ACHARYA NARENDRA DEV COLLEGE

DBT STAR STATUS
COMPLETION REPORT

2021-24

Proforma for Submission of Completion Report Supported under Star College Scheme

1. **Name of the College**: Acharya Narendra Dev College

2. **Name of Coordinator, Designation, Address, Phone nos**.

S. No.	Department	Details of Coordinators
1	Biomedical Science	Dr. Archna Pandey Designation: Associate Professor Complete Address: Department of Biomedical Science Phone: 9811525520 Email: archanapandey@andc.du.ac.in
2	Botany	Dr. Rashmi Sharma Designation: Associate Professor Complete Address: Department of Botany Phone: 7011301160 Email: rashmisharma@andc.du.ac.in
3	Chemistry	Prof. Rashmi Thukral Designation: Professor Complete Address: Department of Chemistry Phone: 9899760055 Email:rashmithukral@andc.du.ac.in
4	Computer Science	Dr. Chandrarkant Samal Designation: Professor Complete Address: Department of Computer Science Phone: 9811823460 Email: chandrakantsamal@andc.du.ac.in
5	Electronics	Dr. Ravneet Kaur Designation: Professor Complete Address: Department of Electronics Phone: 9810836367 Email: ravneetkaur@andc.du.ac.in
6	Physics	Dr. Arijit Chowdhuri Designation: Professor Complete Address: Department of Physics Phone: 9811124002 Email: arijitchowdhuri@andc.du.ac.in
7	Zoology	Dr. Seema Makhija Designation: Professor Complete Address: Department of Zoology Phone :9136563762 Email: seemamakhija@andc.du.ac.in

3. **Assessment duration** : **27.08.2021 to 26.08.2024**
Duration in years: 3 years
Extension Period: NIL

4. Details of Departments Supported

S.No.	Name of Department	Courses offered (B.Sc./M.Sc./PG Diploma, Certificate etc)	Regular Faculty members	
				Total =54
			With Ph.D.	Without Ph.D.
1	Biomedical Science	B.Sc.	05	00
2	Botany	B.Sc.	07	00
3	Chemistry	B.Sc. and M.Sc.	13	00
4	Computer Science	B.Sc.	06	00
5	Electronics	B.Sc.	05	00
6	Physics	B.Sc.	10	01
7	Zoology	B.Sc.	06	01

5. **Number & Date of Advisory committee meeting**:
02; August 27, 2022 and October 16, 2023

6. Qualitative improvements due to DBT support

Acharya Narendra Dev College, a Constituent College of the University of Delhi with NAAC grade of A^+, garnering 18^{th} position under the National Institutional Ranking Framework (NIRF) of Ministry of Education, Govt. of India. The College is STAR STATUS since 2021. The Mathematics Department has been selected for Strengthening component under DBT Star College Scheme. The college presented the work carried out under DBT STAR STATUS in the Task Force Meeting held at Coimbatore. The College secured A^+ grade. The college also has been granted PRAYAAS PROJECT funded by NCERT. Department of Education in Science and Mathematics has for the very first time launched a scheme named PRAYAAS (Promotion of Research Attitude In Young and Aspiring students). Lovely Public Sr. Sec. School, P.D. Vihar was selected in collaboration with HEI partner ANDC. ANDC organized several international conferences, faculty development programs, workshops and seminars. One of the college's faculty was honored with the prestigious Padma Shri Award. Faculty members are also actively engaged in collaborative research with international partners. The college was recognized with Best Exhibitor Award at Annual International Conference-cum-Exhibition "Skills, Start-Ups and Entrepreneurship" and has been sanctioned a Start-up India Project.

Overall, the DBT STAR Grant significantly contributed to College's development in research, skill enhancement, and international academic collaborations.

1) **Development of Skill Centres, Virtual labs@ANDC and Value Addition Courses**: The grant facilitated the establishment of various skill centers like Sericulture Skill Development Center (SSDC), Mushroom Research and Skill Development Center (MRSDC) and Zebrafish *(Danio rerio*) culture laboratory. In addition, the college is pioneer in developing V-labs for UG students. These centers provided opportunities for national-level workshops enhancing skills for faculty, non-teaching staff, and undergraduate students. **(Appendix I)**
2) **Setting up of Advanced Instrumentation Facility**: The College has set up a Central Instrumentation Facility (CIF) equipped with advanced equipment like AAS, SPR, 3-D Printer, and PCR machine. These resources support interdisciplinary projects. **(Appendix II)**
3) **Research Support**: Financial assistance encouraged students and faculty to engage in research activities, including writing books, contributing to academic publications, and receiving awards. Their work is recognized in Scopus indexed journals and peer-reviewed international/national journals. **(Appendix III, VI IX, XII)**
4) **Hosting International Conferences, Workshops and Outreach Programs**: The grant enabled ANDC to host international conferences, fostering academic interactions, knowledge sharing, and collaborative research initiatives. The college successfully organized online International Conference. Utilizing the STAR Grant, the College organized international workshops and outreach programs for school students, as well as training programs for postgraduate students. Many postgraduate students are conducting their M.Sc. dissertations under the mentorship of ANDC faculty. **(Appendix IV and XIV)**
5) **Green Initiatives**: The College with the help of grants received from DBT has initiated Vermicomposting and Hydroponics. Both hydroponics and vermicomposting offer sustainable alternatives to traditional agricultural practices, promoting resource efficiency, environmental conservation, and improved plant growth. Integrating these methods into farming and gardening practices can contribute to a more resilient and productive food system. **(Appendix V)**

7. Any Novel aspect introduced or planning to introduce during the Scheme duration.

Introduced

- Introduction of Skill enhancement courses like Hydroponics, Forensics
- Mentoring school students in their research projects
- Outreach Programs were conducted for school students

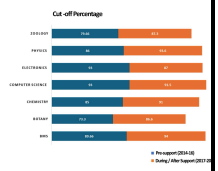
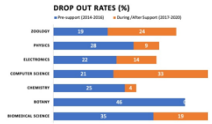
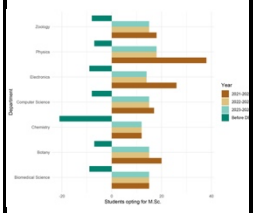
Planning

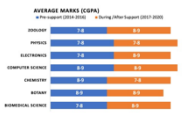
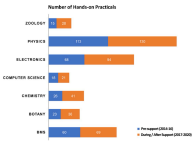
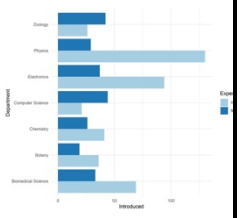
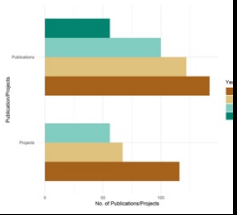
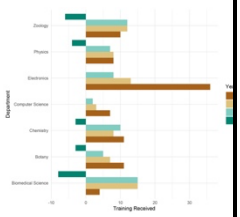
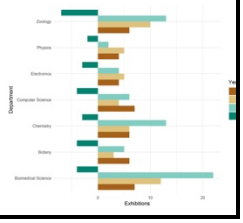
Mentoring of rural and other institutes to apply for DBT STAR Grant under its strengthening components

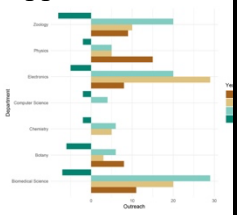
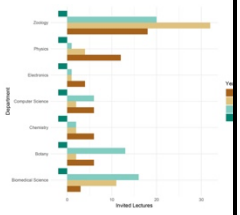
8. Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words) :

No Issues

9. Key performance indicators

S. No	Indicator	Pre-support (2014-2021)	During /After Support (2021-2024)	Remarks
1	No. of students admitted	Total =1975 M= 1316 F=659 SC 164 ST 54 OBC 401 G 697 SC 78 ST 33 OBC 136 G 412	Total =1982 M=1333 F=649 SC 187 ST 61 OBC 439 G 646 SC 70 ST 28 OBC 142 G 409	
2	Admission Cut Off %	Biomedical Science: 89.66 Botany: 73.3 Chemistry: 85 Computer Science: 93 Electronics: 93 Physics: 86 Zoology: 79.66	Biomedical Science: 94 Botany: 86.6 Chemistry: 91 Computer Science: 91.5 Electronics: 87 Physics: 93.6 Zoology: 87.3	
3	No. of students passing out	100%	100%	
4	Drop-out rates (%)	Biomedical Science: 35 Botany: 46 Chemistry: 25 Computer Science: 21 Electronics: 22 Physics: 28 Zoology: 19	Biomedical Science: 19 Botany: 00 Chemistry: 04 Computer Science: 33 Electronics: 14 Physics: 09 Zoology: 24	
5	No. of students opting for MSc/year	Biomedical Science: 09 Botany: 07 Chemistry: 21 Computer Science: 08 Electronics: 09 Physics: 07 Zoology: 08	Biomedical Science: 45 Botany: 50 Chemistry: 36 Computer Science: 47 Electronics: 54 Physics: 74 Zoology: 48	

6	Average marks (CGPA)	Biomedical Science: 7-8 Botany: 7-8 Chemistry: 7-8 Computer Science: 8-9 Electronics: 8-9 Physics: 8-9 Zoology: 7-8		Biomedical Science: 8-9 Botany: 7-8 Chemistry: 8-9 Computer Science: 8-9 Electronics: 7-8 Physics: 8-9 Zoology: 8-9	
7	No. of hands-on workshops /experiments being conducted	Biomedical Science: 60 Botany: 23 Chemistry: 26 Computer Science: 18 Electronics: 68 Physics: 113 Zoology: 15		Biomedical Science: 69 Botany: 36 Chemistry: 41 Computer Science: 21 Electronics: 94 Physics: 130 Zoology: 28	Appendix X 
8	No. of new experiments introduced	Zero		Biomedical Science: 33 Botany: 19 Chemistry: 26 Computer Science: 44 Electronics: 37 Physics: 29 Zoology: 42	Appendix XI 
9	Publications (scopus indexed) /patents, if any.	Biomedical Science: 05 Botany: 04 Chemistry: 04 Computer Science: 04 Electronics: 02 Physics: 12 Zoology: 25		Biomedical Science: 64 Botany: 25 Chemistry: 86 Computer Science: 29 Electronics: 28 Physics: 70 Zoology: 72	Appendix IX, XII 
10	Training received by faculty	Biomedical Science: 08 Botany: 03 Chemistry: 03 Computer Science: 00 Electronics: 00 Physics: 04 Zoology: 06		Biomedical Science: 13 Botany: 10 Chemistry: 13 Computer Science: 07 Electronics: 07 Physics: 03 Zoology: 12	Appendix XIII 
11	Exhibitions/seminars /training courses conducted	Biomedical Science: 04 Botany: 04 Chemistry: 03 Computer Science: 04 Electronics: 03 Physics: 02 Zoology: 07		Biomedical Science: 41 Botany: 14 Chemistry: 25 Computer Science: 17 Electronics: 13 Physics: 11 Zoology: 29	Appendix XIV 

12	Books/journals subscribed from grants		Books were not purchased as enough grant is available with the College for the purchase of library books	
13	Outreach activities (Popular lectures /Summit attended)/ visits	Biomedical Science: 07 Botany: 06 Chemistry: 02 Computer Science: 02 Electronics: 05 Physics: 02 Zoology: 08	Biomedical Science: 60 Botany: 17 Chemistry: 11 Computer Science: 04 Electronics: 57 Physics: 25 Zoology: 39	Appendix IV 
14	Colleges mentored to apply for DBT Star College grants	NA	NA	NA
15	Invited lectures	Biomedical Science: 02 Botany: 02 Chemistry: 02 Computer Science: 02 Electronics: 02 Physics: 02 Zoology: 02	Biomedical Science: 30 Botany: 21 Chemistry: 10 Computer Science: 14 Electronics: 06 Physics: 17 Zoology: 70	Appendix XVI 

10. Details of colleges / schools mentored during the Star Scheme Tenure (Name of college / school; class / standard; No. of students benefited; whether any mentored college applied under Star College Scheme, if yes what was the outcome.

1. **SPIE optics education outreach programme 2023:** SPIE, the International Society for Optics and Photonics, has a longstanding commitment to outreach initiatives. The College was proud recipients of SPIE Optics Outreach Education Programme 2023 grant. Teaching optics education at the X standard level can be challenging for educators. Traditional methods like using old blackboards and presentations may not be as effective when it comes to providing hands-on experience with real3D operations using Ray Optics Kits and helping students understand the physical presence of optical instruments. However, integrating these practical elements significantly enhances the

learning experience, enabling students to visualize complex concepts at a deeper level. Student Chapter at Acharya Narendra Dev College (ANDC) adopted a unique approach for its Optics Outreach Activity in 2023 across various schools. ANDC SPIE Student Chapter conducted workshops in 22 schools across Delhi. Notably, half of these schools were government-funded institutions with a total **student participation of around 1200**. The workshops were conducted in the months of August and September, 2023.The culmination of SPIE Optics Outreach Education Programme marked a significant event in the annals of Acharya Narendra Dev College, as we had the privilege of hosting a distinguished physicist and educator, **Professor H.C. Verma, as our Chief Guest on 06 October, 2023.As part of our initiative, we distributed Ray Optics Kits and optical instruments, which were conceived and designed by the Chapter, to every participating school free of charge.**

2. **PRAYAS Project with NCERT**: Department of Education In Science and Mathematics has for the very first time launched a scheme named PRAYAAS (Promotion of Research Attitude In Young and Aspiring students 2023 – 2024). In this scheme school students had to send a research Project in collaboration with College and was selected for the Project titled Evaluation of digested sludge from Sewage Treatment Plant (STP) as fertilizer and safe usage in crop production and land reclamation. Lovely Public Sr.Sec. School,P.D.Vihar was selected in collaboration with HEI partner ANDC. Under urban private school category only 5 schools were selected and out of that from all over Delhi the Project of only Lovely public Sr.Sec School in collaboration with Acharya Dev Narendra Dev College got selected. **Two school students are working in this project**. A total grant of Rs. 50,000/- was sanctioned in this project.
3. **Outreach Workshop: One Day Inter-College Workshop on Rearing and Breeding of Zebra Fish: Opportunity and Scope:** Organised Intercollege workshop for students from different college of the University of Delhi on September 23, 2023. The zebrafish workshop is a vital platform for students. The goal is to impart essential knowledge and skills related to zebrafish as a model organism. Participants learnt zebrafish husbandry, genetics and techniques enabling them to build interest for scientific research in zebrafish. **25 students** across University attended this workshop**.**
4. **Scientific Writing and Communication**: The one-day ISME sponsored Hands on Workshop on "Scientific Writing and Communication" was organized jointly by Acharya Narendra Dev College, University of Delhi and PhiXgen Pvt. Ltd., under the aegis of IQAC and DBT Star College Scheme on February 13, 2024. This workshop was organized with the motive to upskill young minds for students who are keen on learning scientific writing and how to publish in high impact journals. The workshop touched on various elements of scientific paper like title, abstract, introduction, methods, results, tables and figures, discussion, references etc. The workshop provided a platform to researchers, postgraduate & undergraduate students and even school students to learn to present their findings and review their works in the form graphics. The workshop enlightens on how to become effective writers using research data and represent it in easy and best possible way. It also shed light on the format of a scientific manuscript, peer review, funding etc. **The workshop was conducted in offline mode**

and total of 97 student registrations were received along with around 20 faculty members from University of Delhi.

5. Acharya Narendra Dev College, University of Delhi conducted a One Day Interaction Program called "Science Adda" (under the aegis of DBT Star College Scheme) for school students on December 20, 2021. **A total of 14 schools registered for the workshop, while the number of individual participants attending the workshop was 33**. The event was organized to give hands-on demonstration of some simple easy to do experiments by different departments of our college including Physics, Chemistry, Computer Science, Electronics, Biomedical Science, Zoology and Botany. The workshop was conducted in both physical as well as online mode. The session was concluded by an interesting quiz pertaining to the experiments shown and explained to the students. All the attendees were given certificates of participation, a foldscope and scientific kits for electronic experiments.
6. An outreach programme for school students, "ECOVILLE" was organized on February 27, 2022 as a part of the E- conference that invited submission of **avant- garde research projects, video presentations, environmental quiz and paper presentations. The highlight of the day was the inauguration of Virtual lab presided over by Dr Garima Gupta, Scientist F, Department of Biotechnology, Govt. of India. A career counselling session was also organized for the school students**. One of the key highlights and a niche endeavour by the college, this particular outreach program not only sought to introduce young minds to the infinite spectrum of research and innovative thinking, it also encouraged them by funding avant-garde projects, awarding exciting prizes for quiz winners and best presenters, while providing participation certificates to all.
7. The College organized a National workshop on Skill enhancement of Non-teaching staff (NWSENS-2022) from July 13-20, 2022. **More than 60 non-teaching staff from various colleges of University of Delhi including Institute of Home economics, Lady Irwin college, Ramjas College, etc. participated in the workshop**. The workshop was designed for holistic development of the non-teaching staff, and covered topics like financial management, tax-filling, stock-keeping, computational skills, operation of GeM portal, basic laboratory skills for safe handling and usage of scientific equipments raging from pH meters, electrophoresis units, centrifuges, micro-pipettes, microscopes and spectrophotometers.
8. The Mushroom Research and Skill Development Center (MRSDC) at Acharya Narendra Dev College was established on 8th March 2022 within the Department of Botany, operating under the DBT-STAR status scheme. Within a year**, more than 150** students have been trained in mushroom cultivating techniques where they learnt to grow different mushrooms in different seasons and know-how of growing and cultivate major mushrooms on minimal and locally available material, environmental conditions etc.
9. College has organized **Outreach Workshop on "Cell and Molecular Biology Techniques**": **24 B.Sc students and 26 M.Sc students from GD Goenka University, Gurugram, Delhi were given complete hands-on training on cell and molecular biological techniques** like Preparation of Competent cells and Transformation

Experiment, making of mitosis slides, plasmid DNA isolation, polymerase chain reaction, agarose gel electrophoresis and restriction mapping October 12-13, 2022.

10. **Under Community outreach** activity **five workshops on 'Safer And Greener Chemistry Lab'** were organised in **five schools in collaboration with GAD TLC SGTB Khalsa College** by Department of Chemistry A.N.D College under aegis of IQAC and DBT Star College Scheme (Co-ordinator and resource person-Dr Rashmi Thukral) on 28th-31th Jan,2023.
11. **MICROSPHERE 2.0**: **An International Outreach Program**: An initiative to promote Microbial Literacy in school and UG Students on September 17, 2022. **More than 100 school** and College students attended the program.
12. **One day workshop on Quantitative microbial ecology**: Opportunities and Way-ahead: Acharya Narendra Dev College, University of Delhi (UoD) in association with Gargi College, UoD; IMiLI-SAC & PhixGen Pvt. Ltd. organized a workshop on Microbial Ecology. This event was sponsored by International Society for Microbial Ecology (ISME) on February 04, 2023. **About 35 students across University attended the event**
13. **Bani School Innovation Camp II (BaSIC V) and Biar Initiative**: A School Outreach Program For Enrichment II (BIoSCOPE II): This was the second camp organized to motivate and ignite young minds of Govt. Senior Secondary School (GSSS), Bani and Biar located in the Hamirpur District of Himachal Pradesh. **This camp was organized for students of classes VI-XI** with an aim of uplifting the rural areas through propagation of scientific thoughts, promotion of student-teacher interactions and development of communication skills on February 13-14, 2023.
14. Students of Sri Venkateswara College, studying Insect Vector and Diseases, visited the mosquito rearing laboratory on March 21, 2024.
15. Students pursuing M.Sc. in Public Health Entomology (MPHE) course at ICMR-RMRC, Dibrugarh, visited the Insect Pest & Vector laboratory and ANDC on Nov 24, 2023.
16. Undergraduate Students from different colleges of University of Delhi visited the **Sericulture Skill centre** as a part of their curriculum. On October 21, 2023, students of B.Sc life sciences 6 Semester form Shivaji College and students of B.Sc. 1st Semester from Maitreyi College visited the sericulture facility. On 3rd Nov 2023, B.Sc. life sciences students 6th semester from Zakir Hussain College came to visit the silkworm culture. During the visits, students were briefed about the sericulture practices and visited the mulberry garden. They observed the various stages of silk moth. Hands-on training was given on the post-cocoon treatments including stifling, deflossing, degumming' and reeling the silk from the cocoons on mulberry silkworm. **Till now more than 100 UG students have visited the Center.**

11. Details of increase in the faculty generated resources viz extramural research grants from other funding agencies to strengthen the Star College Scheme efforts.

Extramural Research Grant (2021-2024)

S. No	Principal and Co-Investigators	Title of the Project	Sanctioned amount Rs.(in lakhs)	Funding Agency
1	Prof. Sarita Kumar (2018-2021)	Developing and documenting innovative practices for learning physics and biology through experimentation for children and young adults	12.60	DST Women Scientist Scheme-B Project
2	Prof. Sarita Kumar	The effects of ivermectin and d-limonene on *Culex quinquefasciatus* larva: Mortality, glutathione S-transferase, and gene expression	NIL	Department of Parasitology, Faculty of Medicine, University of Indonesia, Indonesia
2	Prof. Urmi Bajpai (2018-2021)	Recombinant endolysins from mycobacteriophages: Exploring their anti-Mycobacterial potential	46.702	DST-SERB
3	Prof. Urmi Bajpai (2019-2022)	An Investigational Study on Mycobacteriophages and their Enzymes as New Drug (IND) for Treating Tuberculosis'	22.160	ICMR
4	Prof. Sarita Kumar (2020-2023)	'Attractive Toxic Sugar Bait (ATSB) methods to control mosquitoes in different regions of Delhi and NCR'	36.0	MERA INDIA Project (ICMR)
5	Prof. Ravi Toteja Prof. Seema Makhija (2020-2023)	DNA barcoding for ciliate species identification of Delhi, India	41.9	DST-SERB
6	Prof. Urmi Bajpai (2024-2027)	Indo-UK- DBT- BBSRC Multi-centric Project: A Comparative One-Health Approach Tackling AMR Infections in UK and Indian Livestock	71.8	DBT-BIRAC
7	Prof. Arijit Chowdhuri (2024-2027)	Embedding Ferroelectric Hafnium-Zirconium Oxide	31	DBT-BIRAC

		(HZO) in gate stack of GaN based junction less transistor		
8	Prof. Arijit Chowdhuri (2023-2025)	Growth of crystalline single phase Ga_2O_3 thin film for Broadband Deep UV Photodetector	10	CSIR
9	Prof. Arijit Chowdhuri (2023-2025)	Fabrication of packaged high frequency SAW devices of given specification [1115/TS/SPL/CARS-98/2022] as Co-PI by DRDO for a period of 2 years from 2023- 2025	36	DRDO
10	Prof. Arijit Chowdhuri (2023-2026)	Development of thermoelectric energy harvester using Indium Selenide thin films	32	DST

12. SOPs developed, lab manuals created and uploaded on website or submitted to DBT.

SOPs developed, lab manuals created and uploaded on website: https://www.andcollege.du.ac.in/dbt/manual

13. Self-evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Biomedical Science	1. To expose undergraduate students to cutting edge technologies existing worldwide in frontier areas of science and more so which are important from the Indian perspective.	100%	2
	2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies.	100%	2
	3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops	100%	2
	4. Promote networking and strengthening of ties amongst research laboratories, institutions and industry for resource sharing and increasing efficiency	100%	2
	5. Enhance capabilities of core instrumentation resources by procuring latest equipment and upgrading of existing facilities..	100%	2
Botany	1. To expose undergraduate students to cutting edge technologies existing worldwide in frontier areas of science and more so which are important from the Indian perspective.	100%	2
	2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies.	100%	2
	3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops	100%	2
	4. Promote networking and strengthening of ties amongst research laboratories, institutions and industry for resource sharing and increasing efficiency	100%	2

	5. Enhance capabilities of core instrumentation resources by procuring latest equipment and upgrading of existing facilities.	100%	2
Chemistry	1. To expose undergraduate students to cutting edge technologies existing worldwide in frontier areas of science and more so which are important from the Indian perspective. 2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies. 3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops 4. Promote networking and strengthening of ties amongst research laboratories, institutions and industry for resource sharing and increasing efficiency 5. Ignite a flavor of research in the minds of young undergraduate students so that get inspired to take up research as a viable career option.	100% 100% 100% 100% 100%	2 2 2 2 2
Computer Science	1. To expose undergraduate students to cutting edge technologies existing worldwide in frontier areas of science and more so which are important from the Indian perspective. 2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies. 3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops 4. Train faculty and support staff in the arena of latest scientific research culture and methodology 5. Promote networking and strengthening of ties amongst research laboratories, institutions and industry for resource sharing and increasing efficiency	100% 100% 100% 100% 100%	2 2 2 2 2
Electronics	1. To expose undergraduate students to cutting edge technologies existing worldwide in	100%	2

	frontier areas of science and more so which are important from the Indian perspective. 2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies. 3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops 4. Train faculty and support staff in the arena of latest scientific research culture and methodology 5. Promote networking and strengthening of ties amongst research laboratories, institutions and industry for resource sharing and increasing efficiency	100% 100% 80% 100%	2 2 1.6 2
Physics	1. To expose undergraduate students to cutting edge technologies existing worldwide in frontier areas of science and more so which are important from the Indian perspective. 2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies. 3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops 4. Train faculty and support staff in the arena of latest scientific research culture and methodology 5. Promote networking and strengthening of ties amongst research laboratories, institutions and industry for resource sharing and increasing efficiency	100% 100% 100% 100% 100%	2 2 2 2 2
Zoology	1. To expose undergraduate students to cutting edge technologies existing worldwide in frontier areas of science and more so which are important from the Indian perspective. 2. Impart hands-on practical training and exposure to latest tools for promotion of inter-disciplinary studies.	100% 100%	2 2

	3. Up-grading existing undergraduate teaching and training framework to include state-of-the-art technical research projects and summer training workshops	100%	2
	4. Enhance capabilities of core instrumentation resources by procuring latest equipment and upgrading of existing facilities.	100%	2
	5. Ignite a flavor of research in the minds of young undergraduate students so that get inspired to take up research as a viable career option.	100%	2

14. Pointwise achievements against the objectives (Eight) given in the guidelines

1. *To strengthen the academic and physical infrastructure for achieving excellence in teaching and training.*
   Appendix I, II
2. *To enhance the quality of the learning and teaching process to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools.*
   Appendix IV, X
3. *To promote networking and strengthen ties with neighboring institutions and other laboratories.*
   Appendix XVII
4. *To conduct specialized training programmes for faculty improvement for optimizing technical capabilities.*
   Appendix IV, XIII
5. *To increase capabilities of core instrumentation resources by procuring new equipment and upgrading of existing facilities.*
   Appendix I, II,V
6. *To provide access and exposure to students to research laboratories and industries in the country.*
   Appendix IV, VI, VII, VIII
7. *To help in devising standard curricula and Standard Operating Procedures (SOP's) / kits for practicals.*
   https://www.andcollege.du.ac.in/dbt/manual
8. *To provide better library facility to students and teachers.*
   Our library currently holds 35,438 books in its collection, alongside 18 magazines and journals. During this past year, we added 589 new books to our shelves. We've expanded our digital resources by creating login credentials for the Delhi University E-Library System and N-LIST, which are available to students and faculty members upon request. On October 17-18 2024, we hosted our Annual Book Exhibition, welcoming participation from distinguished publishers and booksellers including Prentice Hall of India, Unilib Book Distributors, Asian Book Centre, Pearson Education, S. Chand &

Co., CBS Books, DSR Publications, Monika Books, Upkar Publications, Techniz Books International, and Taxmann Publications.

15. Details of activities performed as per given in the guidelines

For Students

1. *Students training via introduction of practicals, prescribed in the curriculum.*
   Appendix IV, VI, VII, VIII
2. *Introduction of conceptual clarity via engaging students in minor projects, either singly or in groups of students not exceeding 4 in number.*
   Appendix VI
3. *Inclusion of techniques for 'hands - on' training to strengthen concepts taught otherwise via theoretical approach.*
   Appendix IV, X
4. *Summer training preferably via engaging students in research projects.*
   Appendix VI, VIII
5. *Visits to neighboring industries, research institutions or places of academic value.*
   Appendix XIV, XV
6. *Use of IT in classroom, laboratory and library activities.*
   The integration of Information Technology (IT) in classroom, laboratory, and library activities can significantly enhance the learning experience. Under the scheme, the College has started incorporating tools such as interactive software, virtual simulations, and digital resources, in order to create dynamic environments. The college has installed digital Boards in class rooms and laboratories. In classrooms, IT is be utilized for multimedia presentations, online quizzes, and collaborative projects. The college has initiated virtual labs in order to assist in the visualization of complex experiments through simulation, enabling students to grasp intricate concepts with greater clarity. Libraries, on the other hand has employed IT in the form of digital catalogs, e-books, and research databases, making academic resources more accessible and fostering an atmosphere of continuous learning. This holistic use of IT has ensured that students are well-equipped with the technological skills needed for their academic growth and future careers.
7. *Organising lectures by eminent scientists, career counselling lectures specifically for creating awareness among students about their future career options in science.*
   Appendix XVI
8. *Any other relevant additional information.*
   Appendix VII, IX

For Faculty

1. *Faculty improvement programme.*
   Appendix IV
2. *Participation in summer courses for skill upgradation to be able to train students.*
   Appendix XIII
3. *Curriculum change to ensure more, 'hands - on' laboratory work.*
   Appendix X, XI

4. *Greater emphasis on communicating research and research process to students*.
   Appendix VI, IX
5. *Introduce internal review process by students regarding the implementation of various activities under Star College Scheme.*
   This process involved structured feedback mechanisms, including surveys, focus group discussions, and one-on-one interactions. The aim was to gather insights on how well these initiatives meet their intended objectives and also to identify areas for improvement. Such reviews not only enhanced the implementation of the scheme but also fostered a culture of continuous improvement and inclusivity within the institution.
6. *Feedback from students regarding competence of faculty, adequacy of teaching/ laboratory environment and additional needs, if any.*
   Feedback from students regarding the competence of faculty, the adequacy of the teaching and laboratory environment, and additional needs, if any, is an essential component of institutional development. By systematically collecting and analyzing student input, institutions can identify specific strengths and weaknesses within their academic framework. This feedback process encourages a participatory approach to education, empowering students to contribute to the enhancement of their learning experiences. Furthermore, it ensures that the institution remains adaptable and responsive to the evolving academic and research demands, ultimately fostering a more supportive and effective educational environment.
7. Any other relevant additional information.

