

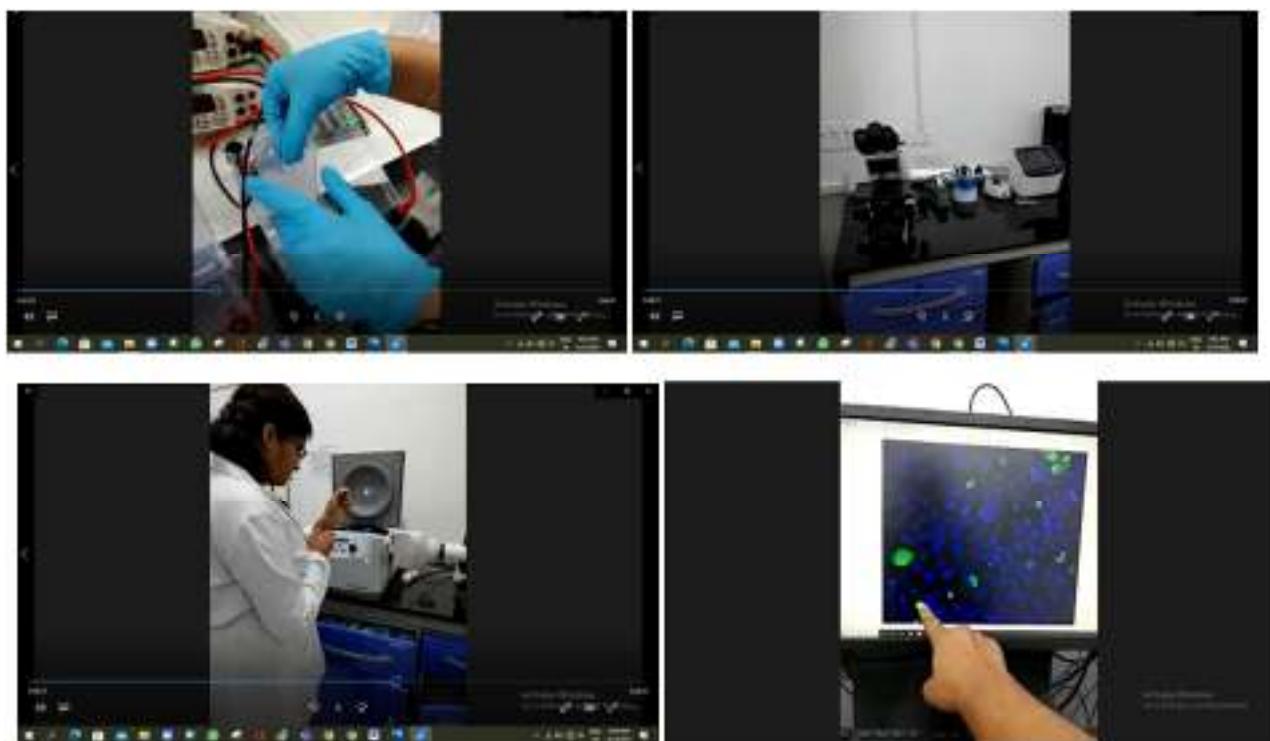
2021-22

Department of Biochemistry

Virtual Lab tour to Cellular Virology Lab of Dr. Indranil Banerjee, Department of Biological Sciences, IISER, Mohali, Punjab, India on June 12, 2021

No. of beneficiaries: 50

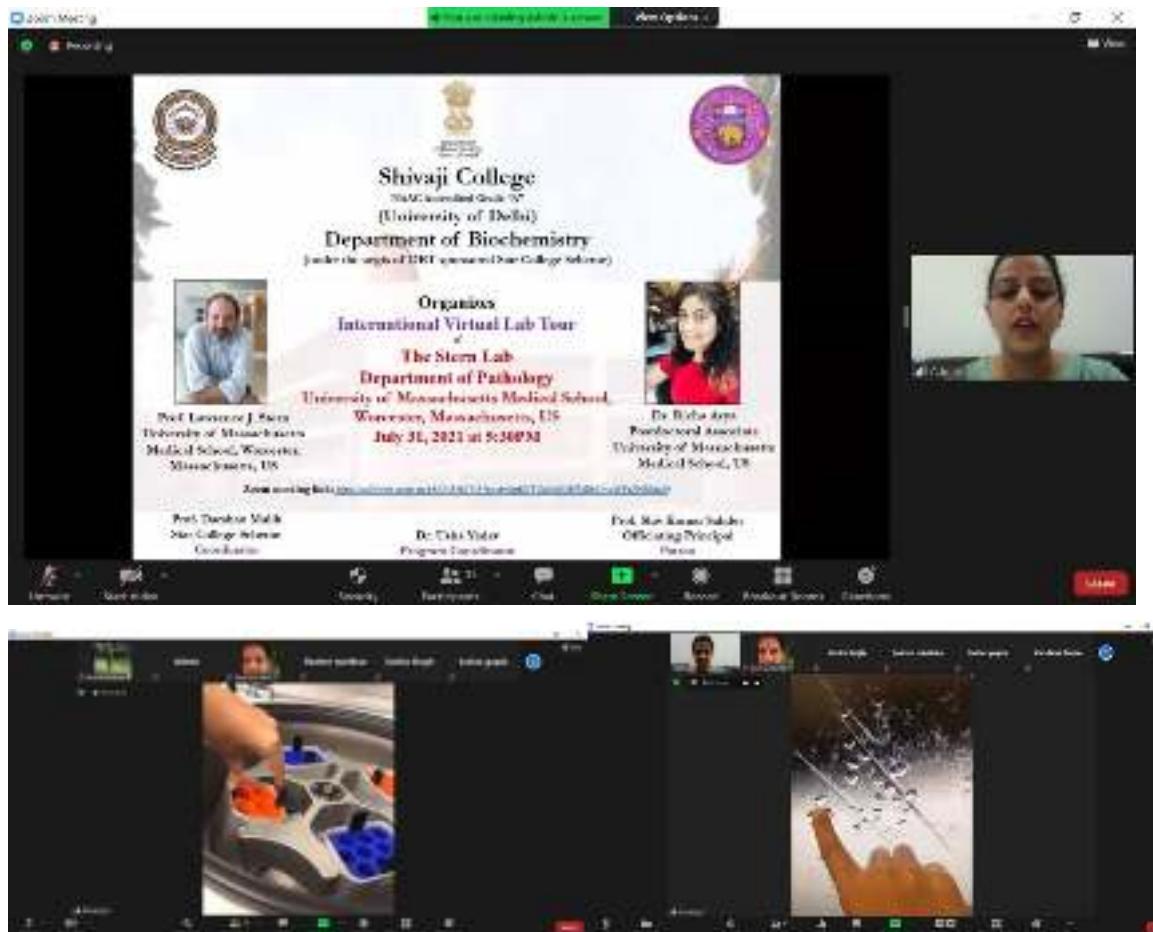
A virtual lab tour to the Cellular Virology Lab of Dr. Indranil Banerjee, Department of Biological Sciences, IISER, Mohali, Punjab, India, was conducted on June 12, 2021 at 3:00 PM, on Zoom Platform. The virtual tour was coordinated by Dr. Renu Baweja, Department of Biochemistry, Shivaji College, University of Delhi and attended by around 50 students of different discipline of biological sciences from not only Shivaji college but also from the other colleges of University of Delhi. The tour started with the short video clip of the IISER Mohali campus followed by the inspiring message of Dr. Indranil Banerjee. Mr. Nirmal Kumar, a PhD student from the lab and a proud alumnus of our esteemed college from Department of Biochemistry, had given the virtual tour of the lab. Students were shown the various basics and state-of-the-art equipments used to perform various experiments of any research lab. They were also briefed about the functioning of some of the instruments commonly used in laboratories at undergraduate levels. The students found it very useful, informative and interesting as shown by the questions asked during the tour and the feedback of the students taken after the tour. In an attempt to make this tour memorable, it was recorded and images were also captures.



Virtual lab tour to Prof. Lawrence J. Stern's Lab, Department of Pathology, University of Massachusetts Medical School, Worcester, Massachusetts, US on July 31, 2021

No. of beneficiaries: 51

The **Department of Biochemistry, Shivaji College**, University of Delhi (under the aegis of DBT sponsored Star College Scheme) organized an **International Virtual Lab Tour of Prof. Lawrence J. Stern's Lab, Department of Pathology, University of Massachusetts Medical School, Worcester, Massachusetts, US on July 31, 2021** at **5:30PM** on virtual platform Zoom. The virtual tour was coordinated by Dr. Usha Yadav, Department of Biochemistry, Shivaji College, University of Delhi. Dr. Richa Arya, Resource Person of the tour showed and explained every instrument in a simplified manner. It was a great learning experience for the students as they got to see the infrastructure, resources, instruments and functioning of an international lab. A total of 43 Undergraduate students and 8 faculty members attended the tour.



Lab visit to Delhi Pollution Control Committee for Hands-on Training on Water Testing Equipments on September 10, 2021

No. of beneficiaries: 10

Students of B.Sc. (Hons) of Department of Biochemistry, Shivaji College visited the state of the art water testing facility of the Delhi Pollution Control Committee (DPCC) on 11th September, 2021.

Students were demonstrated with the working of all the analytical instruments and facilities employed in various water and wastewater analysis and testing including microbiological analysis.

Functioning of the following instruments were demonstrated in details to the students:

- pH meter
- EC meter
- Micro and ultra-micro weighing balances
- Dissolved Oxygen (DO) setup
- Biochemical Oxygen Demand (BOD) setup including incubator
- Chemical Oxygen Demand (COD) setup including digester
- TDS, TSS units and apparatus
- Colour and turbidity apparatus
- Microbiological facilities including sampling and cultural techniques for estimation of total and faecal coliform bacteria

Later samples were provided to the students for estimation of DO, BOD, COD, TDS, and TSS. Each student performed analysis of their respective samples and shared their results with the laboratory staff of the DPCC. Following are various photographs of the said visit.

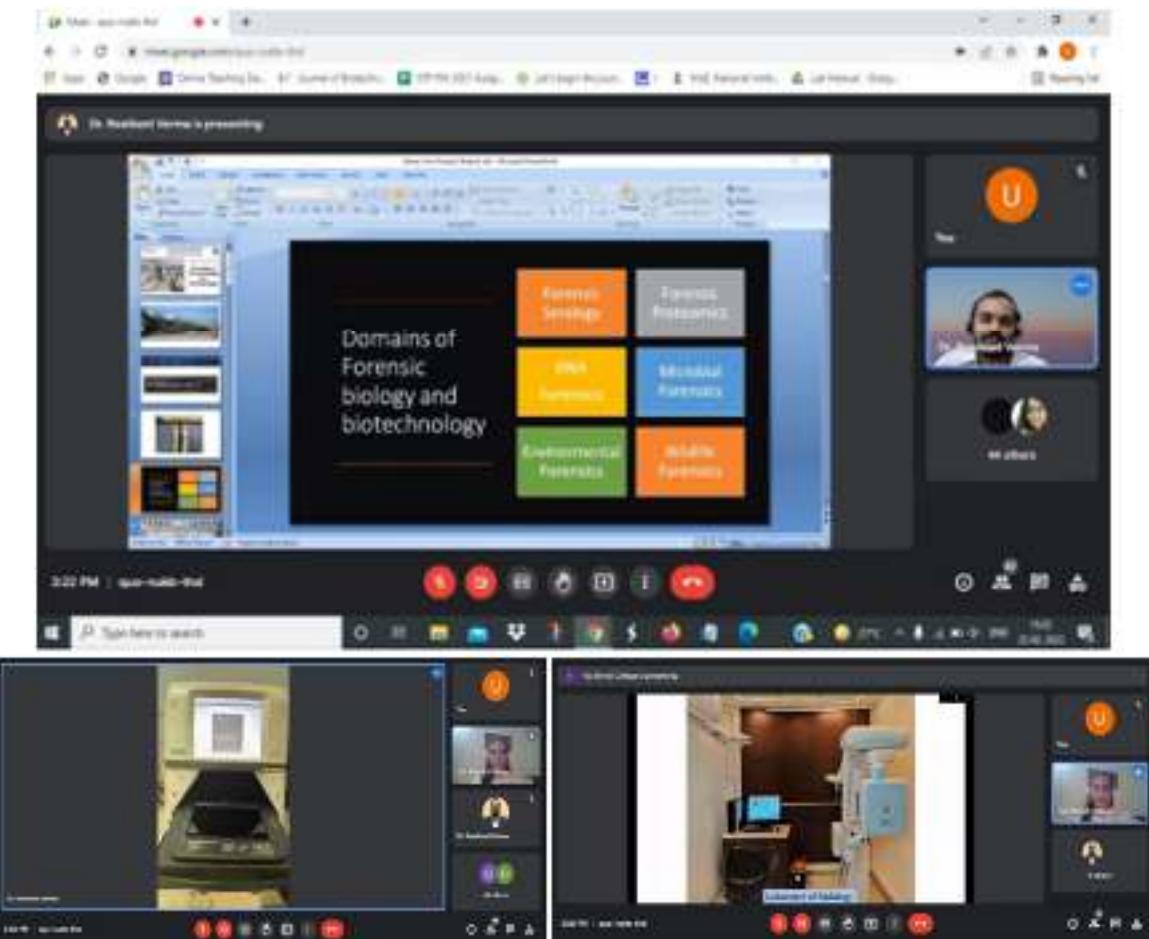




Virtual lab tour to Forensic Biology and Biotechnology Laboratory National Forensic Sciences University, Gandhinagar, Gujarat on February 25, 2022

