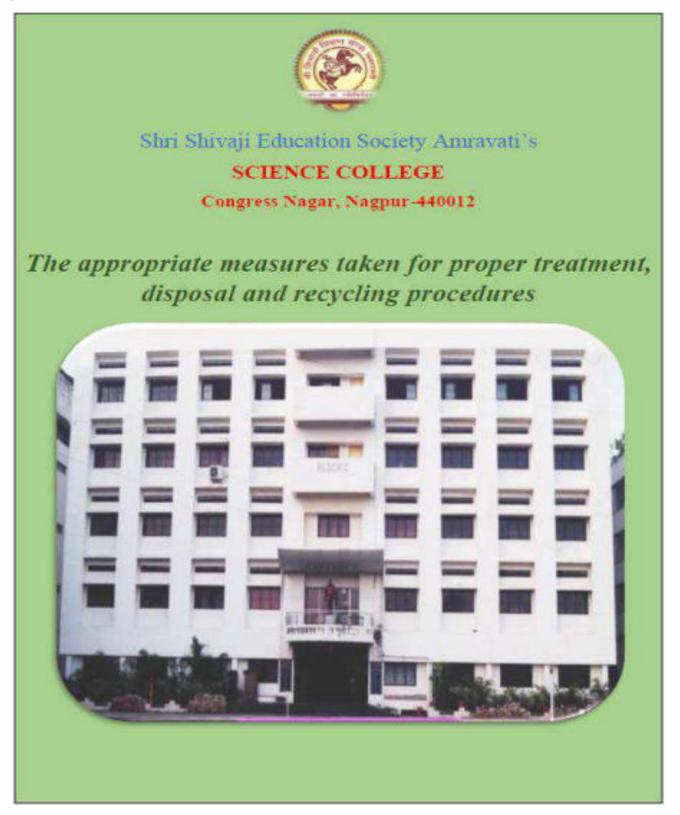
Dr. A. A. Halder IQAC Coordinator S.S.E.S.A's Science College, Nagour



Dr. O. S. Deshmukh Principal S. S. E. S. Amraveti's Science College, Nagour.



1) The appropriate measures taken for proper treatment, disposal and recycling procedures



i) Recycling process of Degradable Solid Waste Vermi Compost

RECYCLING PROCEDURE OF DEGRADABLE WASTE OF THE COLLEGE CAMPUS (VERMICOMPOSTING)

Objective:

To establish a sustainable vermicomposting system that efficiently converted organic campus waste into nutrient-rich fertilizer, providing an eco-friendly solution for waste recycling and enriching soil health.

The campus of Shri Shivaji Science College generated substantial amounts of biodegradable waste, including kitchen waste from student hostels, residential quarters, fallen banana stems, dead plants, litter, and weeds. This vermicomposting initiative aimed to transform these organic wastes into high-quality organic manure in a short period. The project aligned with sustainable practices, promoting environmental responsibility within the campus community.

Phase 1: Planning and Preparation (Weeks 1-2)

- 1. Understanding Vermicomposting Principles The team was educated on the basics of vermicomposting, focusing on the process, materials, and maintenance.
- 2. Location Selection for Vermicompost Bed A shaded; accessible site was selected for the vermicompost bed.
- 3. Choosing Worm Species Suitable worm species, such as Red Wigglers (*Eisenia fetida*), were identified and acquired for efficient composting.

Phase 2: Setting Up the Vermicompost Bed (Weeks 3-4)

- Constructing or Acquiring the Vermicompost Bed The compost bed was set up at the selected site, using materials that ensured proper airflow and moisture retention. The size of the container was 12 ft × 4ft ×2 ft size with drinage.
- 2. Adding Bedding Materials

Bedding was prepared using coconut coir, shredded newspaper, dry leaves, plant cuttings, cow dung, and soil to create a balanced environment for the worms approx. 800 to 1200 kg waste added which covered 4 to 6 inch layer in the container, 3 to 4 inch layer of pre-composted organic waste was also added.

3. Introducing Worms

Approximately Approx. 1 to 2 kg of worms were introduced to the bed to kickstart the composting process.

- 4. Adding Initial Food Sources A mix of vegetable scraps and tea bags was provided as the initial feed for the worms, supporting rapid acclimatization and composting.
- 5. Monitoring Temperature and Moisture Temperature was maintained in the range of 55-77°F, and moisture levels were closely monitored to create optimal conditions for the worms.
- 6. Cover Material

At the end the system was covered with one large sheet od jute sack

Phase 3: Maintenance and Monitoring (Ongoing)

1. Regular Feeding Schedule

The worms were fed 1-2 times per week with campus-generated kitchen scraps and organic waste.

- 2. **Maintaining Optimal Conditions** Moisture levels were kept between 60-80%, and temperature was monitored regularly. Bedding was adjusted as needed to maintain these conditions.
- 3. **pH Monitoring** The pH level was regularly checked and maintained between 6.5 and 7.5 to provide an ideal composting environment.
- 4. **Harvesting Castings** Worm castings (vermicompost) were harvested every 2-3 months, depending on composting progress.

Phase 4: Harvesting and Utilization (After 60 to 90 days)

- 1. Separating Worms from Castings Worms were carefully removed from the castings to preserve them for continued composting.
- 2. Utilizing Castings as Fertilizer The nutrient-rich castings were used as fertilizer for campus gardens and indoor plants, promoting healthy plant growth.
- 3. **Re-adding Worms with Fresh Bedding** Worms were returned to the bin with fresh bedding and food to continue the composting cycle.
- 4. **Considering Expansion** As demand for compost increased, additional worm bins were set up to meet campus needs.

Storage and Sales Strategy

• Storage

Vermicompost was stored in a cool, dark area with at least 40% moisture to retain nutrients. Open storage was preferred, with periodic watering to maintain moisture and microbial activity.

• Packaging and Sale

The finished vermicompost was packaged and offered for sale within the campus at Rs. 50 per 1kg bag or Rs. 100 per 2kg bag, supporting sustainability initiatives and generating a small income stream.

This vermicomposting project provided an eco-friendly waste solution, reduced the campus's environmental footprint, and promoted sustainable soil enrichment practices among students and staff.

Action taken Report

- The campus implemented a vermicomposting unit to recycle organic waste, including kitchen scraps from hostels, fallen leaves, dead plants, and other biodegradable materials, into nutrient-rich manure.
- A shaded, accessible area was selected for the vermicompost bed, which was prepared with bedding materials like kitchen waste form girls hostel of the college, shredded paper, dry leaves, cow dung, and soil.
- Red Wigglers (*Eisenia fetida*) worms were introduced to kickstart the composting process, and temperature, moisture, and pH levels were monitored to maintain ideal conditions.
- The worms were fed regularly, and bedding was refreshed as needed to ensure consistent compost production. After 60 to 90 days, the vermicompost was harvested, separated from the worms, and used to enrich the soil in campus gardens and distributed to students and staff.
- > This project promoted sustainable waste management, reduced the campus's environmental footprint, and generated a source of natural fertilizer.

SSESA's Science College, Nagpur



Setting Up the Vermicompost Bed



Maintenance and Monitoring of Vermicompost Be



Introduction of Red Wigglers (Eisenia fetida), for efficient composting.



Supervision and monitoring of vermibed



Supervision and monitoring of vermibed



Prepared vermicompost



Packaging and distribution of compost

ii) Waste Water Disposal

Wastewater collected in a basement tank is periodically removed by the municipal authorities (NMC). This wastewater disposal process involves the collection and safe removal of wastewater from the tank, ensuring proper sanitation and adherence to local regulations. NMC is responsible for transporting the collected wastewater to a treatment facility, where it undergoes appropriate processing before safe discharge or reuse. This system helps maintain hygiene standards within the premises and prevents environmental contamination.



Chemicals from various department collected here in the separate tank and properly treated

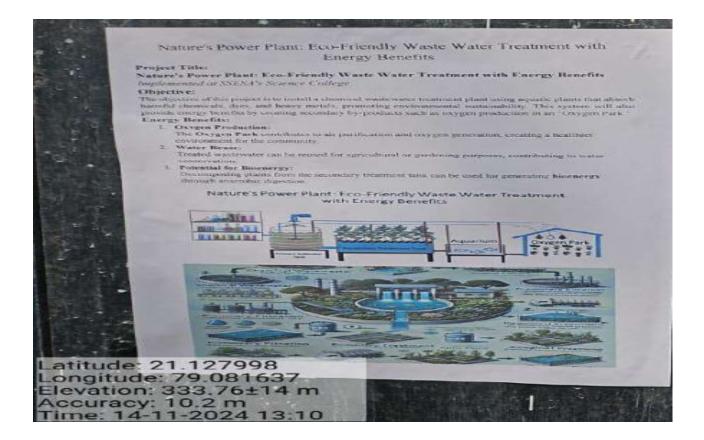
SSESA's Science College, Nagpur

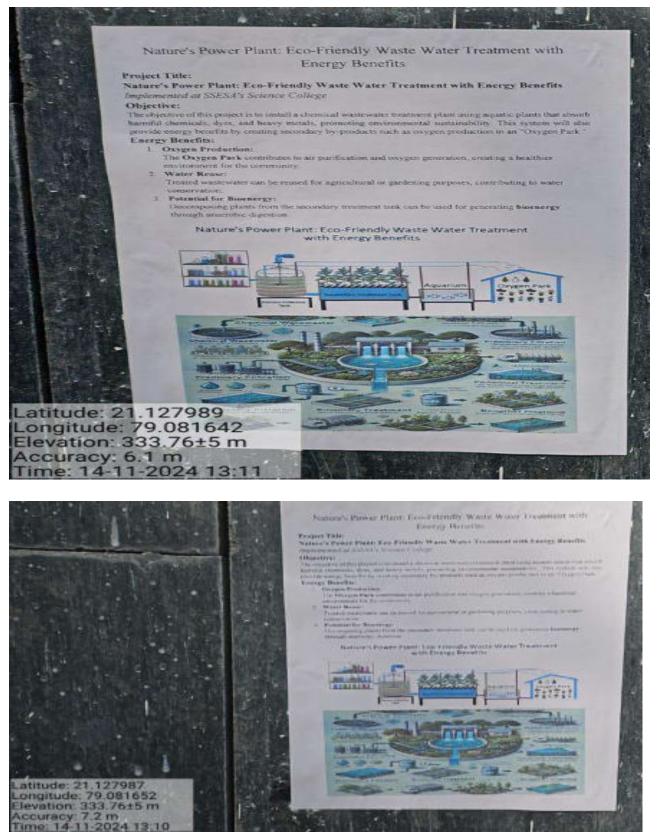






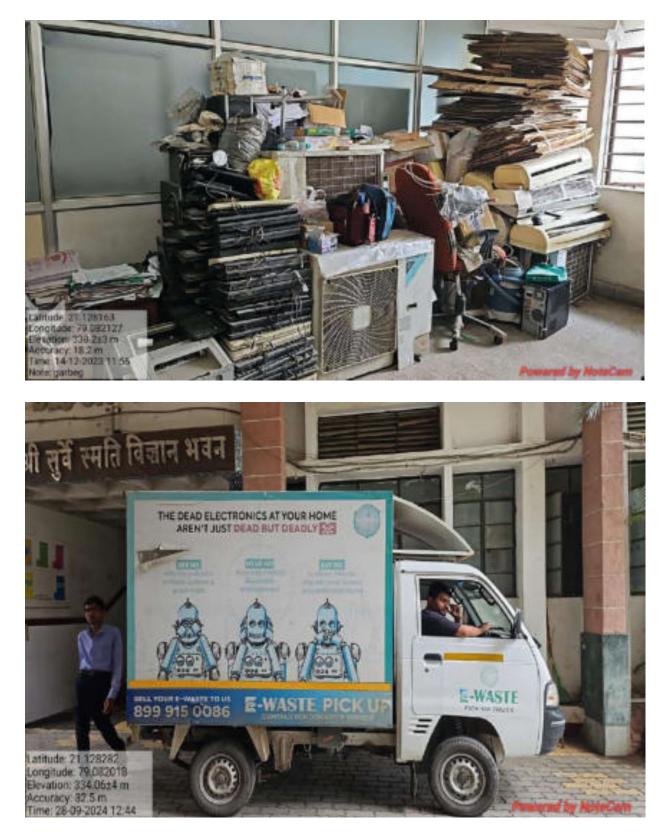
Chemicals from various department collected here in the pipes to separate tank and properly treated