16. Details of the procured equipment (as per submitted asset certificate) which would be retained by the college after completion of the project for future research and academics with request letter for the retention of procured equipment

Appendix II

Co-ordinator
DBT STAR COLLEGE SCHEME
Acharya Narendra Dev College
(University of Delhi)

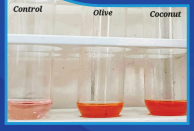
Course Coordinator
(With Seal)

Officiating Principal
Acharya Narendra Dev College
(University of Delhi)
Govindpuri, Kalkaji
New Delhi-110019

Head of the Institution
(With Seal)

Success Stories of
DBT Star College Scheme

@ Acharya Narendra Dev College (University Of Delhi)



The DBT Star College Scheme was granted to the Seven Departments | Year of Commencement: May 2017

College was granted STAR STATUS: August 2020

Coordinator	**Prof. Ravi Toteja**
Co-coordinators	Dr Archna Pandey Prof. Seema Makhija
Departmental Coordinators	
Biomedical Science	Dr Archna Pandey
Botany	Dr Rashmi Sharma
Chemistry	Prof. Sunita Hooda
Computer Science	Dr Harita Ahuja
Electronics	Dr Ravneet Kaur
Physics	Prof. Arijit Chowdhuri
Zoology	Prof. Seema Makhija

New Initiatives under STAR SCHEME

(1) Virtual Lab wherein modules related to scientific practicals and theoretical concepts are hosted on ANDC website. For Photographs see : https://www.vlab.andcollege.du.ac.in/

(2) Establishment of a Mushroom Research and Skill Development Centre (MRSDC). The centre functions as a research and development facility in the field of Microbiology specializing in mushrooms and the enhancement of mushroom cultiv ation skills amongst the students.

(3) Sericulture Skill Development Centre/ Acharya Narendra Dev Kaushal Kendra, Skill Hub @ ANDC

(4) Lab on Zebra Fish Culture

INTERNATIONAL CONFERENCES:

(1) INSCR 2021 (2) ICMCESA 2022

(3) INSCR 2022 (4) ISCB 2022

OUTREACH ACTIVITIES:

(1) Science ADDA

(2) INSA: Bani and Biar Initiative

(3) Ecoville

(4) Inter departmental Science Exhibition

(5) Microsphere

(6) Visit to Research Institutes

- **Faculty Development Programs**
- **Development of Central Instrumentation Facility:**
- **State-of-the-art equipment**
- **Workshops/Seminars**
- **Publications by UG students**

Appendix I

Development of Skill Centers and Virtual labs@ANDC

Acharya Narendra Dev College's emphasis on the establishment of skill center programs signifies a proactive approach in imparting students with hands-on and relevant expertise. These centers have the potential to significantly enhance students' capabilities, preparing them for success in their selected domains and the professional realm. Moving forward, these skill centers will open avenues for students to engage in internships, cooperative programs, and industry projects, enabling them to acquire practical experience.

A. Sericulture Skill development Centre

Co-ordinators: Prof. Seema Makhija, Mr Sanjay Vohra

Given the promising employment and entrepreneurship opportunities in the sericulture industry, Acharya Narendra Dev College has established a Sericulture Skill Development Centre in Sericulture. The primary goal is to provide students with comprehensive skills and knowledge in sericulture techniques. The center aims to offer extensive expertise in sericulture skills and methodologies, coupled with hands-on experience in breeding, rearing, harvesting cocoons, and post-cocoon processing. This year College organized a 7 Day Faculty Development Program on Sericulture: Rearing and its Applications for the faculty of University of Delhi in which hands on experience was given on rearing methods for mulberry silkworm.

B. Forensics Skill Centre

Co-ordinators: Dr Archna Pandey, Dr Ritu Khosla and Dr Satendra Singh

Forensic science is the use of scientific methods to examine evidence obtained from the crime scene so as to aid in prosecution of perpetrators of crime or absolve an innocent person from suspicion. Students attaining forensics science-based skills can either work with government investigation organizations like CBI, CID, IB, CFSL, and so on, or they can opt for private organizations like Media Houses, Hospitals, or Research Centers. Department of Biomedical Science is running Forensic Science as skill course since 2015 and currently after NEP we are having two SEC courses as Basics in Forensic Science and Forensic Chemistry and an upcoming DSE on Advanced techniques in Forensic Science. The department has resources for training and providing services for many forensic techniques like fingerprint development, footprint development, questioned document verification, features and depth analysis of handwriting and ink analysis using TLC. We have conducted various national level workshops for faculty, Non teaching staff as well as students. In 2017, a large-scale workshop was conducted for training the staff of University of Delhi to check the authenticity of the marksheets. In April 2024, the department also conducted two FDPs back-to-back where faculties from DU and across India participated and were also given hands on training.

C. Agri-based Skill Centre

Coordinators: Dr Geetika Kalra, Dr Mandeep Kaur

The Agri-Based Skill Centre at our college specializes in hydroponics and biofertilizers, offering comprehensive training in modern agricultural techniques. Students learn about hydroponic systems, nutrient solutions, and environmental control. They also gain expertise in the production and application of biofertilizers, which are environmentally friendly alternatives to chemical fertilizers. The center provides hands-on experience in setting up and managing hydroponic farms and organic farming. This empowers students to invest in urban farming and can contribute to sustainable agriculture, food security, and environmental conservation.

D. Mushroom Research and Skill Development Centre (MRSDC)

Coordinators: Dr Anupama Shukla, Dr Anita Narang and Dr Vineet Kumar Singh

The Mushroom Research and Skill Development Center (MRSDC) at Acharya Narendra Dev College operating under the DBT-STAR status scheme. Its primary objective is to offer a mushroom culture facility to students enrolled in the SEC course focused on Mushroom Cultivation Technologies. Apart from imparting skills related to cultivating diverse mushroom varieties, MRSDC has expanded its role to encompass a wide array of activities. These include engaging in research, ensuring high-quality spawn production, conducting outreach programs, delivering training sessions, and extending its services to dispel prevalent myths surrounding mushroom cultivation and consumption. Mushroom technology is hailed as an environmentally friendly approach with the potential to address various societal and environmental challenges, such as air pollution, malnutrition, unemployment, and promoting women empowerment.

E. Zebrafish (Danio rerio) Culture Lab

Coordinator: Prof. Monica Misra

मत्स्य Lab - Zebrafish Culture facility, established at Acharya Narendra Dev College through the support of the DBT Star Scheme, aims to inspire and engage budding scientists in research pursuits.. It provides a hands-on experience in laboratory practices, delving into the captivating realm of live animal research and nurturing a more empathetic approach towards our environment and its creatures. Notably, we stand as the second college within the University of Delhi to initiate the development of a Zebrafish lab. The College is in the process of Registration of Internal Animal Ethical Committee (IAEC). Once approved by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Govt. of India, the breeding of fishes and study of various life stages and behavioural patterns will be done to establish patterns in the fish and its resemblance to humans.

F. Molecular Biology and Biotechnology Skill Centre

Co-ordinator: Prof. Ravi Toteja and Prof. Seema Makhija

The Molecular Biology and Biotechnology Skill Centre aims to cultivate a skilled workforce capable of driving advancements in biotechnology and molecular biology while preparing individuals for impactful careers in science and technology. Through a combination of practical training, research opportunities, and ethical awareness, the centre seeks to contribute positively to society and the economy. Students trained in molecular biology and biotechnology has a wide range of job opportunities across various sectors. Some of the potential career paths are: Research and Development, Biotechnology Companies, Pharmaceutical Industry, Healthcare and Clinical Labs to name a few.

G. Emerging Technologies E-Hub

Coordinator: Prof. Amit Garg

Emerging Technologies E-Hub is a skill centre that impart trainings which are aligned with Industry 4.0 standards in the contemporary domains like PCB design and fabrication, Artificial Intelligence and Machine Learning, Cloud Computing, 3D design and printing, Augmented and Virtual Reality, Web development using MERN, Mobile Application developments, drone technology, Robotics, IoT etc. It aims to produce skilled manpower in these domains which can contribute to India's swift progression to becoming a developed nation.

H. Language Empowerment Skill Centre

Coordinators: Prof. Pooja Bhagat, Dr Joita Dhar Rakshit

The Language Empowerment Skill Centre at our college is dedicated to fostering language Proficiency and cultural understanding. The center offers a wide range of language courses, catering to students of all levels and interests. The center employs experienced language instructors who utilize innovative teaching methods to create engaging and interactive learning experiences. The center organizes language programs and workshops to enhance students' language skills and broaden their global perspectives.

I. Virtual Labs, IT Tools & Innovations Skill Centre

Coordinator: Prof. Seema Makhija and Dr Vineet K. Singh

The IT Tools and Innovation Skill Centre at our college is dedicated to equipping students with the latest IT skills and fostering a culture of innovation. A key focus of the center is on developing and training students to create Virtual Labs. The center's expertise in virtual lab development enables students to explore complex concepts, experiment with different variables, and learn at their own pace. By cultivating these skills, the center prepares students for the digital age and empowers them to contribute to technological advancements.

ANDC Kaushal Kendra

Skill India
कौशल भारत-कुशल भारत

SERICULTURE SKILL CENTRE

IT TOOLS & INNOVATIONS SKILL CENTRE

FORENSICS SKILL CENTRE

EMERGING TECHNOLOGIES SKILL CENTRE

AGRI-BASED SKILL CENTRE

LANGUAGE EMPOWERMENT SKILL CENTRE

MOLECULAR BIOLOGY AND BIOTECHNOLOGY SKILL CENTRE

MUSHROOM RESEARCH SKILL CENTRE

ZEBRAFISH BREEDING AND RESESRCH SKILL CENTRE

ACHARYA NARENDRA DEV COLLEGE
UNIVERSITY OF DELHI

Appendix II

Setting up of Advanced Instrumentation Facility

Establishing a Central Instrumentation Facility with state-of-the-art equipment for skill enhancement is a commendable initiative. Such a facility would greatly contribute to the development of technical skills, research capabilities, and innovation in various fields.CIF has the following state of art equipments for cutting edge research at UG level

Biomedical Science

S. No.	Name of Equipment	Number of Units
1.	Laboratory Refrigerator	2
2.	PCR Machine with 1 KVA UPS	1
3.	4 Gel Vertical Electrophores	1
4.	pH Meter, Labman Scientific Instruments	3
5.	Br Biochem Dual Wavelength Bench ((UV Transilluminator)	1
6.	Ice Flake Making Machine (IG-40FI)	1
7.	Technosource Dual wavelength Bench Top Type Transilluminator UV	1
8.	Magnus Microscope MLXI Plus LED Std Set	7
9.	Scalatec Weighing Scale with Load capacity of 220gm	2
10.	pH Meter with manual or Automatic with ATC probe, Benchtop	2
11.	IG-422Fume Hood	1
12.	Magnetic Stirrer	3
13.	Magnus Microscope MLXI Plus LED Std Set	2

Botany

S. No.	Name of Equipment	Number of Units
1.	Bio Safety Cabinet (BSL-II Cabinet)	1
2.	UV-Visible double beam spectrophotometer	1
3.	Cilika Microscope BT-P	1
4.	Digital C02 Probe Wired Or Bluetooth	1
5.	Rotary Evaporator	1
6.	Humidity Chamber	1
7.	Thermal Cycler with 1 KVA UPS	1
9.	Mushroom Growing Racks/MS Reck Work Material	1
10.	Scaletec Elcetronic Weighing Scale with load capacity of 220 gm.	1
11.	Humidifier	1
12.	Water Bath	1

13.	HDPE Drum 210 ltr. Capacity	2

Chemistry

S. No.	Name of Equipment	Number of Units
1.	Gaussain Software V 16	1
2.	Gauss View V 6	1
3.	Eutech Microscope Based Automatic pH Meter	1
4.	Atomic Absorption Spectrophotometer with 8 Auto Lamp Turret & Variable Slit Control	1
5.	Hollow Cathod Lamp (Cadmium, Copper, Iron, Zinc)	4
6.	Exhaust Hood Vent Assembly	1
7.	N20 Nitrous Oxide Titanium Burner For AAS	1
8.	Potentiometer	1
9.	Centrifuge	1
10.	Conductivity Meter	1
11.	Hot Air Oven	1
12.	Rotary Evaporator	1
13.	Potentiometer	1

Computer Science

S. No.	Name of Equipment	Number of Units
1.	Hp Prodesk 600 G6 Microtower PC (CPU)	25
2.	HP laser MFP 136NW Printer Hp Multifunction Machine	1
3.	HP laser MFP 136NW Printer Hp Multifunction Machine	2
4.	White Interactive Board	2

Electronics

S. No.	Name of Equipment	Number of Units
1	Universal Dev Board with FPGA and CPLD	1
2	Setup for study of architecture of Mobile phone	1
3	Set up for Satellite Communication System	1
4	Control Labsetup with software and data acquisition	1
5	AI Builder	1

6	IoT Builder	1
7	LDR,Photo diode and Photo transistor setup	1
8	LVDT setup	1
9	Electro-Optic Effect Setup	1
10	Fiberoptic sensor setup/kit	1
11	Young‘s Modulus Setup	1
12	E/e/m of electron by Bar Magnet Setup	1
13	Resistance transducer – Strain Gauge Setup	1
14	Mini-Microcentrifuges	1

Physics

S. No.	Name of Equipment	Number of Units
1	Complete setup to measure characteristics of DIAC, TRIAC & SCR	2
2	Type A – Multi Output (three) Regulated DC Power Supply	10
3	Complete trainer kit for studyingAmplitude/ Frequency/ Phase Shift Keying Modulation & Demodulation	6
4	Complete trainer Kit for studying Pulse Amplitude / Position / Width Modulation & Demodulation	6
5	Complete Analog Communication Trainer Kit	6
6	10 MHz Single Channel Function Generator	6
7	Complete setup to measure susceptibility of paramagnetic solution by Quincke's tube Method	2
8	Complete setup to plot B-H curve of iron using a solenoid	2
9	Complete setup to study characteristics of MOSFET, FET & UJT	4
10	Complete Hartley and Colpitt Oscillators Trainer set-up	2
11	Training Platform to study Flipflops, Shift Registers & Counters	4
12	Digital Storage Oscilloscope (DSO)	4
13	Complete setup for study of piezoelectric crystals	3
14	Programmable Portable Data Logger with touch screen interface	1

Zoology

S. No.	Name of Equipment	Number of Units
1	BOD Incubator	1
2	Autoclave	1
3	Non-Refrigerated Centrifuge	1
4	Magnetic Stirrers	2
5	Horizontal Gel Apparatus	2

6	Double Distillation water Unit	1
7	Electronic Weighing Scale	2
8	Cilika Microscope BT-P	1
9	Mulitiparameter	2
10	pH Meter	2
11	Gel Documentation System	1
12	ECG 515 Refrigerator	1
13	EFGV450 20C Deep Freezer 45 Ltrs	1
14	Multitech Systems DC Regulated Power Supply	2
15	Multitech Systems DC Regulated Power Supply	2
16	Handheld UV Lamp 6 watt.	1

ADVANCED CENTRAL INSTRUMENTATION FACILITY

Appendix III

Research Support

The College has set up Research Center for the faculty of the College for carrying out their research and for mentoring UG students for research. Following are the resesrch laboratories in the college.

Research Labs and Thrust Area: For Thurst area:
https://www.andcollege.du.ac.in/research/researchactivitybyfaculty

S. No.	Research Lab	In charge of Research Lab	Department
1	Anti-mycobacterial Drug Discovery Laboratory	Prof. Urmi Bajpai	Biomedical Science
2	Chemical Biology Laboratory	Prof. Gagan Dhawan	Biomedical Science
3	Cancer and Thalassemia Screening Laboratory	Dr Sunita Jetly	Biomedical Science
4	Environmental Monitoring and Assessment Laboratory	Prof. Charu K Gupta	Botany
5	Polymer Research Laboratory	Prof. Sunita Hooda	Chemistry
6	Computational Chemistry Laboratory	Prof. Pooja Bhagat	Chemistry
7	Computational and Synthetic Chemistry Laboratory	Prof. Shallu Sachdeva Prof. Rashmi Thukral Prof. Neeti Misra	Chemistry
8	Chemical Biology Research Laboratory	Prof. Seema Gupta Prof. Manisha Jain	Chemistry
9	Advance Chemical Research Laboratory	Prof. Geetu Gambhir Dr. Vikrant Kumar	Chemistry
10	Chemistry Research Laboratory	Prof. Neelu Dheer Prof. Dinesh Kumar Arya Prof. Pankaj Khanna	Chemistry
11	Material Science Laboratory	Prof. Amit Garg	Electronics
12	Device Modeling and Simulation Lab	Prof. Anju Agrawal Prof. Ravneet Kaur	Electronics
13	Mathematics Research Centre Laboratory	Dr Chaman Singh Prof. Sadanand Prasad	Mathematics
14	Sensing Materials and Devices Laboratory	Prof. Arijit Chowdhuri	Physics

15	Chandra Computational Physics Lab	Prof. Subhash Kumar	Physics
16	Insect Vector and Pests Laboratory	Prof. Sarita Kumar	Zoology
17	Microbial Technology Laboratory	Prof. Monisha Khanna	Zoology
18	Ciliate Biology Laboratory	Prof. Ravi Toteja Prof. Seema Makhija	Zoology
19	Embedded System and Robotics laboratory	Prof. Amit Garg	Electronics
20	Zebra Fish Culture Facility	Prof.Monica Misra	Zoology
21	Mushroom Research and Skill Development Centre	Prof. Anupama Shukla Prof. Anita Narang Dr Vineet Kumar Singh	Botany
22	Sericulture Research Centre	Prof. Seema Makhija Mr Sanjay Vohra	Zoology

Ph.D. Awarded to the Research Scholars @ ANDC

S. No	Name of the Research Scholar	Mentor	Title of the Thesis	Year of Award/ Submission
1	Ms S. Sripoorna	Prof. Seema Makhija Prof. Ravi Toteja	Ciliates as cellular tool to assess heavy metal toxicity	Ph.D. awarded in 2022
2	Mr Shani Kumar	Prof. Amit Garg	Fabrication of Graphene Oxide Membranes for their Potential use in water Purification Applications	Ph.D. awarded in 2022
3	Mr Prateek Kumar	Prof. Monisha Khanna Kapur	Structural analyses of bioactive compounds from Streptomyces spp. and identification of their biosynthetic gene clusters	Ph.D. awarded in 2022
4	Ms Roopa Rani Samal	Prof. Sarita Kumar	Characterization of Mechanisms Involved in the Development of Acetamiprid and Deltamethrin Resistance in an Indian Strain of Aedes aegypti L.	Ph.D. awarded in 2022
5	Ms Jeeva S. Abhraham	Prof. Seema Makhija	Taxonomy, Phylogeny and Molecular Systematics of Ciliates from Delhi, India	Ph.D. awarded in 2022

6	Ms Drashya	Prof. Sunita Hooda	Design and Synthesis of Graphene Oxide and Chitin based Nanomaterials for Water Purification and Biological Application"	Ph.D. awarded in 2022
6	Mr Vishal Dhingra	Prof. Amit Garg	Studies on Gas Sensing Properties of Graphene Oxide Post Tailoring throughSonication and Nanostructured Catalysts, Electronic Science	Ph.D. awarded in 2022
8	Mr. Vinay Singh Dagar	Prof. Sarita Kumar	Studies on the Growth Regulatory effects of Emamectin Benzoate on the cotton bollworm, Helicoverpa armigera (Hübner)	Ph.D. awarded in 2023
9	Ms Jyoti Rani	Prof. Urmi Bajpai	Computational Approach For Drug Repurposing in Tuberculosis And Pathway Modeling For Type 2 Diabetes Associated Tuberculosis	Ph.D. awarded in 2023
10	Ms Laishram Saya Devi	Prof. Sunita Hooda	Waste Water Remediation through Adsorption using Magnetic Guar Gum-based Nanocomposites and Study of their Multifunctional Activity Against *Aedes aegypti*	Ph.D. awarded in 2023
11	Ms Jyoti	Prof. Sarita Kumar	Taxonomic Studies on Sweat Bees (Hymenoptera: Apoidea: Halictidae) of North India	Ph.D. awarded in 2024
12	Ms P. Lanbiliu	Prof. Sarita Kumar	Formulation, Characterization and Bioefficacy Assessment of β-cyfluthrin Nanoemulsion against	Ph.D. awarded in 2024

			an Indian strain of Dysdercuskoenigii Fabricius (Hemiptera: Pyrrhocoridae)

Ph.D. Students Enrolled under the Supervision of College Faculty

S. No.	Ph.D. Student	Supervisor (Department)	Area of work
1	Ms Ritu Arora	Prof. Urmi Bajpai (Biomedical Science)	Bacteriohage lysins
2	Mr Nawab Ziya Khan	Prof. Urmi Bajpai (Biomedical Science)	Cancer metabolomics
3	Ms Kanika Nadar	Prof. Urmi Bajpai (Biomedical Science)	Mycobacteriophages
4	Ms Bhawana Saini	Dr Sunita Jetly (Biomedical Science)	Thalassemia
5	Ms Rinmi Kasar	Dr Sunita Jetly (Biomedical Science)	Thalassemia
6	Mr Harekrushna Jena	Prof. Gagan Dhawan (Biomedical Science)	Design and development of synthetic vectors for the delivery of biomolecules
7	Ms Akanksha Negi	Prof. Gagan Dhawan (Biomedical Science)	Polymeric nanoparticles: Design, synthesis and their applications in drug delivery
8	Ms Vadant Soni	Prof. Gagan Dhawan (Biomedical Science)	Role of microbiota-derived metabolites in immune checkpoint blockade immunotherapy of colorectal cancer
9	Mr Nitin Joshi	Prof. Charu K Gupta (Botany)	Assessing the impact of Climate change on some native tree species of Delhi
10	Ms. Anjana Singh	Dr Yasheswar (Botany)	Molecular characterisation of viruses infecting periwinkle (Catharanthus roseus L.) and alteration in secondary metabolites profile
11	Mr Amit Kumar Paswan	Prof. Sandeep Kumar Goel (Commerce)	Finance
12	Ms Kirti Jain	Prof. Sharanjit Kaur (Computer Science)	Network analysis

13	Mr Sumit Vashista	Prof. Anju Agrawal (Electronics)	Design and Simulation of Accoustic Emission Sensor for Geohazard Surveillance
14	Ms Rupali Pandey	Prof. Amit Garg (Electronics)	Synthesis and Characterization of 2D Materials and their Applications
15	Mr Sandeep Singhania	Prof. Amit Garg (Electronics)	Role of Functional Group in Gas Sensing of 2D Materials
16	Ms Preeti Bharati	Prof. Amit Garg (Electronics)	Growth and Characterization of GaN based High Electron Mobility Transistors
17	Ms Anju	Prof. Amit Garg (Electronics)	Engineered 2D Materials for Smart Biosensing
18	Ms Ragini	Prof. Amit Garg (Electronics)	2D material based Electrochemical and Spintronic
19	Mr Ajay Kumar	Prof. Udaibir Singh (Electronics)	Fabrication and Modelling of Perovskite based Solar Cell
20	Mr Dinesh Kumar	Prof. Udaibir Singh (Electronics)	Synthesis and Characterization of polymer nanocomposits thin film and its application
21	Ms Bhawna Singh	Prof. Sada Nand Prasad (Mathematics)	Non-Linear Dynamics
22	Mr Itender Kumar	Prof. Sada Nand Prasad (Mathematics)	Dynamical System
23	Ms Sonia Aneja	Prof. Sada Nand Prasad (Mathematics)	Dynamical System
24	Ms Preeti Yadav	Prof. Sada Nand Prasad (Mathematics)	Non-Linear Dynamics
25	Ms Pooja Khoda	Prof. Sada Nand Prasad (Mathematics)	Non-Linear Dynamics
26	Mr Gurudatt Rao Ambedkar	Dr Chaman Singh (Mathematics)	Optimization
27	Ms Jyoti Kohli	Dr Chaman Singh (Mathematics)	Optimization
28	Ms Garima Sethi	Dr Chaman Singh (Mathematics)	Inventory Control and Management
29	Mr Brijendra Yadav	Dr Chaman Singh (Mathematics)	Optimization
30	Mr Rohit Miglani	Prof. Arijit Chowdhuri (Physics)	Functional materials for Microwave Resonator
31	Mr Ajay K. Sao	Prof. Arijit Chowdhuri	Development of sensing layers for

		(Physics)	detection of chemical warfare (CW) agents/simulants
32	Mr Jatinder Pal Singh	Prof. Arijit Chowdhuri (Physics)	Growth and characterization of some 2D materials for sensing applications
33	Ms KungreiliuPanmei	Prof. Sarita Kumar (Zoology)	Effect of lufenuron on the growth and development of Aedes aegypti
34	Ms P. Lanbiliu	Prof. Sarita Kumar (Zoology)	Effects of synergistic combinations of an IGR and beta-cyfluthrin on the growth and development of red cotton bug, Dysdercuskoenigii (Fabr.) (Hemiptera: Pyrrhocoridae)
35	Mr Manu Sankar	Prof. Sarita Kumar (Zoology)	Characterization of diflubenzuron resistance in dengue vector, Aedes aegypti L. (Diptera: Culicidae)
36	Ms Jyoti Falswal	Prof. Sarita Kumar (Zoology)	Taxonomic studies of non-Apis bees pollinators from North India
37	Mr Sanjay Kumar	Prof. Sarita Kumar (Zoology)	Evaluation of the effects of Insect Growth Regulator on mosquito, Aedes aegypti L.
38	Ms Divya Yadav	Prof. Sarita Kumar (Zoology)	Identification of novel insecticide targets in mosquitoes
39	Ms Harsha	Prof. Monisha Khanna Kapur (Zoology)	Bioactive potential of Streptomyces spp. against diverse pathogenic fungi
40	Ms Swati Maurya	Prof. Ravi Toteja Prof Seema Makhija (Zoology)	Microorganisms as Bioindicators in Diverse Environments
41	Mr Sandeep	Prof. Ravi Toteja Prof Seema Makhija (Zoology)	Ecotoxicological studies on ciliates
42	Ms Jyoti Dagar	Prof Seema Makhija Prof. Ravi Toteja (Zoology)	DNA Barcoding for ciliate species identification of India
43	Mr Hritik Kadian	Prof. Ravi Toteja (Zoology)	Assessing the Resistance, Tolerance and Bioremediation Ability of Selective Bioindicator Species (Algae, Ciliates and Macrophytes) to Different Persistent Bio-Accumulative and Toxic Substances
44	Mr Ajay	Prof. Seema Makhija	Use of Freshwater Macrophytes for

		(Zoology)	Fish Food Formulation
45	Ms Bhumika	Prof. Monica Misra (Zoology)	Morphological and Molecular studies on Intestinal parasites of freshwater fish, Channa striata (Snakehead Murrel) from Meerut region

Ph.D. Supervisors

S. No.	Name of the Faculty	Department
1.	Prof. Urmi Bajpai	Biomedical Science
2.	Prof. Gagan Dhawan	Biomedical Science
3.	Dr. Sunita Jetly	Biomedical Science
4.	Prof. Charu Khosla Gupta	Botany
5.	Prof. Yasheshwar (Co-supervisor)	Botany
6.	Prof. Sunita Hooda	Chemistry
7.	Prof. Seema Gupta	Chemistry
8.	Prof. Pankaj Khanna	Chemistry
9.	Prof. Sandeep Kr. Goel	Commerce
10.	Dr. Shalu Mahajan	Commerce
11.	Prof. Sharanjit Kaur	Computer Science
12.	Prof. Vibha Gaur	Computer Science
13.	Prof. Chandra Kanta Samal	Computer Science
14.	Prof. Anju Agrawal	Electronics
15.	Prof. Amit Garg	Electronics
16.	Prof. Udaibir Singh	Electronics
17.	Prof. Laxmi Narain	Mathematics
18.	Prof. Sadanand	Mathematics
19.	Dr. Chaman	Mathematics
20.	Prof. Arijit Chowdhuri	Physics
21.	Prof. Sarita Kumar	Zoology
22.	Prof. Monisha Khanna Kapur	Zoology
23.	Prof. Ravi Toteja	Zoology
24.	Prof. Monica Misra	Zoology
25.	Prof. Seema Makhija	Zoology

RESEARCH @ ANDC

Appendix IV

Hosting International Conferences, Workshops and Outreach Programs

International Conferences

College has organized several international conferences/ workshops/FDPs by the grant received from Department of Biotechnology (DBT). Such support plays a pivotal role in encouraging academic interactions, sharing knowledge, and promoting collaborative research initiatives. Organizing International conferences holds numerous advantages for both ANDC and the wider academic fraternity.

A. 8th International Conference of Indian Network for Soil Contamination Research (INSCR) along with 4th International Symposium for Ciliate Biology (ISCB) on Exploring the Microbial World: From Human Health to Environmental Sustainability

The College in association with Indian Network for Soil Contamination Research (INSCR) and PhixGen in collaboration with with of Kirori Mal College, Gargi College, Swami Shraddhanand College, Ramjas College, Hansraj College, Hindu College, Shivaji College, Deen Dayal Upadhyaya College, SGTB Khalsa College, Miranda House, Deshbandhu College, Bhaskarachaya College of Applied Sciences, University of Delhi, Symbiosis International University, Dev Bhoomi Uttarakhand University and Jamia Millia Islamia. The conference was sponsored by Indian National Science Academy-IUMS, Department of Biotechnology (DBT) and Department of Science & Technology (DST), Govt. of India. Organized International Conference on was organized on April 03-05, 2024. The dignitaries for the inaugural session included the Honourable Patron of the conference; Prof. R C Sobti, Prof. T. Ramamurthy, Guest of Honour; Co-patron Prof. Balaram Pani, Dean Colleges and Prof. Shree Prakash Singh, Director South Campus; Prof. Sudeshna Mazumdar, Chairperson, ANDC, Prof. Rup Lal (INSCR President and Conference Chair) and Prof. Ravi Toteja Conference co-chair and Officiating Principal, Acharya Narendra Dev College. This year 80 international and national speakers presented their cutting edge research data to more than 600 participants. This year a special session was held on Entrepreneurship and Innovation in Sciences aimed to explore the dynamic intersection between scientific innovation and entrepreneurial endeavors. With a focus on fostering an ecosystem conducive to innovation, the session featured esteemed speakers who shared insights, experiences, and success stories in the field. First keynote lecture by was by Dr Jitendra Kumar (Managing Director, BIRAC) on "BIRAC- Catalyzing the Biotech Innovation Ecosystem in India". Dr Dhruv Rana (CEO, ANDC inStart Foundation) on "ANDC inStart Foundation: Our journey, impact and how we support startups". He shared the journey, impact, and initiatives of the ANDC inStart Foundation in supporting startups and fostering innovation ecosystems. A special session was kept on April 4, 2024 for

faculty to present the research that they carried out in UG/PG Colleges. Participating colleges/universities included the University of Haryana, University of Allahabad, ICAR-NBAIM, Central University of Tamil Nadu, IIT Delhi, Jamia Milia Islamia, University of Jammu, and many colleges of the University of Delhi. The faculties were judged based on their presentation, content, work, and time. A total of 22 faculties were selected for presentation out of which two best presenters were shortlisted and awarded in valedictory ceremony. A session of Oral Presentations by UG/PG/PhD Students was held on Day 3 (April 5, 2024). A total of 40 participants registered for the oral presentation from various colleges in India and research institutes from the country. This dynamic session provided students with a platform to present their research projects, innovative ideas, and academic endeavors in a concise and engaging format, fostering interdisciplinary exchange, collaboration, and scholarly dialogue among peers, faculty, and industry Professionals. A few of them joined online also. All participants presented very well and with great enthusiasm. After each presentation, there was a question answer session conducted by chairpersons and co-chairs. Students delivered engaging and informative presentations, effectively communicating their research objectives, methodologies, results, and conclusions within the allocated time frame. Based on the content of the presentation, their way of presenting, and the question-answer session, participants were evaluated and the best three were awarded in the valedictory ceremony. Another landmark of this Conference was International Symposium on Ciliate Biology (ISCB 2024) that was held on April 05, 2024 in hybrid mode in collaboration with INSCR. The scientific content of the symposium included a wide gamut of aspects of ciliate biology: Biodiversity, Ecology, Evolution, Systematics, Genomics, Epigenetics, DNA Barcoding and Proteomics. Eleven Speakers of International repute enlightened the gathering about their research work. The symposium also gave opportunity to UG/PG students and research scholars to present their research work in oral and poster sessions. One of the highlights of the conference was that the First Meeting of the Indian Society of Ciliate Biology was chaired by Dr Komal Kamra. This society is proposed to be an affiliate society of INSCR in GB Meeting. The symposium provided a platform for the ciliate interest group to exchange information, present the latest research findings, and establish collaborations and networking opportunities for students wishing to take up doctoral or postdoctoral research on ciliates.