No. of beneficiaries: 59

A virtual lab tour of the mentioned lab was organized by Department of Biochemistry, Shivaji College, University of Delhi, INDIA under the aegis of Department of Biotechnology sponsored Star College Scheme, Govt. of INDIA. The NFSU, is one of the esteemed Institution of National Importance and is the world's first and only University. The lab represented a unique amalgamation of teaching and research in the field of modern Bio Forensics. The research thrust areas of the lab were DNA profiling, proteomics, microbial and wildlife forensics. The ongoing research projects are sponsored by Government funding agencies like GUJCOST and GSBTM. Major Instrumental Facility available in the four different labs were DNA Sequencer, Spectrofluorometer, Ultracentrifuge, Real-timePCR, Gel Documentation system, Microplate Reader, Thermal Cycler, 2D-Gel and SDS-PAGE, Nano-spectrophotometer, UV-Vis Spectrophotometer and Ultrapure Water Purification System etc.. During the visit following faculty members were involved as resource persons and gave the demonstration of the different lab instruments. 1. Dr. Bhargav Patel (Sr. Assistant Professor), Principal Coordinator, COVID-19 Testing Facility Coordinator, Examination Committee, School of Forensic Science & In-Charge, Forensic Biotechnology Laboratory 2. Dr. Neelkant Verma (Assistant Professor) 3. Dr. Chandra Shekhar Yadav (Assistant Professor) 4. Dr. Hiral Sanghavi (Assistant Professor) 5. Dr. Poonam Gupta (Assistant Professor) The virtual visit provided them with an excellent opportunity to gain an insight into the different laboratories and knowledge of the instruments.



Lab visit to Department of Biochemistry, University of Delhi, South Campus on March 22, 2022

No. of Beneficiaries: 24

The **Department of Biochemistry, Shivaji College, University of Delhi** (under the aegis of DBT sponsored Star College Scheme) went for an **Educational Trip to the Department of Biochemistry, University of Delhi, South Campus on March 22, 2022** from **2:15PM** onwards. Prof. Alo Nag, Head of the department welcomed all the students along with Prof. Debi P Sarkar, Dr. Garima Khare, and Dr. Dau Dayal and gave a brief introduction of the department. All the faculty members interacted with the students and shared their area of research work. Students were shown various instruments in the respective labs to the students. Some of the state-of-the-art instruments include, Water purifier, Sonicators, Liquid nitrogen tanks, SDS-PAGE apparatus, Cold cabinet, Shaker Incubator, Ultracentrifuge, Speed vac, Spectrophotometer, Centrifuge-Swinging Bucket Rotor and Fixed Angle Rotor, PCR machine, Ultra low temp Freezer (-81°C), BOD incubator, Laminar Hood, BSL 3 Lab video, Gel dryer, HPLC, Surface Plasma Resonance, MiSeq Next Generation Sequencing, Gel Doc, Robotic ELISA washer, AKTA protein purifier among others. It was attended by a total of 24 B.Sc. (H) Biochemistry students, 8 from Sem IV and 16 from Sem VI. The event Coordinators were Dr. Sunita Singh and Dr. Usha Yadav.



Department of Botany

- **Field visit report to ICAR-IARI Campus, PUSA, New on December 4, 2021**

The Students of BSc. Life sciences, III semester who opted for Biofertilizer paper as Skill Enhancement Course were taken on a visit to the Department of Microbiology and other related departments at IARI, Pusa on 04.12.2021 from 9:00 a.m. to 4:00 p.m. The purpose of the visit was to enhance the student's understanding about different aspects of biofertilizers like rhizobium culture, BGA unit, Azolla cultivation and vermicomposting units. The students were accompanied with Dr.Vijay Kumar and Dr.Nupur Mondal.

The students gathered near B.P Pal auditorium and from there were taken to the National Centre for Blue Green Algae. Dr. Abraham, Principal Scientist guided our students and gave them essential information bout Azolla-Anabaena cultivation and Rhizobium culture. Dr. Abraham's PhD student Ms. Sneha informed us about culturing techniques and essential equipments in laboratory.

Next was Department of Microbiology where Dr. Archana Suman, Principal Scientist, taught various concept about Biofertilizers. She then guided us to various equipments used to commercialize biofertiizers. It was an interactive session where important concepts based on biofertilizers were taught.

At last we went to Biomass Utilization Unit where the students were given a close glimpse to the Vermicomposting units and the machineries used in the utilization of biomass. Dr.Vijay Kumar and Dr.Nupur Mondal explained the practicalities to the students.

After the visit students were given nutritious refreshments and were dispersed safely outside the campus by the conveners. The visit proved to be a great experience for the students and they were overwhelmed with so many new concepts about biofertilizers.

Total No. of Beneficiaries: 19



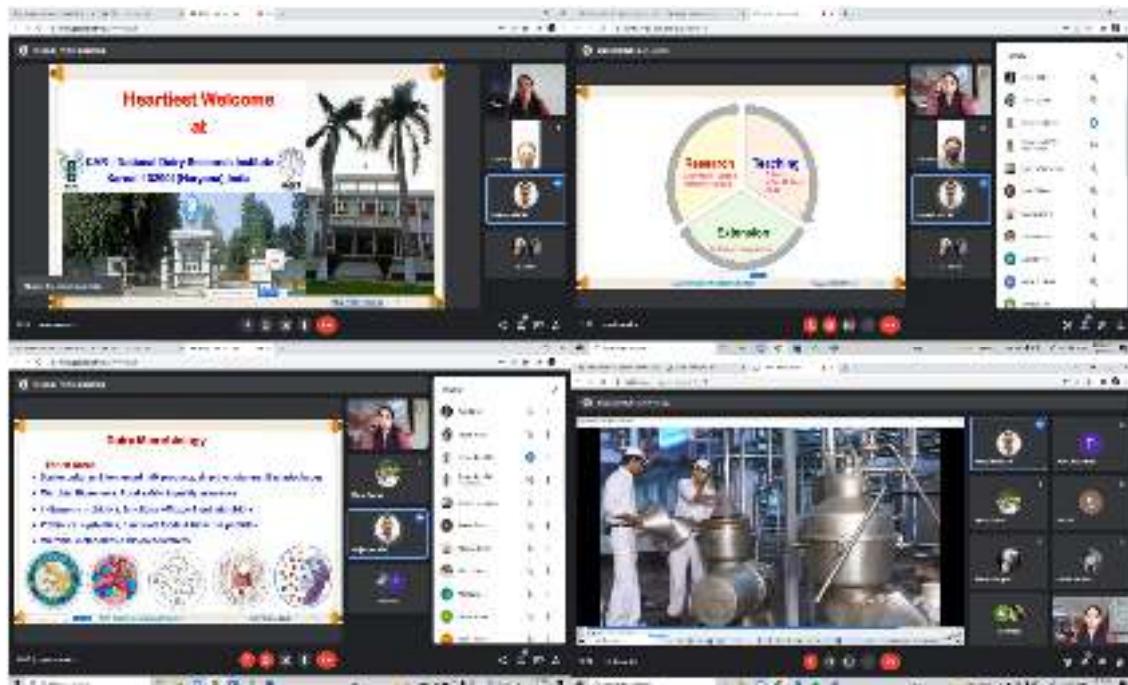
- **A virtual visit to “National Dairy Research Institute, Karnal” was held on March 3, 2022 for the students of B.Sc. (H) Botany VI Semester as part of their DSE paper Industrial and Environmental Microbiology.**

A virtual trip was organized to ICAR-National Dairy Research Institute, Karnal, Haryana on March 03, 2022 via Google Meet Application. Dr *Brajendra Singh Meena*, Senior Scientist Division of Dairy Extension, National Dairy Research Institute gave a detailed insight about the goals, mission and research work of the institute. Sir started his talk discussing the historical background, academic courses and areas of specialization of the institute. He introduced the students to the significant contributions of NDRI’s “Breed Improvement Programme” viz. Karan Fries, Karan Swiss, Murah Buffalo, Sahiwal and Tharparkar. Dr. Brajendra later discussed in brief about the various facilities at NDRI like Livestock Research Centre, National Dairy Mela (that is organized every year from February 25 – February 27), hands on training for BPDU, DTC etc., cost effective milk bioassay detection kits and value added functional dairy food products. Students were also given a tour to the different research labs at NDRI- CAD facilities, UG PG laboratories, Anaerobic Microbiology lab, Molecular Biology Unit Probiotics and Gut Microbiota, Microbial metabolites and Bio-preservation Unit and Electron Microscopy Centre .Sir summarized his talk by giving insights about the doorstep testing facility for animals provided by NDRI and motivated the students to visit

NDRI, Karnal physically and have a hands-on experience of the various facilities and research work going on there. The event was concluded after an interactive session between the faculty, students and Dr. *Brajendra*. The virtual tour was organized under the DSE paper of Industrial and Environmental Microbiology, by Dr. Smita Tripathi and Dr. Misha Yadav.

No. of Beneficiaries: 27

Course & Semester: B.Sc. (Hons.) Botany, Semester VI



- A field visit to “**KrishiMela, Department of Microbiology and Department of Blue Green Algae, ICAR- IARI, Pusa, Delhi**” was held on March 10, 2022 for the students of B.Sc. (H) Botany IV Semester as part of their SEC paper **Biofertilizer**.

Students of B.Sc (H) Botany, 2nd year were taken for the educational visit to Krishi Mela, IARI Pusa on March 10th, 2022. This field visit is a part of curriculum of students taking up Biofertilizer as Skill Enhancement course. Students were apprised of the traditional and contemporary technologies involved in production and application of Biofertilizers. They were also shown the Biofertilizer Production Unit at Division of Microbiology, IARI Pusa & Prof. Archna Suman shared here knowledge & experience with the students. To see the Azolla production students also visited the National Centre of Production & Conservation of BGA, IARI Pusa & Prof. Yudhvir Singh discussed with them about Azolla production

technology at IARI campus. Dr. Misha Yadav and Dr. Smita Tripathi accompanied the students.