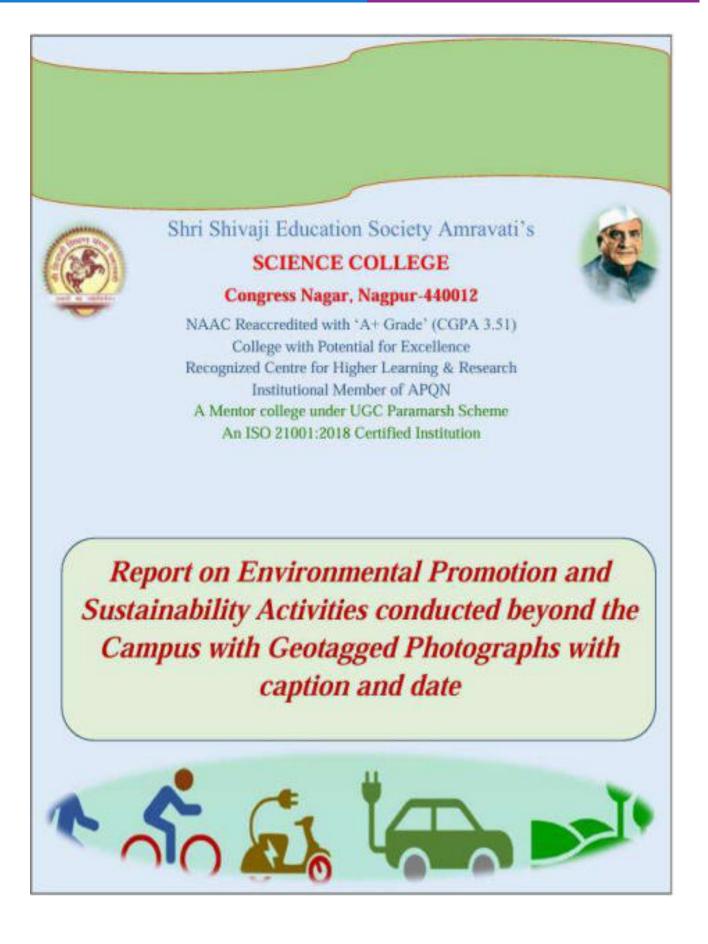
Nature Power Plant: Eco-Friendly Waste Water Treatment with Energy Benefits

iii) E-Waste Management



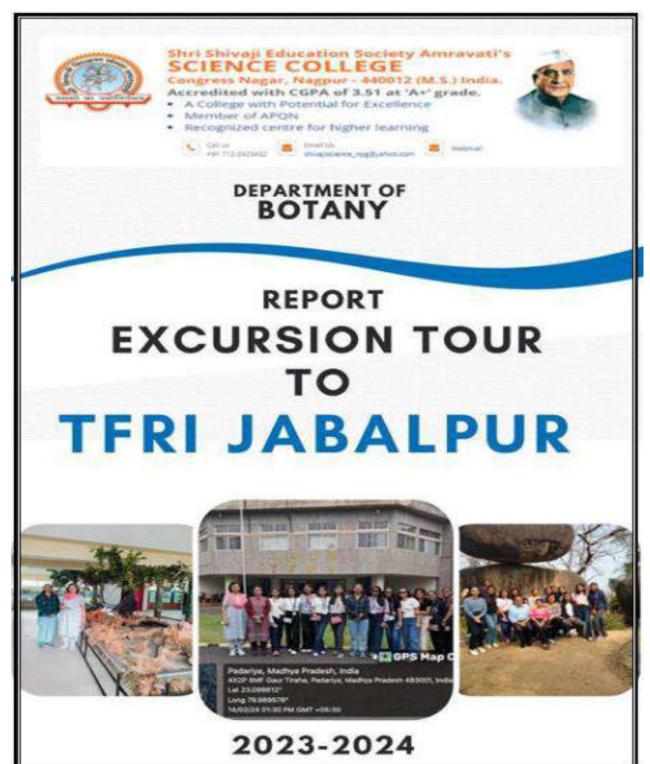
iii) Certificate of E-Waste Recycling





Report on environmental promotion and sustainability activities conducted beyond the campus with geo-tagged photographs with caption and date

i) Excursion Tour TFRI Jabalpur



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Coordinator

Prof. P. S. Tiwari

NOTICE

All students of B.Sc. VI SEM Botany are informed that a tour of TFRI JABALPUR, will be conducted for the academic year 2023-24. The visit will showcase innovative research in plant breeding, molecular biology, and biotechnology. Interested students can contact coordinator Dr Punita Tiwari.

REPORT

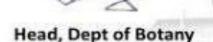
EXCURSION TOUR

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FA

Date: 13-16 Fab, 2024 BOTANY

Venue: Department of Botany



Prof. R.N. Deshmukh DEPARTMENT OF BOTANY SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S SCIENCE COLLEGE CONGRESS NAGAR, MAGPUR

2023-2024

Report on Excursion Tour to TFRI Jabalpur

Duration: 13th February to 16th February, 2024

Overview:

A group of 6th semester Botany students from Shri Shivaji Science College Nagput, accompanied by faculty members Mrs. Punita Tiwari and Ms. Aishwarya Zure, embarked on an enriching two-day excursion tour to Jabalpur. The tour included visits to several key locations, providing a blend of educational and cultural experiences.

Spot 1: Tropical Forest Research Institute (TFRI)

Introduction:

TFRI Jabalpur is a regional institute under the Indian Council of Forestry Research & Education. Established in April 1988, the institute focuses on research in forestry and ecology for the central region of India.

Geography and Location:

Located southeast of Jabalpur, Madhya Pradesh. The campus spans 109 hectares and features diverse tropical forests.

REPORT

Infrastructure:

Comprehensive facilities including laboratories, a library, residential complex, and various other amenities.

Tissue Culture Lab Insight:

Orientation on tissue culture principles and techniques. Practical exposure to micropropagation stages: shoot multiplication, rooting, and acclimatization.

TFRI Museum:

Exhibits on tree anatomy, wildlife, and forest interactions. Provides valuable insights into forestry and ecological research.

Conclusion:

The visit to TFRI offered practical knowledge of tissue culture techniques, enhancing students' understanding and interest in biotechnology.

Spot 2: Cruise on Bargi Dam

Bargi Dam: A multipurpose dam on the Natmada River, crucial for hydroelectric power generation and irrigation.

Activities: Relaxing boat ride, learning about the dam's role in the region's development.

Spot 3: Narmada Ghat and Aarti

Experience: Spiritual ambiance with evening prayers and aarti at the Narmada Ghat, providing a serene conclusion to the first day.

Spot 3: Balancing Rocks

Description: A natural rock formation showcasing a large rock balanced on a smaller one.

Location: Within the Madan Mahal Fort complex, offering panoramic views of Jabalpur.

Spot 4: Bhedaghat Marble Rocks and Dhuandhar Falls

Marble Rocks: Boat ride through the gorge, observing the sunlight effects on the marble cliffs.

Dhuandhar Falls: Known for its misty appearance and religious significance. The falls offer a spectacular view of the Narmada River plunging down a gorge.

Spot 5: Kachnar City Temple

Features: 76 feet tall statue of Lord Shiva, serene garden, and smaller statues.

Experience: Evening visit providing a peaceful and spiritual environment.

Conclusion:

The excursion to Jabalpur was a memorable blend of adventure and learning. It provided the students with invaluable insights into tissue culture and allowed them to explore the cultural and natural beauty of Jabalpur. The trip was well-organized, ensuring a smooth and enriching experience for all participants.







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Coordinator

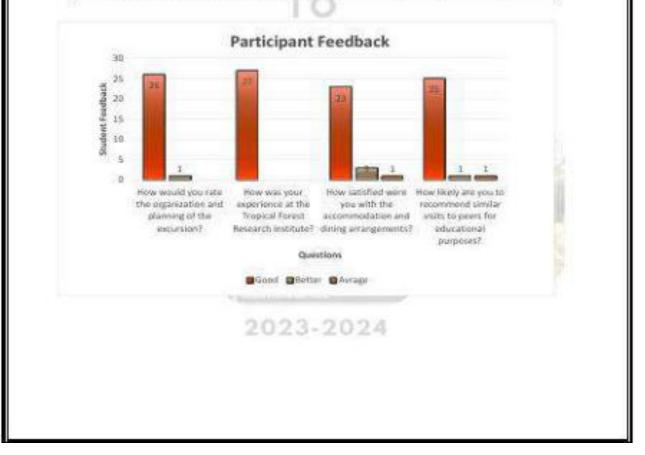
Prof. P. S. Tiwari

Action Taken Report

On the 13th to 16th of February, the Department of Botany at Shri Shivaji Science College, Nagpur organized a two-day excursion to Jabalpur for 6th semester students. The tour, led by faculty members Mrs. Punita Tiwari and Ms. Aishwarya Zure, provided practical exposure to tissue culture techniques at the Tropical Forest Research Institute. Students also explored significant cultural and natural sites, including Bargi Dam, Narmada Ghat, Balancing Rocks, Bhedaghat Marble Rocks, Dhuandhar Falls, and Kachnar City Temple. The trip was successfully executed, enriching students' academic and cultural understanding.

Sr.No.	Question DEPARTMENT OF BOTANY	Response		
		Good	Better	Average
1)	How would you rate the organization and planning of the excursion?			-
2)	How was your experience at the Tropical Forest Research Institute?			
3)	How satisfied were you with the accommodation and dining arrangements?	10	CUD.	
4)	How likely are you to recommend similar visits to peers for educational purposes?	1	UR	





7.1.3 Report on environmental promotion and sustainability activities conducted beyond the campus

ii) Visit to GSI Field Training Centre, Parshivani and Ramtek

Department of Geology, SSESA's Science College, Nagpur in association with Geological Survey of India Field Training Centre, Nagpur" on 6th February 2024 at 7:30 AM. Under the Guidance of Mr. Rashtrapal Chavhan (Director, GSIFTC, Nagpur) and Dr. Chatrapal Ramteke (Geoscientist from GSIFTC, Nagpur). All three years of Geology students, and faculty members were present in the field. This excursion aimed to give knowledge about field aspects and how they are useful for the Geology peoples were explained by the geoscientists. During the excursion, many field-related questions were asked by the students to scientists and answers were given by the respective people The excursion was successfully organized in the Parseoni and Ramtek area.



Mr. Rashtrapal Chavhan (Director, GSI Field Training Centre Nagpur) interacting with students in a field



Mr. Rashtrapal Chavhan (Director, GSI Field Training Centre, Nagpur) explaining about the toposheets.

iii) Study tour and Experimental Learning Workshop at MGIRI, Wardha

The Department of Chemistry has organized one day study tour and hands-on training workshop for the students of M.Sc Chemistry on 18th October 2023 at Mahatma Gandhi Institute for Rural Industrialization(MGIRI), Wardha. The main object

ive of the workshop was to provide various career opportunities for students and holistic development while taking education. As a part of experiential learning hands on activities were provided in the event. During the study tour and workshop following demonstrative session were conducted.

Food Production, Herbal Production, Craft design, Khadi and Textile

At the end of all activities oral and written feedback and suggestions were collected from all participants.

Total 30 participants from post graduate chemistry department were participated and got the benefit of this workshop.

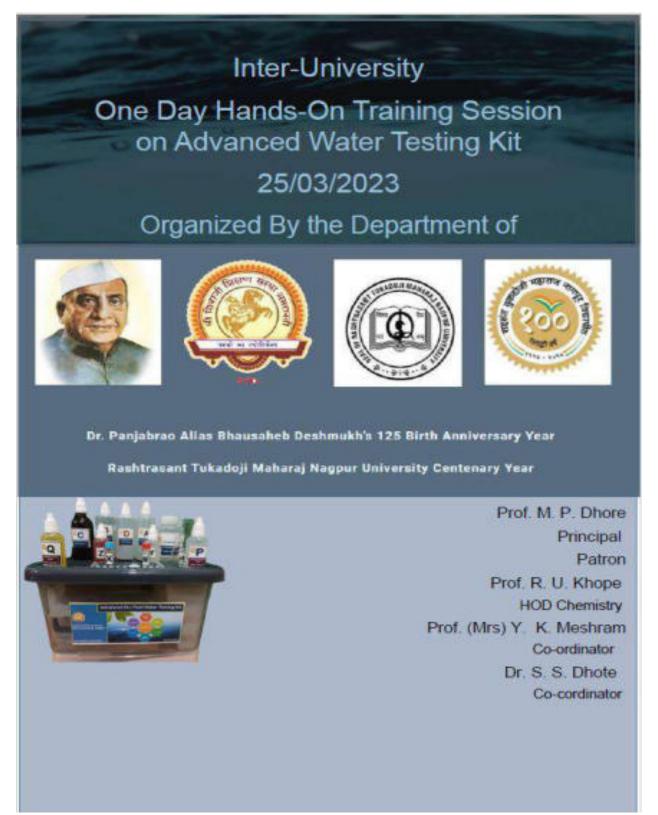


iv) Distribution of Chem Clean Floor Cleaner to Ramkrushn Math, Nagpur

This year, on 26th July 2023, the Chemistry Department distributed Chem Clean Floor Cleaner to Ramkrushn Math in Congress Nagar. A total of 12 liters of floor cleaner, in various fragrances, was handed over to Mr. Dahnarj, the warden of the hostel at Ramkrushn Math. This quantity is sufficient to meet their cleaning needs for one year. The distribution was carried out under the Swachh Bharat Scheme, reinforcing the department's commitment to promoting hygiene and cleanliness in the community.



v) Celebration of World Water Day



SSES Amravati's science college Congress Nagar, Nagpur, Department of Chemistry organised a guest lecture and Inter-University hands on training on Water testing kit on World Water Day on 25th March 2023. Principal Dr M. P. Dhore, speaker Dr Vijay Nagpurkar, Suryodaya College of Engineering and Technology Nagpur and Head department of Chemistry Dr R U Khope were present on this ocassion.