Poster presentation session provided a comprehensive overview of current research and advancements in the field of microbiology. The session attracted a diverse group of researchers, scholars, and industry professionals keen on exploring the latest discoveries and innovations. There were a total of 90 posters which were evaluated by judges and presenters explained their research, the novelty of the study, and future applications of their work to judges. Looking at the great number of participation and enthusiasm, total of 10 posters were selected as the best posters. From fundamental insights into microbial ecology to practical applications in healthcare and industry, the session highlighted the diverse and impactful contributions of microbiology to science and society.

The valedictory session marked the conclusion of an insightful and engaging conference on microbial world, bringing together experts, researchers, and enthusiasts from around the world where Dr Jitendra Kumar was the Chief Guest and Prof. Mrutyunjay Suar and Dr Garima Gupta was guest of honour. The session reflected on the key takeaways, advancements, and future directions in microbiology research and conservation

B. International Conference on Chemical and Biological Sciences (ICCBS-2024)

Acharya Narendra Dev College (University of Delhi) co-organized three days International Conference on Chemical and Biological Sciences (ICCBS-2024) being organized by the Department of Chemistry under the aegis of Internal Quality Assurance Cell (IQAC), Atma Ram Sanatan Dharma College (University of Delhi) in association with Kwangwoon University (South Korea), North-West University (South Africa), and SRM Institute of Science & Technology (Ghaziabad) from January 27th to 29th, 2024. The conference aimed to unite the global academic community in a shared endeavor, to explore the latest developments and breakthroughs in the domains of Chemistry, Computational Chemistry, Drug Development, Bioenergy, Bioinformatics, Plasma Biosciences, Environment, Plasma Physics, and Biological Sciences. The conference included keynote session, invited and oral talks. The Conference attracted 282 participants from various backgrounds, including experts, researchers, and academics. The conference featured 38 invited speakers from countries including the USA, Brazil, Singapore, South Korea, South Africa, Japan, UAE, and Canada, enriching the discussions with their expertise. A total of 221 oral presentations were delivered, covering a wide range of topics within the chemical and biological sciences domain. The event also included the recognition of excellence through 12 Best Oral Presentation Awards, acknowledging outstanding contributions and innovative research. Furthermore, prominent journals ChemBioChem and Chemistry and Biodiversity of Wiley Publisher will publish special issues dedicated to the conference's submitted papers, enhancing the dissemination of cutting-edge research and fostering ongoing collaboration within the scientific community. The conference covered key themes, including Advances in Chemical Synthesis, Biological Systems and Applications, Environmental Impact and Sustainability, Computational Modeling and Data Analysis, and Emerging Technologies and Innovations, and it comprehensively explored the subject matter. Insights gained from discussions during the conference revealed emerging trends, challenges, and opportunities in the chemical and biological sciences, setting the stage for future collaborations, research endeavors, and advancements. In conclusion, the International Conference on Chemical Biological Sciences was a testament to the collaborative efforts and dedication of the global scientific community, driving forward the frontiers of knowledge and innovation in the field.

C. Fostering Sustainable Catalysis (FSC 2024)

The international conference on Fostering Sustainable Catalysis, FSC-2024, organized by Department of Chemistry, University of Delhi and Maharaja Surajmal Brij University from January 19-20, 2024. The special Lectures by Eminent Scientists on fostering sustainable catalysis with the theme of Application of Sustainable Catalysis for the Human Wellbeing, brings together chemists from India and France with complementary and diverse expertise in the general areas of homogeneous and heterogeneous catalysis, green chemistry, and sustainability, comprising the efficient and safe fabrication of useful complex molecules and materials, the production/storage of renewable energy, biomass transformations, biodegradable polymer formation/recycling and the development of new catalytic systems based on abundant metals. The exchange of information and ideas aimed at promoting innovations and discovering new applications in advanced catalysts, clean synthetic methods, catalytic processes for industry.

D. Annual Convention of Chemists (ACC 2023)

60th Annual Convention of Chemists (ACC 2023), organized on December 20-21, 2023 by the Indian Chemical Society, which is part of the Centennial Jubilee Celebration. It was held to celebrate the society's remarkable journey over a century, and embark on an exciting new chapter, of exploring the critical role of chemistry in the next zero goal, circular economy, and sustainability. The conference included participation by leading industries, academics, Noble Laureates and students, international Chemical Societies and Padma awardees. Hon'ble Shri Nitin Gadkari, Cabinet Minister for Road Transport was the Chief Guest.This event provided a platform for eminent academicians to share their research and connect with seasoned scientists from India and around the world. The exchange of ideas and mentorship undoubtedly would shape the future in this field. The exciting and enlightening event highlighted the continued growth and success of the Indian Chemical Society. The 60th Annual Convention of Chemists was a resounding success, fostering collaboration, inspiring innovation, and enriching our understanding of the chemistry that shapes our world.

E. International Conference on Mitigating Contemporary Environmental Issues by Sustainable Approaches [ICMCESA-2022]

Acharya Narendra Dev College organized an International E-Conference titled “Mitigating Contemporary Environmental Issues by Sustainable Approaches [ICMCESA-2022]. In commemoration of Science week the event spanned from February 22-28,2022. With consideration of the ongoing “Decade of Action” proclaimed by the United Nations, the main focus of the conference was to generate interest among all on the pressing environmental concerns and the urgent need to adopt sustainable approaches worldwide to protect the habitat. A theme of such pertinence, the speakers and various presenters confronted diverse ‘Areas of Concern’. Adhering to Covid-19 protocols regarding travel restrictions and social distancing, this conference was conducted over the virtual platform,

the event hosted speakers from USA, Slovenia, Australia, UK, Uruguay, and Czech Republic, to name a few.

F. 6th Annual International e-Conference on International Network of Soil Contamination Research-INSCR2021 on "MICROBES IN SUSTAINABLE DEVELOPMENT"

Keeping in view about the role of microbes in sustainable development, ANDC in association with INSCR organized 6th International Conference over the virtual platform. The event hosted 30 International and 40 National speakers of international repute. Two Pre-conference workshops namely, Art of scientific writing and communication, and Hands on to computational Biology, for (Meta)genomic analysis were also organized for Undergraduate, Postgraduate students and research scholars from November 14-15, 2021. An online Agar Competition was also organized that show active participation from all over the country. During the conference, undergraduate, postgraduate students, research scholars and faculty members presented their research papers.

G. International Workshop: Workshop on Genomics, Metagenomics & Bioinformatics in Microbial Ecology

A workshop on "Genomics, Metagenomics & Bioinformatics in Microbial Ecology" was organized by the International Society for Microbial Ecology (ISME) & Indian Network for Soil Contamination Research (INSCR) in collaboration with Acharya Narendra Dev College (ANDC), University of Delhi on April 02, 2024. This workshop was organized with various modules designed for UG/PG/PhD students to provide them with detailed knowledge of different bioinformatics tools for genomics data analysis, phylogeny, metagenomics, etc. This workshop was organized with the motive to upskill young minds for students who are keen on learning Bioinformatics. A total of 64 participants attended the workshop in offline mode at the computer lab of ANDC. The pre-conference workshop was started with an introductory remark and welcome address by Prof. Ravi Toteja, Officiating Principal, Acharya Narendra Dev College (ANDC), University of Delhi. Prof. Toteja welcomed all the participants and gave opening remarks about the importance of such a program to be run along with the academic endeavours of the students and the need for such a workshop for students to inculcate interdisciplinary abilities. This was followed by Introduction to ISME and Activities of ISME held in INDIA for propagating microbial ecology by Prof. Rup Lal, Senior ISME Ambassador, ANDC, University of Delhi. The talk provided attendees with valuable insights into ISME's role in advancing microbial ecology research globally and its specific activities and collaborations within India. By sponsoring workshops worldwide and promoting excellence in research, ISME plays a pivotal role in advancing scientific knowledge and addressing societal challenges through microbial ecology. Afterwards, Dr Utkarsh Sood, Kirori Mal College, University of Delhi introduced the different ISME journals and provided an in-depth overview of the journals affiliated

with the International Society for Microbial Ecology (ISME). The session aimed to familiarize attendees with the diverse range of journals available under the ISME umbrella, their scope, and their significance in advancing microbial ecology research worldwide. Then, a recorded message was given by Prof. Thulani Makhalanyane, Editor in chief, Reviews and Perspectives, The ISME Journal &Professor at Stellenbosch University. He provided attendees with valuable insights into the frontiers of microbial ecology research and the role of ISME journals in advancing the field. By sharing expertise, best practices, and perspectives on current trends and challenges, the editor empowered attendees to navigate the complex landscape of microbial ecology research and contribute meaningfully to scientific knowledge and innovation.


PP-16
Introduction
Objectives


Dr. Garima Gupta


Sericin Extraction and its Potential Uses.
OPTIMIZING CORDICEPS C


ACHARYA NARENDRA DEV COLLEGE
University of Delhi
Mitigating Contemporary Environmental Issues by Sustainable Approaches [ICMCESA – 2022]
February 22 – 28, 2022

National Workshops

A. National Workshop on Biological Data Analysis

Convener: Dr. Rashmi Sharma, Dr. Archna Pandey and Prof. Seema Makhija
Date: January 27-31, 2024
Number of Participants: 37
The Biological Data Analysis Workshop conducted at Acharya Narendra Dev College, University of Delhi, spanning five days, provided a comprehensive platform for students from diverse academic backgrounds to delve into the intricacies of data analysis in the realm of biology. With attendees ranging from undergraduate students to Ph.D. scholars hailing from disciplines such as Zoology, Botany, Biomedical Sciences, Computational Biology, Microbiology, and others, the workshop aimed to equip participants with essential skills and knowledge crucial for navigating the rapidly evolving landscape of biological research. The workshop was in online mode. It included a 45 minutes lecture by different experts and 3-hr hands-on session by Alok Anand every day. This workshop included "Gen AI 4 Healthcare," Biomedical Image Data Analysis, Fundamentals of Biostatistics, Personalized Medicine and Big Data in Healthcare, and Prompt Engineering for Biomedical Data Sciences

In conclusion, the Biological Data Analysis Workshop facilitated an enriching learning experience for participants, offering a holistic understanding of the pivotal role of data analysis in driving breakthroughs in biological research and healthcare. By bridging the gap between theoretical knowledge and practical application, the workshop served as a catalyst for fostering a new generation of adept and skilled professionals poised to tackle the challenges and opportunities in the field of biological data analysis. Throughout the workshop, spanning from Day 1 to Day 5, participants engaged in immersive, three-hour hands-on sessions dedicated to R programming for Biological Data Analysis, by Alok Anand. These sessions commenced with a comprehensive introduction to programming fundamentals, gradually progressing towards advanced topics such as data visualisation and statistical analysis techniques tailored for biological datasets. Under the guidance of expert instructors, students gained practical experience in leveraging R's powerful capabilities, equipping them with the skills necessary to manipulate, analyse, and visualise biological data effectively, thus fostering a deeper understanding of the principles and methodologies underlying biological research.

B. One Day Workshop on IOT and Cloud Computing

Coordinator: Prof. Chandra Kanta Samal
Date: February 29, 2024
Number of Participants: 80

Acharya Narendra Dev College is an educational and research-oriented hub of eminence of India under University of Delhi. It envisages proffering quality education to its students while emboldening them with diverse exposure and hands-on research. The speaker conducted the sessions with valuable content with focus on the following topics:
Session I: Cloud Computing
Session II: IoT (Internet of Things)
Overall, the workshop sessions offered a balanced blend of theoretical insights and hands-on experiences, empowering attendees with the knowledge and skills needed to navigate the dynamic landscapes of cloud computing and IoT. The session was attended by around 80 participants. It was very valuable and informative not only for students but also for the faculties. Participants were interactive and showed keen interest in the workshop.

C. One Day Workshop Hands on Experience in Blockchain

Coordinator: Prof. Chandra Kanta Samal
Date: March 05, 2024
No. of Participants: 128
This workshop was divided into two sessions, each focusing on different aspects of blockchain technology and its practical applications.
In the first session, participants were introduced to the Concept of blockchain as a decentralized digital ledger that transparently records transactions viewable by anyone. The session delved into the workings of Solana, a blockchain platform utilizing proof-of-stake consensus mechanisms.
The second session focused on Ethereum and Ether, a cryptocurrency similar to Bitcoin. Participants learned about Ethereum as a decentralized platform and its role as a repository for Ether. Hands-on experience was provided with Solidity, a programming language used to develop smart contracts on the Ethereum blockchain. Participants also created wallets on Meta-mask and Phantom and gained insight into private keys, public addresses, and other essential tools and norms within the Crypto-World. Overall, participants found the workshop to be highly informative and enriching. The hands-on activities and practical demonstrations were particularly well-received, as they provided valuable insights into real-world applications and usage scenarios.

D. Hands – on Training workshop on Arduino Microcontrollers and PCB Designing

Coordinator: Prof. Arijit Chowdhary, Prof. Chandra Kanta Samal
Date: March 18-22, 2024
No. of Participants: 42
Department of Physics, Department of Computer Science and Internal Quality Assurance Cell (IQAC), Acharya Narendra Dev College, University of Delhi organised a “Hands – on workshop on Arduino Microcontrollers and PCB designing” from 18 – 22 March 2024 under the aegis DBT STAR College scheme.The two-day hands-on workshop on Arduino

microcontrollers was designed and conducted with the objective of introducing college students to the fundamentals of microcontroller programming and interfacing, with a focus on the versatile and widely used Arduino platform. Hosted by the aforementioned departments, this workshop took place on 18 & 19th March 2024 drawing enthusiastic participation from students across various disciplines eager to delve into the realms of electronics and embedded systems. Ms. Babita Sharma and Mr. Satyam Garg were the resource persons for the same.

Building upon the foundational knowledge from the first day, the second day of the workshop was structured around more complex projects and an introduction to the Internet of Things (IoT) using Arduino.The two-day hands-on workshop on Arduino microcontroller successfully achieved its goal of introducing college students to microcontroller programming and interfacing, with an emphasis on practical learning and project-based activities. The enthusiastic participation and positive feedback from the students underscored the growing interest in embedded systems and IoT, areas that are rapidly evolving and have immense potential for innovation. As technology continues to advance, workshops like these play a crucial role in equipping the next generation of engineers and technologists with the skills and knowledge to lead future developments.

E. Three-Day Hands-On Workshop on Designing and Fabrication of Printed Circuit Boards (PCBs)

Coordinator: Prof. Arijit Chowdhary, Prof. Chandra Kanta Samal

Date: March 18-22, 2024

No. of Participants: 42

The workshop began with an opening address by Mr. Arun Kumar who highlighted the workshop's objectives and the significance of PCBs in the current electronics industry. Following this, the first day was structured to introduce participants to PCB design fundamentals and familiarize them with essential software tools. PCB design process was also the focus. Participants were taught how to use simulation software to model and analyze their circuit designs for performance under various conditions. Mr. Arun Kumar demonstrated simulations involving signal integrity, power integrity, and electromagnetic interference (EMI). Hands-on activities included running simulations on designs created by participants, interpreting results, and making necessary adjustments to their designs. The final day was dedicated to the fabrication and assembly process of PCBs, providing participants with a comprehensive view of bringing their designs to life.

The three-day workshop on PCB design and fabrication provided a unique platform for college students to gain valuable insights and practical experience in the electronics manufacturing process. By covering a broad range of topics from basic design principles to advanced simulation techniques and fabrication processes, the workshop equipped participants with the skills necessary to excel in their future projects and careers in electronics engineering. The success of this workshop underscores the importance of

hands-on learning experiences in technical education and the department's commitment to fostering innovation and excellence in engineering.

F. Workshop on Graphical Abstract and Career in Publishing

Conveners: Dr. Archna Pandey
Organizing Team: Dr. Satendra Singh, Dr. Rimpy Kaur Chowhan, Dr. Ritu Khosla and Dr. Deepshikha
Date: March 08, 2024
Number of Participants: 72
The Department of Biomedical Science at Acharya Narendra Dev College, University of Delhi, organised a workshop titled "Graphical Abstract and Careers in Publishing" aimed at educating participants on the importance of graphical abstracts in scientific publications and exploring career opportunities in the publishing sector. Dr. Lipsa Panda, the Communication Head at Elsevier, delivered an engaging presentation highlighting the significance of graphical abstracts and providing insights into their creation process. She stressed how graphical abstracts enhance research visibility and comprehension, offering techniques to transform written content into visually appealing summaries for better reader understanding. Participants gained valuable knowledge and skills essential for improving the visibility of their research and exploring career paths in publishing. Dr. Lipsa Panda's expertise greatly enriched the workshop experience, empowering attendees to effectively communicate their research findings and pursue opportunities in the publishing field.

G. Intercollege Hands-on Workshop on Foldscope

Conveners: Dr. Archna Pandey
Organizing Team: Dr. Satendra Singh, Dr. Rimpy Kaur Chowhan, Dr. Ritu Khosla and Dr. Deepshikha
Date: February 14, 2024
Number of Participants: 100
The Foldscope Workshop, hosted by the Department of Biomedical Science as part of their annual fest Cathexis'24. The workshop was led by Professor Uma Chaudhary from Bhaskaracharya College of Applied Sciences, University of Delhi. Approximately 100 students from various colleges of the University of Delhi and other universities attended the workshop. Professor Chaudhary and her team provided hands-on experience with the Foldscope Microscope. The workshop began with a brief introduction to the microscope, highlighting its importance, origin, and the underlying idea behind its creation. Participants were then guided through the assembly process of the Foldscope, using simple materials such as paper cuttings, pieces of magnets, and a lens. The demonstrators explained the concept thoroughly, and the team was supportive and cooperative in assisting the students to understand and assemble the microscope. By the end of the workshop, each participant had successfully assembled their own Foldscope Microscope, allowing them to explore the

world of tiny organisms. This hands-on experience sparked curiosity among the students about microscopic organisms and their environment, enhancing their understanding of the microbiological world. Overall, the workshop provided a valuable learning opportunity for students, enabling them to engage with microscopy in a practical and meaningful way.

H. Workshop on Aryuveda and Nutrition

Convenor: Dr. Geetika Kalra
Date: November 30, 2023
Number of Participants: 75
Workshop on Aryuveda and Nutrition was organized by the Department of Botany. The workshop emphasized on the ayurvedic way of taking care of body and mind. Resource person, Dr Ramesh Guguloth explained in detailed manner about individual prakriti and shared a questionnaire to assess ones's prakriti and advised to act accordingly. Ayurveda is a traditional Indian system of medicine, emphasizes a holistic approach to health, striving to maintain balance between mind, body, and spirit. Ayurvedic practices encompass herbal remedies, dietary guidelines, and lifestyle recommendations customized to an individual's unique constitution or dosha. Ayurveda offers a holistic approach to restoring balance in the body, mind, and consciousness, addressing the root causes of our discomfort and promoting overall well-being.

I. National Symposium & Hands on Training on Ecosystem Restoration & Sustainability

Convenor- Prof. Charu Khosla Gupta
Date: February 22-23, 2024
Number of Participants: 80
The two-day symposium on ecosystem restoration for sustainable development, aimed to address the pressing issues of habitat loss, species extinction, and climate change-induced landscape degradation. With a focus on India's commitment to achieving land degradation neutrality by 2030, the symposium brought together stakeholders from academia and government bodies to discuss innovative approaches and collaborative efforts for ecological restoration. The Symposium incuded: Ecological Restoration for India's Commitment to the Bonn Challenge and UN Decade of Ecosystem Restoration (2021-2030). The symposium provided a platform for interdisciplinary dialogue and knowledge exchange on the challenges and opportunities associated with ecosystem restoration. By bringing together experts, practitioners, and students, the event underscored the importance of collaborative action in addressing the ecological crisis and advancing sustainable living practices.

J. National Workshop on Raising Awareness on Urban Air Quality, Climate Change, Health and e-Resillience

Convener: Prof. Ravi Toteja and Prof. Seema Makhija
Date: November 28, 2023
Number of Participants: 77

Promoting environmental awareness and responsibilities, Acharya Narendra Dev College, University of Delhi, organized the National Workshop in collaboration with Environmental Pollution Laboratory (EPL), Department of Environmental Studies, University of Delhi, sponsored by Department of Science and Technology (DST), Government of India.The workshop titled 'Raising Awareness on Urban Air Quality, Climate Change, Health and e-Resillience' was hosted by Department of Zoology, ANDC, on November 28th, 2023. Prof. Ravi Toteja, officiating principal, ANDC, welcomed the guests and initiated the program by lighting the lamp along with invited speakers and faculty members. Chief guest Prof. Shachi Shah, Head, SOITS, IGNOU addressed the audience and highlighted the importance of science and different visions in it for the world. Prof. Chirashree Ghosh, Department of Environmental Studies, University of Delhi, was the key resource person of the event. She along with her team emphasized on the actual causes and condition of air in the National Capital. She kept the session quite interactive and passed the valuable information to the budding youth. Students were made aware about the lung health and were given knowledge about spirometer also in the hands-on session led by Dr. Arun Kumar where he actually tested the lung health of two of the individuals from the audience and interpreted the results and their importance as well. Air quality session was followed by the much-needed lecture of the time by Prof. Namita Rajput, Shri Aurobindo College, University of Delhi, on 'Creating safe campus: Understanding and Implementing UGC guidelines for Gender Sansitization'. She imparted such required information in a very friendly manner and awared all about the rules and punishments under different sections as mentioned by UGC for the prevention of sexual harrasment of women in the workplace. After this informative session, students were bought back to the nature by interesting talk delivered by Mr. Gaurav, Assistant Professor, Ramanujan College, University of Delhi, on 'Snakes in the city'. Being someone immersed in snakes and their study, he succeeded in developing the students' interest in the same as well by displaying the real images and videos of his own encounters with snakes of the Capital region. He also delivered lecture on different classes and species of snakes found and their basis of classification.

K. Hands on Workshop on Basic Language Skills

Convener: Prof. Pooja Bhagat
Date: August 07-11, 2023
Number of Participants: 15

Acharya Narendra Dev College (University of Delhi) organised a Hands-on Workshop – Basic Language Skills under the aegis of DBT Star College Scheme and IQAC from

August 7-11, 2023. Prof. Ravi Toteja, Officiating Principal of the college, was the patron of the workshop. Under his able guidance and with the help and support of Prof. Pooja Bhagat, coordinator of the event, the 5-day workshop was conducted successfully. 15 students of the college participated in the workshop. Dr. Joita Dhar Rakshit, Assistant Professor, Department of English, ANDC, was the resource person of the hands on workshop. She covered the 4 basic skills of language – listening, speaking, reading and writing – on the first four days. The last day was dedicated to revision, queries, doubts and clarifications. During the workshop, the participants were given hands on experience in the language lab of the college. Using the Orell software in the language lab, they had practical sessions on the four basic skills of language. The students found the hands-on experience interesting and very helpful and enthusiastically attended all the sessions. On the last day, certificates were given to those participants who had successfully completed the 5-day workshop by Prof. Ravi Toteja. Overall, the participants responded positively and expressed the desire to participate in more such workshops in the future.

L. Workshop on Machine Learning with Python

Faculty Advisor (ANDC SPIE Student Chapter): Prof. Amit Garg
Event Convenor (DBT STAR Coordinator): Prof. Ravneet Kaur
Date: September 25-29, 2023
Number of participants: 40
SPIE Student Chapter, ANDC, in collaboration with Brain Mentors Pvt Ltd, organized a comprehensive 5-day workshop on Machine Learning with Python from September 25 to September 29, 2023. Guided by the esteemed industry trainer Mr. Kumar Kaushik, the workshop aimed to provide an in-depth exploration of machine learning, data science, and Python, emphasizing their real-world applications. With a commitment to fostering expertise in emerging technologies, SPIE ANDC welcomed over 40 participants to this immersive learning experience. The mai themes of the workshop were:
Introduction to AI and Python Basics
Building Python Foundations
Exploring NumPy and Jupyter Lab
Introduction to Pandas for Data Manipulation
Building a Recommendation Program
The workshop successfully equipped participants with valuable knowledge and hands-on experience, aligning with SPIE ANDC's commitment to nurturing expertise in emerging technologies.

M. Workshop on 3D Printing Technology

Faculty Advisor (ANDC SPIE Student Chapter): Prof. Amit Garg
Event Convenor (DBT STAR Coordinator): Prof. Ravneet Kaur
Date: September 23, 2023

Number of participants: 35

On September 23, 2023, the SPIE Student Chapter at Delhi University hosted a one-day workshop centered on 3D printing technology. The primary objective of the workshop was to equip students with a thorough comprehension of 3D printing technology, encompassing its historical evolution, diverse types of 3D printers, and its wide-ranging industrial applications. Mr. Shivansh Bhatnagr, a former member of the SPIE Chapter, served as the workshop's resource person, adhering to the Train the Trainer philosophy. He underwent a six-month dissertation supervised by the Chapter's Faculty Advisor, Prof. Amit Garg, to gain expertise in this domain. The workshop was divided into two sessions: a theoretical session and a practical demo session. In the theoretical session, the resource person introduced the participants to the history and progress of 3D printing technology. He also discussed the different types of 3D printers and their industrial applications. In this session, participants learned the basics of Blender and how to use it to create simple 3D models. The second session was a practical demo session. In this session, participants were divided into seven groups of five students each. Each group was given a hands-on demo on a Flash Forge 3D printer. The participants learned a lot about 3D printing technology. They also had the opportunity to get hands-on experience with 3D printers. The workshop was a valuable learning experience for all participants.

N. Workshop on Internet of Things

Faculty Advisor (ANDC SPIE Student Chapter): Prof. Amit Garg

Event Convenor (DBT STAR Coordinator): Prof. Ravneet Kaur

Date: February 26 - March 1, 2024

Number of participants: 50

SPIE ANDC conducted a 5-day workshop on IoT with Brain Mentors Pvt. Ltd. from 26th February 2024 to 1st March 2024. Immersed in the intricacies of smart devices, sensor networks, and data analytics, participants discovered the workshop as a crucible that honed their skills and ignited their creative sparks. The impact of this newfound knowledge is anticipated to resonate long after the workshop, fostering a community driven by a relentless pursuit of technological excellence. From its inception to its culmination, the workshop embodied the essence of innovation, providing participants with a comprehensive understanding of IoT's ever-evolving landscape. Enthusiastically embracing the challenge, participants delved into unraveling the complexities of interconnected devices, sensor networks, and the transformative power of data-driven insights. It was a hands-on workshop that was beginners friendly. All the participants were divided into 15 teams and each team comprised of 3 members. On the first day, students were given a basic introduction to IoT and informed about the communication protocols, and by the end of the evening students had completed the setup of their respective Raspberry Pi boards, downloaded the Operating system and connected with the micro-computer with the laptop. On the first day, students were able to implement a basic

program related to Blinking of LED. On the second day, participants were asked to implement complex tasks including a traffic light controller and were given more exposure to the working of various sensors like PIR sensors, buzzers, ultrasonic sensors, and temperature and humidity sensors. Furthermore, on the third day, students started with the revision of the code related to the ultrasonic sensor, buzzer, and PIR sensor. Students learned more about the Bluetooth module and learned how to tackle the problems related to interfacing with the laptop. On the fourth day, a basic introduction to Databases and SQLite was given to students using Raspberry Pi. Since many students were facing problems related to networking and connecting the Bluetooth module, they were guided by the mentor on how to do troubleshooting related to this sensor. Sensor interfacing related to OLED was completed and how to display messages on the screen with the line of code. Using ultrasonic sensors and humidity sensors, students have learned how to collect data and upload it on the cloud platform. Finally, on the five days, an alternative approach was introduced to connect the Bluetooth module with the laptop. Students were asked to implement a complex project, namely making a motion detection using a PIR sensor which first includes uploading data on the Thingspeak (cloud platform) and then again fetching the same data. This marks real-time decision-making using data that is fetched a second time from the cloud. And then do decision-making based on the data depicting the change in the angle of the servo motor. Ultimately, It was an engaging workshop and showed the real-time application of IoT.

O. Hands-on Training Workshop on Phage Biology- Discovery and Analysis and Webinars on Bacteriophage Therapy

Coordinator: Prof. Urmi Bajpai
Date: January 20-25, 2023
No. of Participants: 20

Acharya Narendra Dev College (ANDC), under the DBT STAR scheme and IQAC, in collaboration with Centre for Innovation in Infectious Disease Research, Education and Training (CIIDRET), and Institute of Eminence-Delhi School of Skill Enhancement and Entrepreneurship Development (IOE-DSEED), and intellectual partner- Society for Bacteriophage Research and Therapy organised "Hands-on Training Workshop on Phage Biology- Discovery and Analysis and Webinars on Bacteriophage Therapy" from January 20-25, 2023. In all, 20 participants including undergraduate and postgraduate and PhD students registered and attended the workshop. The workshop was designed to impart an understanding of the role of bacteriophagesas therapeutics and biocontrol agents and to impart hands-on training in microbiologicaltechniques required for isolation, propagation and characterisation of phage and in silico toolsused in the analysis of phage genomes.

The inaugural session was held at Acharya Narendra Dev College on 20th January, which also included online talks by Bacteriophage experts from Industry and academia. The organising committee for the inaugral session consisted of Prof. Urmi Bajpai, DrSatendra

Singh and DrRimpy Kaur Chowhan, Faculty, Department of Biomedical Science, ANDC; Ms. Ritu and Ms.Kanika, Research Scholars, Department of Biomedical Science and Mr Mitesh Dagar were the resource persons; Ms Swati Maurya, Ms Jyoti Dagur and Mr Sandip Antil, Research Scholars, Department of Zoology, ANDC participated as volunteers. The welcome note was given by Prof. Ravi Toteja, Principal, ANDC. The invited guests present on the day were Prof. Rup Lal, INSA Senior scientist ANDC; Prof. Vijay Kumar Chaudhary, NASI-Senior Scientist and Director Delhi School of Skill Enhancement and Entrepreneurship Development; Prof. Amita Gupta, Professor at the Department of Biochemistry and Director CIIDRET; Prof. Pawan Sharma, Sr. Res. Scientist & Principal Investigator at ICGEB; ANDC faculty members, registered participants and online attendees (about 50). A short introduction to CIIDRET and IoE-DSSEED's initiative of "100 DAYS TRAINING & SKILL ENHANCEMENT FESTIVAL"

by Prof. Amita Gupta and Prof. Vijay Chaudhary and Prof Urmi Bajpai apprised the participants on the workshop schedule and moderated the online talks. The inaugural talk on "Phage-encoded lysins as therapeutics" was given by Prof. T.S. Bal Ganesh, President, Gangagen Biotechnologies Pvt. Ltd., India, followed by a talk by Dr Sabrina Green, Research Associate, KU, Leuven University, Belgium on "Finding phages for phage therapy". The inaugural session ended with refreshments and the workshop resumed the next day with a hands-on training at CIIDRET from January 21-22, 2023, and at ANDC from January 23-25, 2023 at ANDC. The participants learned Basic Microbiology Techniques, Media Preparation, Phage titration methods-concept of CFU & PFU, Isolation of bacteriophagefrom the environment, Plaque Assay & Spot Titer, Methods to enumeratephages, Phage DNA Isolation usingPCI Method and Phage genome analysisusing Bioinformatics. The workshop was successfully completed and the participants gave a highly positive response and requested for similar such workshops in the future.