Total number of Beneficiaries: 23



- **A field visit to urban forest named THE WOODS, located in the vicinity of Commonwealth Games Village near Akshardham on 7th April, 2022 for the students of Life sciences 4th semester SEC Medicinal Botany course.**

On 7th April 2022, a trip was organized for the students of Life sciences 4th semester SEC Medicinal Botany course; they visited an urban forest named THE WOODS, located in the vicinity of Commonwealth Games Village near Akshardham. The visit was planned to give our students an exposure of medicinal plants in their natural

habitat. In this way the students learn about the ecology, morphology and also acquaint with the medicinal plants. In this trip we were helped by Mr. V.P. Rao (Retd. IAS Officer). There were seventeen students from the course. In this trip students observed many medicinal plants and also learned about their identification features.

Total number of Beneficiaries: 17



Field visit to urban forest named THE WOODS

Department of Chemistry

VIRTUAL TOUR of DTU LABS on July 16, 2021

No. of Beneficiaries: 42

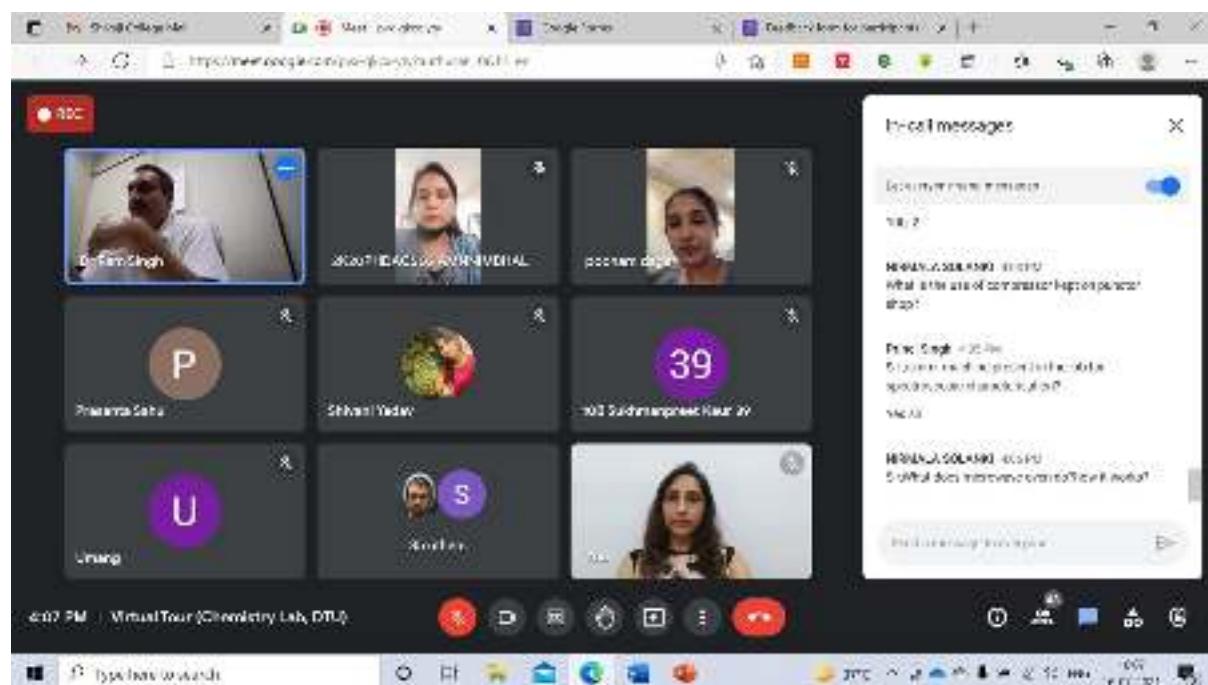
The Department of Chemistry, Shivaji College, organized a VIRTUAL TOUR of Laboratories of Department of Applied Chemistry, Delhi Technological University, under

DBT sponsored Star College Scheme. Dr. P. K. Sahu, Dr. Bhaskar Mohan Kandpal and Dr. Richa Arora were the organizers.

The event was held on 16.07.2021 at 03:00 PM on Google Meet platform. Dr. Ram Singh, Associate Professor of the Department of Applied Chemistry, Delhi Technological University was the co-ordinator of the tour.

The event witnessed a participation from 42 participants including Shivaji College teachers and under-graduate science students of Shivaji College from different courses including Chemistry, Biochemistry, mathematics, Life Sciences and Physical Science with Chemistry. Also, we have students of 9th, 10th, 11th and 12th standard as well teachers of Jawahar Navodaya Vidyalaya.

The live demonstrations of techniques like column chromatography and instruments like magnetic stirrer, distillation set up, digital water bath, Ice machine, hydrogenation machine, UV machine (to see TLC), thermogravimetric analyzer, High performance Liquid Chromatography were displayed by the students of Dr. Ram Singh. All these techniques are being used for the research purpose.





**VIRTUAL TOUR of Synthetic Organic Chemistry/Medicinal Chemistry Lab on
January 14, 2022**

No. of Beneficiaries: 178

The Department of Chemistry, Shivaji College, organized a VIRTUAL TOUR of Synthetic Organic Chemistry/Medicinal Chemistry Lab of Prof. Rakesh Kumar, Department of Chemistry, University of Delhi, under DBT sponsored Star College Scheme.

The event was held on 14.01.2022 at 03:00 PM via Microsoft Teams platform. Dr. P. K. Sahu and Dr. Richa Arora from the Chemistry Department, Shivaji College were the Convenor and Co-convenor, respectively. Dr. Parveen Gahlyan from the Department of Chemistry, Shivaji College was the Organizing Secretary of the event.

The event witnessed a participation from 178 participants including Shivaji College teachers and under-graduate science students of Shivaji College.

Students learnt, how to perform an organic reaction followed by reaction monitoring using TLC (Thin layer chromatography) and purification of product using column chromatography. The live demonstration of techniques like column chromatography, extraction using separating funnel and instruments like rotatory evaporator, magnetic stirrer, distillation set up, UV chamber (to see TLC), vacuum desiccator were displayed by the students of Professor Rakesh Kumar. All these techniques are being used for the research purpose.



SHIVAJI COLLEGE
NAAC ACCREDITED GRADE "A"
UNIVERSITY OF DELHI
DEPARTMENT OF CHEMISTRY



organizes

VIRTUAL TOUR

of

Synthetic Organic Chemistry/Medicinal Chemistry Lab

of

Professor Rakesh Kumar

Department of Chemistry
University of Delhi

for

under-graduate students

on

January 14, 2022

03:00 PM



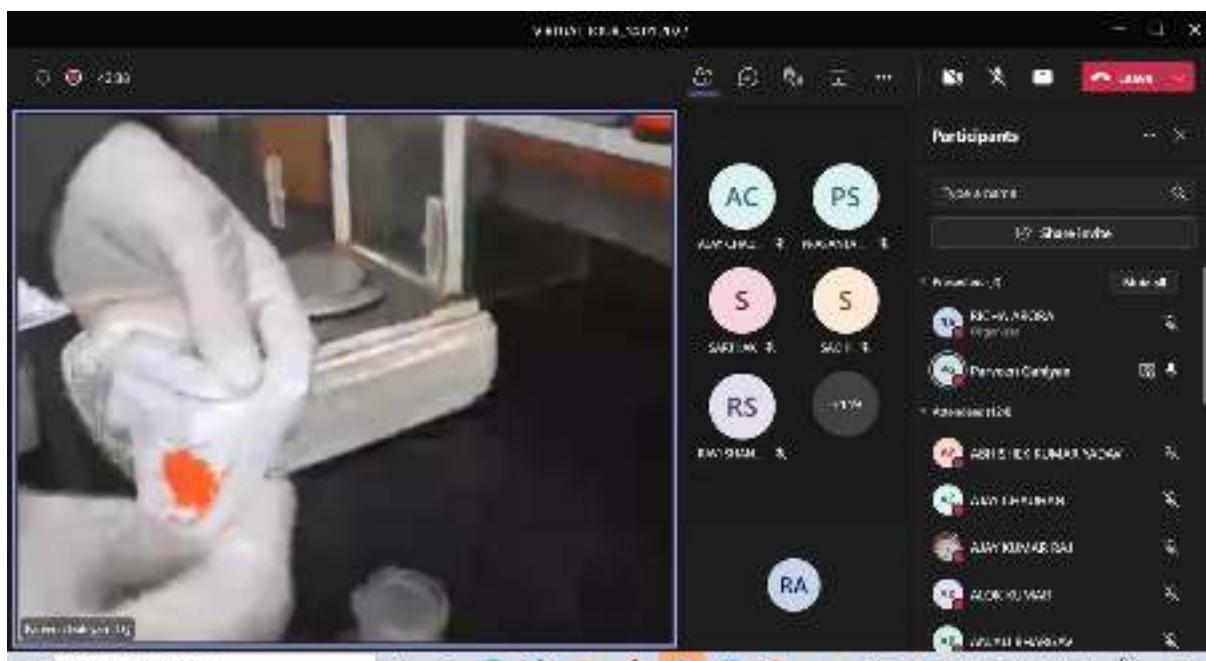
Coordinator
Prof. Darshan Malik

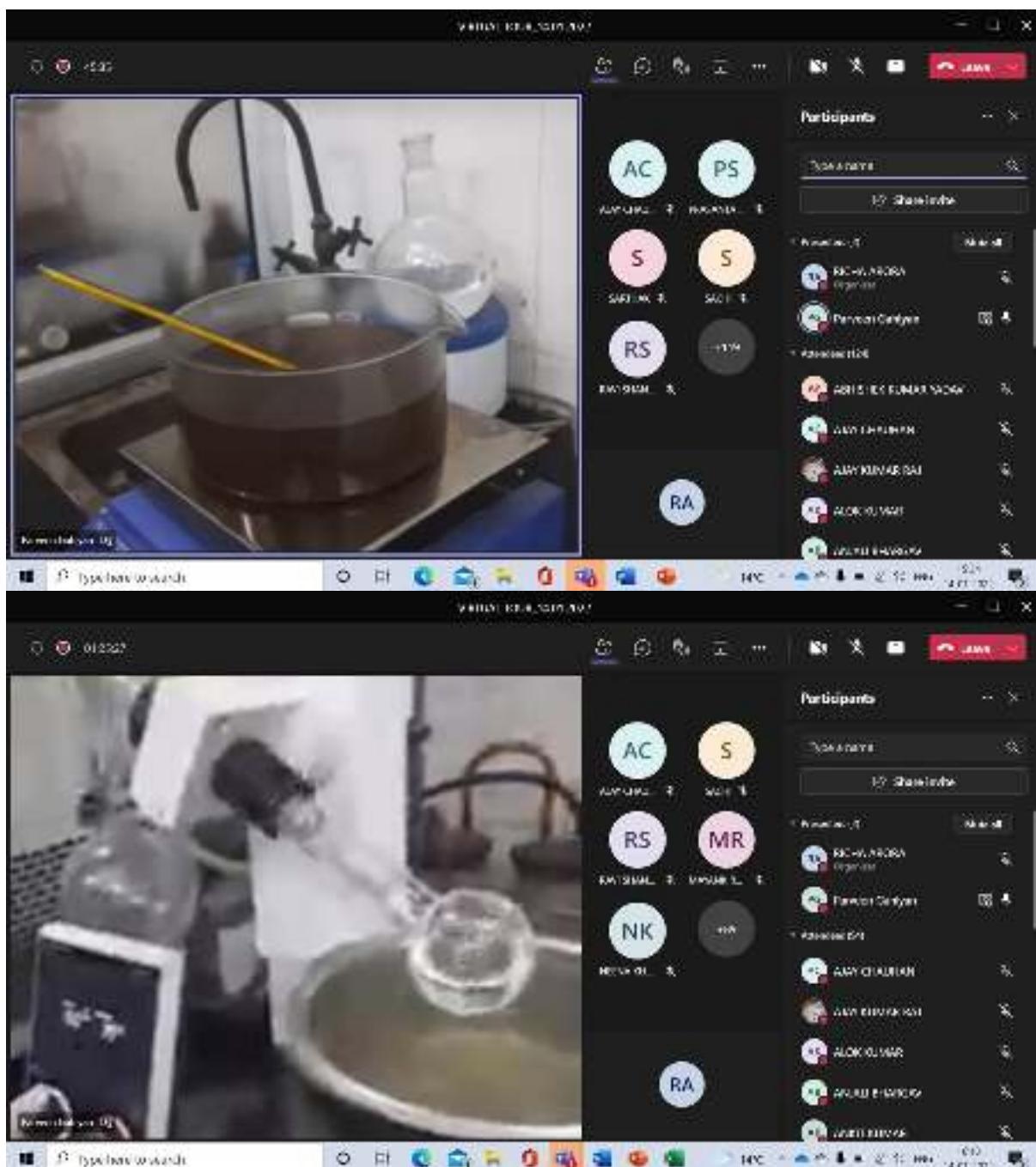
Convenor
Dr. P. K. Sahu

Co-Convenor
Dr. Richa Arora

Organizing Secretary
Dr. Parveen Gahlyan

Principal
Prof. Shiv Kumar Sahdev





EDUCATIONAL TOUR of Central Instrumentation Facility, Jamia Millia Islamia, Delhi on April 09, 2022