Principal Dr. M. P. Dhore enlightened the students about the importance of water day. On this occasion Dr Vijay Nagpurkar highlighted on water pollution and different methods of water purification. Dr. Yogita Meshram and Dr Sarang Dhote demonstrated advanced water testing kit in the laboratory. For this 16 students and staff members of different colleges affiliated to RTM Nagpur university, Nagpur, and Gondwana University, Gadchiroli present. As a part of consutancy, Water Testing kits were distributed to different colleges. The program was conducted by Dr Priyadarshini Deshmukh and vote of thanks was given by Dr Shubhangi kene. All the staff members of department of chemistry. Dr Utale, Dr Gunjate, Dr Urkude, Dr Reshal Deshmukh, Dr Priyadarshini Deshmukh, Dr kene and students were present on this occasion.

List of Participated Institutes Name of College Dr. Khatri Mahavidyalaya, Chandrpur N. H. College, Bramhapuri R. M. G. Arts Commerce College, Naghbhid S. G. M. Mahavidyalaya, Higna, Nagpur Y. C. Arts, Commerce and Science College, Lakhandur J. D. Patil Mahavidyalaya, Daryapur Nabira Mahavidyalaya, Katol

Name of University Gondwana University Gondwana University Gondwana University **RTM Nagpur University RTM** Nagpur University

SGB Amravati University RTM Nagpur University





Students of the dept. participated in intercollegiate power point presentation on World Environment Day jointly organized by Pratibha Shakti- Vidarbha Chapter & Institute of Science, Nagpur on 25th June 2021 to spread awareness about climate change. Students from our department bagged 1st , 2 nd & 3rd prize respectively. Dr. R.H. Mahakhode was the Organizing secretary of competition.

Consultancy Project Report: Development and Implementation of Water Testing Kit for Rapid Analysis

Project Overview:

The Chemistry Department of Shri Shivaji Education Society's Science College, Nagpur, undertook a consultancy project aimed at developing a Water Testing Kit for rapid on-field analysis. The project was led by **Dr. Sarang S. Dhote and Dr. Yogita K. Meshram**, with the primary goal of providing a practical and hands-on learning experience for undergraduate students.

Objective:

The main objective of the project was to design a user-friendly Water Testing Kit that could be employed by students for efficient and rapid water analysis in real-world scenarios. The initiative aimed to enhance the practical knowledge of undergraduate students and contribute to water quality assessment.

Development Process:

Under the expert guidance of Dr. Dhote and Dr. Meshram, the team meticulously designed and assembled the Water Testing Kit. The kit incorporated essential components for assessing key water quality parameters, ensuring simplicity in operation while maintaining accuracy in results. The development process focused on creating a robust tool that could be easily utilized by students with minimal training.

Distribution to Educational Institutes:

The Water Testing Kit was distributed to various educational institutes affiliated with RTM Nagpur University, SGB Amravati University, and Gondwana University, and also to the Environmental Agency. This strategic dissemination aimed to extend the benefits of the project to a broader academic community and foster collaboration in the realm of water quality assessment.

Demonstration Sessions:

Dr. Sarang S. Dhote conducted comprehensive demonstration sessions for students in all institutes that acquired the Water Testing Kit. The sessions provided insights into the proper usage of the kit, interpretation of results, and an overall understanding of water quality parameters. These demonstrations played a crucial role in ensuring that the end-users could utilize the kit effectively.

Hands-on Training on World Water Day:

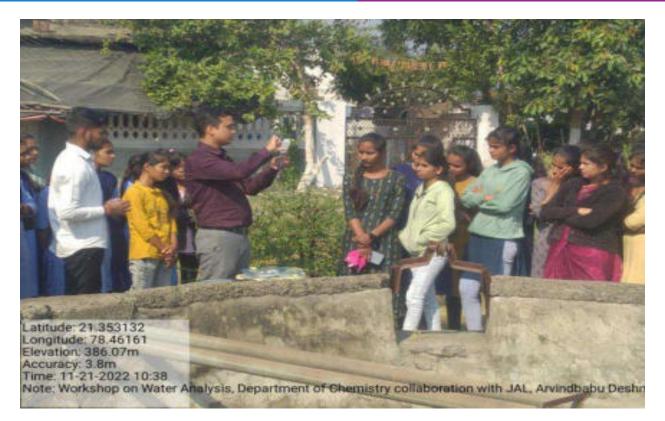
To commemorate World Water Day on March 25, 2023, hands-on training sessions were organized under the guidance of Dr. Yogita K. Meshram and Dr. Sarang S. Dhote. These sessions allowed students to actively engage with the Water Testing Kit, further enhancing their practical skills. The World Water Day event provided a platform for students to apply their knowledge in a meaningful and timely context.

Conclusion:

The consultancy project undertaken by the Chemistry Department at Shri Shivaji Education Society's Science College has successfully resulted in the development and implementation of a valuable Water Testing Kit. This initiative not only contributes to the academic advancement of undergraduate students but also serves as a practical solution for water quality assessment in the affiliated institutes. The dedication and expertise of Dr. Sarang S. Dhote and Dr. Yogita K. Meshram have played a pivotal role in the project's success, setting a standard for best practices in experiential learning within the field of chemistry.



Demonstration of Advanced On Field Water Testing Kit by Dr. Sarang Dhote @ J. D. Patil Sangludkar Mahavidyalaya, Daryapur Dist. Amravati, [M.S.], India on 13/11/2022.



Demonstration of Advanced On Field Water Testing Kit by Dr. Sarang Dhote @ Arvindbabu Deshmukh College, Bharsingi Dist. Nagpur, [M.S.], India on 21/11/2022.

vi) Field Excursion Tour to Pune (Maharashtra) and Gokak (Karnataka)

Department of Geology arranged 3rd year six-day field excursion tour to Pune (Maharashtra) and Gokak (Karnataka). On 17th March 2023 students visited Department of Geology, Savitribai Phule Pune University. PG department conducted a small program. Dr. A. N. Dongre gave a brief idea about the Department and faculty members continued by Prof. S. J. Sangole, HoD, Geology Department lecture on a career in Geology. Students were exposed to the department history, and types of equipments.

From 18th – 2st March field excursion was in Gokak area under the guidance and mentorship of Prof. D. C. Meshram, Former HoD, Department of Geology, Savitribai Phule Pune Universoty, Pune. On 18th March Lithology of Gokak hill was carried out and Gokak waterfall. On 19th March Visit to Pavanputra Minerals mine, It is a limestone dolomite mine.

Mr Shankar Narayan, Field Manager, Pavanputra Minerals gave a brief introduction about the mine, further all the details of limestone and dolomite rock formation process and sampling collection was explained by Prof. D. C. Meshram. Mr Shankar Narayan offer sugarcane juice as refreshment and field samples for departmental collection. Students visited Godachinmalki waterfalls (cascade fault) of the All field excursions were successfully completed enriching student's knowledge regarding field geology. Students have submitted their respective Geological Excursion Reports with necessary field samples and photographs.'



Geological Tour Excursion to Gokak (Karnataka). In the field rock formation explanation given by Prof. D.C. Meshram to IIIrd year students.



Field Excursion tour to Gokak (Karnataka) With IIIrd year students, Faculty members and mentor Prof. D.C. Meshram, SPPU University.

vii) Celebration of Khanij Diwas

Visit IBM (Indian Bureau of Mines) on 1st March 2023 as Khanij Diwas on the occasion of completing 75 years of its existence on 1st March 2023. Different talks and introductions were given by different industries and companies including government and semi-government industries. Students were given exposure to the exhibition, Students were also given hands-on training on different instruments displayed in the exhibition.

Action taken:

Department of Geology, SSES Amt's Science College, Congress Nagar, Nagpur had organized a one day "visit to IBM (Indian Bureau of Mines) on 1st March 2023 as Khanij Diwas on the occasion of completing 75 years of its existence on 1st March 2023. Feedback form was given to students, students filled the feedback form on the basis of student's feedback we analyzed the feedback and represented the feedback of student graphically.



Visit to the Indian Bureau of Mines (IBM) on its 75th anniversary named Khanij Diwas.

viii) Workshop on Eco Friendly Holi Colors

Workshop on Eco-Friendly Holi Colours was organized on 1st March, 2023, to raise awareness of adversed effects of conventional colours. Through this workshop, college students awared about to celebrate Holi in a safe, eco-friendly, and sustainable way. As a part of outreach activity this Eco-friendly colours will be supplied to various NMC schools, old age homes, and the common people in slum areas.





Vidarbha Level One Day workshop on Eco Friendly Holi Colours

Workshop on Eco-Friendly Holi Colours was organized on 1st March, 2023, to raise awareness of adversed effects of conventional colours. Through this workshop, college students awared about to celebrate Holi in a safe, eco-friendly, and sustainable way. As a part of outreach activity this Eco-friendly colours will be supplied to various NMC schools, old age homes, and the common people in slum areas.



ix) Tree Plantation by NSS Unit at Shivaji High School, Jagnade Sqr, Nagpur

On Thursday, 13th October 2022 at 10:30 a.m. the Tree Plantation Program was organized by NSS unit in the premises of Shivaji High School, Jagnade square Nagpur. Prof. M. P. Dhore, Principal of Shivaji Science College guided the students at Shivaji High School about Tree Plantation. NSS officer, Prof Prashant Utale, NSS Co-officer Dr. Sugandha V. Khangar and Sr. Prof R. Y. Deshmukh from Shivaji Science College and staff members of Shivaji High School were present for the event. Lastly NSS students of our college distributed snacks to school students. The NSS volunteers and officers takes many efforts to success this program. Total 44 students and staff were participated in Tree Plantation.



x) Field Excursion Tour to Ramtek and Koradi

Department of Geology arranged 2nd year one day field excursion tour to Ramtek hill (Maharashtra). The tour was carried out in the presence of 3 faculty members and all second-year students. Many samples were collected by students for the departmental lab. And personal collections were also done. In this field mapping, lithology and rock sections were studied. In the end, Ram temple was explored. Field excursions were successfully completed enriching students' knowledge regarding field geology. Students have submitted their respective Geological Excursion Reports with necessary field samples and photographs.



Hands-on training for all students and compulsory field visits to Ramtek.

Department of Geology arranged 1st year one day field excursion tour to Koradi (Maharashtra) and nearby areas. The tour was carried out in the presence of 4 faculty members and 84 students were present. Many samples were collected by students for the department and personal collection. field excursions were successfully completed enriching students' knowledge regarding field geology. Students have submitted their respective Geological Excursion Reports with necessary field samples and photographs.



One day field visit to Koradi area near Nagpur with all faculty members and Ist year students.

xi) Celebration of 173rd Foundation Day of GSI

Visit to GSI (Geological Survey of India) on 173rd foundation day on Geological Survey of India Regional Headquarters with 2 faculty and 20 students. Dr. Rashtrapal Chavan, Director, Training and placement, explained to students about various aspects of Geology and details of continental drift. Dr. Ramteke accompanied him. The museum visit was administered by Dr. Reena Meshram, (Museum In-charge) and Mr. Soni (Chief mineralogist). Deputy Director General (Central region) Dr. Dekate also had interaction with students and he spoke about career opportunities in geology and GSI.



xii) Joy of Giving Activity at Slum Area Chunabhatti, Nagpur

Joy of Giving

'Let there be pleasure in giving others pleasure

Sheer happiness, beyond all, one might measure

It is in giving that we received only then eternal peace is achieved'.