P. National Workshop on Career and Skill Enhancement for Non-Teaching Staff

Patron: Prof. Ravi Toteja

Conveners: Dr. Surinder Kaur and Dr. Shalu Mahajan, Department of Commerce

Organizing team: DBT STAR College Coordinators, IQAC coordinator

Date: September 15-21, 2022

No. of Participants: 50

Deartment of Commerce at Acharya Narendra Dev College, University of Delhi, orchestrated a seven-day National Workshop on 'Career and Skill Enhancement for Non-teaching Staff' from September 15 to September 21, 2022. The initiative was held under the DBT STAR College Scheme and IQAC, receiving immense support and patronage from Prof. Ravi Toteja, the acting Principal of the college. Dr. Surinder Kaur and Dr. Shalu Mahajan from the Department of Commerce served as the esteemed conveners for the

workshop. A dedicated organizing team, comprised of DBT STAR College Coordinators, IQAC coordinator, department members, and non-teaching staff, ensured the seamless execution and success of the workshop.

The inaugural session transpired on September 15, 2022, at the college's seminar hall. Dr. Surinder Kaur extended a warm welcome to the guests, chief guest, principal, and all the participants, introducing the workshop's theme and elucidating its significance and objectives. Prof. Toteja, the Officiating Principal, graced the occasion with a welcome address, shedding light on the growing importance of digitalization and financial and administrative skills in enhancing the careers of non-teaching staff in educational institutions. He extended a gracious welcome to the Chief Guest, Senior Professor (Dr.) Ajay Kumar Singh, Head and Dean of the Faculty of Commerce and Business at the Delhi School of Economics, University of Delhi. Prof. Ajay Kumar Singh delivered a keynote address, emphasizing the vital role played by non- teaching staff in the effective functioning and development of colleges. He highlighted the significance of aligning one's behavior with prevailing cultural norms and commended the college for organizing such an insightful workshop. The workshop encompassed a diverse array of topics, ranging from utilizing various digital platforms to understanding the fundamentals of Word, Spreadsheets, PowerPoint, financial planning, E-filing of ITR, and more.

The workshop received an overwhelming response from non-teaching staff across various colleges of the University of Delhi and other institutions. Registrations were limited to 50 participants to ensure the effectiveness of hands-on sessions. The workshop successfully conducted a total of 22 sessions, covering a wide range of subjects. Renowned speakers, including Mr. Sikandar Aggarwal, Ms. Meenakshi Sahay, Mr. Sandeep Sharma, Mr. JatinLamba, Dr. Jamaluddeen, and Mr. Gurjinder Singh, along with senior staff members of the college, delivered sessions covering essential topics such as leave rules, promotion rules, procurement and general finance rules, and online purchases through the GeM portal. Additionally, trips to the college library and laboratories were organized. Participants were also trained in income tax return filing, document preparation using MS Word and Excel for seamless record keeping, and scheduling and hosting online meetings via Google Meet and Zoom platforms. Representatives from Punjab National Bank shared insights into the methods fraudsters employ in online transactions, imparting knowledge to distinguish between genuine and fraudulent messages from banks and other websites.

The participants exhibited high motivation and enthusiasm in learning new skills throughout the workshop, as evident from their regular attendance, active participation in Q&A sessions, and positive demeanor. Their assessments and feedback were gathered at the conclusion of the workshop.

The valedictory session, held on September 21, 2022, featured a closing speech by Dr. Shalu Mahajan. Prof. Ravi Toteja, the Officiating Principal, presided over the session, and Professor Ashutosh Bhardwaj, Founding OSD of the Institute of Eminence and Professor

in the Department of Physics and Astrophysics at the University of Delhi, was the esteemed chief guest. Prof. Bhardwaj underscored the importance of lifelong learning and the enthusiasm for acquiring new knowledge to enhance one's career.

Q. National workshop on Skill enhancement of Non-teaching staff (NWSENS-2022)

Conveners: Prof Seema Makhija and Dr Archna Pandey
Date: July 13-20, 2022
Number of Participants: 54

In commemoration of centenary celebrations of the University of Delhi, Acharya Narendra Dev College under patronage of its Principal, Prof. Ravi Toteja and Convenors, Prof. Seema Makhija (Department of Zoology) and Dr Archna Pandey (Department of Biomedical Science), organized a National workshop on Skill enhancement of Non-teaching Staff (NWSENS-2022) from July 13-20, 2022. The workshop was organized under the aegis of Internal Quality Assurance cell and DBT Star College scheme of Acharya Narendra Dev College, and gracious support of Chief Guest, Prof. Shri Prakash Singh, Director, South Campus, University of Delhi and Guest of Honour, Mr. Anil Saini, Chairman, Governing Body, Acharya Narendra Dev College. The workshop begin with inaugural ceremony attended by Prof. Shri Prakash Singh, Director, South Campus, University of Delhi. More than 60 non-teaching staff from various colleges of University of Delhi including Institute of Home economics, Lady Irwin college, Ramjas College, etc. participated in the workshop. The workshop was designed for holistic development of the non teaching staff, and covered topics like financial management, tax-filling, stock-keeping, computational skills, operation of GeM portal, basic laboratory skills for safe handling and usage of scientific equipments raging from pH meters, electrophoresis units, centrifuges, micro- pipettes, microscopes and spectrophotometers. Shri Girish Ranjan, Finance Officer, University of Delhi; ACP Harmeet Singh Randhawa, IFSO/Cyber Crime Unit Special Cell; Dr Ram Kumar, Professor of Environmental Science, School of Earth Biological and Environmental Sciences, Central University of South Bihar; Jai Kumar Gaurav, Senior Advisor Climate change and Circular Economy, GIZ; Dr Vijay Pal Singh, Assistant Professor and STO, IGIB, Dr Daya Bhardwaj, Associate Professor, Department of Chemistry, Rajguru College of Applied Sciences for Women, University of Delhi were among the several eminent speakers that joined our workshop to deliver.


Department of Science & Technology, Government of India
NATIONAL WORKSHOP
on
Raising Awareness on Urban Air Quality, Climate Change, Health and e-Resilience
Sponsored by
Department of Science and Technology (DST)
Government of India
Organised by
Environmental Pollution Laboratory (EPL)
Department of Environmental Studies,
University of Delhi
November 28, 2023
10:00 am to 04:00 pm
Venue:
Seminar Hall, ANDC

Faculty Training Programs:

A. FDP on NEP Orientation and Sensitization

Convenor: Prof. Ravi Toteja and Prof. Seema Makhija

Date: June 04-14, 2024

Acharya Narendra Dev College, in association with UGC-Malaviya Mission Teacher Training Centre (MMTTC) under the aegis of UGC and the Ministry of Education organized an online Faculty Development Programme (FDP) on "NEP Orientation and Sensitization". The programme took place and consisted of live online sessions via Zoom. It aimed to provide an in-depth understanding of the National Education Policy (NEP) and its implementation in higher education. The programme was free of charge, and participants were required to keep their video cameras on during sessions, as attendance was monitored and compiled through screenshots for UGC compliance. The FDP spanned 8 days, with two live sessions (each session of 1.5 hours) conducted each day, totalling 16 sessions.

This FDP provided participants with a thorough understanding of the National Education Policy (NEP) and its impact on higher education. The sessions emphasized the importance of skill development, curriculum innovation, and effective teaching and assessment practices. Additionally, the use of ICT tools was highlighted as a key component in enhancing both teaching and research processes. Participants also gained insights into the role of academic leadership and governance, with discussions focused on fostering institutional autonomy and promoting inclusive, sustainable practices in higher education. Regular feedback was taken from participants, and for assessment, two online quizzes, each lasting 40 minutes, were conducted. Only after successfully completing these quizzes were FDP completion certificates provided.

The program served as an important step in aligning faculty members with the goals of NEP 2020, equipping them with essential tools for academic excellence. The interactive sessions engaged participants from various institutions, fostering discussions on the challenges and opportunities brought by the NEP. Overall, the FDP succeeded in fulfilling its mission of creating a more informed and prepared faculty body, ready to adapt and implement NEP reforms in their respective academic roles.

B. FDP on Forensic Chemistry

Convenors: Prof. Ravi Toteja (Department of Zoology), Dr Archna Pandey (Department of Biomedical Science) and Prof. Geetu Gambhir (Department of Chemistry)

Organising team: Department of Chemistry: Prof. Sunita Hooda, & Department of Biomedical Science: Dr Satendra Singh, Dr Ritu Khosla, Dr Rimpy Kaur Chowhan and Dr Deepshikha

Date: April 22-30, 2024

Number of Participants: 76

A one-week Faculty Development Program on Forensic Chemistry was organized by UGC-MMTTC (formerly GAD-TLC) in collaboration with three esteemed academic units at the University of Delhi: Acharya Narendra Dev College, the Department of Anthropology, and the Forensic Science Unit at SGTB Khalsa College. The program took place daily from April 22nd to April 30th, 2024, from 4:00 to 7:30 pm. Seventy-six faculty members from various colleges across India participated in the program, with technical sessions conducted online via the Zoom platform. The FDP commenced with an inaugural session under the patronage of Prof. Yogesh Singh, Vice Chancellor of the University of Delhi. Prof. Payal Mago, Chairperson of the Skill Enhancement Courses Committee and Director of SOL, University of Delhi, was the Guest of Honor. Notable dignitaries included Dr VimalRarh, Coordinator of UGC-MMTTC; Prof. Ravi Toteja, Principal of ANDC; Prof. S M Patnaik, Head of the Department of Anthropology; and Prof. G S Sodhi, Former Professor & Forensic Science Expert at SGTB Khalsa College. The program comprised 12 technical sessions covering various topics aligned with the SEC-based syllabus of Forensic Chemistry, delivered by experts in their respective fields. Each session was followed by discussions and Q&A sessions with the participants. Daily feedback was collected from all participants, culminating in an overall assessment of the FDP as per UGC norms, Prof. Sodhi delivered the keynote address, providing insights into forensic chemistry, its fields, and its significance. Dr Rajvanshi, Former Additional Director; Head of Forensic Faculty at LNJP National Institute of Criminology, Forensic Science, shared insights on “Fire/Arson: Composition and Analysis” from his extensive 40+ years of experience. Dr RituSaxena, Deputy Medical Superintendent and Head of the Emergency Medicine Department at LokNayak Hospital, delved into the topic of “Poisons: Classification and Detection” offering a comprehensive overview and detection strategies. The FDP concluded with a Valedictory session wherein Prof. Vimal explained the assessment pattern faculties should follow for their students, emphasizing the importance of rubric-based assessment. The process of completing assignments given to the participants for the FDP completion was also elaborated. The highlight of the FDP was a one-day hands-on session organized at and by the Department of Biomedical Science, ANDC. The hands-on session was attended by six faculties in physical mode and for others who joined through zoom, all the demonstrations were streamed live. Handbooks were provided to all the participants for writing/pasting their own results for each experiment. The workshop included sessions including fingerprint development by physical methods using powders and chemically by iodine fuming, 3D footprint upliftment, Handwriting and Ink composition analysis, Estimation of alcohol in liquor samples, usage of phenolphthalein in trap cases, etc.

C. FDP on Forensic Science

Convenors: Prof. Ravi Toteja (Principal, ANDC), Dr Archna Pandey (Department of Biomedical Science) and Prof. Geetu Gambhir (Department of Chemistry)

Date: April 06-18, 2024
Number of Participants: 83
A nine-day Faculty Development Program (FDP) on Forensic Science was conducted by UGC-MMTTC (formerly GAD-TLC) in partnership with three esteemed academic units of the University of Delhi: Acharya Narendra Dev College, the Department of Anthropology, and the Forensic Science Unit at SGTB Khalsa College. The program took place from April 6th to April 18th, 2024, with sessions held daily from 4:00 to 7:30 pm. Eighty-three faculty members from colleges across India participated, with technical sessions conducted online via the Zoom platform. The FDP commenced with an inaugural session presided over by Prof. Yogesh Singh, Vice Chancellor of the University of Delhi, and Prof. Payal Mago, Chairperson of the Skill Enhancement Courses Committee and Director of SOL, University of Delhi, as the Guest of Honor. Notable dignitaries included Dr Vimal Rarh, Coordinator of UGC-MMTTC; Prof. Ravi Toteja, Principal of ANDC; Prof. S M Patnaik, Head of the Department of Anthropology; and Prof. G S Sodhi, Former Professor; Forensic Science Expert at SGTB Khalsa College. Dr Ritu Khosla, Assistant Professor at ANDC, anchored the session. Prof. S M Patnaik delivered the keynote address, providing insights into forensic science, its fields, and its importance.
Sixteen technical sessions, aligned with the SEC-based syllabus of the University of Delhi on Basic Forensic Science, were conducted by experts in their respective fields. Each session was followed by discussions and Q&A sessions with the participants. Daily feedback was collected and consolidated into an overall assessment of the FDP. Topics covered included Forensic Biology, Crime Ethnographies, Anthropological Inputs into Forensic Death Investigations, and the Role of Forensic Anthropology in Personal Identification. The FDP concluded with a Valedictory session wherein Prof. Vimal elucidated the assessment pattern for faculties to follow for their students, emphasizing the importance of rubric-based assessment. The process of completing assignments given to participants for the FDP completion was also explained.

D. FDP on Sericulture: Rearing and its Applications

Coordinators: Prof. Seema Makhija
Co-Cordinators: Prof. Pooja Bhagat, Prof. Geetu Gambhir, Mr. Sanjay Vohra
Date: August 08-14, 2023
Number of Participants: 21
University of Delhi (Skill Enhancement Course Committee) in Collaboration withAcharya Narendra Dev College, University of Delhi(under the aegis of DBT STAR COLLEGE and IQAC)Department of Zoology, University of Delhi, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi, Guru Nanak Angad Dev TLC, SGTB Khalsa College, University of Delhi, Atma Ram Sanatan Dharma College, University of Delhi has organized one week FDP on ‘ Sericulture: Rearing and its Applications’ from August 08,

2023 to August 14, 2023. The aim of the FDP was to enhance the skill of the participants by providing hands-on training and insight knowledge in the field of sericulture.
There were 21 participants who are faculty members in different colleges of Delhi University. Total four sessions were conducted everyday. During the FDP eminent scientists like Dr. S. B. Dandin, Director (Rtd), CSB & Ex VC, Dr. N. Krishna Kumar, Former Director, NBAIR, (ICAR), Dr. ThallapallyMogili, Scientist (Rtd), Central Sericultural Research and Training Institute, Mysuru and Dr Deepti Gupta, Professor, IIT Delhi. They enlightened all the participants with the latest development in the field of Sericulture.

Outreach Activities - College Level

A. SPIE optics education outreach programme 2023

SPIE, the International Society for Optics and Photonics, has a longstanding commitment to outreach initiatives. The College was proud recipients of SPIE Optics Outreach Education Programme 2023 grant. Teaching optics education at the X standard level can be challenging for educators. Traditional methods like using old blackboards and presentations may not be as effective when it comes to providing hands-on experience with real3D operations using Ray Optics Kits and helping students understand the physical presence of optical instruments. However, integrating these practical elements significantly enhances the learning experience, enabling students to visualize complex concepts at a deeper level. Student Chapter at Acharya Narendra Dev College (ANDC) adopteda unique approach for its Optics Outreach Activity in 2023 across various schools. This approach places practical, hands-on experiences at the forefront of the outreach program. Aligned with the new education policy of 2020, which emphasizes practical knowledge in teaching physics, the University of Delhi's ANDC SPIE Student Chapter conducted workshops in 22 schools across Delhi. Notably, half of these schools were government-funded institutions with a total student participation of around 1200. The workshops were conducted in the months of August and September, 2023.The culmination of SPIE Optics Outreach Education Programme marked a significant event in the annals of Acharya Narendra Dev College, as we had the privilege of hosting a distinguished physicist and educator, Professor H.C. Verma, as our Chief Guest on 06 October, 2023.As part of our initiative, we distributed Ray Optics Kits and optical instruments, which were conceived and designed by the Chapter, to every participating school free of charge.

B. PRAYAS Project with NCERT

Department of Education in Science and Mathematics has for the very first time launched a scheme named PRAYAAS (Promotion of Research Attitude In Young and Aspiring students 2023 – 2024). In this scheme school students had to send a research Project in collaboration with College and was selected for the Project titled Evaluation of digested sludge from Sewage Treatment Plant (STP) as fertilizer and safe usage in crop production

and land reclamation. Lovely Public Sr.Sec. School, P.D.Vihar was selected in collaboration with HEI partner ANDC. Under urban private school category only 5 schools were selected and out of that from all over Delhi the Project of only Lovely Public Sr. Sec School in collaboration with Acharya Dev Narendra Dev College got selected. Two school students are working in this project. A total grant of Rs. 50,000/- was sanctioned in this project.

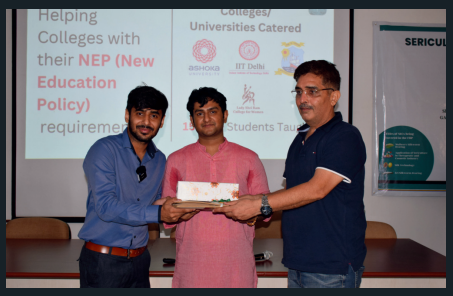
C. Outreach Workshop

One Day Inter-College Workshop on Rearing and Breeding of Zebra Fish: Opportunity and Scope: Organised Intercollege workshop for students from different college of the University of Delhi on September 23, 2023. The zebrafish workshop is a vital platform for students. The goal is to impart essential knowledge and skills related to zebrafish as a model organism. Participants learnt zebrafish husbandry, genetics and techniques enabling them to build interest for scientific research in zebrafish.

D. Scientific Writing and Communication

One-day ISME sponsored Hands on Workshop on "Scientific Writing and Communication" was organized jointly by Acharya Narendra Dev College, University of Delhi and PhiXgen Pvt. Ltd., under the aegis of IQAC and DBT Star College Scheme on February 13, 2024. This workshop was organized with the motive to upskill young minds for students who are keen on learning scientific writing and how to publish in high impact journals. The workshop touched on various elements of scientific paper like title, abstract, introduction, methods, results, tables and figures, discussion, references etc. The workshop provided a platform to researchers, postgraduate & undergraduate students and even school students to learn to present their findings and review their works in the form graphics. The workshop enlightens on how to become effective writers using research data and represent it in easy and best possible way. It also shed light on the format of a scientific manuscript, peer review, funding etc. The workshop was conducted in offline mode and total of 97 student registrations were received along with around 20 faculty members from University of Delhi. The Workshop was conducted with a total number of 97 participants (school students, undergraduate, postgraduate and PhD students and faculty) to gain knowledge and hands on training on various aspects of scientific writing and communication.

FACULTY DEVELOPMENT PROGRAMME
SERICULTURE: REARING AND ITS APPLICATION



Appendix V

Green Initatives

Hydroponics

Hydroponics is a soil-less method of growing plants using nutrient rich water solutions. It allows for efficient use of water and land resources, can be practiced indoors as well as in urban settings. It often results in higher yields as compared to traditional soil-based farming. This technology can be excellent tool for teaching students about sustainable agriculture, plant biology and environmental science. With this agenda in mind, the department of Botany of the college proposed to install a hydroponics unit since it can provide numerous benefits to college community. Hydroponics has also been introduced as a complete GE and Skill Enhancement course in the newly introduced "National Education Policy" with a vision to empower students at the undergraduate level. In times to come, it would serve as a research tool for studying agriculture in controlled environments. Additionally, it aligns with the growing interest in urban farming and can contribute to community outreach initiatives.

Vermicomposting

Vermicomposting is a process of composting organic waste using worms, typically red wigglers (Eisenia fetida) or red earthworms (Lumbricus rubellus). The worms consume organic matter, breaking it down into nutrient-rich compost called vermicompost or worm castings. Vermicomposting can be done on a small scale, such as in a backyard compost bin or worm bin, or on a larger scale for commercial purposes. The process produces high-quality compost that is rich in essential nutrients, beneficial microorganisms, and enzymes, making it an excellent soil amendment for gardening and agriculture. Vermicomposting helps reduce the volume of organic waste sent to landfills, mitigating environmental pollution and promoting sustainability. The continuously escalating organic waste generation on the campus posed a problem for its storage and disposal. A viable and sustainable waste management strategy has been employed at ANDC in the form of vermicomposting, an eco-friendly and sustainable solution for waste management and soil enrichment. Vermicomposting, a biological process involving earthworms, offers a promising solution by converting organic waste into a valuable resource while simultaneously enhancing soil quality. It relies on the synergistic activities of earthworms and microorganisms to decompose organic matter. Earthworms ingest organic waste, partially digest it, and excrete nutrient-rich castings, known as vermicompost. This process enhances microbial activity and accelerates decomposition, resulting in the production of stable, humus-like compost.

Vermicompost possesses a balanced nutrient profile, enriched with nitrogen, phosphorus, potassium, and micronutrients essential for plant growth. Additionally, vermicompost enhances soil structure, water retention capacity, and aeration, promoting

root development and microbial diversity. Its slow-release nutrient dynamics foster sustained plant growth and resilience to environmental stressors.

The setting up of vermibeds in the college campus has served several purposes in providing hands on training to students pursuing Skill Enhancement Courses of Biofertilizers and Organic Cultivation; utilization and effective consumption of campus generated organic waste and providing nutrient rich organic amendment for college gardens and flower- beds.

Both hydroponics and vermicomposting offer sustainable alternatives to traditional agricultural practices, promoting resource efficiency, environmental conservation, and improved plant growth. Integrating these methods into farming and gardening practices can contribute to a more resilient and productive food system.

GREEN INITIATIVES AT ANDC

Appendix VI

List of Interdisciplinary Projects

2021-2022

S. No.	Title of the Project	Mentor/s	Name of Student/s	Course & Year
1.	To investigate the conditions which promote lysogeny intemperate mycobacteriophages	Prof. Urmi Bajpai	Anirudh Kumar Srishti Singh	**B.Sc. (H) Biomedical Science, II Year**
2.	To check whether virus/phages undergo lysogeny based on Virus-Virus interaction only		Mehak Sharma	**B.Sc. (H) Biomedical Science, II Year**
3.	Purification and characterization of lysins from mycobacteriophages.		Pulkit Singh	**B.Sc. (H) Zoology, II Year**
4.	Bacteriophage encoded lysins:Nature'sEnzybiotics (Enzyme as antibiotics)		Shivam	**B.Sc. (H) Biomedical Science, II Year**
5.	Tumor Suppressor Genes v/s Body Mass and Longevity	Dr Sunita Jetly Dr Ritu Khosla	Yash Goel Sharika Mattoo	**B.Sc. (H) Biomedical Science, II Year**
6.	Synthesis of various Nanoparticles by using extracts from medicinal plants, their characterization and assessment of antimicrobial properties	Prof. Gagan Dhawan Dr Satendra Singh Prof. Seema Gupta	Suravi Riya Alshad Gaurav Hiya Tabish Kalyani Nidhi Harshelle Tanushree Deeparati Harinandna Krishna Kapil	**B.Sc. (H) Biomedical Science II Year and B.Sc. (H) Chemistry, II Year**
7.	Genetic predisposition to Hepatocellular carcinoma and possible prognosis and	Dr Archna Pandey Dr Ritu Khosla	Bisakha Das PritikaKwatra	**B.Sc. (H) Biomedical Science, III Year**

	treatment strategies			
8.	Utilization of lignocellulosic waste in cultivation of Pleurotusdjamor var. roseus (Pink oyster mushroom) and recovery of enzymes from spent mushroom substrate	Prof Anupama Shukla Prof Anita Narang	Riya Dayal Lalit Pal Maniket Chauhan Kanchan PrathamSingh Chauhan Shreya Singh	**B.Sc. (H) Botany, II Year**
9.	Collection, isolation, characterization and cultivation of different mushrooms	Prof Anupama Shukla Prof Anita Narang Dr Sumit Sahni Dr Manoj Kumar Singh	Vridhi Singh Shubhanshu Krishna Mohd. Afham Kanchan Seema Akanksha	**B.Sc. (H) Botany, III Year**
10.	Mitigating Air pollution through Phylloremediation	Prof. Charu Khosla Gupta	Jay Kumar Sirmoria Sruthi S. Kumar Aishwarya Kumar Chaturvedi	**B.Sc. (H) Botany, II Year**
11.	Climate Change and Plant-pollinator relationship		Mridula Rani Mayank Yadav	**B.Sc. (H) Botany, II Year**
12.	Study of effect of air pollutants on soil microbiome	Prof. Charu Khosla Gupta Dr Yash Mangla	Nikhil Sharma Sahil Chauhan	**B.Sc. (Prog.) Life Science, II Year**
13.	ROS regulation during stages of seed germination owing to temperature stress in Sunflower seedling	Dr Anita Thakur Dr Geetika Kalra	Arunima Dey Devanshi Saini Deepanshu Kumar Vibha Shukla	**B.Sc. (Prog.) Life Science, II Year**
14.	Cultivation of Pleurotuseryngii (king oyster mushroom) on lignocellulosic waste and characterization of enzymes from spent mushroom	Dr Sumit Sahni Prof Anupama Shukla	Mr Mohd. Afham	**B.Sc. (H) Botany, II year**

	substrate			
15.	Cultivation of Pleurotuseryngii (king oyster mushroom) on lignocellulosic waste and characterization of enzymes from spent mushroom substrate	Dr Sumit Sahni Dr Manoj Kumar Singh	Ms Vridhi Singh	**B.Sc. (H) Botany, II Year**
16.	Utilization of Lignocellulosic waste in cultivation of Pleurotusostreatus (Blue Oyster Mushroom) and recovery of enzymes from spent mushroom Substrate	Dr Sumit Sahni (Botany)	Mr Mrityunjoy Chakraborty	**B.Sc. (H) Botany, II Year**
17.	Utilization of Lignocellulosic waste in cultivation of Pleurotusostreatus (Blue Oyster Mushroom) and recovery of enzymes from spent mushroom Substrate		Mr. Shubhanshu Krishna	**B.Sc. (H) Botany, II year**
18.	Synthesis of Fe3O4 nanoparticles through sonication and its effects	Prof. Sunita Hooda Prof.Geetu Gambhir	Puneet Chauhan Akshit Jauhri Soven K. Samal	**B.Sc. (Prog.) Life Science, I Year**
19.	Investigative study of groundnut husk for the adsorptive removal of dyes from aqueous solution.		Geni Yao Eniya Tapo	**B.Sc. (Prog.) Life Science, III Year**
20.	Adsorption of organic dye by magnetized Graphene oxide, Ground nut husk, Guar gum from Aqueous Solution.		Yashank Chauhan Akshat Bhanu Dharmani	**B.Sc. (Prog.) Life Science, III Year**
21.	Synthesis of nanoparticles of Polyvinyl Alcohol by CO-Precipitation method		Kapil Sharma Khushi Vishwakarma Vishwa Deepak Srivastava	**B.Sc. (Prog.) Life Science, I Year**

22.	Synthesis of magnetic nanoparticles and UV- Visible analysis		Abhijit Roy Bipasa Arya	**B.Sc. (Prog.) Life Science, I Year**
23.	Synthesis and Biological Activity of Chalcones	Prof. Rashmi Thukral	Aashi Yukta Aditi Heena	**B.Sc. (Prog.) Life Science, II Year**
24.	Extraction of essential oils by Green methods	Prof. Manisha Jain	Anjali	**B.Sc.(H) Chemistry, II year**
25.	Computational Studies on some Inorganic Compounds Using Avogadro and Gaussian Softwares	Prof. Manisha Jain Prof. NeetiMisra	Aditi Kandari Somya Singh	**B.Sc.(H) Chemistry, II year**
26.	Review on synthesis of Heterocyclic compounds and extraction of medicinal plants	Prof. Pankaj Khanna Prof. Neeti Mishra Dr Kavita Mittal	Jai Gautam Shweta	**B.Sc. (Prog.) Physical Science, II Year** **B.Sc. (H) Chemistry, II Year**
27.	Use of catalysts for synthesis of biologically active heterocyclic compounds	Dr Kavita Mittal	Shweta	**B.Sc.(H) Chemistry, II Year**
28.	Magnetite Graphene Oxide/Chitin Nanocomposites as Ion Sensors from Aqueous Systems: A DFT Study	Dr Pragati Malik	Arnav Bhatt Sachin Rao	**B.Sc. (Prog.) Life Science, II Year**
29.	Analyzing the effect of crime in India over Female foreign tourists	Prof. SharanjitKaur	Suruchi Verma TishyaThukral	**B.Sc. (H) Computer Science, III Year**

30.	Exploring machine learning models for ransomware data		Nirmal Mor Sushant	**B.Sc. (Prog.) Physical Science (Chemistry), II Year**
31.	Implementing four virtual labs (computer Science computer simulations) https://www.vlab.andcollege.du.ac.in/	Prof. Sharanjit Kaur Dr Gunjan Rani Dr Nishu Singh Dr Vandita	Nilesh Pandey Amitesh Ananya Shukla Siya Agarwal Harsh Bamotra Shahnawaz Khan Sakshi Garg Aliya Vivek Sankhyan Pankaj Sahu Palak Sharma	**B.Sc. (H) Computer Science, II Year** **B.Sc. (Prog.) Physical Science (Chemistry), II Year**
32.	Disaster management to combat Covid-19	Prof. Harita Ahuja Prof. Sunita Narang	Sant Anandita Abhishek	**B.Sc. (H) Computer Science, III Year**
33.	Data Analysis and Visualization of Rainfall and floods in India		Deepanshu Megha Karki Shruti Jain	**B.Sc. (H) Computer Science, III Year**
34.	College Resource and Space Utilization App	Mr Mahesh Kumar (Computer Science)	Jyotika Sharma Rishabh Sharma Tanisha Sharma	**B.Sc.(H) Computer Science, II Year**
35.	Issues, Challenges, and Growth of e-Learning during Covid-19 pandemic	MsNishu Singh Mr Mahesh Kumar	Tanu G Anam Khan Jyotika Sharma Tanisha Sharma	**B.Sc.(H) Computer Science, II Year**
36.	Visualizing your data of music app	Ms Gunjan Rani Mr Mahesh Kumar	Somesh Abhishek Akanccha	**B.Sc. (Prog.) Physical Science (Chemistry), II Year**
37.	Alumni Database Handling	Ms Gunjan Rani	Harsh Bamotra Pratham Sharma Palak Sharma	**B.Sc.(H) Computer Science, II Year** **B.Sc. (Prog.) Physical Science**