No. of Beneficiaries: 16

The Department of Chemistry, Shivaji College, organized an EDUCATIONAL TOUR of Central Instrumentation Facility (CIF), Jamia Millia Islamia, Delhi, under DBT sponsored Star College Scheme. The tour was held on 09.04.2022. Dr. Richa Arora and Dr. Rangnath Ravi from the Department of Chemistry, Shivaji College were the coordinators. A total of 16 students of B.Sc (H) Chemistry Semester 6 visited CIF of Jamia Millia Islamia. The

professors and technical staff at CIF demonstrated the functioning of various sophisticated instruments viz., Zeta potential/sizer, UV-Visible Spectrophotometer, Fluorescence Spectrophotometer, Raman Spectrometer, Time resolved Fluorescence life time measurement spectrometer, differential scanning calorimeter and thermogravimetric analyzer. All these techniques are being used for the research purpose.







Department of Zoology

ART (Assisted Reproductive Technology)' Virtual Lab Tour In Collaboration with NOVA IVF Fertility on 5th August, 2021

No. of beneficiaries: 60

A virtual lab tour was organized by the Department of Zoology on 5th August, 2021 on Zoom platform at 4pm in collaboration with one of leading IVF labs: NOVA IVF Fertility, Coimbatore for the over 60 participants from various disciplines of Zoology, Botany and Life Sciences. The speaker of the event is an alumnus of Shivaji College, Ms. Himani Agnihotri who works as a Lab Manager at the same laboratory. The tour was an extremely comprehensive overview of the way an IVF laboratory works and the explanations of various protocols and instruments were in great detail. Students of Zoology Hons and Life Sciences

have a paper of ‘Developmental Biology’ in various semesters and the concept of ‘Assisted Reproductive Techniques’ is taught in great detail. The practical part of the topic was dealt by the speaker with great precision, showcasing pictures of live embryos which were a visual delight to the students. The lecture traced the entire process of ‘In Vitro Fertilization’ or IVF, discussing about the reasons of infertility, tests done for both the parents, the methods that can be adopted and a special emphasis on the process of ‘Intra-cytoplasmic sperm injection (ICSI)’.

Ms. Agnihotri discussed her journey post her graduation at Shivaji College in Zoology and expressed her passion to work in the field of ART which was a source of inspiration for all the participants. A long interactive session followed her talk where participants bestowed her with a number of questions that reflected their interest in the talk. Over 60 participants pan India were a part of the virtual tour and a poster making competition was also organized during the event where the broad theme was ‘Assisted Reproductive Techniques’.





Virtual tour to the BIO-SAFETY LEVEL 3 FACILITY (laboratory of Prof. Rakesh Bhatnagar) at Jawaharlal Nehru University (JNU) on 1st September, 2021 at Google Meet

No. of beneficiaries: 104

Under the aegis of Star College Scheme, Department of Zoology, Shivaji College, organized a virtual tour to the BIO-SAFETY LEVEL 3 FACILITY (laboratory of Prof. Rakesh Bhatnagar) at Jawaharlal Nehru University (JNU) on 1st September, 2021 at Google Meet. The tour was guided by Dr.Parul Kulshreshtha (Assistant Professor, Shivaji College) who is an alumni of the same BSL3 lab at JNU. Event was attended by 104 participants from all over India. Students were explained differences between the BSL1, BSL2 and BSL 3 labs and their need, at this point she shared the WHO guidelines for each of these facilities (equipment and barriers). In support of the theory, the logic of the entire architectural plan of the BSL-3 lab at JNU was explained. The Air Filtration Systems, Alarm and door locking control, other control systems, power back up (UPS and generator), the corridors around the BSL3 lab were shown in real time to students and relevance of each component was explained in depth. This was followed by the tour of the core lab which included the changing room, BSL3 lab with

instruments, Animal Isolator Rooms with individually ventilated cages. It was explained that every article that enters the BSL3 lab goes via the UV box mounted especially on the BSL3 lab. The use of inhalation exposure system was explained for the development of vaccines in Prof.Rakesh Bhatnagar's lab. The autoclave room in the facility was visited to visualize the double door autoclaves mounted on the walls of the BSL3 lab. The process of the procurement and sterilization of the used glassware/plasticware/ solutions was explained in detail. The autoclave room also housed washing machine for the lab coats. The importance of negative pressure system and its maintenance in BSL3 was also elaborated.

The Support lab on the first floor of the BSL3 facility was also visited. The visit lasted for two hours wherein the students were shown more than 40 instruments including cold cabinet, refrigerated centrifuge, ultracentrifuge, fermenter, FACS machine, Tissue culture facility, sonicator, inhalation exposure system, MagNAlyser, CentriVap, Fluorimeter, Fluorescence microscope, Carbon Dioxide/Humidified Incubator in tissue culture facility, PCR Machine, Real Time PCR machine, Deep freezers, etc.





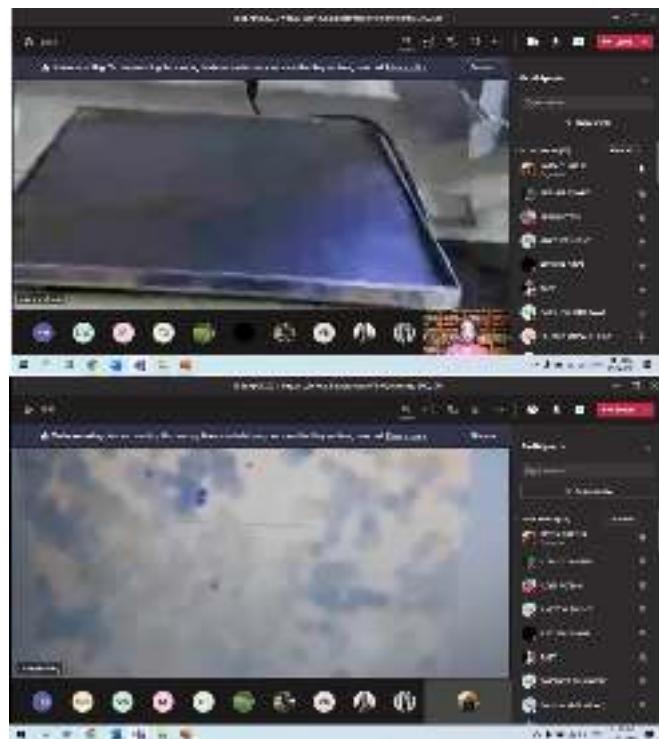
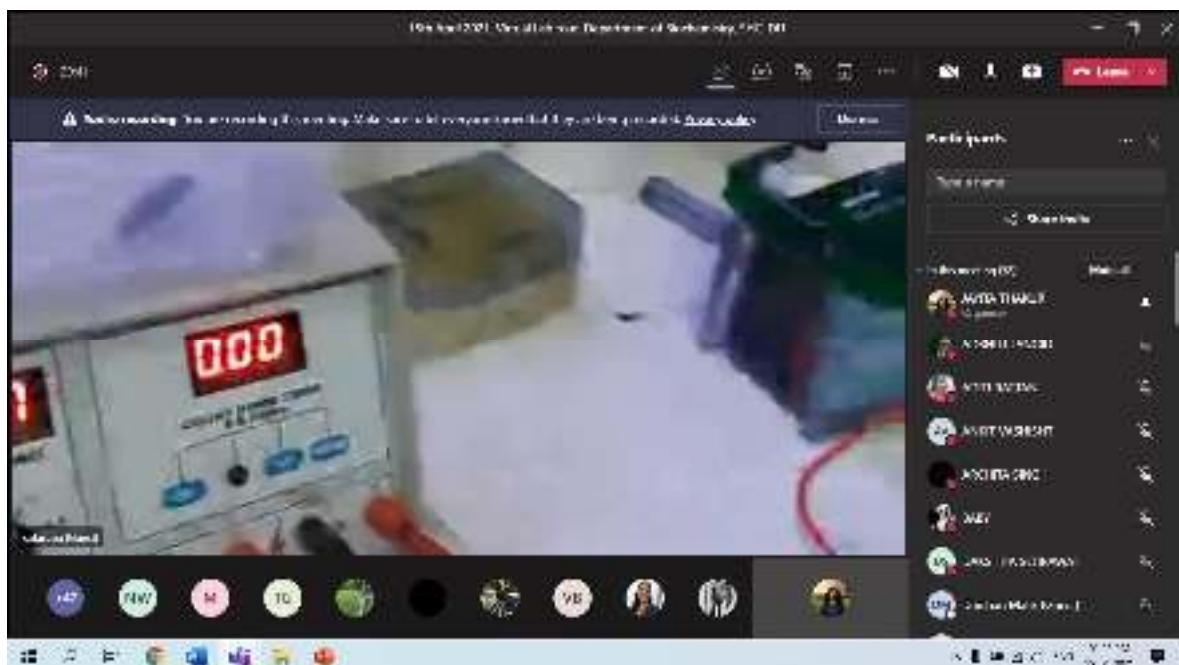
2020-21