Soaking in the spirit of Sharing is caring, Shivaji Science College Nagpur. Organized Joy of Giving activity, where all the staff members of the Chemistry department as well as students participated by donating, Stationery items like books, pens, rubber, scale, and Biscuits to the poor needy Children of the slum area Chunabhatti. The students also visited the house of underprivileged families and donated toys to their kids. Students learned the value of giving and truly celebrated the Joy of sharing. The students were delighted to see the happiness on the faces of the poor Children.



xiii) Visit to VNIT Exhibition, Nagpur

Department of Geology, SSESA's Science College, Nagpur visited VNIT for Science Exhibition on Science Week i.e., on Thursday, 24 February 2022 at 2:30 PM. Students interacted with faculty members and took a keen interest in the exhibition. There were 16 students and 3 faculty members. All students were from 3rd year.



Visited VNIT for Science Exhibition on the occasion of Science Week

xiv) Field Excursion Tour to Dongargaon Fluorite Mine and RTMNU, Nagpur

Department of Geology, SSESA's Science College, arranged a field excursion tour in Dongargaon Fluorite Mine with 58 students, and three staff members. It is an open-cast mine containing fluorite minerals and some structural features in the periphery of the mine-like fold. The manager of the mine gave a tour and explained the working system and the importance of the mine. All field excursions were successfully completed, enriching student's knowledge regarding field geology. Students have submitted their respective Geological Excursion Reports with necessary field samples and photographs.'



Department of Geology, SSESA's Science College, Nagpur visited PG Geology Department, RTM Nagpur for Exhibition on Wednesday, 22 December 2021 at 11:00 AM. Students interact with faculty members and took a keen interest in the exhibition. There were 27 students and 3 faculty members. Students took interest in dinosaur fossils and intracted with Prof. Badana Samant and Mr. Anup to know more about the dinosaurs.



Action taken:

Department of Geology, SSES Amt's Science College, Congress Nagar, Nagpur had organized a one day "visited PG Geology Department, RTM Nagpur for Exhibition on Wednesday, 22 December 2021 at 11:00 AM". Feedback form was given to students, students filled the feedback form based on student's feedback we analyzed the feedback and represented the feedback of student graphically.

xv) Tree Plantation

On Thursday, 13th October 2022 at 10:30 a.m. the Tree Plantation

Program was organized by NSS unit in the premises of Shivaji High School, Jagnade square Nagpur. Prof. M. P. Dhore, Principal of Shivaji Science College guided the students at Shivaji High School about Tree Plantation. NSS officer, Prof Prashant Utale, NSS Co-officer Dr. Sugandha V. Khangar and Sr. Prof R. Y. Deshmukh from Shivaji Science College and staff members of Shivaji High School were present for the event. Lastly NSS students of our college distributed snacks to school students. The NSS volunteers and officers takes many efforts to success this program. Total 44 students and staff were participated in Tree Plantation.



Principal of the College Prof. M.P. Dhore guiding the students of Shivaji High School, Jagnade square Nagpur and our NSS students.



Tree Plantation by NSS students





Tree Plantation by Respected Principal sir, NSS officers & NSS Students

xvi) Swaccha Bharat Abhiyan

An initiative to inculcate knowledge with practical learning among students Themed: Swaccha Bharat Abhiyan Venue: Fetri Dated: 02/02/2023 - 08/02/2023 NSS CAMP 2022-23 N.S.S Camp: Day 1: Thursday, 02nd February 2023

Monitored by:

- 1. Dr. Prashant Utale, N.S.S Program Officer, Science College, Nagpur
- 2. Dr. Shilpa R. Gedam, Co-officer, N.S.S Unit, Science College, Nagpur
- 3. Dr. Sugandha V. Khangar, Co-officer, N.S.S Unit, Science College, Nagpur
- 4. N.S.S Members, Shri B.T. Kumbhare and Dr. R.P. Sonwalkar.

The National Service Scheme Unit of Shri. Shivaji Science College had organized a 7-day residential camp titled "Shramsanskar Shibir" themed 'Swaccha Bharat Abhiyan' from 02nd February 2023 to 08th February 2023.

The camp was organized for the overall development of the students and to create awareness about cleanliness among students.

The main objective of the camp was to provide students with a comprehensive outdoor education experience and to have fun while learning lifelong lessons.

On 02nd Feb, camp students arrived at the place and Cleaned the Premises of the camp.



SHRAMSANSKAR SHIBIR Theme: Swachha Bharat Abhiyan Venue: Fetri Date: 23/03/2022 to 29/03/2022



Unnamed Road, Fetri, Maharashtra 441501, India

Latitude 21.2073508° Longitude 78.99168706°

Local 08:43:19 AM GMT 03:13:19 AM Altitude 249.29 meters Friday, 25-03-2022

Note : NSS Camp 2022 at Fetri

Criteria-VII Institutional Values and Best Practice

SSESA's Science College, Nagpur



Unnamed Road, Fetri, Maharashtra 441501, India

Latitude 21.20736914°

Longitude 78.99170349°

Local 08:47:27 AM GMT 03:17:27 AM

Note : NSS Camp 2022 at Fetri

Altitude 259.47 meters Friday, 25-03-2022



Latitude 21.20724744°

Local 08:41:36 AM GMT 03:11:36 AM

Note : NSS Camp 2022 at Fetri

Longitude 78.99079713°

Altitude 272.58 meters Sunday, 27-03-2022

xvii) Study Tour Bor Dam in Maharashtra

Shri Shivaji Education Society Amravati's Science College Congress Nagar, Nagpur Department of Botany

REPORT Study Tour 2022-2023

Excursions are arranged to give exposure to students. Field education is equally important as classroom teaching. It adds vigor in learning processes and relieves monotones of indoor education. Field study is an essential part of botany as plants are best studied in their natural habitat. These tours also help to build good repo amongst students and teachers.

As a part of B.Sc. Curriculum, one day trip was organized to Bor Dam District Wardha by Department of Botany, Science College Nagpur on 8th October, 2022 for semester III and Vth botany students. Total 4 teaching staff, 3 non teaching staff and 87 students were visited to Bor Dam. The major objective was to familiarize the students with the wild and cultivated flora and ecology of the region.

Bor Dam, is an earthfill dam on Bor river near Bori in the Bor Wildlife Sanctuary, Seloo Tahsil, Wardha district in State of Maharashtra in India. It is beautiful water reservoir surrounded by satpuda hills and famous for its scenic beauty and the jungle around it. Bor is superb destination to explore nature, landscape, wildlife and rural culture. The height of the dam above lowest foundation is 36.28 m (119.0 ft) while the length is 1,158 m (3,799 ft). The volume content is 0.002474 km³ (0.000594 cu mi) and gross storage capacity is 0.0138750 km³ (0.0033288 cu mi).

Topography:

Location of Bor Dam in Maharashtra Official Name : Bor Dam D01225 Location : Bori Coordinates : 20.9729808°N 78.6991882°E<u>Coordinates</u>: 20.9729808°N 78.6991882°E Opening date : 1965 Owner(s) : <u>Government of Maharashtra</u>, <u>India</u> Dam and spillways <u>Type of dam</u> : <u>Earthfill</u> Impounds: Bor river Height : 36.28 m (119.0 ft) Length : 1,158 m (3,799 ft) Dam volume : 0.002474 km³ (0.000594 cu mi) <u>Reservoir</u> Total capacity : 0.127420 km³ (0.030570 cu mi) Surface area : 13.506 km² (5.215 sq mi)

CLIMATE :

There are three seasons; summer, winter and the rainy season.

Summer is the hottest of the four temperate seasons, occurring after spring and before autumn. At or centred on the summer solstice, daylight hours are longest and darkness hours are shortest, with day length decreasing as the season progresses after the solstice. The earliest sunrises and latest sunsets also occur near the date of the solstice.

Winter is the coldest season of the year in polar and temperate climates. It occurs after autumn and before spring. The tilt of Earth's axis causes seasons; winter occurs when a hemisphere is oriented away from the Sun.

Rain is water droplets that have condensed from atmospheric water vapor and then fall under gravity. Rain is a major component of the water cycle and is responsible for depositing most of the fresh water on the Earth.

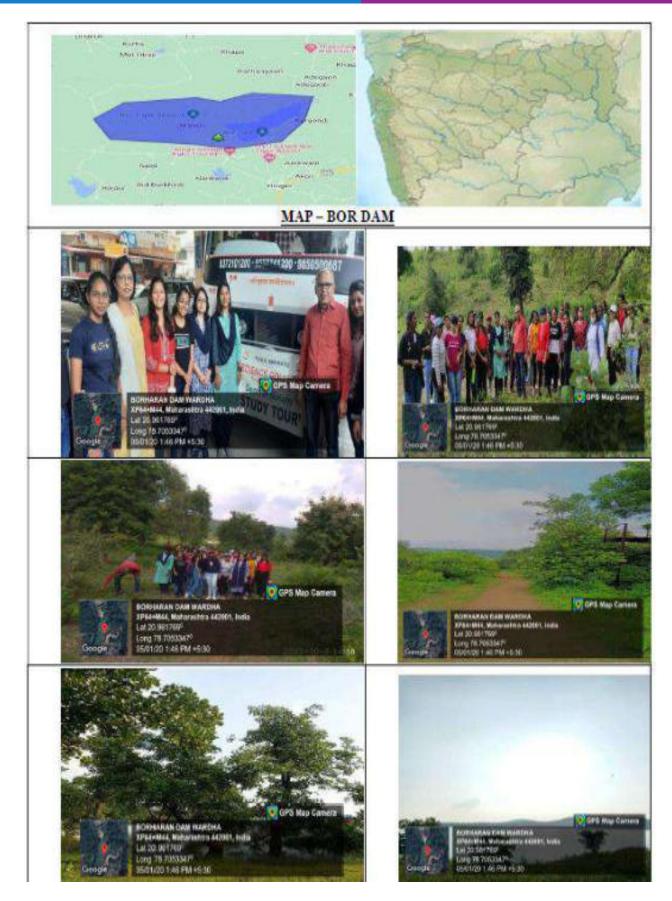
We have walked through the Bor dam and surrounding forest, exploring the plants on the way. Students were made to identify the plants with their scientific name, family, identifying characters along with their importance. Some of the flowering twigs have been collected for the study of the families in syllabus.

List of some Studied plants in Excursion tour

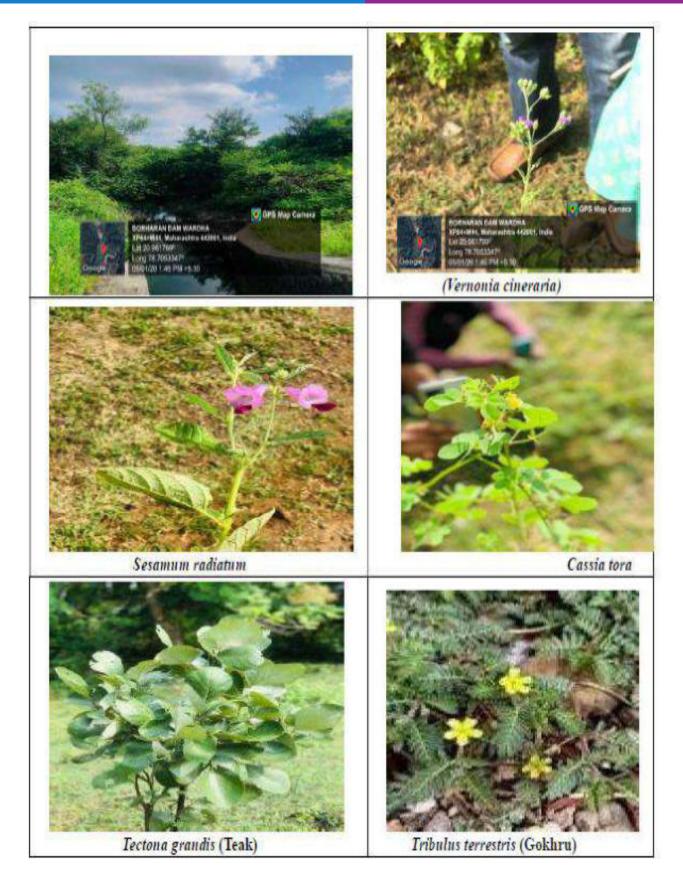
- 1. Hibiscus esculentus (Ranbhendi)
- 2. Cassia auriculata (Tarwar)
- 3. Pithecellobium dulci (Jungli imli)
- Sterculia foetida (Jungli Badam)
- 5. Tribulus terrestris (Gokhru)
- 6. Tectona grandis (Teak)
- 7. Santallum album
- 8. Butea monosperma
- 9. Diospyros melanoxylon
- 10. Terminalia elliptica (Ain)
- 11. Hyptis suaveolens

Criteria-VII Institutional Values and Best Practice

SSESA's Science College, Nagpur



SSESA's Science College, Nagpur



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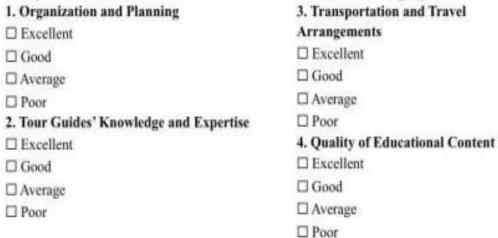
Shri Shivaji Education Society Amravati's Science College Congress Nagar, Nagpur

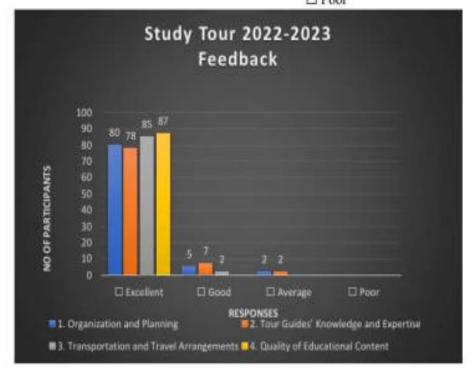
Department of Botany

Study Tour 2022-2023

Feedback

Thank you for participating in the study tour! We would greatly appreciate your feedback to help us improve future tours. Please take a few moments to rate the following aspects of the tour.