				(Chemistry), II Year
38.	Faculty Database Handling		Shahnwaz Khan Pankaj Sahu Garvit Dubey	**B.Sc.(H) Computer Science, II Year**
39.	Text to Speech Converter		Vivek Sharma Aliya Sakshi Garg	**B.Sc. (Prog.) Physical Science (Chemistry), II Year**
40.	V-Labs		Nilesh Pandey Sahiba Siya Agarwal	**B.Sc.(H) Computer Science, II Year**
41.	Library Book Reminder		Vivek Sharma Aliya Sakshi Garg	**B.Sc. (Prog.) Physical Science (Chemistry), II Year**
42.	Designing of a first order Low-pass and High-pass filter using op-amp (Virtual Lab Development)		Ankush Rana Vishal Gupta	**B.Sc. (H) Electronics, II Year** **B.Sc. (H) Electronics, I Year**
43.	Study of the I-V characteristics of the Common Base configuration of BJT and obtain ri, ro, α. (Virtual Lab Development)	Prof. Ravneet Kaur Ms Gauri Ghai	Anubhav Singh Alok Singh	**B.Sc. (H) Electronics, II Year**
44.	To design JK Master Slave using elementary gates (Virtual Lab Development)		Akash Jha Muskan Kumar Sharma	**B.Sc. (H) Electronics, II Year** **B.Sc. (H) Electronics, I Year**

45.	To verify Malus law		Swati Shukla Sneha	**B.Sc. (H) Electronics, II Year** **B.Sc. (H) Electronics, I Year**
46.	To determine the value of Boltzmann constant by study the forward characteristics of diode.		Naman Prasad	**B.Sc. (H) Electronics, II Year**
47.	To determine Young's modulus, Modulus of rigidity and Poisson's ratio for the material of a wire by Searle's method with the help of Vlab.	Prof. Sanjeeta Rani Dr V Bhaskar Raj Dr Satya Prakash Dr Neelakshi Borah	Neha Khanra Nisha Khanra	**B.Sc. (H) Physics, I Year**
48.	Automated and upgraded machine as replacement of noncontact thermometer used for COVID-19 detection for entry in public spaces such as metro stations, parks etc.	Prof. Arijit Chowdhuri Dr V. Bhasker Raj	Pratham Malik Niharika Upadhyay	**B.Sc. (Prog.) Physical Science (Electronics), II Year** **B.Sc. (H) Biomedical Science, III Year**
49.	Environmental and gas sensing applications of Quartz Crystal Microbalance (QCM)		Kalpajit Roy Prahlad Sharma Varnika Aggarwal	**B.Sc. (H) Physics, II Year**
50.	Investigating the factors influencing generation and effects of Eddy currents	Prof. Arijit Chowdhuri Prof Seema Makhija	Rati Chaturvedi	**B.Sc. (H) Zoology, I Year**
51.	Gas Leakage Detector using Arduino and GSM Module with SMS Alert and Sound Alarm	Dr V. Bhasker Raj	Prashant Verma	**B.Sc.(H) Physics, II Year**

52.	Mutations in SARC-COV 2		Anshika Sharma	**B.Sc. (H) Zoology, I Year**
53.	Effect of Chitin Synthesis Inhibitors on the growth and biochemical parameters of insect pests of agricultural importance	Prof. Sarita Kumar (Zoology)	Gunjan Grover Anaam Asif Moin Charu Jaiswal Khushi Aggarwal Khushi Vashishtha	**B.Sc. (H) Zoology, II Year**
			Twishi Mishra Kanishka Bothra Divya Yadav Shruti Kumari Singh Preeti Singh Sanskriti	**B.Sc. (H) Zoology, I Year**
54.	Biological Importance of heterocyclic Compound	Prof. Ravi Toteja Prof. Seema Makhija Prof. Pooja Bhagat	Swati Maheshwari Ujjwal Kumar Gupta Radhika Garg	**B.Sc. (H) Zoology, II Year**
55.	Bioindicators to assess the soil quality of AND College	Prof. Ravi Toteja Prof. Seema Makhija Dr Rahul Dev Prof. Pooja Bhagat	Meghana Bisht Tanya Chopra Ayushi Gupta	**B.Sc. (H) Chemistry, II Year**
56.	Creation of animation and simulator for Virtual Laboratory of Zoology practicals	Prof. Ravi Toteja Prof. Seema Makhija Dr Rahul Dev	Avnija Tyagi Ritika Chandel	**B.Sc. (H) Zoology, III Year**
			Sejal Arora Harshita Basab	**B.Sc. (H) Zoology, I Year**

2022-2023

S. No	Title of the Project	Mentor/s	Name of Student/s	Course & Year
1	Study of allelopathic effects of weeds on seed Germination of Vignaradiata L.	Dr. Rashmi Sharma	Vishal Bahadur B.K. Sahil Kumar	**B.Sc. (H) Botany, II Year**
2	Studying Sociological Impact of Madness and Maternity in Select literary works	Ms. Ankita Rasaily	Parthib Kalita Devika A. P Pratikshya Panda Ankisha Choudhary AnushkaTomar	**B.Sc.(H) Zoology, I Year**
3	Detection of chronic myeloid leukemia in patients through novel techniques	Dr. Sunita Jetly Dr. Ritu Khosla	Jassi Goyal	**B.Sc. (H) Biomedical Science, II Year**
4	Digital Empowerment of students of Acharya Narendra Dev College	Prof. Sunita Narang Dr. Shallu Mahajan	Yuvraj Saroha	**B.Sc. (H) Maths, II Year**
			Ayush Bhardwaj	**B.Sc. (H) Comp.Sc, II Year**
			Awani Sharma	**B.Sc. (H) Comp. Sc., II Year**
			Utkarsh Tiwari	**B.Sc. (H) Maths, II Year**
5	Extraction of Phytochemicals from such as flavonoids and alkaloids and Characterization of their Antioxidant and Anti-Inflammatory Properties through in-vitro assays	Dr. Ritu Khosla Dr. Archna Pandey	Khushi Bhatt Arpita Singh	**B.Sc. (H) Biomedical Science, II Year**
6	Study of Rise in Shingles cases as an aftermath of Covid 19	Dr. Ritu Khosla Dr. ArchnaPanday	Anshika Bansal	**B.Sc. (H) Biomedical Science, II Year**

7	Synthesis of silver nanoparticles using environment friendly chemicals	Dr. Ritu Khosla Dr. Archna Pandey Dr. Rajeev Ranjan	Najjam	**B.Sc. (H) Biomedical Science, II Year**
8	To synthesize silver nanoparticles and study their stability characteristics	Dr. Ritu Khosla Dr. Archna Pandey Dr. Rajeev Ranjan	RituPapney	**B.Sc. (H) Biomedical Science, II Year**
9	Synthesis and stabilization studies of silver nanoparticles	Dr. Ritu Khosla Dr. Archna Pandey Dr. Rajeev Ranjan	Vipasha Kamboj	**B.Sc. (H) Biomedical Science, II Year**
10	Estimation of Pi using Monte Carlo method and Platonic Solids and verifying the Paul Dirac delta function	Prof. Sanjeeta Rani Prof. Manisha Verma Prof.Subhash Kumar	Samyak Marathe	**B. Sc (H) Physics, I Year**
11	Study of the Role of Nyquist Plot and Graphical Analysis of Electrochemical Impedance Spectroscopic Data	Prof. Sanjeeta Rani Prof.Manisha Verma Prof.Sunita Hooda	Kunwar Sugam Anugrah Abhineet Singh Rajput	**B. Sc (H) Physics I Year**
12	Estimation of pi using Platonic Solids	Prof.Sanjeeta Rani Prof. Manisha Verma Prof.Subhash Kumar	Manan Vyas	**B. Sc (H) Physics, I Year**
13	A Study of Select factors affecting the Stock Market	Prof. Sandeep Kr. Goel Dr. Jitender Goel	Karuna Roy Aparna Chaurasia Muskan	**B. Com (H), I Year**

14	A Study on Green Marketing Initiatives of Select Indian Companies	Prof.Sandeep Kr. Goel Dr. Jitender Goel	Aayushi Gupta Lakshya Sabhaal	**B. Com (H), II Year**
15	An Analysis of IPO Market in India	Prof. Sandeep Kr. Goel Dr. Jitender Goel	Nitin Kumar Aggarwal Aadya Agrawal	**B. Com (H), III Year**
16	Cash Burn Model in Business: A Study of Select Start-ups Worldwide in Achieving Profitability	Prof. Sandeep Kr. Goel Dr. Jitender Goel	Charudev Gupta	**B. Com (H), III Year**
17	Application of subsets and Beyesian Theorem in Spam Detection	Dr. Vatsla Kohli Ms. Seema Gupta	Mayank Rathi	**B.Sc. (H) Maths, I Year**
18	Analysis of Continuum Hypothesis on it's Existence	Ms. Seema Gupta Dr. Vatsla Kohli	Vishal Kumar	**B.Sc. (H) Maths, I Year**
19	To study the effect of temperature on the in vitro growth of ciliates (Oxytricha sp.)	Prof. Ravi Toteja Prof.Seema Makhija Prof. Pooja Bhagat	Mohd. Tabish Mohammed Ali Hossain Maahi	**B.Sc. (H) Biomedical Sciences, III Year**
20	To study the effect of pH on the in vitro growth of ciliates (Oxytricha sp.)	Prof. Ravi Toteja Prof.Seema Makhija Prof. Pooja Bhagat	HeenaParveen	**B.Sc. Life Sciences, III Year**
			Indu M	**B.Sc. (H) Biomedical Sciences, III Year**
21	To study copper (Cu) Toxicity on Oxytricha sp.	Prof. Ravi Toteja Prof. Seema Makhija	Khushi Rani	**B.Sc. (H) Biomedical Sciences, II Year**
			Khushboo	**B.Sc. (H) Zoology, II Year**

22	Tools and Techniques for species identification in ciliates	Prof. Ravi Toteja Prof. Seema Makhija	Shailvi Swapnil	**B.Sc. (H) Zoology, II Year**
23	Assessing the Impact of Heavy Metals on Plant Fitness and the efficacy of Phytohormones in mitigating their effects: A Comprehensive Meta-Analysis Review	Prof. Charu K Gupta, Dr. Vineet Kumar Singh	AdiyaVatsa Mitali Saini Roja Sharma	**B.Sc. (H) Botany II Year**
24	Effect of particulate matter on reproductive fitness of native tree species in Delhi	Prof. Charu K Gupta, Prof. Arijit Chowdhury Dr. Vineet Kumar Singh	Vaibhav Khatri SrijalPriya Aniket Raj	**B.Sc. (H) Botany I Year**
25	Cultivation of Lentinula edodes on college generated lignocellulosic waste and isolation of extracellular enzymes from spent mushroom substrate	Dr. SumitSahni Dr. Vineet Kumar Singh Prof.. Anita Narang	Samridhi Mishra Ridhi Rai Nidhi Sharma Pratiksha Saini JangidiRanjit	**B.Sc. (H) Botany II Year**
26	Enhancement of Antibiotic (Kanamycin) efficacy through synergistic effect using multifarious medicinal plant extracts to curb Micrococcus luteus and E. coli growth	Prof.Anita Narang Dr. Satendra Singh Dr. Sumit Sahni	Saarthak Kumar Suprobh Ahna Borah Hirtik Singh Rathore	**B.Sc. (H) Botany, II Year B.Sc. (H) Biomedical Science, II Year**
27	Study of Labulbeniomycetes	Prof.. Anupama	Akza K John	**B.Sc. (H) Botany, II Year**

		Shukla	Anson Antony	**B.Sc. (H) Botany, II Year**
			Maushmi PT	**B.Sc. (H) Biomedical Science, II Year**
28	Labulbeniomycetes	Prof.Anupama Shukla Prof. Anita Narang Dr. Sumit Sahni	Haemakshi Biswas Anushka Tiwari ShurutiPanwar	**B.Sc. (H) Botany, II Year**
29	Genotoxic effect of Heavy Metals Cr and Hg using Allium cepa L. Investigating the impact of oxidation stress on genetic stability during cell division	Dr. Sumit Sahni Prof. Anita Narang Dr. Vinee Kumar Singh	Ajit Narayan Jha Anika Sharma Aradhy Anurag	**B.Sc. Prog. Life Sciences I Year**
30	Synthesis of 2 D materials for sensing applications	Prof. Arijit Chowdhuri Prof. Charu Khosla Gupta Dr. V. Bhasker Raj	Aditya Kumar Singh Ashish Gupta	**B.Sc. (H) Physics, II Year**
31	Ambient Air Pollution measurement using 2D materials	Prof. Arijit Chowdhuri Dr. V. Bhasker Raj Prof.Charu Khosla Gupta	Ravi Kant Shukla ShivamTomar	**B.Sc. (H) Physics II Year**
32	Learning the techniques to detect the thalassemia carriers through CBC and mutational analysis through Sanger sequencing	Dr. Sunita Jetly Dr. Deepshikha	Srishti	**B.Sc. (H) BMS, II Year**
			Suravi Bhaya	**B.Sc. (H) BMS, III Year**

33	Genome and transcriptome data Analysis for novel target identification and Characterization	Dr. Archna Pandey Dr. Rimpy Kaur Chowhan	Hariom Chaudhary	**B.Sc. (H) Biomedical Science, I Year**
34	To study interaction of SARS-CoV-2's surface and secretory proteins with amyloidogenic proteins responsible for cardiac amyloidosis	Dr. Archna Pandey	Ajay Kumar Singhmar	**B.Sc. (H) Biomedical Science, III Year**
		Dr Rimpy Kaur Chowhan	Hirday Sehgal	
35	To study Ethanol Exposure on Different Developmental Stages of Zebrafish (Danio rerio).	Prof. Monica Misra Ms. Bhumika Chauhan	Bhawna Gurnani	**B.Sc. Life Science, II Year**
			Aru Chaudhary	**B.Sc. Life Science, II Year**
			Jasmine Negi	**B.Sc.(H) Zoology, II Year**
			Tannu Gond	**B.Sc.(H) Zoology, II Year**
36	To establish the culture of Zebrafish (Danio rerio) and observe their growth 120 hrs Post- fertilization.	Prof. Monica Misra Ms. Bhumika Chauhan	Divya Pandey	**B.Sc. Life Science, II Year**
			AnshikaTyagi	**B.Sc. Life Science, I Year**
			Vasundhra Bhattacharya	**B.Sc. Life Science, I Year**
37	To study effects of different diets on growth and Development of Zebrafish (Danio rerio)	Prof. Monica Misra Ms. Bhumika Chauhan	Shikha Negi	**B.Sc. Life Science, II year**
			M.Vathsala	**B.Sc. Life Science, II year**
38	Exploring the Cosmos	Dr Meenu Mohil	Vijay Rawat	**B.Sc (H) Physics, II Year**
39	Determining the propagation loss coefficient of the given single-mode optical	Dr Meenu Mohil Dr Sanjay Kumar	Jagdish Arya	**B.Sc. Physical Science with Chemistry, III Year**

	fibre		Harsh Bhati	**B.Sc. Physical Science with Chemistry, III Year**
40	Obstacle Avoidance Robotic Vehicle	Dr. Monika Bhattacharya Prof. Ravneet Kaur	Dev Panchal Anshu Kumari Saurabh Kaushik Prachi Dubey	**B.Sc. (H) Electronics, II Year**
41	Sunlight Sensitive Smart Roof with Rainfall Protection	Prof. Anju Agrawal Prof. Ravneet Kaur Dr. Monika Bhattacharya	Aman Muskankumar Sharma Vishal Gupta	**B.Sc. (H) Electronics, II Year**
42	Fouriertransform applications in image processing	Dr. Monika Bhattacharya	Prachi Dubey	**B.Sc. (H) Electronics, II Year**
43	GSM based Home Security Alarm System	Dr. Monika Bhattacharya Ms. Gauri Ghai	Vishal Gupta Chandan Kumar Prashant Kumar Sachin Jarwal	**B.Sc. (H) Electronics, II Year**
44	A comparative study of Esports and Traditional sports: Analysis of Audience and Revenue Generation	Dr. Monika Bhattacharya Prof. Anju Agrawal	Harsh Singh Tanmay Sharma Vansh	**B.Sc. (H) Electronics, I Year**
45	Faculty Publication Management	Prof. Sharanjit Kaur	Shahnwaz Khan Prakash Kumar Singh	**B. Sc. (H) Computer Science, III Year**
46	WanderLust: Travelling Application	Prof. Sharanjit Kaur Ms Gunjan Rani	Ayush Yadav Pranav Singh Riyansh Sharma Shrishti Rawat	**B. Sc. (H) Computer Science II Year**
47	Social Networks: Design, Impact and Challenges	Prof. Sharanjit Kaur	Piyush Singh Rohan Sagar	**B. Sc. (H) Computer Science I Year**
48	Repository for Crop Production and	Ms. Nishu Singh	Dinesh Kumar Mihir Kumar Sah	**B.Sc. (H) Computer Science,**

	Agriculture			**II Year**
49	Effect of Vitamin on the Germination of Tomato Seedlings	Dr. Geetika Kalra Dr. Anita Thakur	AfsharAjmeri Aman Kumar Anjali S. Ananya RitikPratap Singh	**B.Sc.(H) Botany, II Year**
50	Estimation of Chlorophyll Content in the native Indian tree species	Prof.. Charu K Gupta Dr. Arijit Chowdhuri Dr. Anita Thakur	Shubhi Dixit	**B.Sc. Life Science, I Year**
			Niharika Sehgal	**B.Sc.(H) Biomedical Science, I Year**
51	How to convert a business idea into a successful start-up?	Prof. Surinder Kaur	VedantMaheshwari	**B. Com. (H), II Year**
52	Digital Economy – An analysis on its effects and applications upon India	Prof. Surinder Kaur Ms. Rupali Pabreja	Kunal Kumar Himanshu Raj	**B. Com. (H), I Year**
53	Digital Marketing- An analysis of perspective of consumer in India	Prof. Surinder Kaur Ms. Rupali Pabreja	Shrutikumari Shreya Gupta	**B. Com. (H), I Year**
54	The Impact of YULU on Urban Mobility and Environment	Prof.. Surinder Kaur Ms. Rupali Pabreja	Rishabh Singh Kaushik Vivekkunwar	**B. Com. (H), I Year**
55	Impact of artificial intelligence in the economy of India	Prof. Surinder Kaur	Sushant Anand	**B. Com. (H), I Year**
56	Digitalization of Indian economy	Prof. Surinder Kaur	Vicky Kumar	**B. Com. (H), I Year**
57	Synthesis, characterization and antibacterial study of nanocomposite prepared from laboratory waste	Prof. Seema Gupta Dr. Satendra Singh	Nibha Kumari Divya Gulihar	**B.Sc. (H) Chemistry, II Year**

58	Synthesis, characterization and antibacterial study of iron oxide nanoparticles from lab waste	Prof.Seema Gupta Dr. Satendra Singh	Bhumika Bhardwaj Dipankar Dev Rishi	**B.Sc. (H) Chemistry, II Year**
59	Preparation of deep eutectic solvents and their application to synthesize silver nanoparticles	Prof.Seema Gupta Prof. Pooja Bhagat	KanjikaRastogi Nikita Sharma Sarthak Singh	**B.Sc. (H) Chemistry, II Year**
60	Adsorption of Metformin Hydrochloride Drug by Chitosan-Based Graphene Oxide (GO) Nanocomposites	Prof. Sunita Hooda Prof.Geetu Gambhir	Kapil Sharma Puneet Chauhan Soven Kumar Samal	**B.Sc. Life sciences, II Year**
61	Study of Hybrid Magnetic Spinels for Photocatalysis	Prof.Sunita Hooda Prof.Geetu Gambhir Dr. Bhawna Kaushik	Zubishah Rais Srashti Gupta	**B.Sc. Life sciences, II Year**
62	Nano composites of Magnetic Tamarind with Cobalt Oxide as a promising Adsorbent for Reactive Blue19 Dye from Wastewater	Prof.Sunita Hooda Prof.Geetu Gambhir Dr. Manisha Verma	Ilma Khan Ayushi Rajput	**B.Sc. Life sciences, II Year**
63	"VEHICLE TRACKING SYSTEM"	Prof. Chandra Kanta Samal Ms. Gunjan Rani	Ayush Chaudhary Chetna Panchal Divya Mishra Pranjal Verma Ravi Tomer	**B.Sc. Physical Science, II Year**
64	Translating Court Judgments into regional languages	Ms. Gunjan Rani	Shubh Sankhyadhar Chandan Kumar Shorya Bhatnagar	**B.Sc. (H) Computer Science, II Year**

65.	Departmental Website ELE.DEP	Prof. Ravneet Kaur Ms. Gauri Ghai	Govind Kushwah Abhinav Saxena Pankaj Kumar	**B.Sc. (H) Electronics, I Year**
66	D2C selling portal for the farmers produce based on nearest traversals of demand	Dr. Preeti Marwaha	Arpit Bharadwaj S Kanak Megha	**B.Sc. (H) Comp. Sci., II Year**
67	Crafting and Reveiling: Invisible Cloaks	Dr. Preeti Marwah Dr. Arunita Chaukiyal	Nishant Pratap Singh Adi Maqsood	**B.Sc. (H) Comp. Sci., II Year**

2023-24

S. No.	Title	Mentor/s	Students	Course & Year
1	Hierarchical Structures in Multilayer Network	Prof. Sharanjit Kaur (Computer Science)	Piyush Singh Rohan Sagar	B.Sc.(H) Computer Science, III Year
2	Application of Sutras- I	Dr Sarita Agarwal (Mathematics)	Gaurav Kumar	B.Sc.(H) Mathematics, II Ye
3	Credit Risk Managment	Ms Gunjan Rani (Computer Science)	Ayush Chaudhary Pranjal Verma Chetna Panchal	B.Sc. (Prog.) Physi Science with Computer Science, Year
4	Studying Catalytic Behaviour of Copper (II)-Glycinate Complex for Organic Oxidation Reactions.	Prof. Manisha Jain (Chemistry)	Devansh Dwivedi	B.Sc.(H) Chemistry, II Year
5	Synthesis, Characterization and Application of Some 2D Materials	Prof. Arijit Chowdhuri (Physics) Prof. Charu K. Gupta (Botany)	Ayush K. Chaubey Shubhra Priyadarshini Kausthub Rawat	B.Sc.(H) Physics, I Year
6	Synthesis &	Prof. Arijit	Harsh Agrahari	B.Sc.(H) Physics, I

	Characterization of Some 2D Materials	Chowdhuri (Physics) Prof. Charu K. Gupta (Botany)		Year
7	Temperature Dependence Study of Reaction Between Potassium Permanganate and Oxalic Acid for Quantitative Determination	Prof. Manisha Jain (Chemistry)	Tanvi Kaushik	B.Sc.(H) Chemistry Year
8	APNASTYLE-A Fashion Web Application Using Html, CSS And Javascript	Ms Shiva Saini (Computer Science)	Kartik Rawat Babita Bhuarya	B.Sc.(H) Mathematics, II Ye
9	Cultivation of Oyster and Milky Mushrooms	Dr Anupama Shukla Dr Anita Narang (Botany)	Sanket Jain Vishal Kumar Pal	B.Sc.(H) Botany, II Year
10	Synthesis of chemo sensors for heavy metal ion detection	Prof. Pooja Bhagat Prof. Seema Gupta (Chemistry)	Aradhy Srivastava Muskan Saini	B.Sc. (Prog.) Life Sciences, II Year
11	Analysis of Soil Microbiota of Different Soil Samples in Delhi and the Effect of Agrochemicals in it.	Prof. Seema Makhija Prof. Ravi Toteja (Zoology)	Vijayalakshmi P A	B.Sc.(H) Zoology, I Year
12	Evaluating the Influence of Environmental Education on University Students' Awareness and Actions: A Survey-Based Study at Delhi University	Prof.Seema Makhija Prof. Ravi Toteja Mr Abhay Pratap Singh (Environment Science)	Ajit Narayan Jha Akshay Kumar Anurag Parida	B.Sc. (Prog.) Life Sciences, II Year
13	Investigating the Toxicological Impact of Pb in Euplotes aediculatus	Prof. Seema Makhija Prof. Ravi Toteja (Zoology)	Nandini Gupta Ankur Ghosh Anshika Tyagi Urvashi Arora	B.Sc. (H) Zoology, II Year B.Sc. (Prog.) Life Sciences, II Year
14	Isolation and Screening of Plastic Degrading Bacteria from Dumped Soil Area.	Prof. Seema Makhija Prof. Ravi Toteja (Zoology)	Rimjhim Shukla Vinita Kumari Kamna Sharma	B.Sc. (Prog.) Life Sciences, II Year

15	In-silico Design of RT-PCR Primers and Full Length Primers for SARS-CoV-2 Virus Genes	Prof. Seema Makhija Prof. Ravi Toteja (Zoology)	Saloni Ghosh MuskanYadav	B.Sc. (H) Zoology, Year
16	Optimizationof Recombinant Interferon Beta Expression in Escherichia Coli through Systematic Variation of Induction Parameters	Prof. Ravi Toteja Prof. Seema Makhija Dr Rahul Dev (Zoology)	Himank Raj Singh Rishabh Ojha Pratham Singhal	B.Sc. (H) Zoology, Year
17	Evaluation of In silico Anti-hyperglycemic Potential of Traditional Anti-Diabetic Plants.	Prof. Ravi Toteja Prof. Seema Makhija Dr Rahul Dev (Zoology)	Priyanshu Pradhan Mahaprasad Nayak Aditya Raj Mishra Pratikshya Panda Devansh Bharti Mamoni Panda	B.Sc.(H) Zoology, Year
18	In-silico Design of RT-PCR Primers Against SARS- CoV-2Virus and Full-Length Primers of Spike Proteins	Prof. Seema Makhija Prof. Ravi Toteja (Zoology)	Khushboo	B.Sc.(H) Zoology, Year
19	Determination of Stability Constant of The Aspartic Acid-Aluminium Metal Ion Complex Using pH-Metric Method	Prof. Manisha Jain Prof. Shallu Sachdeva (Chemistry)	Anushka Yadav Abhay Patel	B.Sc. (Prog.) Life Sciences, II Year
20	Determination of Stability Constant of The Copper (II)-Glycine Complex Using pH- Metric Method	Prof. Manisha Jain Prof. Shallu Sachdeva (Chemistry)	Anushka Yadav Abhay Patel	B.Sc. (Prog.) Life Sciences, II Year
21	Perception of Youth on Grammarly's Usefulness	Dr Sunita Narang Ms Priyanka Sharma (Computer Science)	Valiya Talib Vikrant Kumar TusharVashistha	B.Sc.(H) Mathematics, II Ye
22	Analysis of the Perception and Adaptation of Senior	Dr Sunita Narang (Computer	Kriti Misra HimanshuYadav	B.Sc.(H) Computer Science, I Year

	Citizens in Digital Age	Science) Dr Shalu Mahajan (Commerce)		
23	Measurement of Cyber Security Index(CSI) via Exposure, Adaptive Capacity and Sensitivity	Dr Sunita Narang Dr Preeti Marwaha (Computer Science)	Prince Preksha Anushka	B.Sc.(H) Biomedica Sciences, III Year
24	Tailoring Properties of Novel Composites Through the Integration of Reduced Graphene Oxide.	Prof. Geetu Gambhir Prof. Sunita Hooda (Chemistry)	MukeshKumar Ananya Singh	B.Sc.(H) Chemistry Year
25	A Comprehensive Investigation and Biosynthesis of Withania Somnifera Based Nanoparticles Aimed at Elucidating their Antimicrobial Properties and Efficacy.	Prof. Sunita Hooda Prof. Geetu Gambhir (Chemistry) Dr Anita Narang (Botany)	Hirtik Singh Rathore Saarthak Kumar	B.Sc.(H) Biomedica Sciences, III Year
26	Synthesis of Magnetic Graphene Oxide and Trehalose Nanocomposite as a Promising Adsorbent for Metals from Waste Water.	Prof. Sunita Hooda Prof. GeetuGambhir (Chemistry) Prof. Sanjeeta Rani Prof. Manisha Verma (Physics)	Anirudh Karnam Shalini	B.Sc. (Prog.) Life Sciences, II Year
27	Xanthan Gum Graphene Oxide Nanocomposites: Synthesis, Characterizations and Applications	Prof. Geetu Gambhir Prof. Sunita Hooda (Chemistry)	Ajay Kumar Singh Muskan Sharma	B.Sc. (Prog.) Physical Science with Chemistry B.Sc.(H) Chemistry Year
28	Effect of Selected Incense Sticks Ash Extract on Luminescence Response from Bioluminescent Bacteria	Dr Ranjeev Ranjan Dr Archna Pandey (Biomedical Science)	Lazi Parween	B.Sc.(H) Biomedical Sciences, II Year
29	To Study Effect of Air Pollution on Pollinator Behaviour and Plant-	Dr Vineet K Singh Prof. Charu K. Gupta	Vaibhav Khatri Aniket Raj	B.Sc.(H) Botany, II Year

	Pollinator Interaction in Native Tree Species of Delhi.	(Botany) Prof. Arijit Chowdhuri (Physics)		
30	Synthesis of magnetic Nanoparticles and their Role in Enzyme Catalysis	Prof. Seema Gupta Prof. Pooja Bhagat (Chemistry) Dr Satendra Singh (Biomedical Science)	Rohit Kumar Barnwal	B.Sc. (H) Chemistry, II Year
31	To Synthesise Multifunctional Composite Polymer-Based Materials in Corporating Magnetite Particles and Study their Dielectric Properties	Prof. Manisha Verma Prof. Sanjeeta Rani (Physics) Prof. Sunita Hooda (Chemistry)	Kunwar Sugam Anugrah	B.Sc. (H) Physics, II Year
32	Literature Review and Ultrasonic Assisted Excretion from Indian Medicinal Plants.	Prof. Pankaj Khanna (Chemistry)	Astha Omar Manisha	B.Sc.(H) Chemistry, I Year
33	From Boom to Bust: Exploring Dynamics of Company's Rise and Fall	Prof. Sandeep K. Goel Dr Jitender Goel (Commerce)	Aanchal Singh Supriya Kumari Riya Padhan	B. Com (H), I Year
34	A Study on Digital Transformation in Indian Banking Sector	Prof. Sandeep K. Goel Dr Jitender Goel (Commerce)	Richa Sharma Akash	B. Com (H), III Year
35	A Study on Green Marketing Initiatives of Select Indian FMCG Companies	Prof. Sandeep K. Goel Dr Jitender Goel (Commerce)	Simrat Kaur Prabhnoor K. Sekhon Mhachoni Yanthan	B. Com (H), II Year
36	Unveiling Insider Trading: Impact on Market Integrity and Investor's Confidence	Prof. Sandeep K. Goel Dr Jitender Goel (Commerce)	Khushi, Annukumari	B. Com (H), I Year
37	Women Entrepreneurship: Issues and Challenges	Prof. Sandeep K. Goel Dr Jitender Goel (Commerce)	Devanshi Agarwal Nivedita Verma	B. Com (H), I Year
38	Fractal Analysis and dimensionality reduction of OGLE data for Stellar object characterization	Dr Dinesh Kumar Verma (Physics)	Naman Thakur	B.Sc.(H) Physics, I Year