Department of Biochemistry

Virtual Lab Tour on April 15, 2021

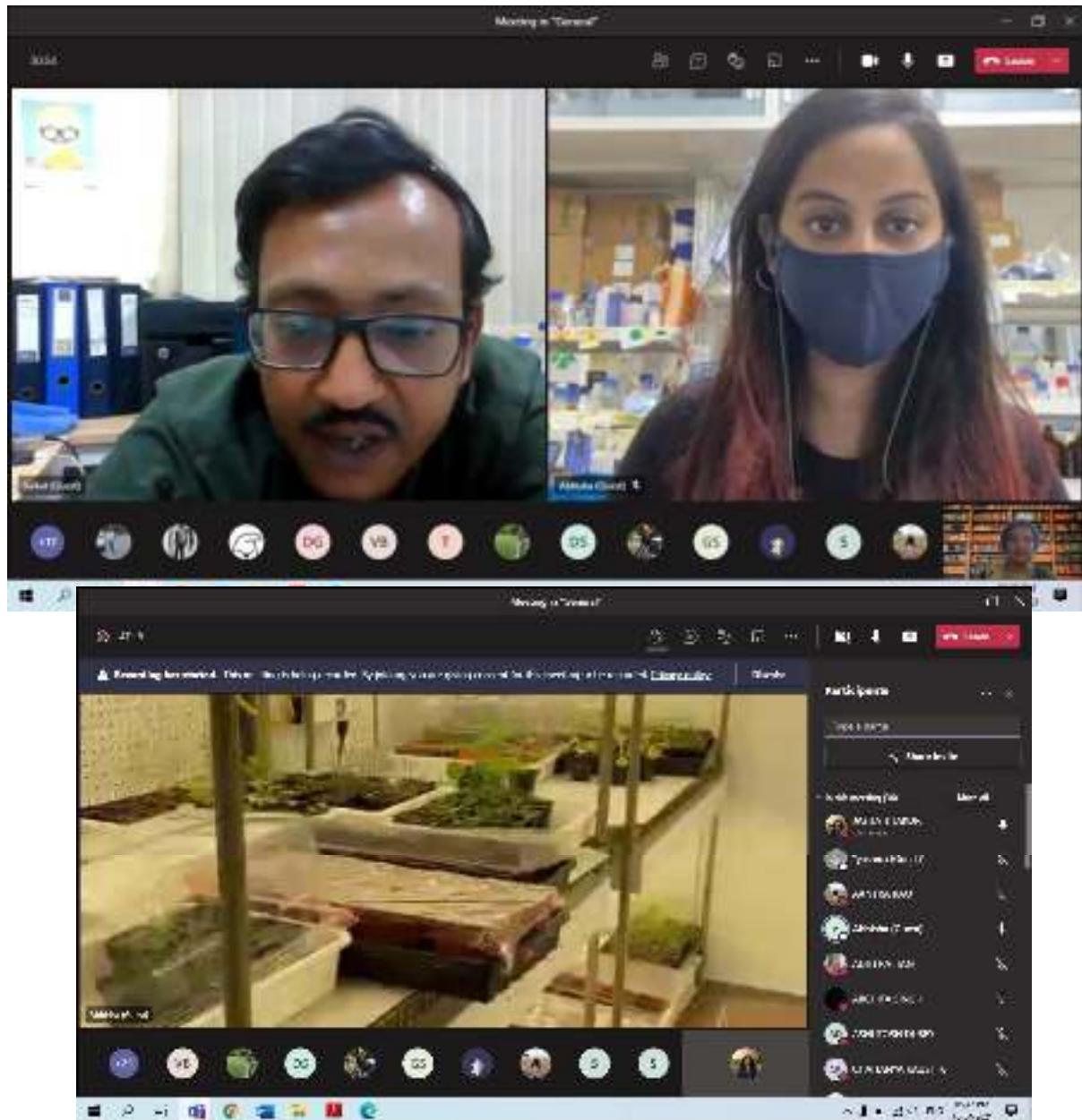
A virtual lab tour of the research labs at the Jawaharlal Nehru University (JNU), Delhi, India was conducted by Dr. Souvik Bhattacharya on April 15, 2021 at 1 PM, on MS Teams platform. The virtual tour was coordinated by Dr. Jayita Thakur, Department of Biochemistry, Shivaji College, University of Delhi. The students were shown various basic as well as state-of-the-art equipment used to perform

cutting edge science in RCB. The students found it very useful and informative. There was a total of **45 student beneficiaries**.



Virtual Lab Tour on April 16, 2021

A virtual lab tour of the research labs of the Regional Centre for Biotechnology (RCB), Faridabad, India was conducted by Dr. Saikat Bhattacharya on April 16, 2021 at 5 PM, on MS Teams platform. The virtual tour was coordinated by Dr. Jayita Thakur, Department of Biochemistry, Shivaji College, University of Delhi. The students were shown various basic as well as state-of the-art equipment used to perform cutting edge science in RCB. The students found it very useful and informative. There was a total of **31 student beneficiaries**.



Department of Botany

Virtual Visit to Yakult Danone Plant, Sonipat on February 25, 2021.

Department of Botany, Shivaji College, organized a virtual industrial visit to Yakult Danone India Pvt. Ltd., Sonipat, Haryana on February 25, 2021, for the students of B.Sc. (Hons.) Botany Semester VI. This visit comprises a part of curriculum for ‘Industrial and Environmental Microbiology’ paper. The students were accompanied by three faculty members of the Department of Botany, viz., Dr. Vijay Kumar, Dr. Smita Tripathi and Dr. Misha Yadav. The virtual visit commenced at 13:00 hours, where the students were welcomed by one of officials, Mr. Ajay, from Yakult Danone India. With the help of a video presentation, virtual tour of the Yakult factory was conducted. Students were informed about the history and establishment of Yakult. The process of manufacturing of Yakult and its benefits were shared. The steps involved in manufacturing of the drink were explained with the help of a video shot in the different zones of the factory. The operations of the bioreactors and other machinery involved in the process were shown and explained. Different process including the seed tank setting, processes in culture tank, syrup processing, blending, bottle making, bottling, packaging, storage marketing of the product were discussed in detail with students. The interactive session was followed by formal vote of thanks.

No. of beneficiaries: 26



Virtual visit to Yamuna Biodiversity Park on April 22, 2021

Eco Club, Shivaji College organized annual fest e-पीपल on April 22, 2021 on the occasion of World Earth Day. Earth Day, is marked on April 22 every year & it is an international event

celebrated around the world to pledge support for environmental protection and to remind us that we can protect the earth in our everyday lives as well. The year 2021 marks the 51st anniversary of the annual event and this year's theme for Earth Day is "Restore Our Earth".

With social distancing still in place this April, Earth Day has gone digital. But nature is not cancelled!

A virtual visit to Yamuna Biodiversity Park was organized to enhance the students' understanding of diverse ecosystems. The Yamuna Biodiversity Park is a home for a diversity of forest communities, biologically rich wetlands, grassland communities, a wide variety of fruit yielding species and an abundance of medicinal herbs. It acts as a natural conservation site for specific group of endangered plants. The Yamuna Biodiversity Park is presently spread over an area of approximately 457 acres near Wazirabad village on the western bank of the river Yamuna. The students were delighted and motivated as one of the team member from the park showed all the areas virtually and explained about its flora and fauna.

The successful conduct of the event helped in realizing that spread of knowledge and joy does not require physical presence. The team of Eco Club was glad to conduct an activity which could help people develop and express their perception on the environment and we further hope to keep up the work and conduct more activities in the near future via all the possible platforms to spread awareness and create a change.

No. of beneficiaries: 55



Department of Chemistry

VIRTUAL TOUR of CSIR LABS on April 21, 2021

No. of Beneficiaries: 115 Students and Faculties from B.Sc. Hons. Zoology, B.Sc. Hons. Chemistry and B.Sc. Life Science

The Department of Chemistry & Zoology, Shivaji College, jointly organized a VIRTUAL TOUR of “CSIR LABS” under DBT sponsored Star College Scheme.

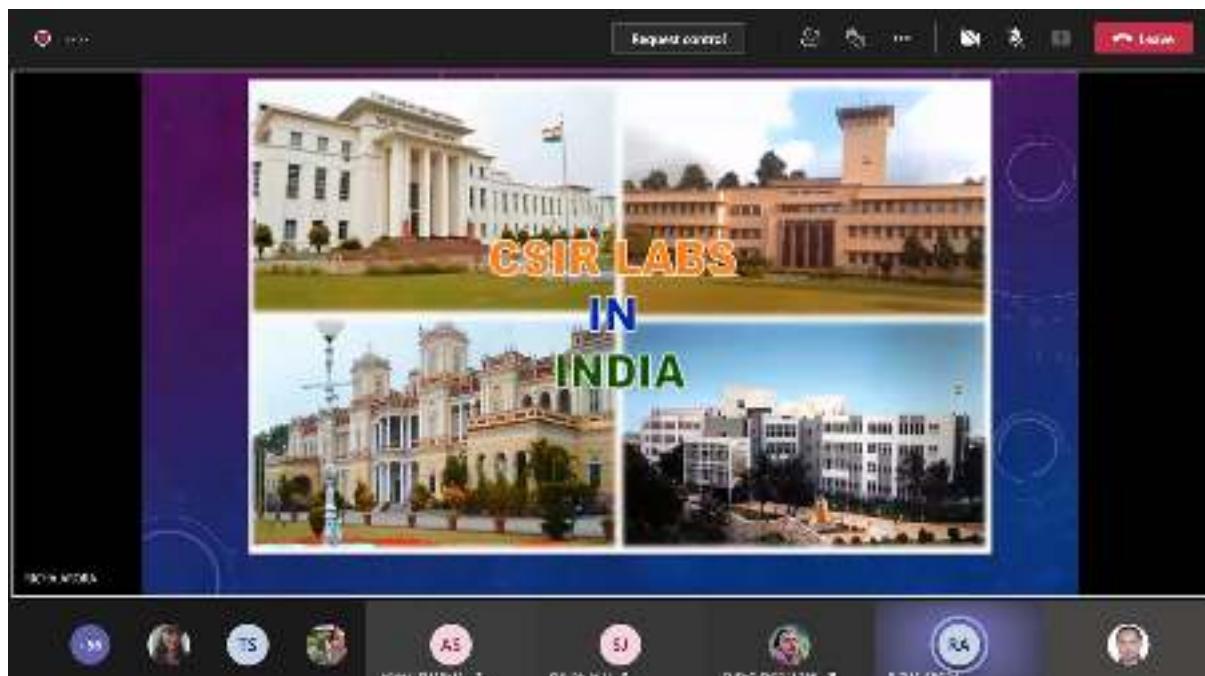
The event was held on 21.04.2021 (Wednesday) at 11:00 AM on Microsoft Teams platform. It involved VIRTUAL tours in the form of videos, to seven CSIR Labs.

CSIR, i.e, The Council of Scientific & Industrial Research (CSIR) is a contemporary Research & Development organization. It has a pan-India presence with a dynamic network of 38 national laboratories, 39 outreach centres, three Innovation Complexes and five units. CSIR has over 4600 active scientists.

The event witnessed a participation of 115 students and faculty members. The seven CSIR Laboratories covered are:

1. CSIR- Indian institute of chemical technology (IICT), Hyderabad
2. CSIR-National Chemical Laboratory (NCL), Pune

3. CSIR-National Physical Laboratory (NPL), Delhi
4. CSIR-National Institute of Oceanography (NIO), Goa
5. CSIR-Institute of Microbial Technology (IMTECH), Chandigarh
6. CSIR-Central Building Research Institute (CBRI, IIT-Roorkee)
7. CSIR-Indian Institute of Toxicology Research (IITR), Lucknow



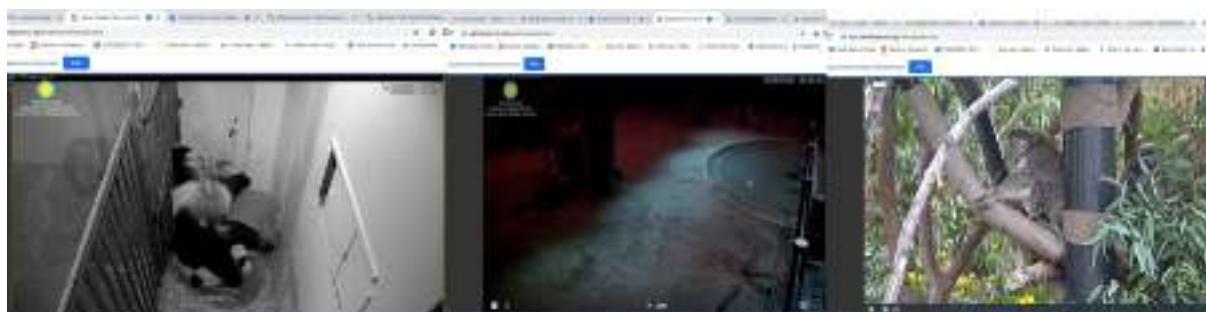


Department of Zoology

Virtual tour of Smithsonian's National Zoo and San Diego National Zoo on October 09, 2020

No. of Beneficiaries- 16

Teachers- Dr. Aeshna Nigam and Dr. Tarun K. Vats



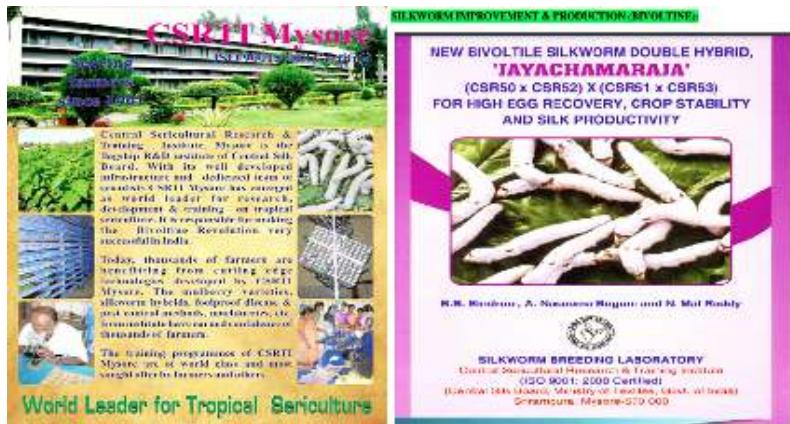
- The pandemic did not stop the learning process of the students. They were taken on a virtual tour to study the behaviour of animals in captivity. The students observed animals from class mammalia and Aves.
- They noted the behaviour of animals in captivity and compared it with the behaviour of animals in wild.
- This study helped them understand how captivity alters the instinct of animals and in turn the behaviour to survive in wild.