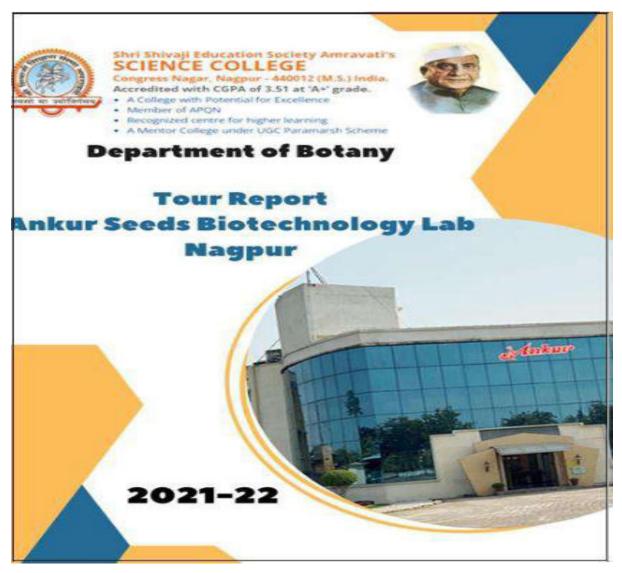




Action taken :

The study tour organized by the Department of Botany under the guidance of Prof R. N. Deshmukh Head Department of Botany, Tour In-charge Dr. Reshma Sonwalkar at Bor Dam on October 8, 2022, several improvements have been implemented based on the feedback received. The educational materials used during the tour have been thoroughly revised to provide more detailed and relevant information aligned with current botany curriculum standards. Additionally, a training program was conducted for the tour guides to enhance their presentation skills and ensure that their explanations were clear and engaging. The tour itinerary has also been adjusted to allocate more time for on-site observation and interactive activities, allowing students to engage more effectively with the environment. These actions have led to improved feedback from participants, who now report a more enriching and informative experience. Future tours will continue to benefit from these enhancements, with ongoing monitoring to ensure continued success. Total 4 teaching staff, 3 non teaching staff and 87 students were visited to Bor Dam. The major objective was to familiarize the students with the wild and cultivated flora and ecology of the region.

xviii)Visit to Ankur seed Biotech Lab Nagpur



NOTICE

All students of B.Sc. Botany are informed that a tour of Ankur Seeds Biotechnology Lab, Nagpur, will be conducted for the academic year 2021-22. The visit will showcase innovative research in plant breeding, molecular biology, and biotechnology. Interested students can contact coordinator Dr Punita Tiwari.

300.00

Date: 04/04/2024

Venue: Department of Botany

Head, Dept of Botany

Prof. R.N. Deshmukh DEPARTMENT OF BOTANY SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S SCIENCE COLLEGE CONGRESS NAGAR, NAGPUR

PSTIMO Coordinator

Prof. P. S. Tiwari

Tour Report Ankur Seeds Biotechnology Lab, Nagpur Academic Year: 2021-22

Introduction to Ankur Seeds:

Ankur Seeds stands as a beacon of innovation and excellence in the field of plant breeding and biotechnology. With its sprawling 300-acre research farms and cutting-edge facilities, Ankur Seeds is at the forefront of developing sustainable agricultural solutions. The company's commitment to research and development is evident in its dedicated poly-houses, net-houses, and the 60,000 sq ft Breeding Support Centre located in Neri, near Nagpur.

Research and Development Initiatives:

Ankur Seeds boasts a team of around 200 highly skilled plant breeders and technicians who are engaged in groundbreaking research across various domains. The company's research endeavors span Molecular Biology, Plant Tissue Culture, Entomology, Pathology, Plant Physiology, and Biochemistry divisions. Notably, Ankur Seeds conducts transgenic research in cotton, rice, and vegetable crops to enhance insect resistance, abiotic stress tolerance, and virus resistance. The identification of germplasm with resistance to prevalent pests and diseases underscores the company's commitment to addressing the challenges faced by farmers.

Description of Facilities:

Pathology Lab:

The Pathology Lab serves as a hub for studying plant diseases, pathogens, and their management strategies. Researchers maticalously analyze disease symptoms, identify causal agents, and devise effective control measures to safeguard crop health.

Fiber Testing Lab:

In the Fiber Testing Lab, researchers assess the quality and properties of fibers produced by different crop varieties. This facility plays a pivotal role in ensuring the quality standards of fiber-based products and facilitating industrial applications.

Biochemistry Lab:

The Biochemistry Lab is dedicated to unravelling the biochemical intricacies of plant metabolism and physiological processes. Researchers delve into enzyme kinetics, metabolic pathways, and biochemical signalling to gain insights into plant growth and development.

Entemology Lab:

The Entomology Lab serves as a hub for studying insect pests and their impact on crops. Researchers conduct in-depth studies on insect behaviour, population dynamics, and ecological interactions to devise integrated pest management strategies for sustainable crop protection.

Plant Tissue Culture Lab:

The Plant Tissue Culture Lab is equipped with state-of-the-art facilities for the propagation of plants under controlled conditions. Through tissue culture techniques, researchers achieve rapid multiplication of elite plant varieties, preservation of genetic resources, and production of disease-free planting material.

Molecular Biology Lab:

The Molecular Biology Lab houses advanced equipment for studying plant genetics, gene expression, and DNA manipulation. Researchers harness molecular techniques such as PCR, gene cloning, and genetic transformation to unravel the genetic basis of traits and engineer crops with desirable characteristics.

Conclusion:

The visit to Ankur Seeds Biotechnology Lab provided a firsthand insight into the pivotal role played by research and technology in modern agriculture. We extend our heartfelt gratitude to Dr. R.N. Deshmukh and Dr. Punita S. Tiwari for their impeccable coordination and to Ankur Seeds for opening their doors and sharing their expertise. This enriching experience has undoubtedly broadened our horizons and inspired us to strive for excellence in the field of botanical sciences.





Exploring the forefront of agricultural innovation with our dedicated students and esteemed faculty member in front of Ankur Seeds Biotechnology Lab

Student list

Sr. No.	Roll No.		Name Of Student	Constant
1		Ku	ANAND AKANKSHA SANKET	Signature
2		Ku	ATRAM HIMANSHI SANJAY	Ranahamand
3		Ku	BHANGE ASTHA RAMESH	Abore
4		Ke	BRATKULKAR SHAMAL DIUP	athe
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11		Ku	JADHAD EKTA LOKCHAND	Contrast
12		Ku	JADHAV ASHLESHA AVINATH	<u>N</u>
13		Ku	KALAMKAR SNEHAL SURESH	aller
14		Ku	KALOSHIYA DEVYANI DHARAM	biothings
15		710	KAYARKAR JANHVI HEMANT	titulin
16		Ku	KHADE MOHIT RAMNATH	apade
17		Ku	LONARE ISHA LAXMAN	Shar.
18		Ku	MENDHULE KASTURI PRAKASH	Katar
19		Ku	MOREY AKSHADA SATISHRAO	S.
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25		Ku	SHAH RAGINI RADHESHYAM	K-shall
26		Ku	SALVE NIKITA MANDHAR	Raut
27		Ku	THAKUR APURVA ASHOKSINGH	America.

Tima

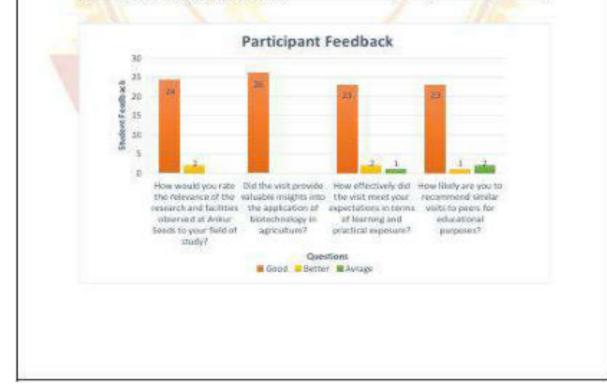
Coordinator Prof. P. S. Tiwari

Action Taken Report

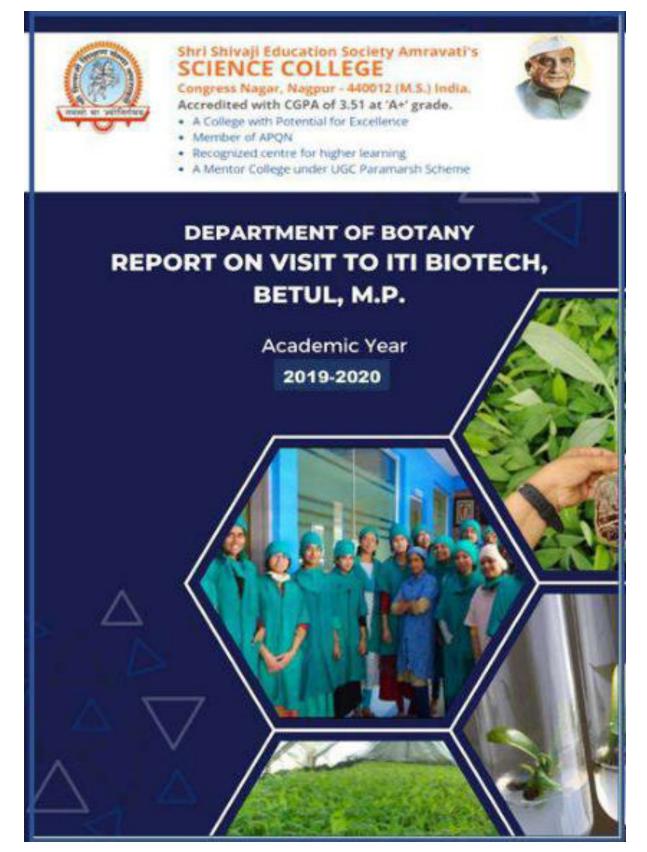
The visit to Ankur Seeds Biotechnology Lab offered a comprehensive glimpse into the cuttingedge research and facilities dedicated to advancing agricultural biotechnology. With its extensive 300-acre research farms and specialized labs, including Pathology, Fiber Testing, Biochemistry, Entomology, Plant Tissue Culture, and Molecular Biology, Ankur Seeds is a leader in developing sustainable solutions. The company's commitment to transgenic research and pest-resistant germplasm highlights its role in addressing critical agricultural challenges. We sincerely thank Dr. R.N. Deshmukh and Dr. Punita S. Tiwari for their excellent coordination and Ankur Seeds for their insightful and hospitable engagement, which has greatly enriched our understanding and inspired us to strive for excellence in botanical sciences.

Sr.No.	Question		Response				
	15 / 0.00	Good	Better	Average			
1)	How would you rate the relevance of the research and facilities observed at Ankur Seeds to your field of study?	1	E	5			
2)	Did the visit provide valuable insights into the application of biotechnology in agriculture?		12				
3)	How effectively did the visit meet your expectations in terms of learning and practical exposure?	1	1	10			
4)	How likely are you to recommend similar visits to peers for educational porposes?	1	-1	P			

FEEDBACK FORM



xix) Visit to ITI Biotech Betul (M.P.)



NOTICE

All students of B.Sc. III year Botany are informed that a Visit to Iti Biotech, Betul, M.P. will be conducted for the academic year 2019-20. The visit will showcase innovative research in plant breeding, molecular biology, and biotechnology. Interested students can contact coordinator Dr. Punita Tiwari.