39	Synthesis of heterocyclic compounds of potential biological importance.	Prof. Pankaj Khanna Dr Kavita Mittal (Chemistry)	Kajal Dubey Mayank Kushvaha	B.Sc.(H) Chemistry, I Year
40	Women's Empowerment through Microfinance	Ms Sangeeta Relan Ms Anuradha Sarin (Commerce)	Rahul Malik Kushank Sharma	B. Com (H), II Year
41	Article 370's Repeal: A Catalyst for J&K's Economic Revival	Ms Sangeeta Relan Ms Anuradha Sarin (Commerce)	Manav Kumar Samriddhi Singh	B. Com (H), II Year
42	Calculating the bandgap of Graphene based Single Electron Transistor (SET) by DFT modelling in Quantum Espresso.	Prof. Sanjeeta Rani Prof. Manisha Verma Dr Priti Goyal (Physics)	Samyak Marathe	B.Sc.(H) Physics, II Year
43	To Study the Effect of Environmental Pollution on the Morphological and Anatomical characters of Leaves in Cassia fistula Species of Delhi.	Prof. Charu K. Gupta Dr Anupama Shukla Dr Vineet K Singh (Botany)	Hari Om Sharan	B.Sc.(H) Botany, III Year
44	Assessing the Impact of COVID-19 and its Vaccination on the Reactivation of Varicella-ZosterVirus	Dr Ritu Khosla DrArchnaPandey (Biomedical Science)	Aishani Vashisht	B.Sc.(H) Biomedical Sciences, I Year
45	Facial Recognition System	Dr Ravneet Kaur Dr Monika Bhattacharya (Electronics)	Priya Ranjan Anju Purohit Nikhil Kumar Sudhanshu Kumar Prateek Sheokand	B.Sc.(H) Electronics, I Year
46	Zebrafish Breeding after 120 hours Post Fertilization	Dr Monica Misra Ms Bhumika Chauhan (Zoology)	Ayush Kumar Tushar	B.Sc.(H) Zoology, II Year
47	A Detailed study of Lyapunov Exponents, the Lorenz Attractor, and the Rossler Attractor	Mr Pawan Kumar Dr Dinesh Kumar Verma (Physics)	Raj Gola	B.Sc.(H) Physics, I Year
48	Exploring Chaos theory and Lorentz Attractor	Dr Dinesh Kumar Verma (Physics)	Vaibhav Srivastava	B.Sc.(H) Physics, I Year
49	Exploring Chaos and	Dr Dinesh Kumar	Nanda Gopal	B.Sc.(H) Physics,

	Nonlinear Dynamics with the Chua Circuit	Verma (Physics)	Jena	I Year
50	Studies on the Effect of Rancid Oils on Luminescence Response from Bioluminescent Bacteria	Dr Rajeev Ranjan Dr Archna Pandey (Biomedical Science)	Kumar Tarun Singh	B.Sc.(H) Biomedical Sciences, II Year
51	Study of Cytotoxic and Genotoxic Effect of UV Radiation on Root Tips of Allium cepa L.	Dr Anita Narang Dr Anupama Shukla (Botany)	Vanshika Arora Niharika Mathur Sandeep Kumar Sidharth Khanduri Priyanka	B.Sc. (Prog.) Life Sciences, I Year
52	Study of Cytotoxic & Genotoxic effects of UV radiations on Alliumcepa L.	Dr Anita Narang Dr Anupama Shukla (Botany)	Kavya Jain Khushi Gautam Sargam Nimesh DevamVarshney	B.Sc. (Prog.) Life Sciences, I Year
53	Effect of Leachates from the Plastic-Coated Paper Cups On Luminescence Emission from Bioluminescent Bacteria.	Dr Archna Pandey Dr Rajeev Ranjan (Biomedical Science)	Dhanisht Bhushan	B.Sc.(H) Biomedical Sciences, I Year
54	Temporal Characteristics of Sunspots and Its Prediction Using Machine Learning	Dr Meenu Mohil (Physics)	Ravishekhar Jha Suraj Singh Vijay Rawat	B.Sc.(H) Physics, II Year
55	Calculating the Bandgap of Graphite Based Single-Electron Transistor (SET) by DFT Modeling in Quantum Espresso	Prof. Sanjeeta Rani Prof. Manisha Verma Dr Priti Goyal (Physics)	Ankit Kumar	B.Sc. (H) Physics, I Year
56	DFT based Electrical & Mechanical Studies of Si Doped with Phosphorus	Prof. Sanjeeta Rani Prof. Manisha Verma Dr Priti Goyal (Physics)	Utkarsh Singh	B.Sc. (H) Physics, II Year
57	Skill Development in Chemical Synthesis	Dr Vikrant Kumar (Chemistry)	Anshuman Satapathy Devesh Raj Pathak Jai Kumar Chourasiya	B.Sc. (Prog.) Life Sciences, I Year
58	MDM2 Polymorphism Analysis to Uncover Novel Mechanism for	Dr Rimpy Kaur Chowhan Dr Archna Pandey	Hariom Chaudhary	B.Sc.(H) Biomedical Sciences, II Year

	Cancer Resistance	(Biomedical Science)		
59	A Survey on the Evolving Use of Students Mobile Learning Practices in Education	Dr Sarita Kumar (Zoology)	Pulkit Deswal Siya Gupta	B.Sc.(H) Zoology, II Year
60	Survey and Synthesis of Heterocyclic Compound.	Prof. Neeti Misra Dr Kavita Mittal (Chemistry)	Divyanshu Singh Hardik Khurana	B.Sc. (Prog.) Physical Science with Chemistry, II Year
61	The Role of Ascorbic Acid in Germination of Tomato Seedlings and reviewing the role of SOD in combating ROS stress in plants	Dr Anita Thakur Dr Geetika Kalra (Botany)	Anjali Kumari Saumya Marathe	B.Sc.(H) Botany, II Year
62	The Role of Jasmonic acid and Salicylic acid in alleviating the effect of heavy metal stress on the male fertility in different plant species.	Dr Anita Thakur Prof. Charu K Gupta Dr Vineet K Singh (Botany)	Ekta Pinki	B.Sc.(H) Botany, II Year
63	Application of Mathematics in Kerala during 14th to 16th Centuries	Dr Sarita Agarwal (Zoology)	Shifana N	B.Sc.(H) Mathematics, II Year
64	To Study Consumption & Adverse Effects of Preservative INS 211 (Sodium Benzoate) in Humans Through Survey	Dr Ravinder K Sagar (Zoology)	Koyel Das Shiwani Kumari Komal Kumari Aayushi Goyal	B.Sc.(H) Biomedical Sciences, III Year
65	Shampoos and Cosmetic Products from Sericin	Prof. Sarita Kumar Mr Sanjay Vohra Prof. Ravi Toteja Prof. Seema Makhija Dr Shrankhla (Zoology)	Gifty Saini Manvi Kalra Rishika Pandey Seema	B.Sc.(H) Zoology, I Year
66	Chaos-based Secure Communication: A Prototype with Chua's Circuits.	Prof. Amit Garg (Electronics) Dr Roopesh Tehri (Mathematics)	Govind Kushwah Sneha Singh Drishti	B.Sc.(H) Electronics, II Year
67	4Bit Computational Code Conversion Calculator	Dr Ravneet Kaur Dr Monika Bhattacharya	HimanshuVerma	B.Sc.(H) Electronics, II Year

		(Electronics)		
68	Clinic Connect	Prof. Anju Agrawal Prof. Ravneet Kaur (Electronics)	Suhani Mishra Diksha Singh	B.Sc.(H) Electronics, II Year
69	From Logic Gates to Computing: Building an 8-bit Computer using Integrated Circuits	Prof. Anju Agrawal Dr Ravneet Kaur Dr Monika Bhattacharya (Electronics)	Naman Beri Dilsher Mirza Mohammad Ain Ali Abdul H. Mallik Manish Yadav	B.Sc.(H) Electronics, II Year
70	Use Of Artificial Intelligence in Account and Auditing	Prof. Surinder Kaur CA Yask Sain (Commerce)	Sushant Anand	B. Com (H), II Year
71	IndAS-29 Financial reporting in Hyper inflationary Economics	Prof. Surinder Kaur CA Yask Sain (Commerce)	Vivek Kunwar Ankit Goyal	B. Com (H), II Year
72	Role of Financial Literacy in Stock Market Participation Among the Indian Youth	Prof. Surinder Kaur (Commerce)	Harshpreet Kaur Vanshika Mittal Vaamsi Jajoria	B. C om (H), II Year B.Sc. (H) Biomedical Science, II Year
73	Corporate Governance	Prof. Surinder Kaur CA Yask Sain (Commerce)	Priya Rana Bhavna Baghel	B. Com (H), II Year
74	Rise of Inflation and Poverty in Bihar, India	Prof. Surinder Kaur (Commerce)	Pragati Arora Ayush Pandey	B. Com (H), II Year
75	Financial Literacy and its effect on Career Choices	Prof. Surinder Kaur CA Yask Sain (Commerce)	Vishesh Parashar Khushi Preksha Saini	B. Com (H), II Year
76	Floral Traits Influence over Pollinator Niche Partitioning in Co-Flowering Species of Capparisinsemi-Arid regions of Restored Ecosystem of Delhi.	Prof. Charu K. Gupta Dr Vineet K Singh (Botany)	Ujjwal Kumar B.Sc.(H)	Biomedical Sciences, II Year
77	Standardizing Bacterial Culture for Industrial	Dr Archna Pandey Dr Rimpy Kaur	Jassi Goyal Khushi Bhatt	B.Sc.(H) Biomedical

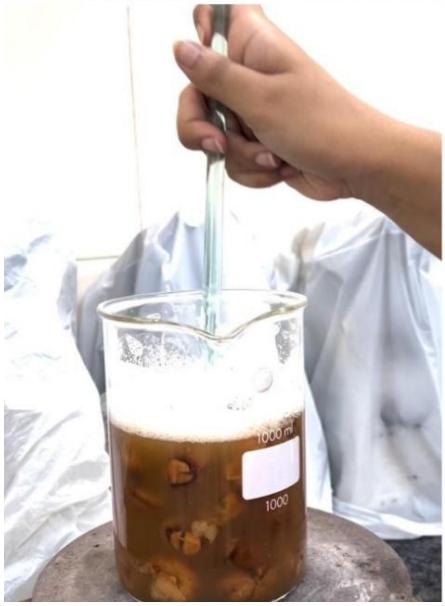
	Cellulose Production.	Chawhan (Biomedical Science)		Sciences, III Year
78	Futurescope of AI in Cybersecurity.	Dr Preeti Marwaha (Computer Science)	Ananya	B.Sc.(H) Computer Science, I Year
79	Effect of acetamiprid on the Growth, Development and Morphology of Aedes aegypti Larvae.	Prof. Sarita Kumar (Zoology)	Yashasvi Divyanshu Harsh Manthan	B.Sc.(H) Zoology, I Year
80	Comparative Studies of Some Organic Compounds and Their Reactions Using Computational Methods (DFT)	Prof. Neeti Misra (Chemistry)	Nidhi Singh Hridya S Warrier Rishika	B.Sc. (H) Chemistry, II Year
81	Automation of Electro-Optic Effect Experiment	Prof. Amit Garg (Electronics)	Pratyoi Prayash Bora Priyanshu Gupta	BSc. (Hons.) Physics B.Sc. (Prog.) Physical Science with Electronics, I Year
82	Detection of Adulterants in Dairy Products	Dr Shrankhla (Zoology)	Sabhyata Singh	B.Sc.(H) Biomedical Sciences, II Year
83	Effect of Zinc and Copper Nanoparticles and their Different Concentration on Seed Germination	Dr Anita Thakur (Botany)	Anushka Jain Niharika Sehgal Tanisha Singh	B.Sc.(H) Biomedical Sciences, II Year
84	A Comparative Analysis of Financial InclusionIndices inIndianMetropolitanCities	Dr Shalu Mahajan (Commerce) Dr Sunita Narang (Computer Science)	Shreya Gupta Kunal Kumar	B. Com (H), II Year
85	Startup Accelerators and Incubators: Do They Really Enhance Business Performance?	Mr Sanjay Vohra Mr Dhruv Rana	Ashish Raushan	B.Sc. (Prog.) Life Sciences, II Year
86	Prediction of Sunspots using Archival Data	Prof. Subhash Kumar (Physics)	Archit Sharma Navya Mogha Vishwajeet Kumar Aarsh Tripathi	B.Sc. (Prog.) Physical Science with Chemistry, II Year
87	Studying Thalassemia and Its Carrier Status Survey	Dr Sunita Jetly Dr Deepshikha	Anushka Tomar Manya Batra	B.Sc.(H) Zoology, II Year

	with Mutation Analysis	(Biomedical Science)	Varsha Malik	
88	A Comparative Study of Growth Media and Nutrient Regime.	Dr Geetika Kalra Dr Mandeep Kaur (Botany)	Ritu Pandey Akanksha Kumari Vaibhav Sharma Pragati Matharu	B.Sc.(H) Botany, II Year
89	Effect of Functionalized Silver Nanoparticle on Free and Immobilized form of Bioluminescent Bacteria	Dr Archna Pandey Dr Rajeev Ranjan (Biomedical Science)	Aisha Gupta	B.Sc.(H) Biomedical Sciences, II Year
90	Exploring the Potential of Synthetic Biology in Terraforming Martian Atmosphere	Dr Deepshikha Dr Archna Pandey (Biomedical Science)	Prashant Tiwari Niharika Sharma Alia Siddiqui Yash Singh	B.Sc.(H) Biomedical Sciences, II Year
91	Synthesis of Deep Eutectic Solvents and their Potential in Preparation of Silver Nanoparticles	Prof. Seema Gupta Prof. Pooja Bhagat (Chemistry)	Gounshi Kumar B.Sc. (H) Chemistry, year I	B.Sc. (H) Chemistry, I Year
92	Designing Anti-Aging Compounds based on Resveratrol and Sirtuin Activation	Dr Deepshika (Biomedical Science)	Shantanu	B.Sc. (H) Biomedical Sciences, II Year
93	Optimizing Mobile Phone Price Prediction using Supervised Learning Techniques	Ms Gunjan Rani (Computer Science)	Adi Maqsood Nishant Pratap Singh	B.Sc. (H) Computer Science, II Year
94	Existence of Free market in India	Ms Anuradha Sarin Ms Sangeeta Relan (Commerce)	Latika Joshi	B.Sc. (H) Computer Science
95	Developing a Multi-Platform Detection System for Dark Patterns	Dr Preeti Marwaha (Computer Science)	Ishitva Joshi	B.Sc. (H) Computer Science, I Year
96	Is IPO an Exit Vehicle for Early Stage Investors	Ms Sadhna Gupta Ms Sangeeta Relan (Commerce)	Mohd Hassan Sumit Rathour	B. Com (H), II Year
97	Exploring Pollution Dynamics:A Data Mining Approach for Air Quality and Environmental Analysis Across India	Ms Gunjan Rani (Computer Science)	Mayank Kumar Aditya Maurya	B.Sc.(H) Computer Science, II Year
98	Predictive Data Mining: Uncovering Influential	Prof. Sharanjit Kaur	Harsh Arora Ansh Sharma	B.Sc.(H) Computer

	Attributes for Forest Fire	(Computer Science)		Science, II Year
99	PrositAug: Your Personal Physique trainer	Ms Nishu Singh Prof. Vibha Gaur (Computer Science)	Yash Asthana	B.Sc.(H) Computer Science, II Year
100	Gen Z's Way of Investing in Stock Market	Dr Shalu Mahajan (Commerce)	Anuj Jain Lokesh Lohan Ashutosh Sharma	B. Com (H), II Year
101	Identification and Measurement of Deceptive Design Practices in E-Commerce Platforms	Prof. Vibha Gaur (Computer Science) Dr Ravneet Kaur (Electronics)	Ritu Raj Divyanshu Sharma Sumit Kumar Tiwari	B.Sc. (Prog.) Physical Science with Computer Science, I Year
102	Mushroom Cultivation using Different Types of Substrate.	Dr Anupama Shukla Dr Anita Narang Dr Mandeep Kaur (Botany)	Hitesh Choudhary Mahima Kumari Ankit Kumar Jha	B.Sc.(H) Botany, II Year
103	Currency Evolution: Exploring Digital Transformation in Banking	Dr Shalu Mahajan (Commerce)	Shruti Kumari Karuna Roy	B. Com (H), II Year
104	Diving into the World of Lithium Ion Batteries: Evolution, Performance and Beyond	Dr Pragati Malik Dr Bhawna Kaushik (Chemistry)	Simran Phabrani Nitish Kumar Pahariwal Ansh Karnwal Virendra Kumar Sah	B.Sc. (Prog.) Physical Science with Chemistry, II Year B.Sc.(H) Chemistry, I Year
105	Financial Stress and Suicide	Ms Sadhna Gupta Ms Anuradha Sarin (Commerce)	Muskan Rishav Kumar Aparna Chaurasia	B. Com (H), II Year
106	Electromate	Prof. Anju Agarwal Dr Ravneet Kaur (Electronics)	Charu Abhinav Saxena	B.Sc.(H) Electronics, III Year
107	Digital forensic integrity system using blockchain	Prof. Chandra Kant Samal (Computer Science)	Jitendra Prasad Arya Shivanshi Rajpoot Arnav Aswal	B.Sc. (Prog.) Physical science with Computer science, II Year
108	Evolution of Financial Transaction from Banking	Dr Sunita Narang Ms Shiva Saini	Atul Singh Rishik	B.Sc.(H) Computer

	to UPI	(Computer Science)	Chaudhary	Science, II Year
109	Mining Credit Card Data for Exploring Patterns	Prof. Sharanjit Kaur (Computer Science)	Harshita Singh Hardik Bhaniya	B.Sc.(H) Computer Science, II Year
110	To Compare the Viable Numbers of Microbes Present in the Rhizophere Soil of Native Trees of Delhi Growing Different Habitat	Dr Mandeep Kaur Dr Anupama Shukla (Botany)	Komal Esha Beniwal Nitish Kumar Yadav	B.Sc.(H) Botany, II Year B.Sc.(H) Botany, I Year
111	Analysis of the Tolerance level of Plants inVertical Garden	Prof. Charu K Gupta Dr Vineet K Singh (Botany)	Srijal Priya Sneha Kumari	B.Sc.(H) Botany, II Year
112	Botanical Extract as Sustainable Cataylsts for Organic Transformation	Prof. Rashmi Thukral (Chemistry)	Devanand Singh Shashank	B.Sc.(H) Chemistry, II Year
113	Assessing the Impact of COVID-19 and its Vaccination on the Reactivation of Varicella-Zoster Virus	Dr Ritu Khosla Dr Archna Pandey (Biomedical Science)	Sandeep Gupta	B.Sc.(H) Biomedical Sciences, II Year
114	Detection of Adulterants in Spices & Ghee	Dr Shrankhla (Zoology)	Shalini Verma	B.Sc.(H) Biomedical Sciences, III Year
115	Enhancing Student Engagement and Academic Success through ClgMart: A Research Proposal	Dr Monika Bhattacharya Dr Ravneet Kaur (Electronics)	Naman Thapliyal Vansh Harsh Singh	B.Sc.(H) Electronics, III Year
116	Revolutionizing Prosthetics: BioHybrid Limbs & Muscle Preservation Research	Prof. Ravi Toteja Prof. Seema Makhija Mr Ravinder Kumar Sagar (Zoology) Prof. Rachna Joshi (Physics)	Arnav Abhay Narayan	B.Sc.(H) Zoology, I Year I


सेरीकल्चर कौशल विकास केंद्र
Sericulture Skill Development Centre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Appendix VII

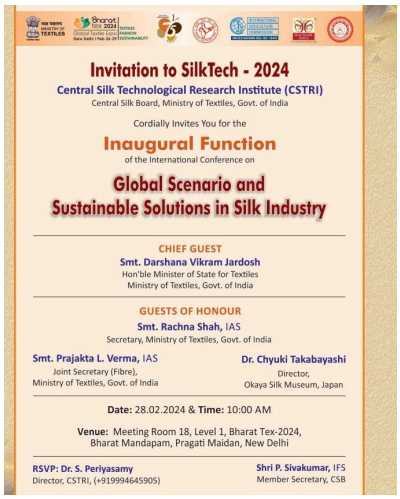
Awards

- Suman, B.Sc. (H) Chemistry, II Year was awarded POSE Scholarship sponsored by Haryana State Council for Science, Innovation and Technology, DST, Government of Haryana.
- Kartikey Tiwari, B.Sc. (Prog.) Physical Science (Computer Science), II Year was awarded INSPIRE Scholarship from DST, Government of India and UP Government Scholarship.
- Sudeepta Singh of B.Sc.(H) Biomedical Science, VI sem secured first merit position in University of Delhi.
- Ramesh Niraula, Tejaswini of B.Sc. (H) Biomedical Science, VI sem was First Runner-up of Bio-Enterpreneurship Competition held by Netaji Subhas University of Technology. 2021.
- Kalpajit Roy and Varnika Agarwal from B.Sc. (H) Physics, II Year were finalists at international research competition, Phoenix Space Launchpad Challenge, organized by Phoenix Space education Ltd.
- Aakanksha Rathee, B. Sc. (H) Biomedical Science, I Year Secured third position in an Inter-college Speech competition "Can India get corruption free?" organised by Unnat Bharat Abhiyan@ANDC on November 06, 2023.
- Saarthak Kumar, B. Sc. (H) Biomedical Science, II Year Won third prize in the quiz competition organized on the occasion of National Science Day by National Institute of Immunology on February 28, 2023.
- Ms Harshita Kushwaha, B.Sc. (H) Zoology II Year, won MicroQuiz in Microspher 2.0 held on occasion of International Microorganisms Day on September 17, 2022, under the aegis of IMiLI, INSCR, FEMS & ISME.
- Ms Anshika Sharma, B.Sc. (H) Zoology II Year, 2nd Prize in Hindi Quiz Competition Organized on Hindi Diwas September 17, 2022, by IIT BHU.
- Ms Harshita Khushwaha, B.Sc. (H) Zoology II Year, Resource person for One-week Revisit Bootcamp 1.1 for V-Lab Development from January 09-14, 2023.
- Saarthak Kumar, B.Sc. (H) Biomedical Sciences, III Year is selected for the SPF Research Fellowship Fund, May 2024.
- Harsh Dalal, B.Sc. (H) Biomedical Sciences III Year, selected for the Shiv Narain Meritorious Pwd Scholarship.
- Asif Ali B.Sc. (H) Biomedical Sciences III Year, selected for Vishwa Prakash Mission (VPM) scholarship.
- Ritik B.Sc. (H) Biomedical Sciences II Year, selected for Vishwa Prakash Mission (VPM) scholarship.
- Prashant Tiwari B.Sc. (H) Biomedical Sciences II Year, selected for Vishwa Prakash Mission (VPM) scholarship.
- Nanda Gopal Jena, student of B.Sc. (H) Physics, was selected for Inspire-Scholarship for higher education (SHE) by Ministry of Science & Technology, Department of Science & Technology in 2024.
- Vaibhav Srivastava, student of B.Sc. (H) Physics, was selected for Inspire-Scholarship for higher education (SHE) by Ministry of Science & Technology, Department of Science & Technology in 2024.
- Vaibhav Srivastava, Naman Thakur, Abhijeet Singh Rajput and Prasun Kumar Pal students of B.Sc. (H) Physics, were selected for Meritorious Award by the University of Delhi for the year, 2024-2025.
- Mayank Kumar, student of B.Sc. (H) Computer Science (III Year), was selected for the VC Internship Scholarship by University of Delhi for winter internship 2024-25.

- Shalini, student of B.Sc.(H) Zoology (II Year), was selected for the VC Internship Scholarship by University of Delhi for winter internship 2024-25.
- Ananya, student of B.Sc. (H) Computer Science (III Year), was selected for the VC Internship Scholarship by University of Delhi for winter internship 2024-25.
- Hariom Chaudhary, B. Sc. (H) Biomedical Science, II Year was awarded First position in the quiz competition held during the One Day Workshop on Scientific Writing and Communication organized by ANDC in association with International Society for Microbial Ecology (ISME) on February 13, 2024.
- Prashant Tiwari, B. Sc. (H) Biomedical Science, II Year was awarded Third prize in CaseCrack Competition organized during Entrepreneurship Summit 2023 by Udmodya Foundation, a Section 8 Company of University of Delhi, to celebrate World Entrepreneur's Day on August 21, 2023.
- Saarthak, B.Sc. (H) Biomedical Science, II Year was selected for Vice Chancellor Internship Scheme, 2023 for six months in Faculty of Science, University of Delhi and was awarded 30,000/-.
- Sandeep Gupta, student of B.Sc. (Hons.) Biomedical Sciences (3rd year), selected for Independence Day Celebration Camp (IDC) 2025, Ministry of Defence and Ministry of Sports and Youth Affairs, August 1-15, 2024
- Saarthak Kumar, B.Sc. (H) Biomedical Sciences, III Year, selected for the Best Student Silver Jubilee Award for the academic session 2023-24, on May 15, 2024.
- Ujjawal Kumar B. Sc. (H) Biomedical Science, II Year 1st rank in 'Samavesh' organized by National Service Scheme unit of Sri Aurobindo College (Evening) (NSSSACE) during their annual event - Tarang'24, April 14, 2024.
- AishaniVashisht, student of B.Sc Hons Biomedical Science, I Year, selected for INSCR emerging researcher award for oral presentation awarded during the 8th International Conference of Indian Network for Soil Contamination Research (INSCR-2024) on 'Exploring the Microbial World from Human Health to Environmental Sustainability' and 4th International Symposium on Ciliate Biology (ISCB-2024), organized by INSCR and Acharya Narendra Dev College from April 03-05, 2024.
- Hariom Chaudhary B. Sc. (H) Biomedical Science, II Year, selected for Best Poster award for oral presentation awarded during the 8th International Conference of Indian Network for Soil Contamination Research (INSCR-2024) on 'Exploring the Microbial World from Human Health to Environmental Sustainability' and 4th International Symposium on Ciliate Biology (ISCB-2024), organized by INSCR and Acharya Narendra Dev College from April 03-05, 2024.
- Alia Siddiqui, student of B.Sc (honours) Biomedical Science (2nd year), selected for Pushpa Paul Memorial Scholarship Award 2023-24, Acharya Narendra Dev College, University of Delhi, April 02, 2024.
- Chandan Kumar, B. Sc. Computer Science III year, secured second position in Typing Titans organised during AGON'24 by the Department of Computer Science, Shyam Lal College(Evening).
- Aman Sharma, B. Sc. (H) Computer Science III year, won 'Top performing lens of the month' during Lens Creator rewards Programme at Snapchat.
- Riyansh Sharma, Shrishti Rawat, Ayush Yadav, Shubh Sankhyadhar, B. Sc. (H) Computer Science III year, were round 4 finalists of the Dark Patterns Buster Hackathon 2023 organised by IIT-BHU and Ministry of Consumers Affairs on 17th February 2024.
- Megha, Avishkaar, Ayush Bhardwaj, Arpit Bhardwaj, B. Sc. (H) Computer Science III year, were round 4 finalists of the Dark Patterns Buster Hackathon 2023 organised by IIT-BHU and Ministry of Consumers Affairs on 17th February 2024.

- Piyush Singh, Rohan Sagar, presented a solution on Dark Patterns (Dark Guard) at Dark Pattern Buster Hackathon, 2024, IIT BHU Varanasi on 17th February, 2024.
- Adi Maqsood, Nishant Pratap Singh, Abhishek Kumar, Shivanshi Rajpoot, Himmanshu Yadav, presented solution on Dark Patterns (Ethical Eye) at Dark Pattern Buster Hackathon, 2024, IIT BHU Varanasi on 17th February 2024.
- Shubh, B.Sc.(H) Computer Science 3rd year, secured first position in the Data Science Exhibition organised by ANDC.
- Naman Beri, B.Sc. (H) Electronics, I Year Secured second position in hackathon event in the annual technical fest of Shaheed Rajguru college for applied science for women Electromania'23 of held on November6, 2023.
- Ms. Sudhanshu Kumar, B.Sc. (H) Electronics- I Year awarded scholarship certificate for being selected by Skill India Scholarship program 2023-24.
- Sakshi Singh and Harsh Kumar, B.Sc. (H) Zoology- I Year were awarded first Prize in the Oral presentation entitled "Extraction of Sericin from cocoon and silk waste" in the International Conference on Global Scenario and Sustainable solutions inSilk industry held at Bharat Tex Expo on February 28, 2024.
- Gifty Saini and Ahmed Bilal, B.Sc. (H) Zoology- I Year were awarded first Prize in the Oral presentation entitled "Cultivating cordyceps by usings silkworm as a substrate" in the International Conference on Global Scenario and Sustainable solutions inSilk industry held at Bharat Tex Expo on February 28, 2024.
- Sakshi Singh, B.Sc. (H) Zoology- I Year is certified Viksit Bharat Ambassdor.
- Anshika Sharma B.Sc. (H) Zoology- III Year was awarded First Prize in Small Story Writing Competition in Hindi Diwas 2023 organized by Jesus and Mary College, University of Delhi.
- Govind Kushwaha, student of B.Sc. (H) Electronics (III Year), won 1st Prize in Brain Drain Quiz organized by Rajdhani College, April 02, 2024.
- Shashwat, student of BSc (H) Chemistry (III Year) won the following prizes:
- First prize in quiz competition, Deshbandhu College, April 04, 2024.
- Second prize in policy presentation competition, Saheed Bhagat Singh College, April 15, 2024.
- Got third prize in Quiz competition, DCAC in 2024.
- Anupama, student of B.Sc. (H) Zoology (II year), won Second prize in National Level Online Speech Competition, 7th July 2024
- Anupama, student of B.Sc. (H) Zoology (II year), won Second prize in National Level Online Conventional Debate Competition, August 12, 2024
- Swastika Tiwari, student of B.Sc. (H) Computer Science (II Year), won 2nd position for a oral presentation on paper "Innovative Approach to Cartesian Coordinate" at IAPT (Indian Associate of Physics Teachers) RC-01, August 31, 2024.
- Naman Beri, student of B.Sc. (H) Electronics (II Year), won First position for paper titled Experiential Learning & integration of Physics in building an 8-bit computer, 11th Annual convention of IAPT, RC-1 organized by Amity International school, August 31, 2024.
- Shaili Pal, student of B.Sc. (H) Zoology (III year) won First Prize, 5km Marathon, international student house University of Delhi, 2024.
- Shivansh Bhatnagar of B.Sc. (H) Electronics II Year secured 2nd Position in the Intercollege Quiz Competition organized by Neutronics Society, Department of Physics and Electronics, Rajdhani College, University of Delhi, on 28th September 2021.

- Diwakar Mahato of B.Sc (H) Electronics II Year scored 90% marks in the final assessment and was the top performer in the four weeks training on ‘Internship & Job Preparation” organised by Internshala Trainings, 2022.