A virtual visit to the Central Sericultural Research and Training Institute (CSRTI), Mysore on October 03, 2020

Beneficiaries: 14 (B.Sc. Life Science V Semester)

Faculty: Dr. Nidhi Garg
For the SEC Paper Sericulture



PROJECT REPORT

Online Visit to the Central Sericultural Research and Training Institute, Mysore

Submitted By :	Mansi Gupta
Roll No.	18/23160
Course	B.Sc. Life Science
Semester	V
SEC Title	Sericulture

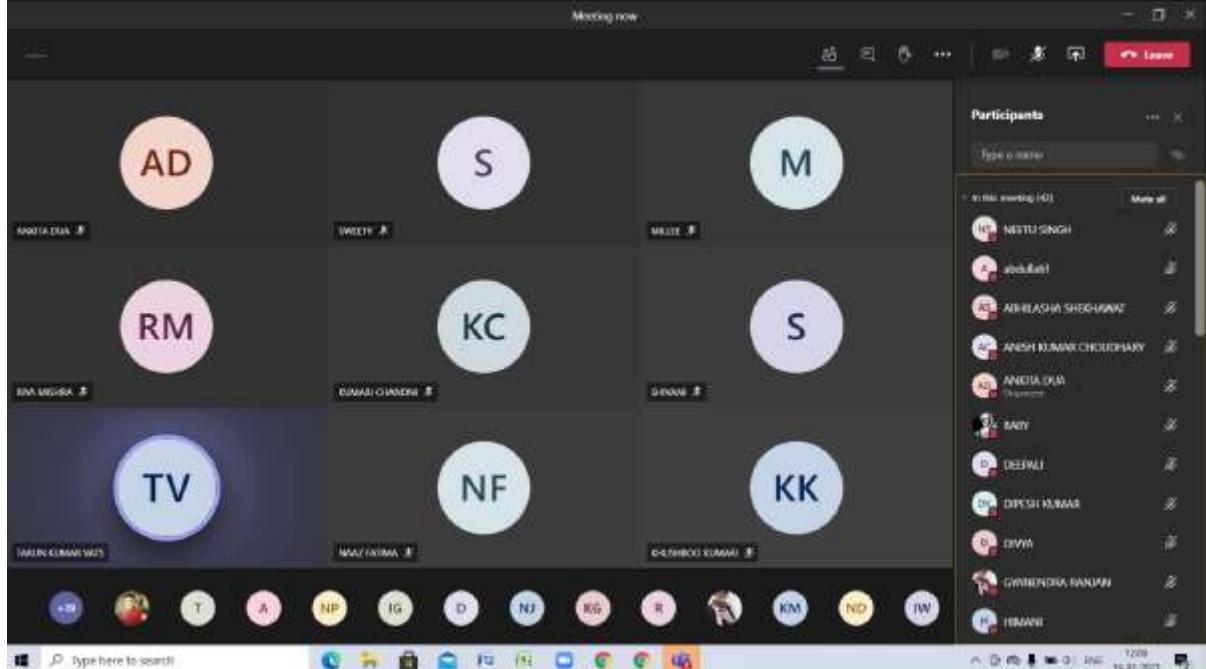
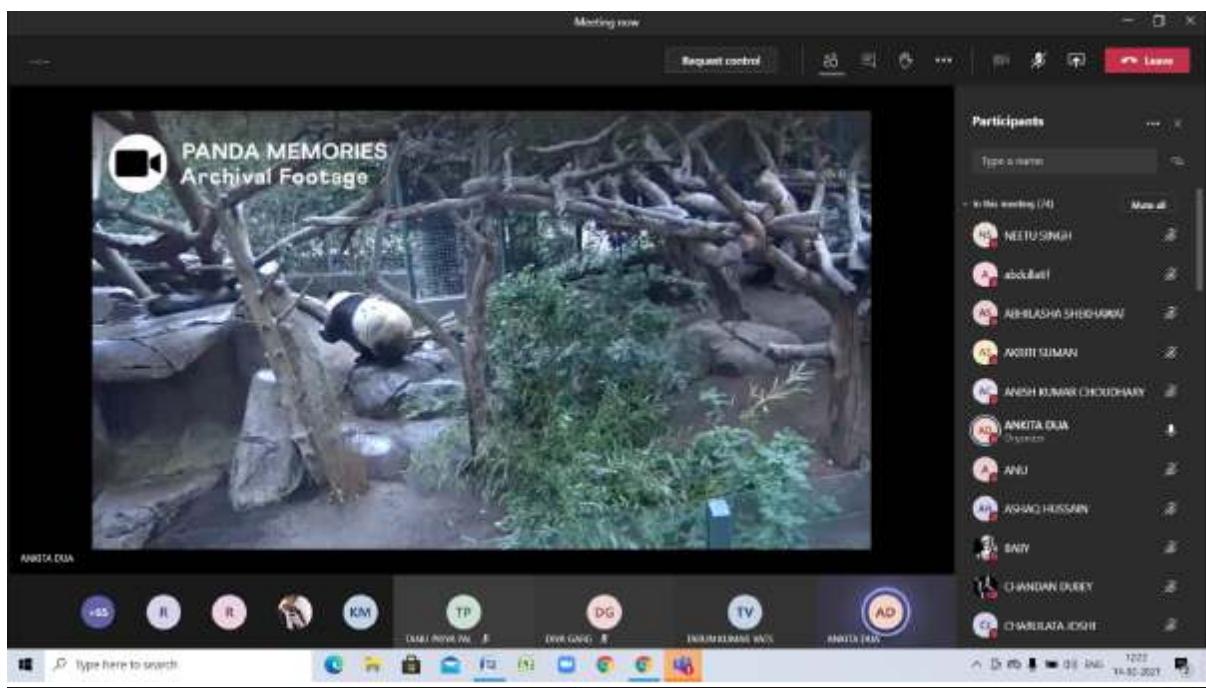


A virtual visit to the San Diego Zoo February 14, 2021

Beneficiaries: 71 B.Sc. (P) Life Sciences, Semester I

Faculties:- Dr. Ankita Dua, Dr. Neetu Singh and Dr. Tarun Kumar Vats.

A virtual zoo visit was conducted on 14-02-2021 at 12 PM via the platform MS Teams for B.Sc. (P) Life Sciences, Semester I on account of academic practical syllabus of the paper Animal Diversity. This zoo visit is the part of the syllabus to understand and gain knowledge of diversity of animals. The online website used for this virtual zoo visit was The San Diego Zoo which is a zoo in Balboa Park, San Diego, California, housing more than 3,500 animals of more than 800 species and subspecies. This virtual zoo visit was attended by 71 students of practical batches 1, 2, 3, and 4 of B.Sc. (P) Life Sciences, Semester I.



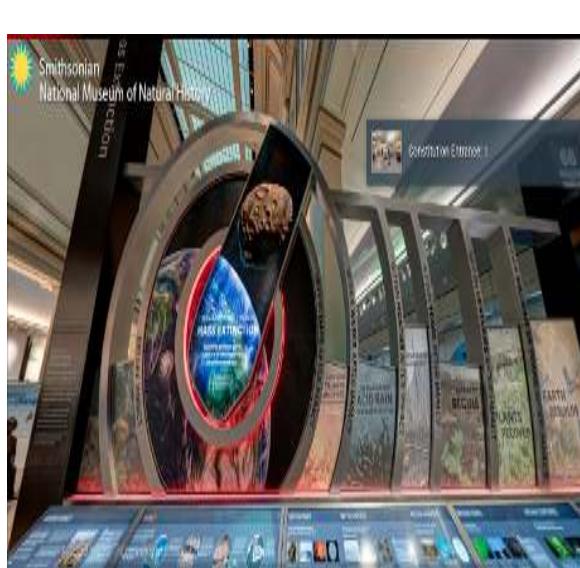
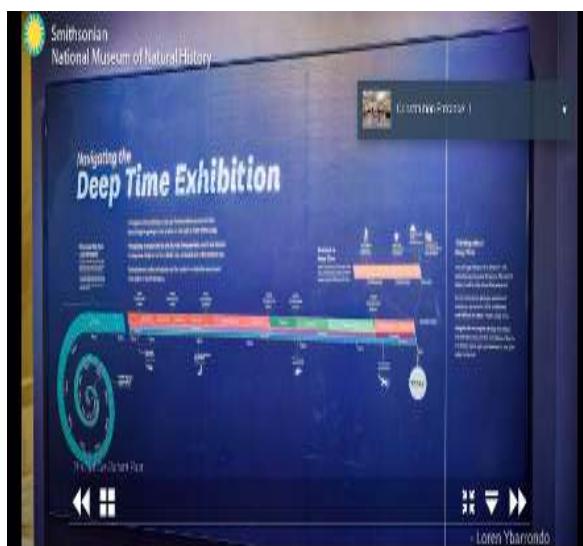
A virtual visit was conducted to Smithsonian National Museum of Natural History on March 31, 2021

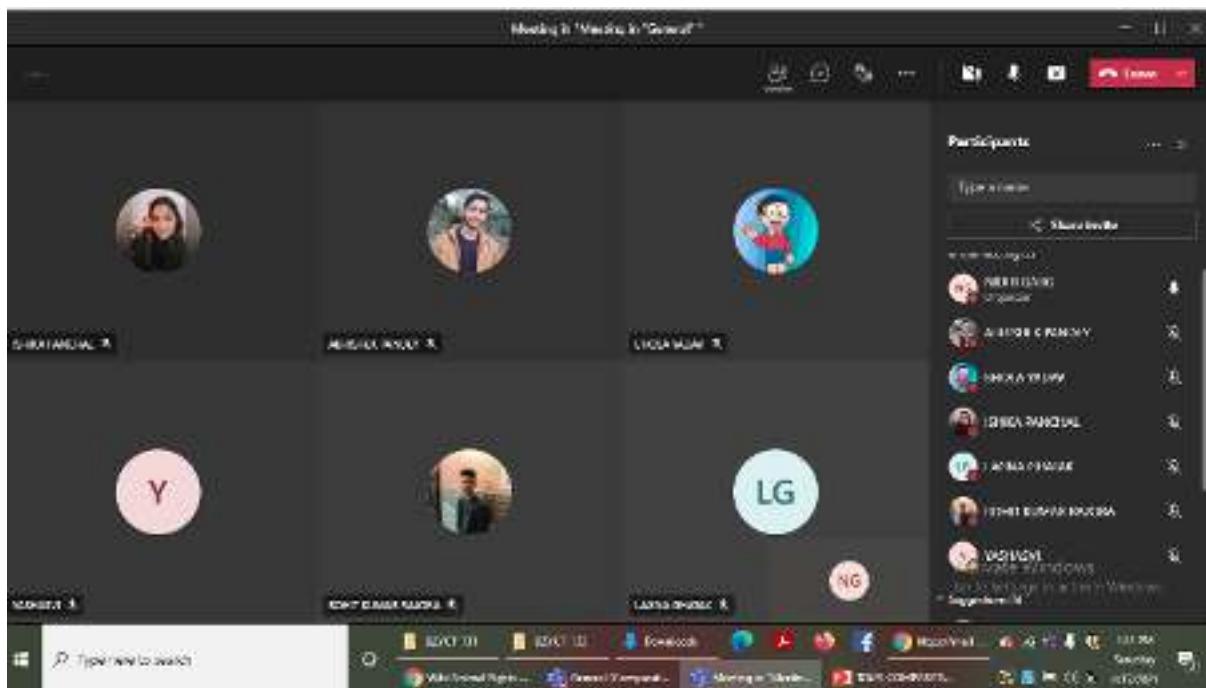
Beneficiaries : 18 students of B.Sc. (P) Life Sciences, Semester IV

Faculty: Dr. Neetu Singh

A virtual visit was conducted on 31-03-2021 at 9 AM via the platform MS Teams for B.Sc. (P) Life Sciences, Semester IV, Section-B, Batch-4 on account of academic practical syllabus of the Paper Genetics and Evolutionary Biology. This visit to a natural history museum is the part of the syllabus. The online website used for this virtual visit was Smithsonian National Museum of Natural History which is available on https://naturalhistory2.si.edu/vt3/NMNH/z_tour-022.html.