0.001 40

FA

Date: 04/01/2020

Venue: Department of Botany

Head, Dept of Botany

Prof. R.N. Deshmukh DEPARTMENT OF BOTANY SHRI SHIVAJI EDUCATION SOCIETY AMRAVATIS SCIENCE COLLEGE CONGRESS NAGAR, NAGPUR Coordinator

Prof. P. S. Tiwari

REPORT ON VISIT TO ITI BIOTECH, BETUL, M.P. Academic Year: 2019-2020

Participants: Students of B.Sc. III Botany, SSES Amravati's Science College, Congress Nagar Academic Year: 2019-2020

Objective: The visit to ITI Biotech, a prestigious central government laboratory in Betul, Madhya Pradesh, aimed to provide students with exposure to real-world applications and commercial implications of plant tissue culture technologies.

Overview: The visit to ITI Biotech presented an unparalleled opportunity for students to immerse themselves in the practical realm of plant tissue culture technologies. Assembled under the guidance of faculty members, the participants embarked on a journey of discovery, exploring the cutting-edge research facilities and engaging with seasoned researchers and industry professionals.

Key Highlights:

Introduction to ITI Biotech: Upon arrival, students were greeted with a warm welcome by the staff of ITI Biotech, who provided an overview of the institution's mission, research focus, and contributions to the field of biotechnology. The students gained insights into the central government's initiatives to promote scientific research and innovation.

Laboratory Tour: The highlight of the visit was a comprehensive tour of the state-of-the-art laboratories equipped with advanced instrumentation and infrastructure for plant tissue culture research. Students had the opportunity to witness firsthand the various stages of tissue culture processes, from explant preparation to culture initiation and maintenance.

Interactive Sessions: The visit included interactive sessions with researchers and industry professionals, allowing students to engage in meaningfal discussions on the practical applications and commercial implications of plant tissue culture technologies. Seasoned experts shared their experiences, challenges, and success stories, inspiring students to envision the vast potential of biotechnological interventions in agriculture and beyond.

Case Studies and Demonstrations: Through case studies and live demonstrations, students gained insights into the real-world applications of plant tissue culture in crop improvement, disease management, and pharmaceutical production. They observed techniques for masa propagation of elite plant varieties, genetic transformation for trait enhancement, and production of high-value secondary metabolites.

Q&ASession: A lively question-and-answer session provided students with the opportunity to seek clarifications, delve deeper into specific topics, and interact directly with experts. The exchange of ideas and perspectives fostered a dynamic learning environment, encouraging students to critically evaluate the challenges and opportunities inherent in biotechnological research and development.

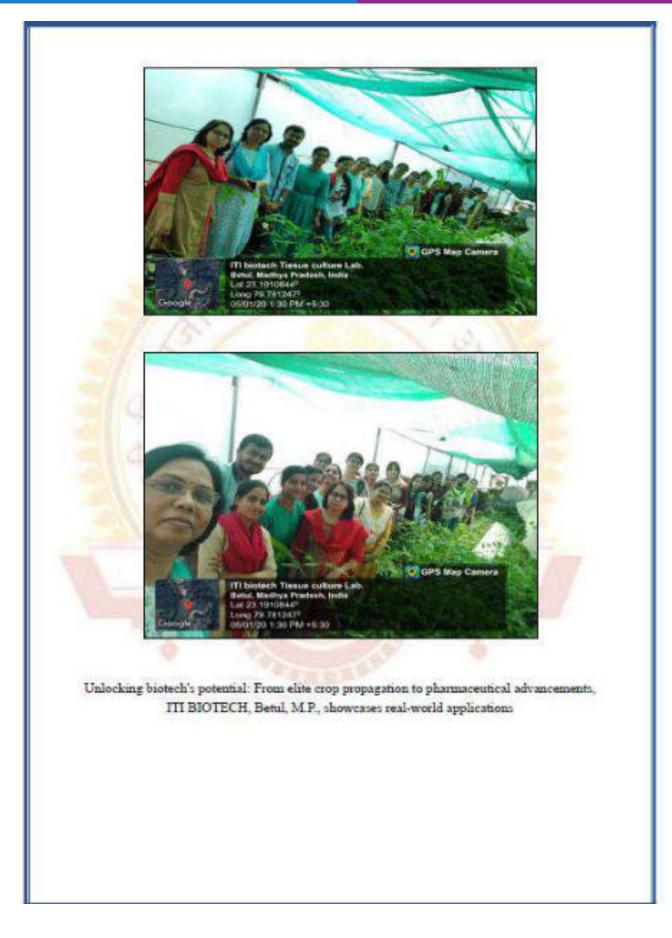
Outcomes: The visit to ITI Biotech proved to be a transformative experience for the students, offering them a glimpse into the multifaceted world of plant tissue culture technologies. The firsthand exposure to advanced research facilities, coupled with interactions with seasoned professionals, enriched their understanding of the practical applications and commercial implications of biotechnology in agriculture and allied industries.

Conclusion: The visit to ITI Biotech served as a catalyst for inspiring students to pursue further studies and careers in the field of biotechnology. It reinforced the importance of bridging the gap between academia and industry, fostering collaboration and knowledge exchange for the advancement of scientific research and technological innovation.



Exploring the cutting-edge world of biotechnology at ITI BIOTECH, Betul, M.P. 🖋 😤





List of Participants :

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Ku	Shingade	S	G	Sulpti
Ku	Thakare	M	S	mit.
Ku	Thakur	V	M	Chakur.
-	Uparkar -	N	S	aunashar
Ku	Yogaonkar	I	P	apisankan.



stima

Coordinator

Prof. P. S. Tiwari

Action Taken Report

The visit to ITI Biotech, Betul, provided B.Sc. III Botany students with valuable exposure to advanced plant tissue culture technologies. The experience highlighted the institution's cuttingedge research facilities and offered insightful interactions with researchers. Based on the visit, actions taken include enhancing curriculum with practical insights from the visit, integrating case studies into coursework, and planning future industry visits to deepen students' understanding of biotechnology applications. Feedback from participants will be used to refine and improve future academic visits and programs.

Sr.No.	Question	LT -	10 million	
	- Con Con Con Con	Good	Better	Average
ŋ	Overall satisfaction with the visit to ITI Biotech?		A.	12
2)	Quality of the laboratory tour?		1	114
3)	Usefulness of interactive sessions with expens?		201	310
4)	Relevance of case studies and demonstrations?		1	2

FEEDBACK FORM



xx) Excursion Study Tour Kullu, Manali Himachal Pradesh

Shri Shivaji Education Society Amaravati's Science College Congress Nagar, Nagpur Department of Botany Organized Excursion Study Tour Kullu, Manali Himachal Pradesh From 6 September 2019 to 23rd September 2019 Session 2019-2020

REPORT

As a part of B.Sc. Curriculum, excursion tour was organized to Kullu and Manali, Himachal Pradesh by Department of Botany, Science College Nagpur from 16th September to 23rd September 2019 for semester III botany students to study flora in their natural habitat with special emphasis on biodiversity. Total 2 teaching staff, and 90 students were visited to Kullu. Manali. The major objective was to familiarize the students with the wild and cultivated flora and ecology of the region.

Manali is a resort town nestled in the mountains of the Indian state of Himachal pradesh near the northern end of the Kullu Valley in the Beas River Valley. It is located in the Kullu district, about 270 km (168 mi) north of the state capital 309 km (192 miles) north east of Chandigarh and 544 km (338 miles) northeast of Delhi, the national capital. The small town, with a population of 8,096, is the beginning of an ancient trade route to Ladakh and from there over the Karakoram Pass on to Yarkand and Khotan in the Tarim Basin. It is a popular tourist destination and serves as the gateway to Lahaul and district as well as Leh.

CLIMATE

The climate in Manali is predominantly cold during winter and moderately cool during summer. The temperatures ranges from -7 °C (19 °F) to 30 °C (86 °F) over the year with the hottest day crossing 30 °C (86 °F) and the coldest day going below -7 °C (19 °F). The average temperature during summer is between to °C (50 °F) to 30 °C (86 °F), and between -7 °C (19 °F) to 15 °C (59 °F) in the winter. Monthly precipitation varies between 31 mm (1.2 in) in November and 217 mm (8.5 in) in July. On average, some 45 mm (1.8 in) of precipitation is received during winter and spring months, increasing to some 15 mm (4.5 in) in summer as the monsoon approaches. The average total annual precipitation is 1,363 mm (53.7 in). Manali experiences snowfall predominantly between December and beginning of March. Manali is located at 32.2396 N, 77.1887 E, about 547 km (340 mi) north of new Delhi.

FLORA AND FAUNA

Kullu Manali in Himachal Pradesh is the most beautiful destination with salubrious terrain, climate and heights. This has given a growing scope to variety of vegetation, wild animals and birds at different places and levels. The variety of forests like Sal, Rhododendron, Oak, Fir, Deodar, Birch and Pines are the pride of Manali. These forests shelter for large number of wild animal and birds.

Wildlife among which some rare species like the musk deer, ibex. thar, Himalayan brown bear and snow leopard are still found here. The river Beas offers ideal fishing grounds for trout and masheer.

To protect and conserve its ecosystem, Manali has declared a reserved area - the Manali Wildlife Sanctuary.

Located about 2 km from the Manali town in the picturesque valley of Manali, the Manali Wildlife Sanctuary is reputed for its variety of flora and fauna and breathtaking scenic beauty Alpine lush green pastures and glaciers beyond gallant thatch beckons the tourists from all around Spread in an area of 31.80 sq km, the Manali Wildlife Sanctuary houses - Himalayan Black Bear, Himalayan Palm Civet, Barking Deer, Flying Fox, Gorai, Indian Hare. Stripped Hyena. Leopard, Himalayan yellow throated Marten, Serow, Kashmir flying Squirrel and Himalayan Tahr.

The sanctuary has marvelous trekking routes and also have facilities for camping in the wild. The gushing streams fascinating alpine pasture and high snow covered peaks provide a celestial pleasure to the tourists.

List of local flora:

Sr. No	Common Name	Botanical Name	Family
1	Kashmal flower	Berberies aristata	Berberidaceae
2	Deodar	Cedrus deodara	Pinaceae
3	Horseweed	Erigeron canadensis	Asteraceae
4	Allo	Girardinia diversifolia	Urticaceae
5	Basant	Hypericum cermuum	Hypericaceae
6	Lilyburf	Ophiopogon intermedius	Haemodoraceae
7	Himalayan Cherry Prinsepia	Prinsepia utilis	Rosaceae
8	Sal	Shorea robusta	Dipterocarpaceae
9	Winged prickly ash	Zanthonylum armatum	Rutaceae
10	Apple	Malus domestica	Rosaceae



B.Sc.III students visited to Manali, Himachal Pradesh from 16th Sept. to 23rd Sept. 2019.

Tour In-charge

Prof. R. N. Deshmukh HAD DEPARTMENT OF BOTANY SHB SHWAII EDUCATION SDCIETY AWAYMAN'S NOCHTON SDCIETY CONCRETES NACARL HADPUR

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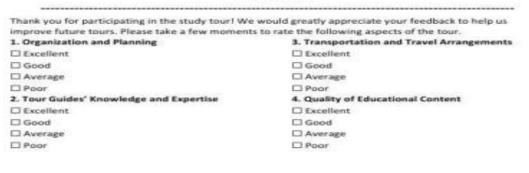
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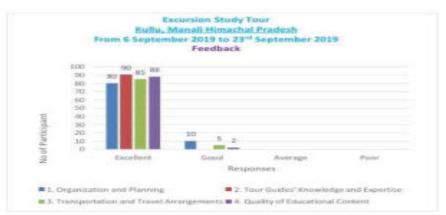
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7.1.3 Report on environmental promotion and sustainability activities conducted beyond the campus

Department of Botany Organized Excursion Study Tour Kullu, Manali Himachal Pradesh From 6 September 2019 to 23rd September 2019 Session 2019-2020

Feedback





ACTION TAKEN:

As a part of B.Sc. Curriculum, The Department of Botany at Science College, Congress Nagar, Nagpur, organized an enriching excursion study tour to Kullu and Manali in Himachal Pradesh from September 6, 2019, to September 23, 2019, under the guidance of Dr. R. N. Deshmukh. This educational tour provided students with a unique opportunity to explore the diverse flora and ecological systems of the region. Over the course of the tour, participants engaged in various field studies, collected plant specimens, and conducted ecological assessments, all while being supervised by Dr. Deshmukh. His expertise and leadership ensured that students gained hands-on experience and a deeper understanding of botany and environmental science. The tour significantly enhanced the academic curriculum, offering students invaluable practical knowledge and exposure to real-world ecological environments. Total 2 teaching staff, and 90 students were visited to Kullu, Manali. The major objective was to familiarize the students with the wild and cultivated flora and ecology of the region.