Invitation to SilkTech - 2024

Central Silk Technological Research Institute (CSTRI)
Central Silk Board, Ministry of Textiles, Govt. of India

Cordially Invites You for the

Inaugural Function
of the International Conference on

Global Scenario and Sustainable Solutions in Silk Industry

CHIEF GUEST
Smt. Darshana Vikram Jardosh
Hon'ble Minister of State for Textiles
Ministry of Textiles, Govt. of India

GUESTS OF HONOUR
Smt. Rachna Shah, IAS
Secretary, Ministry of Textiles, Govt. of India

Smt. Prajakta L. Verma, IAS
Joint Secretary (Fibre),
Ministry of Textiles, Govt. of India

Dr. Chyuki Takabayashi
Director,
Okaya Silk Museum, Japan

Date: 28.02.2024 & **Time:** 10:00 AM

Venue: Meeting Room 18, Level 1, Bharat Tex-2024,
Bharat Mandapam, Pragati Maidan, New Delhi

RSVP: Dr. S. Periyasamy
Director, CSTRI, (+919994645905)

Shri P. Sivakumar, IFS
Member Secretary, CSB

Appendix VIII

Students' Training

- Dev Pravin Rathod, Gummadi Shyam Kumar, Simran Kumari, Ujjwal Kumar, B. Sc. (H) Biomedical Science, I Year participated in Training Programme of Palliative care for Volunteers conducted by Dharamshila Rahat Medical Centre, Delhi on March 25, 2023.
- Gummadi Shyam Kumar, B. Sc. (H) Biomedical Science, I Year, secured Content Writing internship at Marpu Foundation through Internshala on May 26, 2023.
- Anagha M P, B. Sc. (H) Biomedical Science, II Year completed one month internship training in Microbiology department of PK Das Institute of Medical Sciences, Kerala from June 19, 2023, to July 18, 2023.
- Anshika Bansal, Arpit Sharma, Jasman Singh, Preksha, Sonam Soni, Saarthak Kumar, Suprobh Ahna Borah, Tamanna Saini, Tushar Pathak, B. Sc. (H) Biomedical Science, II Year completed a 60 hour value added course in Tools and Techniques in Biological Sciences conducted by Prime Minister's Research Fellow Scholars from IIT Delhi at Acharya Narendra Dev College. Date
- Arpit Sharma, B. Sc. (H) Biomedical Science, II Year completed a short-term training program on the project entitled "A comparative analysis of ARG databases and search tools for searching ARGsusing NGS data" under the supervision of Dr. Amit Kumar Yadav, Senior Research Scientist, Translational Health Science and Technology Institute (THSTI), Faridabad from June 01, 2023 to July 31, 2023.
- Asmita Nayak, B. Sc. (H) Biomedical Science, II Year completed a short-term training program on the project entitled "Experimental training for basic laboratory skills" under the supervision of Dr. Krishnamohan Atmakuri, Associate Professor, Translational Health Science and Technology Institute (THSTI), Faridabad from June 01, 2023, to July 31, 2023.
- Asmita Nayak, B. Sc. (H) Biomedical Science, II Year completed the Vice Chancellor Internship Scheme as a part-time Intern at the Department of Chemistry for six months from December 2022 till June 2023.
- Saarthak Kumar, B. Sc. (H) Biomedical Science, II Year worked as trainee in the research lab of Prof. B.K. Thelma, Department of Genetics, UDSC for four months from January 14, 2023, to April 14, 2023.
- Saarthak Kumar, B. Sc. (H) Biomedical Science, II Year completed the Vice Chancellor Internship Scheme as a part-time Intern at the Faculty of Science (Admin and Accounts) for six months from December 2022 till June 2023.
- Suprobh Ahna Borah, B. Sc. (H) Biomedical Science, II Year, completed the Vice Chancellor Internship Scheme as a part-time Intern under International Biosafety Committee (IBSC), UDSC for six months from December 2022 till June 2023.
- Suprobh Ahna Borah, B. Sc. (H) Biomedical Science, II Year, participated in IP awareness/training program under National Intellectual Property Awareness Mission organised by Intellectual Property Office, India on August 27, 2022.
- Suprobh Ahna Borah, Tamanna Saini, Tushar Pathak, B. Sc. (H) Biomedical Science, II Year participated in IP awareness/training program under National Intellectual Property Awareness Mission organised by Intellectual Property Office, India on August 27, 2022.
- Tamanna Saini, B. Sc. (H) Biomedical Science, II Year, completed a short-term training program on the project entitled "Cloning, protein expression and purification of prophage Lysin B" under the supervision of Dr. Ramandeep Singh, Professor, Translational Health Science and Technology Institute (THSTI), Faridabad from June 01, 2023, to July 31, 2023.

- Tushar Pathak, B. Sc. (H) Biomedical Science, II Year, participated in a collaborative online training program on 'Entrepreneurship Development for Youth' jointly organised by ICAR- Indian Agricultural Research Institute, Delhi and Manage Hyderabad from March 14-16, 2023.
- Tushar Pathak, B. Sc. (H) Biomedical Science, II Year, Completed the course on 'Digital Productivity (Proficiency in Microsoft Word, Excel and Powerpoint)' organised by YuWaah, Youth Development and Partnerships, UNICEF during January 2023.
- Ajay Kumar Singhmar, B. Sc. (H) Biomedical Science, III Year, completed the 'Inter- College Summer Training Program on Green Fabrication of Silver Nanoparticles and its Antibacterial Efficacy' organised by the Department of Biochemistry, Shivaji College, University of Delhi from June 09 to July 08, 2022.
- Mr Abhay Gupta, B.Sc. (H) Zoology II Year, Completed internship titled "Techniques on Collection, Preservation and ldentification of Insects" at Zoological Survey of India, Northern Regional Centre, Dehradun from June 05 to July 14, 2023.
- Mr Dhruv Bhasin, B.Sc. (H) Zoology II Year, Completed internship titled "Techniques on Collection, Preservation and ldentification of Insects" at Zoological Survey of India, Northern Regional Centre, Dehradun from June 05 to July 14, 2023.
- Ms Manya Batra, B.Sc. (H) Zoology I Year Completed two months Internship as Human Resources Associate Intern in Begin from November 2022 to January 2023.
- Ms Manya Batra, B.Sc. (H) Zoology I Year, completed one year Internship with BookWithUVA supported by ELab @ANDC.
- Ms. Sudhanshu Kumar, B.Sc. (H) Electronics, I year completed 4-week course from university of EDINBURGH, British Council on Learning for a sustainable Future on December 3, 2023.
- Aman Sharma, B. Sc. Computer Science III year, participated in the under 25 Snapchat opinion leader programme for 9 months organised by Snapchat.
- Enas Shirin Fatma (B. Sc. (H) Biomedical Science, Year I) completed summer internship in the research group Genome Architecture and Evolution of RNA Viruses (GARV) at Helmholtz Institute for RNA-based Infection Research (HIRI) in Wurzburg under the supervision of Jun. Prof. Dr. Redmond Smyth from June 17, 2024 to August 06, 2024, on the topic "RNA structure analysis of the HIV-1 virus".
- Prince, Preksha, and Anushka (B.Sc. (H) Biomedical Sciences, Year III) completed summer research project on "Measurement of Cyber Security Index (CSI) via Exposure, Adaptive Capacity and Sensitivity" under the mentorship of Dr. Sunita Narang and Dr. Preeti Marwaha (Computer Science, ANDC).
- Hirtik Singh Rathore and Saarthak Kumar (B.Sc. (H) Biomedical Sciences, Year III) completed summer research project on "A Comprehensive Investigation and Biosynthesis of WithaniaSomnifera Based Nanoparticles Aimed at Elucidating their Antimicrobial Properties and Efficacy" under the mentorship of Prof. Sunita Hooda, Prof.Geetu Gambhir (Chemistry, ANDC) and Dr. Anita Narang (Botany, ANDC).
- LaziParween (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Effect of Selected Incense Sticks Ash Extract on Luminescence Response from Bioluminescent Bacteria" under the mentorship of Dr. Ranjeev Ranjan and Dr. Archna Pandey (Biomedical Science, ANDC).
- AishaniVashisht (B.Sc. (H) Biomedical Sciences, Year I) completed summer research project on "Assessing the Impact of COVID-19 and its Vaccination on the Reactivation of Varicella-Zoster Virus" under the mentorship of Dr. Ritu Khosla and Dr. Archna Pandey (Biomedical Science, ANDC).

- Kumar Tarun Singh (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Studies on the Effect of Rancid Oils on Luminescence Response from Bioluminescent Bacteria" under the mentorship of Dr. Rajeev Ranjan and Dr. Archna Pandey (Biomedical Science, ANDC).
- Dhanisht Bhushan (B.Sc. (H) Biomedical Sciences, Year I) completed summer research project on "Effect of Leachates from the Plastic-Coated Paper Cups on Luminescence Emission from Bioluminescent Bacteria" under the mentorship of Dr. Archna Pandey and Dr. Rajeev Ranjan (Biomedical Science, ANDC).
- Hariom Chaudhary (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "MDM2 Polymorphism Analysis to Uncover Novel Mechanism for Cancer Resistance" under the mentorship of Dr. Rimpy Kaur Chowhan and Dr. Archna Pandey (Biomedical Science, ANDC).
- Harshpreet Kaur and Vanshika Mittal (B. Com (H), Year II), VaamsiJajoria (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Role of Financial Literacy in Stock Market Participation Among the Indian Youth" under the mentorship of Prof. Surinder Kaur (Commerce, ANDC).
- Ujjwal Kumar (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Floral Traits Influence over Pollinator Niche Partitioning in Co-Flowering Species of Capparis in Semi-Arid Regions of Restored Ecosystem of Delhi" under the mentorship of Prof. Charu K. Gupta and Dr. Vineet K. Singh (Botany, ANDC).
- Jassi Goyal and Khushi Bhatt (B.Sc. (H) Biomedical Sciences, Year III) completed summer research project on "Standardizing Bacterial Culture for Industrial Cellulose Production" under the mentorship of Dr. Archna Pandey and Dr. Rimpy Kaur Chawhan (Biomedical Science, ANDC).
- Sabhyata Singh (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Detection of Adulterants in Dairy Products" under the mentorship of Dr. Shrankhla (Zoology, ANDC).
- Anushka Jain, Niharika Sehgal, and Tanisha Singh (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Effect of Zinc and Copper Nanoparticles and their Different Concentration on Seed Germination" under the mentorship of Dr. Anita Thakur (Botany, ANDC).
- Aisha Gupta (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Effect of Functionalized Silver Nanoparticle on Free and Immobilized Form of Bioluminescent Bacteria" under the mentorship of Dr. Archna Pandey and Dr. Rajeev Ranjan (Biomedical Science, ANDC).
- Prashant Tiwari, Niharika Sharma, Alia Siddiqui, and Yash Singh (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Exploring the Potential of Synthetic Biology in Terraforming Martian Atmosphere" under the mentorship of Dr. Deepshikha and Dr. Archna Pandey (Biomedical Science, ANDC).
- Shantanu (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Designing Anti-Aging Compounds Based on Resveratrol and Sirtuin Activation" under the mentorship of Dr. Deepshika (Biomedical Science, ANDC).
- Sandeep Gupta (B.Sc. (H) Biomedical Sciences, Year II) completed summer research project on "Assessing the Impact of COVID-19 and its Vaccination on the Reactivation of Varicella-Zoster Virus" under the mentorship of Dr. Ritu Khosla and Dr. Archna Pandey (Biomedical Science, ANDC).
- Shalini Verma (B.Sc. (H) Biomedical Sciences, Year III) completed summer research project on "Detection of Adulterants in Spices & Ghee" under the mentorship of Dr. Shrankhla (Zoology, ANDC).
- Shubh Sankhyadhar, B.Sc.(H) Computer Science, III year, did a 6-month internship in Director South Campus office, University of Delhi under VCIS as a Research and Web development intern.

- Preksha, B. Sc. (H) Biomedical Science, III year successfully completed an internship training program at Hiyoshi Corporation, Japan on 'Training on Operation and Maintenance of Water Purification Plant and Domestic Wastewater Treatment Facilities, Food and Environmental Analysis' and also, on 'Market Research for Environmental Business in India' from May 22, 2023, to July 14, 2023.
- Saarthak, B.Sc. (H) Biomedical Science, II Year completed a lab training in the Department of Genetics, University of Delhi South Campus under the able guidance of Prof. B.K Thelma from 14th Jan to 14th April 2023.
- Mr Abhay Gupta, B.Sc. (H) Zoology, III Year, completed internship titled "Techniques on Collection, PreservaMtion and ldentification of Insects" at Zoological Survey of India, Northern Regional Centre, Dehradun from June 05 to July 14, 2023.
- Mr Dhruv Bhasin, B.Sc. (H) Zoology, III Year, completed internship titled "Techniques on Collection, Preservation and ldentification of Insects" at Zoological Survey of India, Northern Regional Centre, Dehradun from June 05 to July 14, 2023.
- Ms. Anshika Sharma, B.Sc. (H) Zoology, III Year was Intern at Central Library, DU, under VCIS from November 2023 - April 2024.
- Aparna Chowdhury, student of B.Sc.(H) Zoology (III Year), completed her Internship, Infrastructure Professionals Enterprise Global, June 2024.
- Manvi Kalra, student of B.Sc. (Hons) Zoology (ll year), completed Data Analyst internship in collaboration with IIT Roorkee, September 01, 2024.
- Drishti, Naman Seri, student of B.Sc.(H) Electronics (II Year), completed IoTronics-Training Program on Hands -on Practical Training on Arduino, ESP32, Blynk Cloud and TinkerCAD, Deen Dyal Upadhyaya College, University of Delhi, October 13-14, 2024.
- Devika, student of B.Sc.(H) Zoology (III Year), completed her Internship at Cochin University of Science and Technology in 2024.
- Pulkit Deswal, student of B. Sc. (Hons) Zoology (II year), selected for the Skill development and entrepreneurship in water resources management internship, Safe water networks and skill council for green jobs, October 24-November 25, 2024.
- Siya Gupta, student of B.Sc. (H) Zoology (II Year), successfully completed an internship as a Subject Matter Expert (SME), October 24, 2024.
- Nikhil, student of B.Sc.(H) Electronics (II Year), successfully completed Seven Days Web Development Bootcamp, conducted by Campus Code, February 4, 2025.
- Anuj Purohit, student of B.Sc. (H) Electronics (II Year), successfully completed his Internship as a Video Editor, offered by Budding Mariners, from November 18, 2024 –January 11, 2025.
- Vanshika Jain, student of B.Sc. (H) Biomedical Science (I Year), was selected for Agnirva Space Internship, AICTE, February 15, 2025.
- Anupama, student of BSc (H) Zoology (II year), completed internship in Digital Outreach Team, January 08- February 19, 2025.
- Siya Gupta, student of B.Sc. (H) Zoology (II Year), successfully completed the internship as Human Resource Intern at Passionmojo Pvt. Ltd., January 13-February 24, 2025.
- Priya Ranjan, Abdul Hannan Malik, Nasreen, Mirza Mohammad Ain Ali and Himanshu, students of B.Sc.(H) Electronics (II Year), Govind Kushwaha and Dhristi of B.Sc.(H) Electronics (III Year), completed one-month hands-on training on Verilog implementation of Digital Circuit Design on FGPA

using Vivado (in collaboration with CoerEL technologies), Deen Dayal Upadhayay College, University of Delhi, from January 27, 2025 to February 28, 2025.

- Sakshi Singh, B.Sc. (H) Zoology I Year participated in Pre-Conference Workshop on Art of Scientific Writing and Communication of 8Th International Conference of Indian Network for Soil Contamination Research (INSCR 2024) on Exploring the Microbial World from Human Health to Environmental sustainability and 4th International Symposium on Ciliate Biology (ISCB-2024) organized by FEMS in collaboration with INSCR and ANDC on April 02, 2024, at ANDC.
- Arti Kumari, Sakshi Singh, Khushi Singh, Seemal Singh, B.Sc. (H) Zoology I Year attended One Day Hands on Workshop on Ayurveda and Nutrition entitled Prakriti Important tools for Health and Disease organized by Department of Botany, ANDC on November 30, 2023.
- Aparna Chowdhury, Mahaprasad Nayak, Mamoni Panda, Ayush Kumar, Nandini Gupta, Anushka Tomar, Rishika Pandey, Manvi Kalra, Rishabh Ojha , B.Sc. (H) Zoology II Year Attended 8Th International Conference of Indian Network for Soil Contamination Research (INSCR 2024) on Exploring the Microbial World from Human Health to Environmental sustainability and 4th International Symposium on Ciliate Biology (ISCB-2024) organized by INSCR and ANDC from April 03-05, 2024 at Conference Centre, University of Delhi, Delhi, India.
- Manya Batra, B.Sc. (H) Zoology II Year and Siya Gupta, B.Sc. (H) Zoology I Year participated in webinar titled Navigating the Digital Frontier: Empowering students for Academic Success organized by Department of Computer Science under VAC-Digital Empowerment held on October 4, 2023.
- Manya Batra, B.Sc. (H) Zoology II Year, volunteered in Bhumi's Daan Utsav Campaign held in the month of October, 2023.
- Khushboo, B.Sc. (H) Zoology III Year Participated in a seminar entitled Navigating the Digital Frontier on October 31, 2023.
- Manya Batra, B.Sc. (H) Zoology II year, Attended Kraftshala LIVE on From Fresher to CEO on July 20, 2023.
- Aaryan Mani, Arnav Abhay Naryan, Rishika Pandey, Tanisha, Rishabh Ojha, Mohit Kumar, Vishwanath Kumar, Komal Kumari, Saloni, Punita Kumari, Gifty Saini, Manvi Kalra, Seemal Singh, Risha Rochna, Arti Kumari, Sakshi Singh, B.Sc. (H) Zoology I Year participated in a One Day workshop on Scientific Writing and Communication organized by ANDC and sponsored by ISME on February 13, 2024.

Appendix IX

Students' Publications

- Das, R., Kotra, K., Singh, P., Loh, B., Leptihn, S., & Bajpai, U. (2021). Alternative Treatment Strategies for Secondary Bacterial and Fungal Infections Associated with COVID-19. Infectious diseases and therapy, 1-25.
- Pasricha, K. Mittal, P. Gahlot, H. Kaur, N. Avasthi and Shweta, (2022) Multicomponent Synthetic Strategies and Perspectives for Synthesis of Linked or Fused Coumarin Heterocycles: A review, J. Iranian Chemical Society, (accepted), doi.org/ 10.1007/s13738-022-02603-x.
- Ghai G, Raj R, Kaur R (2022) An Inclusive Science Laboratory for Visually Impaired Students, Journal of Engineering Education and Transformations Journal of Engineering Education/Journal of Engineering Education Transformations/Journal of Engineering Education Transformation, 36(2), 87–100. https://doi.org/10.16920/jeet/2022/v36i2/22157
- Srivastava S, Varshney A, Katyal S, Kaur R and Gaur V (2021) A smart learning assistance tool for inclusive education DOI:10.3233/JIFS- 210075. Journal of Intelligent & Fuzzy Systems.
- Gaur, V., Yadav, R., and Kaur, R. (2023) A Quantitative Approach to Prioritize Causes of Air Pollution in Delhi. Indian Journal of Environmental Protection (IJEP), Vol. 43(11).
- Rana, A., Bhatnagar, S., Garg, S. and Garg, A. (2023) A pedagogical approach to wavelength division multiplexing measurements using 3D printing and Arduino. Physics Education. 38(6).
- Rana, A., Bhatnagar, S., Garg, S. and Garg, A. (2023) Wide frequency range optical chopper system: an affordable solution using 3D printing and Arduino Uno. Physics Education. 38(6).
- Jha, A, Rana, A, Garg, S., Singh, A. and Garg, A. (2023) Real-time Face Mask Detection with an Auto Alarm using Arduino Uno. Accepted for publication in "The Journal of Research and Studies." (ISSN: 2455-5401).
- Roy, K., Garg, S., Rana, A., Tomar, S. and Garg, A. (2023) An Innovative Approach to Measuring Spring Constants: Utilizing 3D Printing and Sound Sensing with Improved Time Resolution in Data Collection. Accepted for publication in Physics Education Journal, India.
- Gaur,V., Sinha, A. and Kaur, R. (2023). An Intelligent Covid Management System for Pre Schools. In: Mishra, A., Gupta, D., Chetty, G. (eds) Advances in IoT and Security with Computational Intelligence. ICAISA 2023. Lecture Notes in Networks and Systems, vol 755. Springer, Singapore. https://doi.org/10.1007/978-981-99-5085-0_25.
- Jha, A., Gaire,P., Kaur, R. and Bhattacharya, M. (2023) IoT Based Smart Drainage System. In: Mishra, A., Gupta, D., Chetty, G. (eds) Advances in IoT and Security with Computational Intelligence. ICAISA 2023. Lecture Notes in Networks and Systems, vol 755. Springer, Singapore. https://doi.org/10.1007/978-981-99-5085-0_23.
- Agrawal, P., Jha, A., Kaur, R., Agrawal, A., Bhattacharya, M. (2024). Automatic License Plate Detection and Recognition using Deep Learning and Image Processing. International Symposium on Computing and Intelligent Systems (SCI 2024) co-organized with International Conference on Computing and Communication Systems for Industrial Applications (ComSIA-2024), A. Khamparia and U. Kose (Eds.). (2024). CUER workshop proceedings, Vol. 3682, pp 1-18.

Appendix X

Hands-on Experiments

Biomedical Science

- Preparation of solutions/buffers based on molarity, normality, percentage, dilutions etc.
- Estimation of Mohr's salt/ oxalic acid by titrating with KMNO4.
- Estimation of Cu (II) ions iodometrically using Na2S2O3.
- Qualitative tests for identification of carbohydrates.
- To determine the Iodine number of the given oil/ fat.
- To find pKa value of given acetic acid/ amino acid.
- Absorption spectrum of DNA/ Protein.
- Microscopy- Theoretical knowledge of Light and Electron microscope.
- To explain mitosis and meiosis using permanent slides.
- Cytochemical staining for proteins, carbohydrates and DNA in cheek cells or onion peel.
- To study the effect of isotonic, hypotonic and hypertonic solutions on cells.
- Observation of wild type and mutant phenotypes in Drosophila.
- Preparation of culture media for Drosophila and study different stages of life cycle of Drosophila.
- Verification of Mendelian laws through Drosophila / seeds – dominant, recessive and sex-linked.
- Karyotyping with the help of photographs. To prepare polytene chromosomes.
- To study various types of fractures from X ray films.
- To study different human organs and their sections through permanent histological slides.
- Protein estimation by any one: Lowry's/Bradford method.
- Calculation of void volume of Sephadex G -25 column, using blue dextran.
- Assay of any one enzyme under optimal conditions and effect of pH and temperature on its activity.
- Physiological data acquisition based experiments (ECG/EMG/EEG/PFT).
- Blood experiments.
- To perform tests for sensations (taste, touch and smell).
- To study various types of contraceptive.
- Preparation of different media: synthetic media, Complex media-nutrient agar, Luria Agar.
- Staining methods: Gram's staining, Acid fast staining, Capsule staining and spore staining.
- Study and plot the growth curve of E coli using OD.
- To perform antibacterial testing by Kirby-Bauer method.
- Staining and morphological characterization of Aspergillus sp., Pencillium sp. and Saccharomyces
- PCR based method of detection.
- Isolation of bacteriophages (non-pathogenic host) and calculation of plaque forming units (pfu).
- To perform immuno-diffusion by Ouchterlony method and Mancini method and its Analysis.
- Preparation of various experiments of Molecular Biology Laboratory.
- Preparation of Aspirin and determination of partition coefficient in octanol-water system.
- Extraction of caffeine from tea leaves and study its absorption properties.
- To determine the optical rotation of a biomolecule.

- Estimation of (i) Mg2+ or (ii) Zn2+ by complexometric titration using EDTA.
- Searching databases for drug like compounds and computing drug.
- Determination of viscosity of a macromolecule (Protein/DNA).
- Effect of different solvents on UV absorption spectra of proteins.
- Analysis, identification and comparison of various spectra of simple organic compounds.
- Quantitative determination of the following in the whole blood/plasma/serum: LFT, KFT, Metabolites, Serum glucose, Hormonal profile T3/T4, TSH and related case studies.
- Mendelian laws and gene interaction using Drosophila crosses., Chi-square and probability.
- Study to Linkage, recombination, gene mapping using marker based data from Drosophila.
- Study of Hardy-Weinberg Law using simulations (seeds).
- Toxicological Investigations and Therapeutic drug monitoring: salicylates, paracetamol, alcohols, acetone, methanol, phenol and formaldehyde.
- Separation of a mixture of benzoic acid, S-naphthol and naphthalene by solventextraction and identification of their functional groups.
- Analysis of the given sample for the presence of pesticides.
- Water analysis.
- Estimation of LD50 value of an insecticide from the data provided.
- Searching of scientific information using NCBI, or any search engine.
- Identification of gene using gene scan, Primer designing using software, Pair wise alignment and multiple sequence alignment. Phylogenetic analysis.
- Giemsa-stained Human chromosome preparation.
- Haplotype construction.
- Urine Analysis: Gross examination of urine for colour, odour etc. Abnormal constituents like protein, ketone bodies, glucose, blood, urea (any three).
- Tissue Processing, embedding, sectioning. Staining and preparation of permanent histological slide.
- Study of histological slides showing hypertrophy, hyperplasia, dysplasia, leukemia, cirrhosis and any common cancer.
- Diagnostic tests for detection of various Diseases – CRP, VDRL, RA, Pregnancy, Dengue and HIV.
- Molecular format conversion and hands-on molecular visualization program for displaying, animating and analyzing large bio-molecular systems using 3-D graphics.
- Bioinformatics.
- Western Blotting.
- Southern Blotting.
- Hands on practical on various methods of developing fingerprints in Forensic science.
- Study of security features present in Bank notes and CBSE mark sheets in Forensic science.
- Hands on performance of Polymerase Chain Reaction.
- Measurement of cell size using Micrometer.
- To determine the WBC, platelets and RBCs count.
- Developing TLC of fingerprints using various chemical methods.

- Cyber forensics by a cyber expert from Delhi Police helped students understand the various aspects of cyber forensics.

Botany

- Type studies of plant kingdom ranging from unicellular algae to multicellular trees.
- Cell study through Gram staining, Endospore staining, micrometry, haemocytometer.
- Cytochemical staining of protein, carbohydrates and DNA.
- Slide preparation to study mitosis and meiosis in plants.
- Qualitative tests for carbohydrates, reducing sugars, non-reducing sugars, lipids and proteins.
- Analysis for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency by rapid field tests.
- Determination of organic matter of different soil samples by Walkley & Black rapid titration method.
- Determination of dissolved oxygen of water samples from polluted and unpolluted sources.
- Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus, by species area curve method.
- Quantitative analysis of herbaceous vegetation in the college campus for frequency and comparison with Raunkiaer's frequency distribution law and for estimating density and abundance.
- Field visit to familiarise students with ecology of different sites.
- Introduction and specific details of economically important plants.
- Mendel's laws and gene interactions through seed ratios and study of Hardy-Weinberg Law using simulations (seeds).
- Enzyme kinetics.
- Study of vegetative and floral characters of plant families and preparation of herbarium.
- Genomic and plasmid DNA isolation from plants, microbes, restriction enzyme digestion and DNA estimation.
- Determination of osmotic potential of plant cell sap by plasmolytic method.
- Determine water potential of given tissue by weight method and falling drop method.
- Study of the physiological response of plants to various environmental factors.
- Calculation of the stomatal index, stomatal frequency and percentage of leaf area open through stomata in a mesophyte and a xerophyte.
- Bioinformatics.
- Introduction to plant biotechnology.
- Students are required to perform at least one long-duration experiment as project in plant physiology.
- Preparation of tissue culture medium.
- Agarose gel electrophoresis and Polyacrylamide gel electrophoresis.
- Micropropagation of plants through various explants.
- Isolation of genomic DNA.

- Alcohol Production by yeast using jaggery/sugar
- Isolation of microorganisms from water, soil and air using serial dilution methods.
- Hands on performance of microbial cell cultures and preparation of different culture media.
- Isolation of VAM from root and/or soil.
- Isolation of chloroplast pigments through column chromatography.
- Restriction digestion of plasmid DNA.
- Southern Blotting.
- Embryogenesis and Artificial seed production.
- Extraction and identification of phytochemicals in different ethno-botanically important plants.

Chemistry

- Acid-Base titrations, Oxidation-Reduction titrimetry, Iodo and iodimetric titrations, Argentometric titrations, Complexometric titrations.
- Gravimetric analysis.
- Synthesis of complexes and spectrophotometric characterization (λmax), Spectophotometric estimations.
- Separation of mixtures of metal ions by chromatography.
- Preparation of complexes and measurement of their conductivity.
- Semi-micro qualitative analysis of mixture of ions using H2S.
- Preparation silver nanoparticles.
- Purification of organic compounds by crystallization.
- Determination of the melting points of unknown organic compounds (Kjeldahl method and electrically heated melting point apparatus).
- Determination of boiling point of liquid compounds by capillary method.
- Ascending and horizontal paper chromatography, Thin layer chromatography (TLC).
- Detection of extra elements in organic compounds.
- Organic Preparations, recrystallization, characterize by melting point, TLC and yield.
- Systematic Qualitative Organic Analysis of Organic Compounds possessing mono-functional and bi-functional groups and preparation of one derivative.
- Solvent Extractions.
- Isolation and estimation of selected bio-molecules.
- Analysis of soil.
- Determination of dissolved oxygen in water, Biological oxygen demand, chemical oxygen demand.
- Surface tension measurements using stalagmometer.
- Viscosity measurement using Ostwald's viscometer.
- Determination of critical solution and phase equilibria.
- Distribution equilibria.
- Chemical energetic- Thermochemistry.
- Kinetic studies, Ionic equilibria.

- pH metry, Potentiometric titrations, Conductometric titrations, Molecular modelling.
- UV/Visible spectroscopy, Colorimetry, Adsorption.
- Cleaning and Calibration of Apparatus.
- Weighing on Analytical Balance.
- Measuring melting point.
- Volumetric analysis.
- Purification of solids by Filtration.
- Purification of liquids by distillation.
- Liquid-liquid extractions.
- Rotary evaporation.
- Refluxing.
- Thin layer chromatography.
- Column chromatography.
- Gravimetric Analysis.
- UV-Visible Spectroscopy.
- Analytical techniques using colorimeter, potentiometer, pH-meter.
- Molecular modeling.

Computer Science

- WAP for following using gcc, Loops, Functions, ArraysFiles.
- Use of classes, inheritance and polymorphism using gcc.
- Using CPUSIM, simulate the machine for-Memory inference, Register inference,I/P – O/P.
- WAP for the following in Scilab- Functions of matrix, Equations solving using numerical methods, Functions of vectors.
- WAP for the following data structures using gcc-Queues, Stacks, Linked lists, Sorting, Searching.
- Use of various Unix commands.
- Using gcc, WAP for the following, Behaviour of Linux kernel, CPU scheduling algorithms, Threading in processes.
- WAP using gcc for- Routing algorithms, Data link layer protocols.
- Using MSQL, create and manipulate database.
- Using gcc, WAP for the following, Sorting algorithms, Searching algorithms, Trees.
- Using TASM, WAP for-Binary addition, subtraction, multiplication and division, Conversions to ASCII, Manipulating arrays.
- WAP using gcc for-Scanning algorithms, Clipping algorithms, 2D and 3D transformations, 2D projections.
- Implement various projects showing steps in software engineering.
- WAP to get familiar with YACC and LEX.
- WAP to show TCP and UDP functions on clients and servers.
- WAP to get familiar with PROLOG and JADE.