This virtual visit was attended by 18 Students of B.Sc. (P) Life Sciences, Semester IV .





Virtual Visit to National Bee Board on February 26, 2021

Beneficiaries: 7 B.Sc. LIFE SCIENCES Sem VI

Faculty: Dr. Nidhi Garg

For the practical paper Apiculture to National Bee Board.



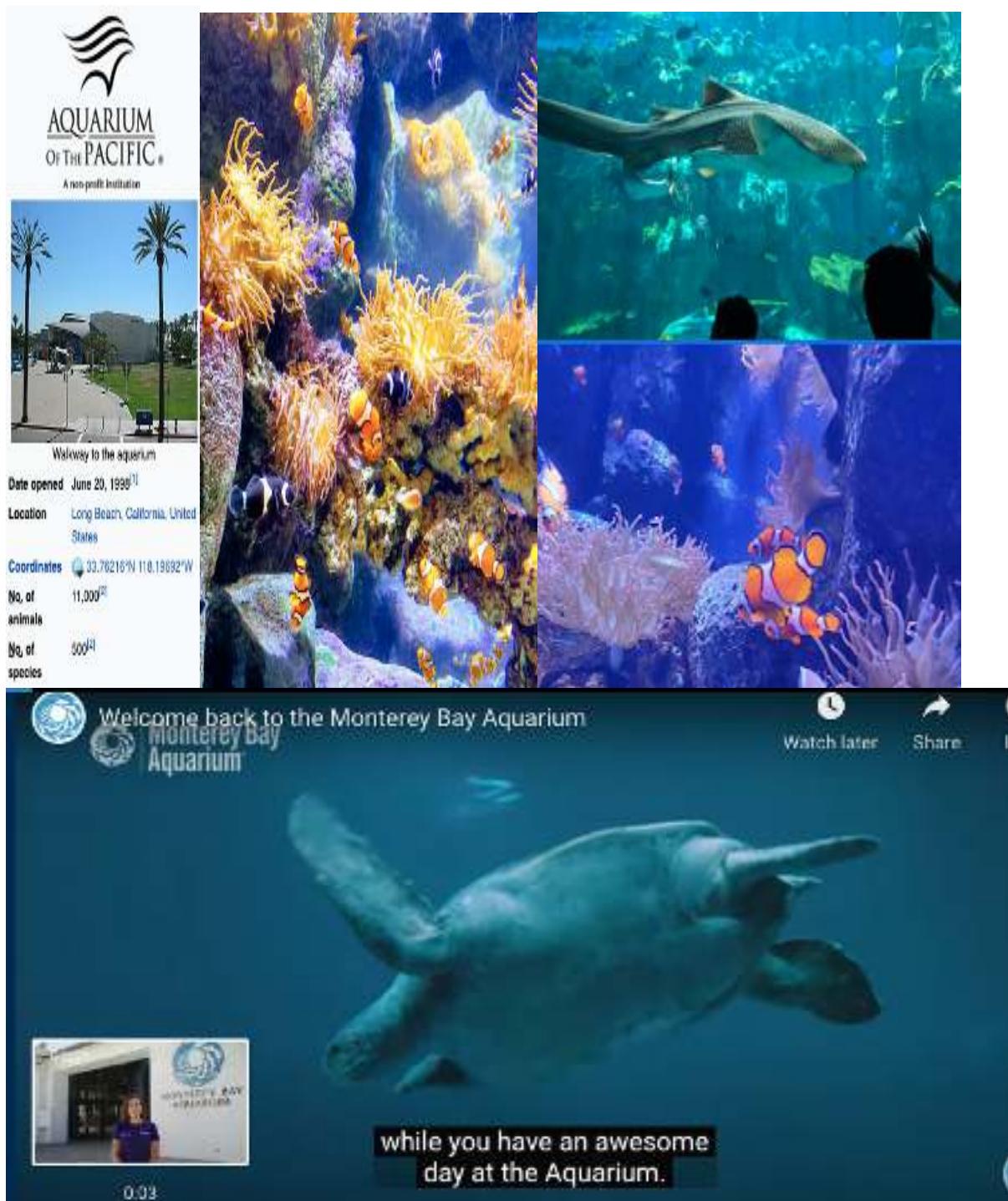
A virtual tour to Monterey Bay Aquarium and Aquarium of the Pacific March 20, 2021

Beneficiaries: 30

Faculty: Dr. Tarun Kumar Vats

A virtual tour of Life Sciences IV semester students studying Skill Enhancement Paper-Aquarium Fish Keeping was conducted on 20th March 2021. The online visit to Monterey Bay Aquarium and Aquarium of the Pacific included the study of various live aquatic animals and kelp forest in marine environments. The essential documents and reports are attached for your kind perusal.

Beneficiaries: 30 B.Sc. (P) Life Sciences, Semester IV



VIRTUAL TOUR of CSIR LABS on April 21, 2021

Beneficiaries: 115 Students and Faculties from B.Sc. Hons. Zoology, B.Sc. Hons. Chemistry and B.Sc. Life Science

The Department of Chemistry & Zoology, Shivaji College, jointly organized a VIRTUAL TOUR of “CSIR LABS” under DBT sponsored Star College Scheme.

The event was held on 21.04.2021 (Wednesday) at 11:00 AM on Microsoft Teams platform. It involved VIRTUAL tours in the form of videos, to seven CSIR Labs.

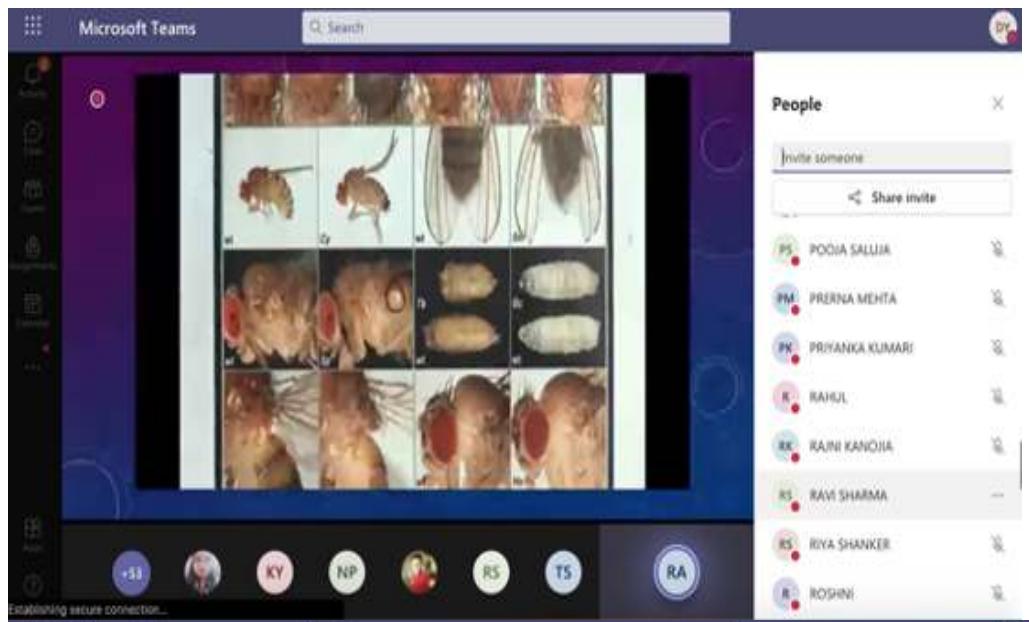
CSIR, i.e, The Council of Scientific & Industrial Research (CSIR) is a contemporary Research & Development organization. It has a pan-India presence with a dynamic network of 38 national laboratories, 39 outreach centres, three Innovation Complexes and five units. CSIR has over 4600 active scientists.

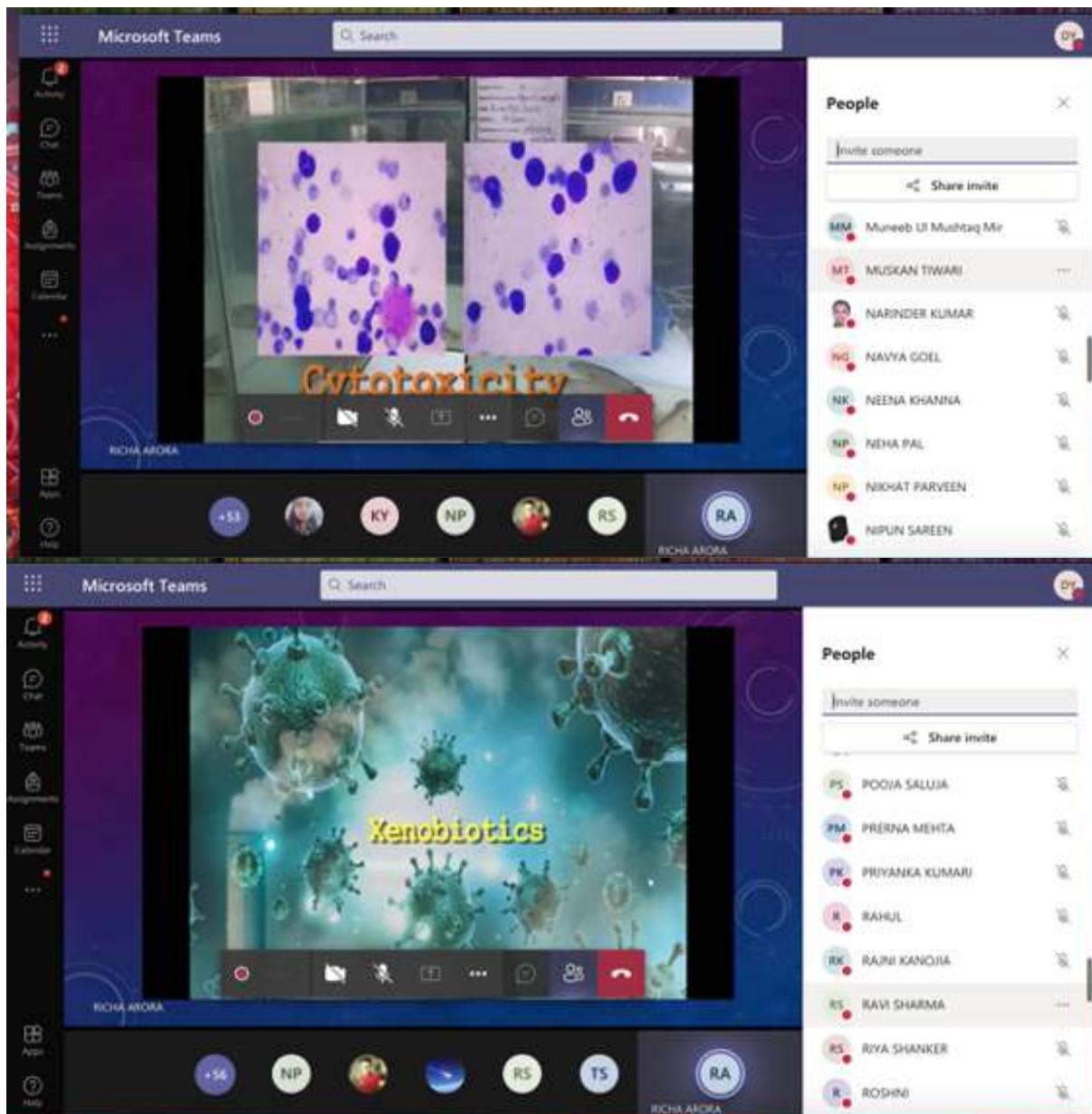
The event witnessed a participation of 115 students and faculty members. The seven CSIR Laboratories covered are:

1. CSIR- Indian institute of chemical technology (IICT), Hyderabad
2. CSIR-National Chemical Laboratory (NCL), Pune
3. CSIR-National Physical Laboratory (NPL), Delhi
4. CSIR-National Institute of Oceanography (NIO), Goa
5. CSIR-Institute of Microbial Technology (IMTECH), Chandigarh
6. CSIR-Central Building Research Institute (CBRI, IIT-Roorkee)
7. CSIR-Indian Institute of Toxicology Research (IITR), Lucknow









A documentary on vertebrates-wildlife conflicts was shown on April 17, 2021

Beneficiaries: 7

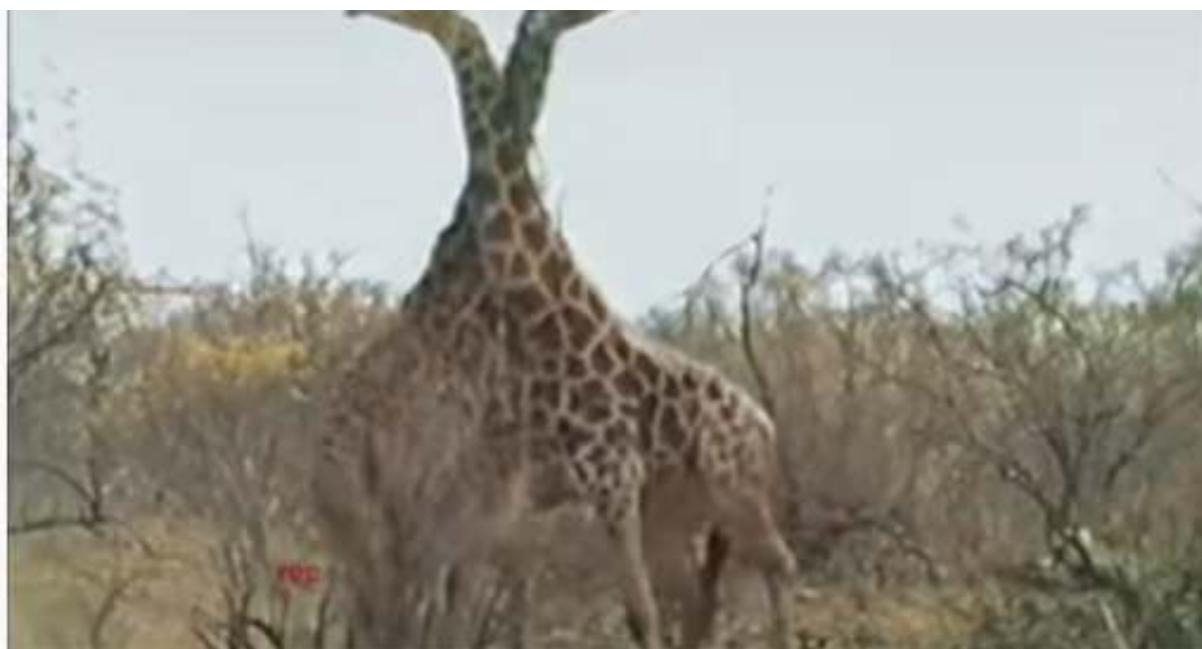
Faculty: Dr Nidhi Garg

A documentary on vertebrates-wildlife conflicts was shown on 17.04.2021 as part of the practical of the paper Comparative anatomy and developmental biology for B.Sc. Hons Zoology semester IV.

the following is the link of the youtube video-

<https://www.youtube.com/watch?v=QkJeiR46jik>

B.Sc. Hons Zoology semester IV



#RealWild #Documentary

Wild Animal Fights Caught On Camera (Wildlife Documentary) | Caught In The Act | Real Wild

2019-20

Department of Biochemistry

Educational Visit to IGIB, Delhi, September 26, 2019

Number of beneficiaries: 27 students

Twenty seven students of B.Sc. (H) Biochemistry (Sem V) visited IGIB on 26th September, 2019. This visit was coordinated by Dr. Neena R Wadehra. Students visited different laboratories and were familiarized with modern research equipments. A brief discussion on the latest techniques in different fields like proteomics, molecular biological aspects of osteoarthritis, SLE, Wilson's disease, Type II diabetes was held with senior scientists in the lab. Students got an opportunity for a close interaction with research scholars as well as scientists from the institute.



Educational Trip to IISER-Mohali, October 3, 2019

Number of beneficiaries: 30 students

An educational trip was made to Indian Institute of Science and Education Research-Mohali, by a group of 30 students and 4 faculty members of the Department of Biochemistry, Shivaji College on the 3rd October, 2019. With the support from the administration of IISER-Mohali, the students were given a video presentation to give them an overview of the research and culture of IISER-Mohali, followed by a tour of the research laboratories of Dr. A. K. Bacchawat and Dr. Samrat Mukhopadhyay.



**Educational Trip to ICAR-Directorate of Mushroom Research, Solan, Himachal Pradesh,
October 3, 2019**

Number of beneficiaries: 30 students

An educational trip consisting of 30 students and 4 faculty members of the Department of Biochemistry, Shivaji College was made to the ICAR-Directorate of Mushroom Research, Solan, Himachal Pradesh on October 3rd, 2019. The students and faculty were given a brief presentation on the various types of edible mushrooms cultivated at the center, and the various specific conditions required for their growth, along with their economic values. The students were also taken to the site of mushroom growing and shown various types of mushrooms.



Training at DPCC (Delhi Pollution Control Committee), New Delhi, October 3, 2019

Number of beneficiaries: 10 students

Students were taught to measure various parameters like BOD, TDS etc. from collected water samples. They received hands on training for the various techniques pertaining to the testing of water quality in a water body.



Educational Visit to Regional Centre for Biotechnology (RCB). Faridabad

October 16, 2019

Number of beneficiaries: 20 students

An educational visit was organized for the B.Sc. (Hons.) Biochemistry IInd Year students on October 16, 2019 to the Regional Centre for Biotechnology (RCB), Faridabad. They were accompanied by Dr. Sunita Singh.

The students attended two special lectures on “Nanotubules and Cancer” and “Regenerative abilities of *Planaria*”. A tour of RCB, Advance Technology Platform Centre (ATPC), BBS & the Cluster was organized. The students received the opportunity to see the various facilities available at RCB such as highly sophisticated scientific instruments viz., Scanning electron microscope, Transmission electron microscope, Cryo-electron microscope, Super resolution microscope, Confocal microscope etc. The technical staff scientists demonstrated and explained every instrument in detail to the participants. They were also given exposure to the working of different labs like X-Ray crystallography, genomics (in which DNA sequencing was done using Sanger’s method) and FACS.





Department of Botany

- A visit to **Department of Genetics, South Campus, University of Delhi**, New Delhi on July 1, 2019 for Microscopy (Confocal and Fluorescence).
Number of beneficiaries: 17 students



- A visit to **Department of Botany, North Campus, University of Delhi, New Delhi** on **July 4, 2019** for Microscopy (SEM, TEM), Biolistic Gene Gun, Central Instrumentation Facility & Herbarium.

Number of beneficiaries: 17 students



- Field visit to **Kamla Nehru Ridge**, New Delhi on July 10, 2019.

No. of beneficiaries: 12



- A visit to **Department of Environmental Studies, North Campus, University of Delhi**, New Delhi on July 15, 2019.

Number of beneficiaries: 17 students



- A three-day trip from 19th to 21st October 2019 to Chakrata hills and Dehradun (FRI) for exposure to field excursion and Herbarium.
Number of beneficiaries: 18 students



- A visit to the **Department of Microbiology, IARI, Pusa Road, Delhi** was organized on **October 1, 2019** by the department in collaboration with Dr. Sunil Pabbi, Principal Scientist, CCUBGA, division of Microbiology, ICAR-Indian Agricultural Research Institute, New Delhi for the students of B.Sc. (Hons) Botany to give exposure to the techniques used for Bio fertilizers and algae.

Number of beneficiaries: 33 students



- Field visit to **Yamuna Biodiversity Park**, New Delhi, on February 2, 2020.

No. of beneficiaries: 26



- Field visit to **Botanic Garden of Indian Republic**, Noida on March 3, 2020.

No. of beneficiaries: 29



Department of Chemistry

Educational visit to Indian Agricultural Research Institute (ICAR-IARI), New Delhi under the DBT Star College Scheme on September 11, 2019

Number of beneficiaries: 30 students

Our students from BSc Hons Chemistry 1st year, 2nd year, BSc Hons Botany 2nd year BSc Hons Zoology 2nd year and BSc (P) Physical Science with Chemistry 2nd Year (30 nos.) and two faculty members (Dr. Richa Arora from Department of Chemistry and Dr. Ashwani Sharma from Department of Environmental Studies) visited CESCRA on 11th September, 2019 to observe and learn technicalities of such experiments.



**Educational Visit to Regional Centre for Biotechnology (RCB), Faridabad, Haryana
October 16, 2019**

Number of beneficiaries: 25 students

Looking for the opportunities of learning under the esteemed institute a group of 25 students along with four faculty members of Chemistry Department (Dr. Rajni Kanojia, Dr. Neena Khanna, Dr. Rahul Singhal & Dr. Sunil Yadav) went to RCB, Faridabad on 16th October, 2019.

It was a full day visit. Students were given a lot of exposure to various instruments and devices such as Optical

Microscope, Electron Microscope, Light Scattering Device, DNA Analyzer, Laser Scanning Confocal Microscope and Bioreactor which are otherwise are rare and very specific for their work. They learned their importance in research and development. Students got an opportunity to interact with the faculty members at RCB and learn through one to one interaction.



Department of Zoology

Educational visit to Delhi Zoological Park on September 16, 2019

No. of Beneficiaries- 77

Accompanying Teachers- Dr. Aeshna Nigam, Dr. Ankita Dua, Dr. Tarun K. Vats and Dr. Neetu Singh

As an initiative of DBT Star College Scheme a field trip to Delhi Zoological Park of students of B.Sc. (H) Zoology Semester V along with B.Sc. (P) Life Science was taken on 16.09.2020.

The students observed the animals from three classes- Reptilia, Aves and Mammalia.

They noted the behaviour of animals in captivity and compared it with the behaviour of animals in wild.



Virtual tour of Smithsonian's National Zoo and San Diego National Zoo on October 9, 2020 through live web cams

No. of Beneficiaries- 16

Teachers- Dr. Aeshna Nigam and Dr. Tarun K. Vats

The pandemic did not stop the learning process of the students. The students of B.Sc. Honors Zoology V semester were taken on a virtual tour to study the behaviour of animals in captivity. The students observed animals from class Mammalia and Aves.

This study helped them understand how captivity alters the instinct of animals and in turn the behaviour to survive in wild.

Online Visit to the Central Sericultural Research and Training Institute, Mysore on October 3, 2020

No. of Beneficiaries: 14

Teacher: Dr. Nidhi Garg

Students of B.Sc. Life Sciences V Semester were taken to a virtual tour of the official website of Central Sericultural Research and Training Institute, Mysore. The students were introduced to various ongoing researches and academic offerings by the institute.