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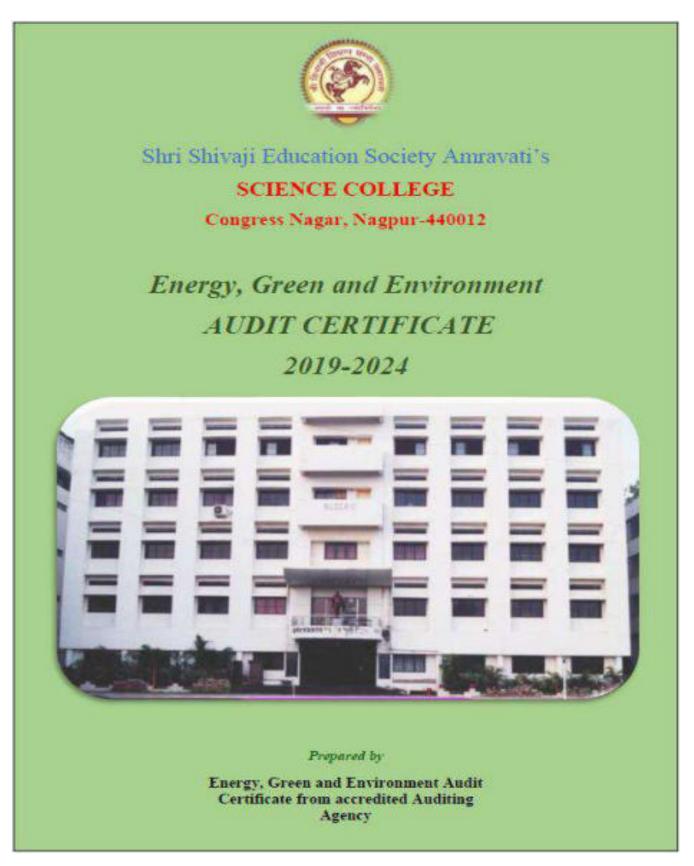
Dr A A Halder Coordinator, IQAC Science College, Congress Nagar, Nagpur



Ospestmut

Dr. O. S. Deshmukh Principal Science College, Congress Nagar, Nagpur

3) The Certificate from the external accredited auditing agency



i) Energy usage certificate form the auditing agency

Nutan Urja Solutions

A 703, Balaji Witefield, Near Sunni's World, Sus Road, Sus, Pune 411 021 Phone: 83568 18381. Email: mtanurja.solutions@gmail.com

Date: 11/06/2024

CERTIFICATE

This is to certify that we have conducted Energy Audit at Shri Shivaji Education Society Amravati's Science College, Nagpur as per the guidelines of Maharashtra Energy Development Agency (www.mahaurja.com) in the year 2023-24.

The College has already adopted Energy Efficient practices like:

- Usage of Energy Efficient LED Fittings
- Installation of 64 kW Roof Top Solar PV Power Plant.
- Installation of 1000 Liters Solar Thermal Hot Water System

We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Green.

Nutan Urja Solutions,



K G Bhatwadekar.

Certified Energy Auditor,

EA - 22428



A 703, Balaji Witefield, Near Sunni's World, Sus Road, Sus, Pune 411 021 Phone: 83568 18381. Email: <u>nutanurja.solutions@gmail.com</u>

Date: 21/08/2023

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EA - 22428



7.1.3 Report on environmental promotion and sustainability activities conducted beyond the campus

A 703, Balaji Witefield, Near Sunni's World, Sus Road, Sus, Pune 411 021 Phone: 83568 18381. Email: mtamurja.solutions@gmail.com

Date: 18/11/2022

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Date: 24/08/2020

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A 703, Balaji Witefield, Near Sunni's World, Sus Road, Sus, Pune 411 021 Phone: 83568 18381. Email: nutamurja.solutions@gmail.com

Date: 14/08/2019

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K G Bhatwadekar,

Certified Energy Auditor,



ii) Green Audit certificate form the auditing agency



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Dine: 21/08/2023

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This is to certify that we have conducted Green Audit at Shri Shivaji Education Society Amravati's Science College for the year 2022–23.

The College has already adopted Green practices like:

- Installation of Rain Water Harvesting system
- Installation of Bio composting pit
- Installation of 64 kW Roof Top Solar PV Power Plant.
- Installation of 1000 Liters Solar Thermal Hot Water System
- Usage of Energy Efficient LED
- Usage of Energy Efficient BEE STAR Rated equipment

We appreciate the support of Management, involvement of faculty members and students in the process of making the campus Green.

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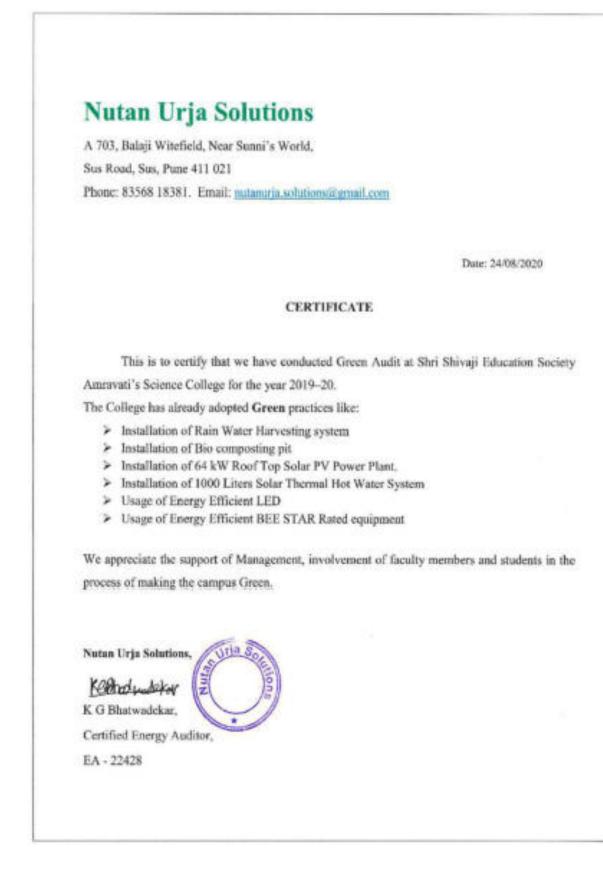
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iii) Environment Audit certificate form the auditing agency

Nutan Urja Solutions

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Date: 11/06/2024

CERTIFICATE

This is to certify that we have conducted Environmental Audit at Shri Shivaji Education Society Amravan's Science College, Nagpur in the year 2023-24.

The College has already adopted following projects for making the campus Environmental Friendly.

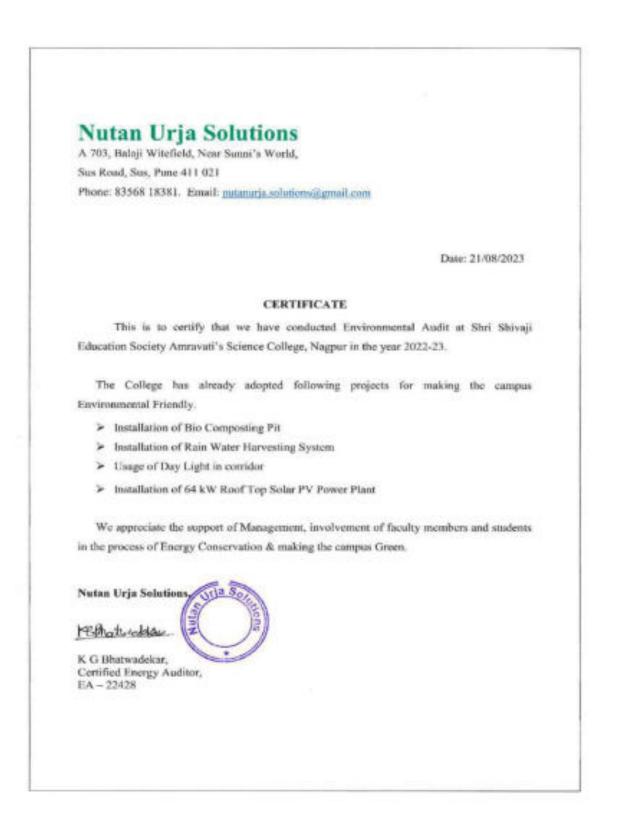
- > Installation of Bio Composting Pit
- > Installation of Rain Water Harvesting System
- Usage of Day Light in corridor
- > Installation of 64 kW Roof Top Solar PV Power Plant

We appreciate the support of Management, involvement of faculty members and students in the process of Energy Conservation & making the campus Green.

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K G Bharwadekar, Certified Energy Auditor, EA – 22428





A 703, Balaji Witefield, Near Sunni's World, Sus Road, Sus, Punc 411 021 Phone: 83568 18381. Email: <u>nutanurja.solutions@email.com</u>

Date: 13/08/2021

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K G Bhatwadckar, Certified Energy Auditor, EA – 22428



A 703, Balaji Witefield, Near Sunni's World, Sus Road, Sus, Pune 411 021 Phone: 83568 18381. Email: nutanurja.solutions@gmail.com

Dute: 24/08/2020

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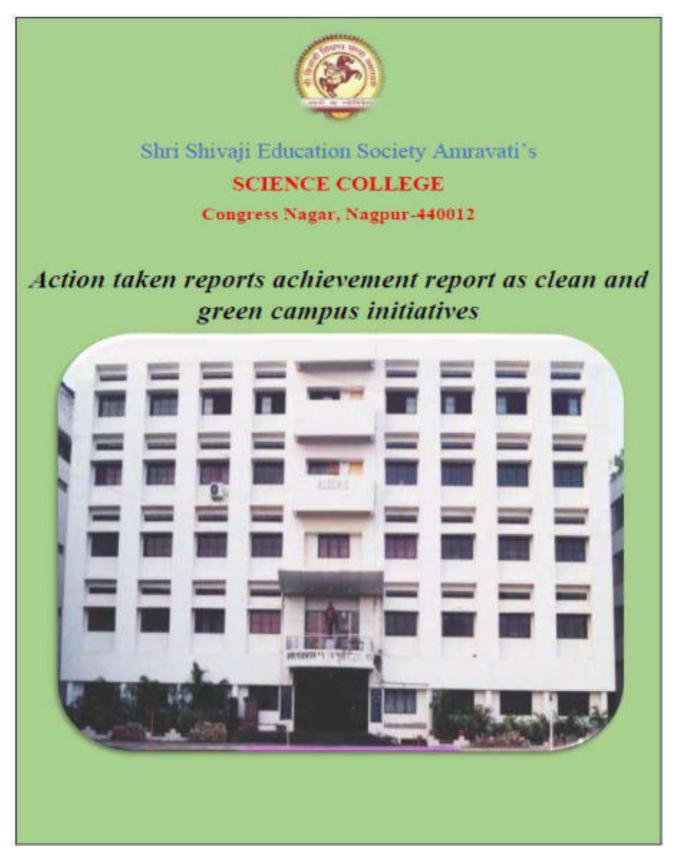


Dr A A Halder Coordinator, IQAC Science College, Congress Nagar, Nagpur



S. Deshmukh Dr O Principal Science College, Congress Nagar, Nagpur

4) Action taken reports and achievement report as clean and Green campus initiatives



i) Action taken report

- In the academic year 2023-2024, the Green Club at Shri Shivaji Science College, Congress Nagar, Nagpur, took significant steps to promote environmental awareness and sustainability among students through various initiatives, with a strong focus on water conservation, climate change education, and waste management.
- The Green Club successfully engaged 286 students in water conservation efforts, utilizing the Why Waste app to save a total of 2505.2 cubic meters of water, as of March 26, 2024. Additionally, students were encouraged to participate in online coursework aimed at enhancing their knowledge on environmental issues.
- As a result, 273 students completed an online course on Climate Change & Water Management, equipping them with an in-depth understanding of global environmental challenges and water management strategies. Furthermore, 68 students completed a course on Waste Management & Climate Action, learning about the environmental impacts of waste and the importance of sustainable waste reduction and recycling practices.
- These initiatives contributed to building an informed and proactive student community committed to tackling climate change and supporting sustainable practices. Supporting documents, including activity reports, photographs, and certificates, are available via the provided link.

ii) Achievement report as Clean and Green Campus Initiative:

Shri Shivaji Education Society Amravati's Science College Congress Nagar, Nagpur GREEN CLUB Session 2023-2024 Report on

online course works on **Climate Change & Water Management**.

The Green Club of Shri Shivaji Science College, Congress Nagar, Nagpur, has consistently worked towards promoting environmental awareness and encouraging sustainable practices among students. In the academic year 2023-2024, the Green Club organized several impactful activities related to water conservation, waste management, and climate change to engage students in learning and taking practical steps toward a more sustainable future.

As part of these initiatives, students were encouraged to participate in online courses related to **Climate Change**, **Water Management**, and **Waste Management**. The following report outlines the key activities carried out, achievements, and the completion of online courses related to these topics.

1. Green Club Activities on Water Conservation: Objective:

The primary aim of the Green Club in the academic year 2023-2024 was to raise awareness and inspire students to conserve water. Students actively participated in activities that contributed to water conservation efforts.

Achievements:

- A total of **286 students** from the college registered for the **Green Club** and the **WhyWaste app**.
- Through active engagement on the WhyWaste app, a total of **2505.2 cubic meters** of water were saved, as of **26th March 2024**, **11:36** AM.
- The water conservation leaderboard showed remarkable participation from students who consistently worked to save water through everyday actions.

Supporting Documents:

• Activity reports and photographs related to water conservation activities have been attached separately, as per the provided link.

2. Online Coursework on Climate Change & Water Management: Objective:

The online coursework aimed to provide students with a comprehensive understanding of climate change, its effects, and the importance of water management. The program focused on building knowledge that can lead to informed decision-making and practical solutions for mitigating environmental issues.

Achievements:

- 273 students from the college successfully completed the online coursework on Climate Change & Water Management.
- The course equipped students with knowledge regarding the global challenges of climate change, the science behind it, and the strategies for managing water resources effectively.
- The certificates for course completion have been issued, and a detailed list of students and certificates is available in the provided link.

Supporting Documents:

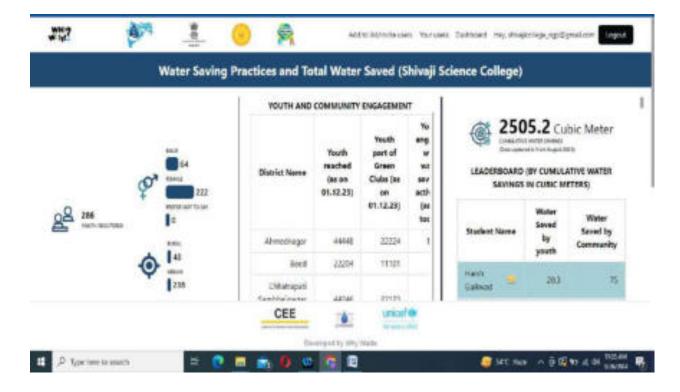
• List of Students and Certificates for Climate Change & Water Management

3. Online Coursework on Waste Management & Climate Action: Objective:

This online course aimed to sensitize students to the significance of proper waste management and its critical role in addressing climate change. The course emphasized effective waste reduction, recycling practices, and the relationship between waste management and global warming.

Achievements:

- 68 students completed the online course on Waste Management & Climate Action.
- This course provided students with the necessary knowledge to understand the connection between waste production, pollution, and climate change. It also promoted sustainable practices to reduce waste and mitigate environmental impacts.
- The course certificate details and a list of participants are available in the provided link. **Supporting Documents:**
- List of Students and Certificates for Waste Management & Climate Action



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Please see the following link for certificate https://docs.google.com/spreadsheets/d/15Z19GbWJuMMIINN 7Q4BPdCWx1u3CHLqg/edit?usp=sharing&ouid=1133352433 25319911669&rtpof=true&sd=true Please see the following link for certificate https://docs.google.com/spreadsheets/d/1o5JthpxFTOVMy8dly pBSaKt3ls5k6DFf/edit?usp=sharing&ouid=1133352433253199 11669&rtpof=true&sd=true Shri Shivaji Education Society, Amravati's 40 251 COP SCIENCE COLLEGE **Ord Cycles Re** of Cycle) Reassessment place by NAAC, Bangalow Congress Nagar, Nagpur- 440 012 (M.S.) INDIA • Tel: +91-712 - 2423432 (O) • Telefax: +91-712 - 2440955 E-mail: shivajiscience_ngp@yahos.com
Web: www.sscragpur.ac.in oncied Centre for Higher - 1 A Shri Harshvardhan P. Deshmukh Prof. M. P. Dhore or College under enanih Scheme' LIGC, New Del Principal President Date: 12 08 2023

No. Sc EStt/6488/2023

To, Joint -Director, Higher and Technical Department Nagpur Division, Nagpur (M.S)

Green Club

This is to certify that, Green Club (Government of Maharashtra) Committee at this college level for session 2023-2024 is constituted as below:

Sr. No	Name	Designation	Mobile No	
1	Dr. Reshma P.Sonwalkar	Faculty Co-ordinator	800768419	
2	Yash Sunil Dorle	President(Youth)	7249344193	
3	Aditya Kailas mane	Vice- President (Youth)	8411062770	
.4	Shrushti Deepak Singh Thakur	Co-ordinator (Campaigns)	8483064919	
5	Raven Soni Dutta	Co-ordinator(Documentation)	9359978771	

Thanks with, Regards.



NO: 30

NOTICE

All the First year and Second year students of B.Sc. BCA & M.Sc/MCA -I are being informed that green club at the college level is constituted, so interested students are requested to take membership in a green club by filling online Google form by scanning the QR code.

There are 100 seats available out of which 50 seats for girls and 50 seats for boys. NSS volunteers are not eligible for green club membership as per the direction of the department of Higher Education, Pane.

- · Note:
 - 1) Membership will be available for interested students on a first come first basis
 - 2) Membership will be for two years
 - Students will get a certificate for participation after the completion of two y₂ =
 - 4) Only green club member can join Whats-App group
 - 5) For any query contact 8007684196 (Dr. Mrs. Reshma Sonwalkar)

QR Code for Google form:



To join green club Whats-App group scan following QR code



housekare

Dr. Reshma P.Sonwalkar

Green Club Faculty Co-ordinator

shou Principal

SSESA's Science College, Nagpur



Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur

Notice

All the students of B.Sc. BCA, M.Sc. MCA and Junior College are hereby informed that Green Club, Shivaji Science College, Congress Nagar, Nagpur has organized one day workshop on Youth Engagement and Water Stewardship in collaboration with Green Club, Government of Maharashtra, UNICEF, CEE, ACWADAM on 19th January 2024. You all are informed to remain present in the conference hull.

Time 12 noon to 1.00 PM

Venue: Conference hall

Junitedar

Dr. Reshma P. Sonwalkar. Green Club Coordinator.

Notion

Prof. M. P. Dhore Principal, Science College, Congress Nagar, Nagpur

महाराष्ट्र शासन उच्च शिक्षण संचालनालव, महाराष्ट्र राज्य, ४१२ ई, बहिरट पार्टील चौक, मॉडेल कॉलनी, शिवाजीनगर पुणे-४११ ०१६							
Web : www.dhepune.gov.in Web : www.dhepune.gov.in फोन नं.०२०/२६१२२१११							
क्रमांक उशिसं/युनिसे	फ/२०२४/ 🖌	389		ft. 0	3 SEP 2	024	
कुलसचिव , सावि कुलसचिव , सिवा कुलसचिव , डॉ. बा कुलसचिव , राष्ट्र स्वामी रामानंद ती सह संचालन, उप्त	शिबाई फुले पुणे विथ त्री विद्यापीठ, कोर बासाहेब आंबेडकर रंत तुबजीजी महार यं मराठवाडा विद् र शिक्षण विमाग -	ट्यापीठ, पुणे कापूर, अराठवाडा विद्यापी ाज लागपूर विद्यापी वापीठ, लांदेड पुणे, मुंबई, पलवेल, प		ाजीलगर, लागपूर, सिक.	, नांदेड.		
विषय:	जागतिक जल है पुरस्कार अंतिम		r जिल्हातरीय व राज्यस	लरीय उत्कृष्ट गी	न क्लब प्रोटसाहम	तपर	
संदर्भः	२. सहाराष्ट्र शास उत्तिरं/युनिरं ३. सहाराष्ट्र शास इ. उत्तिसं/२० ४. मा. संडी, उच्च जागतिक जा	तन, शिक्षण संधालन रेफ २०२३/७३२४ दि. र तन, शिक्षण संधालन २३/७३१५ दि. २०.०६ य व तंत्रशिक्षण तिमा क्षदिन साजरा करण्या	त्सय (उच्च सिक्षण) म ह	तराष्ट्र राज्य, पुणे तराष्ट्र राज्य, पुणे चेव, उथ्य व लंबरि जानेवारी २०२४ रोज	ा यांचे पत्र क्र. ा यांचे पत्र रेशण विभाग यां तीच्या सूचना	হযা	

 महाराष्ट्र शासन, शिक्षण संचालनासय (उच्य शिक्षण) महाराष्ट्र राज्य, पुणे-०१ यांचे जागतिक जल दिन (२२ मार्च) उपक्रम महाविद्यालय स्तराजर साजरा करणेवावल पत्र ज्ञ.उशिसं/UNICEF/मधि-1/२०२४/९७७ दि. १२.०२.२०२४

उपरोक्त विषय व संहर्मान्याये, महाराष्ट्र शासन राज्यातील १३ जिल्ह्यांतील उच्य व तंबशिक्षण महाविद्ग्यलगांगध्ये 'युवकांच्याyouth students) मार्कत नैसनिक संसाधनांचे सरंसण व पाण्याची बचत 'हे अभियान राबविसे जात आहे. संदर्भ कमांक २ आणि ३ जुसार राज्यातील सर्व जिल्हयातील महाविद्यालयांत ऑनलाईन सेल्फ पेस्ड (स्वयंगती) कोर्सची (https://www.mahasouthnet.in/) अंमलबजावणी सुरु आहे. त्यापप्रमाणे, संदर्भ क. १ नुसार निवडक लेरा (१३) जिल्ह्यांमध्ये मैसॉमेक संसाधने व पाण्याची बचल या अमियानांतर्गत रूवे महाविद्यालयांत दीन कलब स्थापन करवून विविधइपक्रम राबचिले जात आहेत. पाणीवचलीच्या उपाययोजनांसाठी यीन कलब च्या माध्यमातून साल सहज

जागतिक जलदिनाच्या निमिक्ताने विविध उपक्रम राबविल्याबाबत महाविद्यालयातील ग्रीन क्लब फॅकल्टी कोऑर्डेनिटर यांच्या मार्फत प्राप्त अहवाताच्या आधारे प्रोत्साहनपर पुरस्कारासाठी पाणी बचतीच्या अनुषंगाने रित/शॉर्टव्हिडीओ बनवणे, पाणी बचतीवर पोस्टर तयार कारणे व शैक्षणिक वर्ष २०२३-२४ या दरम्यान महाविद्यालयातील ग्रिन क्लबच्या माध्यमातून केलेल्या कामाचे विविध निकषावर मूल्यांकन करुन वरील प्रमाणे पुरस्काराचे गट निश्चित करण्यात आले आहेत. जिल्हा स्तरावर तसेच राज्य स्तरावर तज्ञ समितीने मूल्यांकन करुन प्रोत्साहनपर पुरस्कार मिळालेले महाविद्यालय अथवा महाविद्यालयातील विद्यार्थी यांची निवड केलेली आहे.

समितीने विविध निकषावर परीक्षण करून निकषात बसणाऱ्या गटातील जिल्हा निहाय पुरस्कार खालील प्रमाणे <u>WWD 2024: Best YEWS Green club</u>

District	Name of the college	Dashboar d Performa nce (50 marks)	Green club activiti es (25 marks)	Online course completio n (25 marks)	Total
Ahmednagar					
Ahmednagar	Sangamner Nagarpalika Arts, D. J. Malpani Commerce & B. N. Sarda Science College (Autonomous)	50	20	20	90
Ahmednagar	Pravara Rural Engineering College Loni	40	15	25	80

Nagpur					-
Nagpur	Shri Shivaji Science College, Congress Nagar, Nagpur	50	23	25	98
Nagpur	Smt. Kishoritai Bhoyar College of Pharmacy, Kamptee	45	20	25	90

Translated - District Level Best Green Club Incentive Awards on the occasion of World Water Day (March 22).

Regarding implementation of various activities on the occasion of World Water Day, based on the report received through Green Club Faculty Coordinator of the college, making reel/short video in accordance with water conservation for incentive award, preparing posters on water conservation, and evaluating the work done through Green Club in the college during the academic year 2023-24 on various criteria. The groups of awards have been fixed as follows. The college or college students who have received incentive awards are selected after evaluation by the expert committee at the district level as well as at the state level.

(tout

Dr A A Halder Coordinator, IQAC Science College, Congress Nagar, Nagpur



Dr. O. S. Deshmukh Principal Science College, Congress Nagar, Nagpur