- Using gcc, WAP for various Ciphers.
- Using gcc, WAP to display, Permutation and combination, Set theory, Relation.
- Building GUI for application in python.
- Building GUI for application in python.
- App development using Android Studio.

Electronics

- Verification of Network Theorems: Thevenin, Superposition, Maximum Power Transfer Theorem.
- RC Circuits: Time Constant, Differentiator, Integrator.
- Design a Low Pass and High Pass RC Filter and Study its Frequency Response.
- To Study the Generation of Lissajous Figures.
- To Measure the Z-Parameters of a Two-Port Network.
- To Study the Frequency Response of a Series LCR Circuit and Determine its (a) Resonant Frequency (b) Impedance at Resonance (c) Quality Factor Q (d) Band Width.
- To Study the I-V Characteristics of Diode – Ordinary and Zener Diode.
- To Study the I-V Characteristics of the CB/CE/CC Configuration of BJT aTo Study the I-V Characteristics of the UJT, SCR, FET Configuration.
- To study the half wave rectifier and Full wave rectifier.
- To study power supply using C filter and Zener diode.
- To study clipping circuits and clamping circuits.
- To study Fixed Bias, Voltage divider and Collector-to-Base bias Feedback configuration for transistors.
- To design a Single Stage CE amplifier.
- To study Class A, B and C Power Amplifier.
- To study the Colpitt's Oscillator, Phase Shift Oscillator.
- To study the frequency response of Common Source FET amplifier.
- To verify and design AND, OR, NOT and XOR gates using NAND gates.
- To convert a Boolean expression into logic gate circuit and assemble it using logic gate IC,s.
- Design a Half and Full Adder, Half and Full Subtractor.
- Design a seven-segment display driver.
- Design a 4 X 1 Multiplexer using gates.
- To build a Flip- Flop Circuits using elementary gates. (RS, Clocked RS, D-type).
- Design a counter using D/T/JK Flip-Flop.
- Design a shift register and study Serial and Parallel shifting of data.
- To study op-amp characteristics: CMRR and Slew rate.
- Designing an amplifier of given gain for an inverting and non-inverting config using an op-amp.
- To design an integrator and differentiator using op-amp for a given specification and study its frequency response.
- To design a First Order and Second Order Low-pass and High-pass filter using op-amp.

- To design a Band Pass/ Band Reject filter using op-amp.
- To design a RC Phase Shift Oscillator using op-amp for a given specification
- To study IC 555 as an astable multivibrator.
- Studying the variations of thermo-emf of a thermocouple.
- To calibrate a thermocouple to measure temperature in a specified range.
- Frequency measurement using change in resistance using LDR.
- Study of Wein bridge oscillator.
- Study of De Sauty's bridge, Anderson's bridge, Carey foster bridge.
- Design of multi range ammeter and voltmeter using galvanometer.
- Study of Amplitude (AM), Frequency (FM) modulation and demodulation.
- Study of PAM, PWM, PPM.
- Study of Pulse Code Modulation (PCM), DPCM, Delta Modulation (DM), ADM.
- Study of ASK, PSK, FSK.
- To verify the law of Malus for plane polarized light.
- To determine wavelength of sodium light using Newton's Rings.
- To determine the resolving power and Dispersive power of Diffraction Grating.
- Diffraction experiments using a laser.
- To determine the specific rotation of scan sugar using polarimeter.
- Characteristics of LEDs and Photo- detector.
- To measure the numerical aperture of an optical fiber.
- To determine refractive index of the material of a given prism using Sodium Light.
- To determine the resolving power of a prism.
- To determine wavelength of light using Fresnel Biprism.
- To study the I-V characteristics of DIAC, SCR, TRIAC.
- SCR as a half wave and full wave rectifiers.
- DC motor control using SCR and TRIAC.
- To use UJT as a trigger for TRIAC.
- To study parallel and bridge inverter.
- To measure the resistivity of semiconductor crystal with temperature by four–probe method.
- To determine the type (n or p) and mobility of semiconductor material using Hall-effect.
- Modulation of LED and detection through Photo detector.
- To study the characteristics of DC Series and Shunt motor.
- To study characteristics of single phase induction motor.
- To study control of DC motor by SCR.
- To Study Stepper Motor.
- To Study Open Circuit and Short Circuit Test on single phase transformer.
- To determine the temperature coefficient of resistance by platinum resistance thermometer.
- Microprocessor/Microcontroller based experiments.
- Physics based experiments.

- Computer Networks based experiments.
- Study of 16 QAM modulation and Detection with generation of Constellation Diagram.
- To determine the Characteristics of LVDT.
- Measure of low resistance by Kelvin's double bridge.
- To determine the Characteristics of resistance transducer - Strain Gauge (Measurement of Strain using half and full bridge).
- Measurement of Low Resistance of Kelvin's Double Bridge.
- To determine the characteristics of resistance transducer-strain gauge (Measurement of strain using half and full bridge.
- To determine the characteristics of LVDT.
- Study of Pulse Code Modulation (PCM), DPCM, Delta Modulation (DM), ADM.
- Study of ASK, PSK, FSK.
- Study of FDM.
- SPARK V Robot (I/O Programming).
- SPARK V Robot (Motion Control and Obstacle Detection).
- AVR Programming in Assembly and C in AVR Studio.
- Interfacing of AVR microcontroller with LED, buzzer, seven segment display and LCD.
- Interfacing of AVR microcontroller with D.C. motor and stepper motor.
- Study of various characteristics of EM Wave propagation (in scilab).
- Representation and transformation of vectors in Cartesian, cylindrical and spherical coordinates. Plotting of Gradient of a scaler field, Curl and Divergence of vector fields.
- Plot of Electric Field and Electric Potential due to various charge distributions. Plots of magnetic flux density due to current carrying wire.
- Studying the variation of thermo-emf of a thermocouple.
- Frequency measurement using change in resistance using LDR.
- To design a RC Phase Shift Oscillator using op-amp for a given specification Design a counter using D/T/JK Flip-Flop.
- Design a shift register and study Serial and Parallel shifting of data.
- To Study the I-V Characteristics of the UJT, SCR, FET Configuration.
- To study power supply using C filter and Zener diode.
- To study Fixed Bias, Voltage divider and Collector-to-Base bias Feedback configuration for transistors.
- Study of FDM.

Physics

- Random errors.
- Using a Sextant.
- Spring constant.
- Acceleration due to gravity.

- Modulus of rigidity.
- Moment of Inertia of a Flywheel.
- Young's Modulus of a Wire.
- Elastic Constants of a wire.
- Bar Pendulum.
- Kater’s Pendulum.
- Series RC Circuit.
- Low Resistance using Potentiometer.
- Carey Foster’s bridge.
- De’Sauty’s bridge.
- Determination of dB/dx.
- Thevenin Theorem verification.
- Norton.
- Superposition.
- Maximum power transfer theorems.
- Anderson’s bridge.
- Series and parallel LCR.
- Ballistic galvanometer.
- Melde’s experiment.
- Coupled oscillators.
- Schuster`s focusing.
- Refractive index.
- Cauchy constants.
- Fresnel Biprism.
- Newton’s Rings.
- Diffraction grating.
- Callender and Barne’s method.
- Searle’s thermal conductivity method.
- Angstrom’s method.
- Lee and Charlton’s method.
- Platinum Resistance Thermometer.
- Thermocouple.
- Planck’s constant.
- H-alpha of Hydrogen atom.
- Rotational spectrum of Iodine vapour.
- Value of e/m.
- Wavelength of He-Ne laser.
- Four probe method.
- Hall coefficient.

- Malus law.
- Polarimeter.
- Elliptically polarized light.
- Ultrasonic waves in a liquid.
- Total internal reflection.
- Determination of Stefan's constant.
- Boltzmann constant.
- Sample and Hold Circuits.
- Clippers and Clamper circuits.
- Loading effect of a multimeter.
- Cathode Ray Oscilloscope (CRO).
- I-V characteristics of LEDs, Solar Cell, Photodiode, IR and LD.
- Combinational logic system.
- Logic gate ICs.
- Half adder, Full adder and 4-bit Binary Adder.
- Half Subtractor, Full Subtractor, Adder-Subtractor.
- Astable multivibrators.
- Monostable multivibrators.
- PN, Zener and LED characteristics.
- BJT in CE mode.
- Voltage divider bias.
- Op-amp 741 and its characteristics.
- Flip-Flops (RS, JK, D).
- 4-bit Shift Register (serial and parallel).
- Solar cell.
- Biasing configurations of BJT.
- Two stage RC-coupled transistor amplifier.
- Wien bridge oscillator.
- Phase shift oscillator.
- Digital to analog converter (DAC).
- Zero-crossing detector and comparator.
- Op-amp as integrator and differentiator.
- Circuit to simulate 1st/2nd order differential equation.
- Bridge rectifier and study effect of C-filter.
- Active Low and High pass filters, of given specification.
- JFET.
- UJT and relaxation oscillator.
- Amplitude and frequency modulation.
- Pulse modulation - PWM, PPM, PAM.

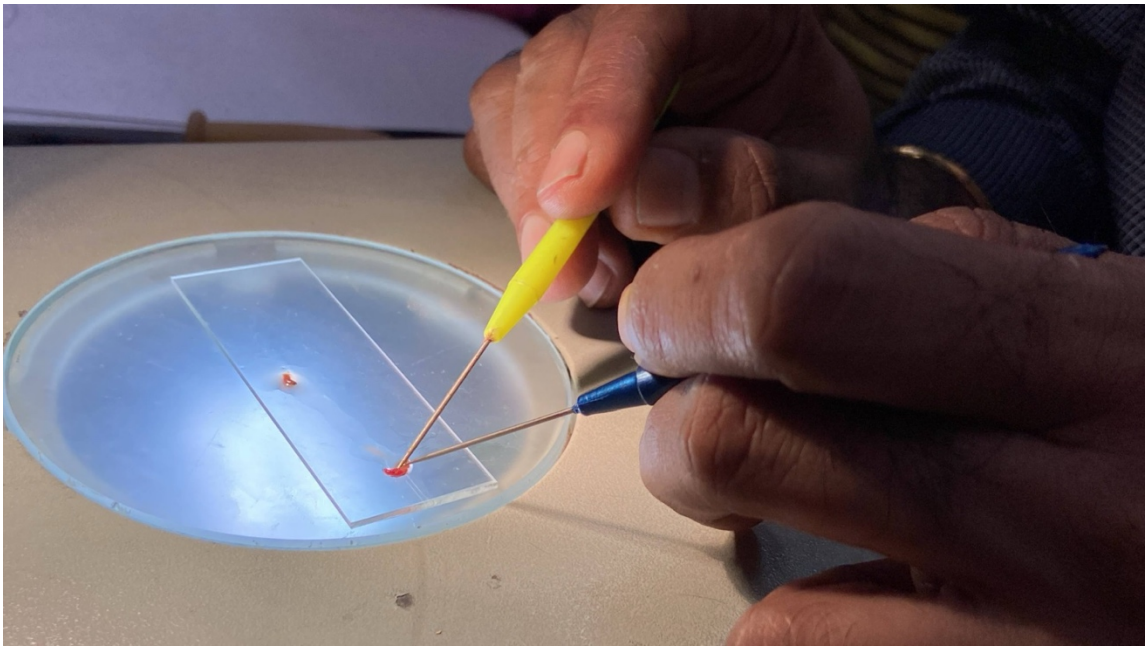
- Phase Locked Loop.
- Time Division Multiplexing (TDM).
- ASK, PSK and FSK modulators.
- Direct and indirect addressing.
- Multiplication, Division.
- 16-bit Numbers.
- CALL and RETURN.
- Block data handling.
- Parity Check.
- Using interrupts etc.
- Prime numbers.
- Factorial.
- Using ports of 8051.
- Up and down counting.
- Interfacing.
- Application of embedded systems.
- LED flashing and intensity variation.
- Stepper motor.
- LCD.
- CRO interfacing.
- Prime numbers.
- Factorial.
- TIMER application.
- Application of embedded systems: Temperature measurement etc.
- Some information on LCD display.
- Interfacing a keyboard.
- Numerical computation software Scilab.
- C++/C/Scilab based simulations experiments on Mathematical Physics.
- C++/C/Scilab based simulations experiments on Quantum Mechanics.
- C++/C/Scilab based simulations experiments on Statistical Mechanics problems, Digital signal processing laboratory.
- Measurement of complex dielectric constant and plasma frequency of metal using.
- Measurement of complex dielectric constant and plasma frequency of metal using Surface Plasmon resonance (SPR) technique.
- Determination of refractive index of a dielectric layer using SPR technique.
- Measurement of P-E hysteresis and plotting its characteristics.
- Systematic determination of wavelength of LASER by studying the diffraction pattern produced by a plane diffraction grating having different grating constants.
- Measurement of numerical aperture (NA) of an optical fiber.

- To determine the wavelength of laser source using diffraction of single slit.
- To determine the wavelength of laser source using diffraction of double slits.
- To determine angular spread of He-Ne laser using plane diffraction grating.
- To find the width of the wire or width of the slit using diffraction pattern.
- To find the polarization angle of laser light using polarizer and analyzer.
- Studying the characteristics of Light Dependent Resistor (LDR).
- Studying the characteristics of MOSFET.
- Studying the characteristics of DIAC.
- Studying the characteristics of TRIAC.
- Recording holograms.
- Reconstructing holograms.
- Arduino microcontrollers.

Zoology

- Study of life tables, population density by quadrate method and calculation of Shannon-Weiner diversity index for the same community.
- Physico-chemical and Biological analysis of aquatic ecosystems.
- Slide Preparation: Cytochemistry, cell division, Polytene Chromosome, Histological Preparation and Temporary mounts of animal tissues.
- Quantitative and Qualitative tests of carbohydrates, proteins and lipids.
- Chromatography of biomolecules.
- Enzyme kinetic studies.
- Blood Experiments
- coli culture: Media preparation and Growth Kinetics.
- Bioinformatics and Biostatics.
- Behavioral experiments.
- Basics Biotechnology: Genomic and Plasmid DNA isolation etc.
- Ouchterlony's double immuno-diffusion method.
- Cell viability experiments.
- Detecting adulteration in food sample.
- Estimation of lactate, ascorbate and calcium by titration.
- Separation of proteins by SDS-Polyacrylamide gel.
- Southern Blotting and Electroblotting.
- PTC test, to analyze Mendelian inheritance and study Hardy-Weinberg Law.
- Culturing and observation of ciliates/bacteria.
- DNA isolation from bacterial culture.
- Agarose Gel electrophoresis.
- Polymerase chain reaction (PCR) using 18S rRNA primers.
- Phylogenetic analysis using bioinformatic tools.

- ELISA and Immunoelectrophoresis.
- Isolation of environmental DNA from soil samples.
- Determination of zooplankton diversity in freshwater samples.



Appendix XI

New Experiments

Biomedical Science: (33)

1. Qualitative tests for Amino acids and Proteins: Ninhydrin, Xanthoproteic, Million's, Lead Acetate, Biuret test
2. Qualitative test for Fats
3. To study the titration curve of glycine
4. Estimation of a Reducing sugar in a given sample
5. Analysis of sodium hypochlorite content in various household products
6. To detect primary alcohol in sample/ household products
7. To detect aromatic amines in the sample/ household products
8. To study various toxic substances in terms of exposure, health effects, from various online resources (such as https://www.atsdr.cdc.gov/ , TOXNET or other sources)
9. Isolation and purification of pure bacteria: streaking for single colonies
10. Propagation of pure bacteria in liquid culture
11. Field visit to a clinical microbiology lab/diagnostic lab to familiarize with latest tools and techniques used in microbial research
12. Phytochemical screening of Curcuma longa by solvent extraction: Terpenes and polyphenols
13. Represent different types of data in tables and graphs (Line chart, histogram, bar chart, frequency polygon, pie chart) using any spreadsheet software like MS EXCEL
14. Calculate various measures of central tendency (Arithmetic mean, mode, median and partition values) and dispersion (Range, standard deviation, coefficient of variance and covariance) using any spreadsheet software like MS EXCEL
15. Calculate probabilities for different distributions- normal and binomial using any spreadsheet software like MS EXCEL
16. Prepare scatter plot between two variables and interpret the relationship between them using correlation and simple linear regression analysis using any spreadsheet software like MS EXCEL.
17. Perform large sample test for single mean and difference of means using any spreadsheet software like MS EXCEL
18. Perform Student's t-test for one sample, independent samples, and paired samples using any spreadsheet software like MS EXCEL
19. Perform Chi-square test using any spreadsheet software like MS EXCEL
20. Perform One-way ANOVA using any spreadsheet software like MS EXCEL
21. Perform Two-way ANOVA using any spreadsheet software like MS EXCEL
22. Perform Non-parametric analysis: The Sign test or The Wilcoxon signed-rank test using any spreadsheet software like MS EXCEL
23. To explore any publically available database for tuberculosis/typhoid and study its epidemiology in the Indian population
24. To study the epidemiology of malaria including geographical and seasonal distributions in India

through a public database

25 To study various parameters like risk factors, incidence, prevalence, mortality rate and DALYs. for any specific type of cancer prevalent in India through NCRP or any other public database

26 To study the burden and causes of any hematological disorder in the Indian population.

27 To explore and analyze various national and international disease databases like ICMR/WHO/CDC/ etc.

28 To prepare a questionnaire for any health conditions.

29 To prepare a poster/ presentation using any digital media to communicate about the epidemiology and to create awareness about any health conditions

30 Measurement of absorbance & % transmittance of a solution using spectrophotometer/colorimeter

31 Estimation of glucose concentration by an enzymatic/non-enzymatic method

32 Determination of Km, Vmax and Kcat value of a given enzyme from the provided experimental data

33 Study of diploidy in onion root tip

Botany: (19)

1 Isolation of soluble proteins from sprouts and its separation through polyacrylamide gel electrophoresis.

2 Lignin degrading enzyme isolation from the spent mushroom substrate

3 How to develop Virtual labs for various experiments conducted in the curriculum

4 Determination of BOD, COD, TDS and TOC of different water samples

5 Determination of coliforms in water samples using eosin methylene blue (EMB) medium

6 Hydrolysis of casein by microorganisms

7 Hydrolysis of starch by microorganisms

8 Column Chromatography of chlorophyll

9 Use of various softwares like MS Excel, SPSS, R-Stat, and SigmaPlot.

10 Calculate the percentage similarity between different cultivars of a species using RAPD profile. Construct a dendrogram and interpret results

11 Estimation of organic matter content in soil samples

12 Stage of pollen dehiscence using flurochromes

13 Preparation of mushroom spawn

14 Techniques for the cultivation of Agaricus, Pleurotus and Ganoderma

15 Structure download (protein and DNA) from PDB (Textual file format- PDB and mmCIF)

16 Molecular viewer by visualization software (Ras Mol/ J mol/Swiss 3D Viewer/Pymol)

17 Translate a nucleotide sequence and select the correct reading frame of the polypeptidefrom the output sequences (such as, Translate tool of Expasy

18 Predict the structure of protein from its amino acid sequence. (Phyre 2/ Modweb/ CPHmodel/ Swiss Model)

19 Gene prediction using GENSCAN and GLIMMER.

Chemistry: (26)

S. No.	New Experiments Introduced
1	Introduction of Basics of Molecular Modelling, Avogadro Software & Argus Lab Software
2	Optimization of solvent system for the separation of components in Thin Layer Chromatography
3	Determination of cell constant
4	To study the kinetics of Iodide-persulphate reaction by Initial rate method
5	Study the variation of co-efficient of viscosity with different concentration of Poly Vinyl Alcohol (PVA) and determine molar mass of PVA
6	Write a program in BASIC to calculate the values using following equations: Ideal gas equation Van der Waals equation
7	Write a program in BASIC to solve simultaneous equations.
8	Write a program in BASIC to plot the graph of a particle in 1-D box.
9	Effect of temperature on the action of salivary amylase.
10	Estimation of glycine by Sorenson's formalin method.
11	Acetylation of one of the following compounds: amines (aniline, o-, m-, p- toluidines and o-, m-, p-anisidine) and phenols (β -naphthol, vanillin, salicylic acid) by using conventional method.
12	Acetylation of oneof the following compounds: amines (aniline, o-, m-, p- toluidines and o-, m-, p-anisidine) and phenols (β -naphthol, vanillin, salicylic acid) by using green approach.
13	To synthesize Ag nanoparticles and characterize by SPR peak.
14	To verify the Charle's law of a gas.
15	To Study the effect of various parameters on the adsorption of metal ions by Atomic Adsorption Spectroscopy.
16	Write a program in BASIC to solve quadratic equations ax2 + bx + c = 0 with known values of a, b and c
17	Synthesis of ammine complexes of Ni(II) and its ligand exchange reactions (e.g. bidentate ligands like acetylacetone, DMG, glycine) by substitution
18	To study Properties of Complexes Measurement of 10 Dq by spectrophotometric method Verification of spectrochemical series.method. verify spectrochemical series by recording UV spectra.
19	To perform Claisen schmidt reaction using the green method.
20	To find out melting point of the given organic compound without using paraffin oil/acid bath.
21	To find out boiling point of the given organic compound without using paraffin oil/acid bath.
22	To study the effect of different types of acids on iodination of aldehydes.
23	To study the molecular weight of different synthetic polymers by Viscometry.
24	To study potentiometric analysis of different redox reactions.
25	To study the effect of different parameters on corrosion of mild steel.
26	Distribution of acetic/ benzoic acid between water and chloroform or cyclohexane

Computer Science: (44)

1 PCA-normal notebook (uploaded in code folder) using fetch_lfw_people data.

2 Use iris data to do the following:
Standardise the data
Apply PCA to get first component only and plot first component wrt zerovector (along y-axis with range -2 to 2) and visualize using colors of class label.
Reapply PCA for two components. Display range of these twocomponents. plot the components and see the difference compared to part (1) display variance of first components (of part 3) and find out its ratio w.r.t. total variance.

3 Exploring different time zones through python libraries.

4 Arithmetic operation in time series data: Periods and Period Arithmetic

5 Create a Data Frame with NA values

6 Create a Data Frame of Cars and Colors and use the map function to add a third column mentioning the companies of the cars.

7 Create subplots of dimensions 3X2 using both methods.
Plot lines on all of them of 50 random numbers.
Keep the same x and y-axis.
The first row lines should be red.
The second-row lines should be blue.
The third-row lines should be green.
All the lines are to be dashed.
Put asterisk as marker on all lines.

8 Create a series with 3 values at indexes 2, 4, and 7.
Reindex the series as '0', '1', …. '9'.
Backward fill the Null values with limit 2.
Fill the null values in series from part a with 'Missing'.
Drop all the values in series from part c which are not 'Missing'.
Create a data frame of values from 0 to 12 with 3 rows and 4 columns.

9 a. Name the index and columns.
b. Create a series of even values of length 5 and add that series into the data frame
Columns wise
Row wise
Reindex either columns or rows to fill the missing values in both 1 and 2 with 0.
Sort the values of the data frame from section 1 in descending order.

10 Consider the series s1 = 8, -3, -4, 3, -4, 8, 2, 1, 2, 0
Rank the series with tie-breaker method as Min.
Rank the series with tie-breaker method as First.

11 Create a series with all the names of colors in Rainbow:
Change the index values as multiples of 3.
Display the names of colors with an index value of more than 12.
Change the index values to "Violet", "indigo", ……, "Black", and "White".

Check if there is any Null value in the series now.
Assign the index name colors to the NaN values.

12 Create a series from some Data Dictionary in Python.

13 Create a data frame of 10 students in your class having their Names, IDs, and Contact Numbers.
Add a new column University ID to the data frame.
Delete the ID from the data frame.
Give the row names as one, two three…..
Find the values in the third row of the column 'Name'.
Print all the Contact details of students.
Add another column semester marks.
Add another column 'Result' where write 'pass' if semester marks are above 40 out of 100 else write 'fail'.

14 Consider the following data dictionaries.
{'a': 12, 'b': 45, 'd': 79, 'b': 13, 'a': 43, 'e': 33}
{'b': 23, 'd':90, 'f': 55, 'a': 21, 's': 26, 'd': 78}
Now performed the following operations:
Make series out of those two data dictionaries.
Append the two series by index.
Find the Union of series one and series two.
Find the difference between series one from two.
Compute the set intersection of the two series.
Delete index 4 from both series.

15 Implement Gradient Descent algorithm in the following manner: (Give it a try)
First take a dataset with single independent variable and find the best fit using Simple Linear Regression.
Using the values of coefficients given in step a, apply gradient descent to minimize loss function and then make prediction again.
Compare the best fit line of case a and b.

16 Use the KNN and Naive Bayes Classifier to classify the Emails into Spam or not Spam. Also, evaluate the accuracy of both the Models.

17 Perform splitting of dataset into Dependent and Independent variables after identifying them.

18 Download any Dataset from ML UCI repository and apply all Pre-processing Tools for:
Handling Missing Data
Encoding Independent and Dependent Variables
Splitting the Dataset into the Training and Test Set
Feature Scaling

19 Perform the classification of Email spam or not using Decision Tree Classifier.

20 Take a dataset where features do not have a linear relationship. Implement Linear Regression on it. Also, implement Ridge Regression on it and compare the results.

21 Logistic Regression Classification.

22 Decision Tree Classification.

23 Design a web page with three sections: Menu, Content, and Footer(do not consider the positioning). In the Menu section put 2 things: A link to home page and a link to contact page. In content section: write a program to ask user to give value of n and print the table of n with proper variable representation. Also provide the sample output for this program. All the keywords used in program should be highlighted as yellow. In footer section put few things: date, course name, semester, college, student name, and teacher name. All the content of footer should be aligned to right.

24 Write JavaScript to validate the form created by student in HTML practical.

25 Write JavaScript to show the usage of setInterval function using which background colour of a division keeps on changing to a random colour.

26 Implement Breadth First Search Algorithm using python.
Implement Depth First Search Algorithm.

27 Implement A* search algorithm.

28 Create an application for Temperature and Currency converter.

29 Create an application to send username from one intent to another. (Explicit Intent Demo).

30 Create an application with an activity having EditText and a button. On clicking of button, make use of implicit intent that uses a Dial Action and let user make a call.

31 Create an application for Temperature and Currency converter.

32 Create Models using Deterministic Finite Automata.

33 Simulation of OS Process Life Cycle.

34 Simulation of Order Lifecycle on your Favorite App.

35 Simulation of Reservation of a Flight Simulation of a Fully Automatic Washing Machine.

36 Simulation of Booking Vaccine on COWIN App.

37 Simulation of Your favorite video game (eg Mario upto 1 level only).

38 Simulation of Your favorite Music App (Spotify, Gaana).

39 Simulation of College Library System : Simulation of Ordering from an Automated Canteen/Restaurant.

40 Simulation of Amazon Delivery (assume order is booked).

41 Simulation of Uber/Ola Cab booking.

42 Simulation of various functions of a MicroWave Oven.

43 Simulation of Automatic Gears in an automatic Car.

44 Simulation of TCP connection establishment.

Electronics: (37)

1. Measurement of Inductance by Anderson's bridge.
2. Characteristics of one Solid State sensor/ Fiber optic sensor
3. To determine the characteristics of resistance transducer - Strain Gauge.
4. Design a R-2R DAC.
5. Design a non-sequential counter using D/T/JK Flip flop.
6. Design an ADC circuit using ADC0804.
7. Study of Colpitt's Oscillator

8. Visualization of Spreadsheet Models.
9. Visualization of Semi-Structured Data.
10. Interactive Plots in Python and Tableau
11. Hierarchical and Topographical Data Visualizations in Tableau.
12. Calendar Heatmaps and Flow Data Visualizations in Python.
13. Time Series Data Visualization in Plotly.
14. Creating cloud account Amazon/Azure/Google/IBM to store images /files / programs
15. Use a dataset that contains immigration details e.g. Canada for a given duration of 30 years (Canada Immigration Dataset, source: https://open.canada.ca) or any other
    a. Create an area plot for top 6 immigrant countries in a given duration.
    b. Create and year-wise immigrant bar chart from India to Canada in a given duration.
    c. Create a boxplot of immigrants for three given countries.
    d. Show the total no. of immigrants using Area Chart and Pie chart for two given countries.
    e. Create a scatter Histogram for the immigrants in the given year for two specific countries
16. Build a simple quiz app in flutter for android, ios, and web.
17. Build a cross-platform app based on your own idea.
18. Program to calculate area of circle, rectangle and square
19. Program to print Fibonacci series
20. Program to print Pascal triangle
21. Program to evaluate HCF(GCD) of two numbers
22. Program to evaluate LCM of two numbers
23. Program to illustrate use of various inbuilt library functions in ‘math’ and ‘statsmodel’ python library
24. Program to count the number of vowels in a given string
25. Program to remove all duplicate values in a given list
26. Program to count positive and negative numbers in a list. Create two new lists: (i) having only negative numbers and (ii) having only positive numbers
27. Program to find sun of elements in a list
28. Program to read a list of ‘n’ integers. Create two new lists: (i) having only negative numbers and (ii) having only positive numbers
29. Program to create a list of tuples from the given list having number and it’s cube in each tuple
30. Program to create a dictionary which maintains record of the following student information: Admission Number, Roll Number, Name and Marks, Display information of a particular student on the basis of Admission Number
31. Program which contains user defined functions as a ‘module’ to calculate area, perimeter/surface area and volume of various shapes like square, cube, circle, cylinder etc.
32. Menu driven program to implement a simple calculator (i) which is capable of performing basic arithmetic operations (addition, subtraction, multiplication, division etc.) , (ii) for evaluation of other useful functions such as log10(x), sin(x), cos(x) etc.
33. Basic Data Analysis using PANDAS python library
34. Data Representation using Vectors and Matrices using NUMPY Library

35. Data Munging, Data Aggregation and Grouping Operations using PANDAS, MATPLOTLIB and SEABORN library
36. Analysis of Time-dependent data to predict Future Trends from Past Values (STATS MODEL-PYTHON LIBRARY)
37. PROJECT: Create an AWS account and implement AWS cloud for deploying any application

Physics: (29)

1 Measurement of dielectric constant of metal using Surface Plasmon resonance (SPR) technique
2 Determination of refractive index of a dielectric layer using SPR technique.
3 Measurement of P - E hysteresis and plotting its characteristics
4 Systematic determination of wavelength of LASER by studying the diffraction pattern produced by a plane diffraction grating having different grating constants
5 To determine the wavelength of LASER source using diffraction of single slit.
6 To determine the wavelength of LASER source using diffraction of double slits.
7 To determine angular spread of He-Ne LASER using plane diffraction grating
8 To find the polarization angle of LASER light
9 Studying the characteristics of Light Dependent Resistor (LDR)
10 Studying the characteristics of MOSFET
11 Studying the characteristics of DIAC
12 Studying the characteristics of TRIAC
13 Recording & reconstructing LASER viewable holograms
14 Study of Pulse Amplitude Modulation
15 Recording & Reconstructing single-step rainbow holograms
16 Study of Pulse Position Modulation
17 Study of Pulse Width Modulation
18 Study of Amplitude Shift Keying (ASK) Modulation and demodulation
19 Study of Frequency Shift Keying (FSK) Modulation and demodulation
20 Study of Phase Shift Keying (PSK) Modulation and demodulation
21 Generation and analysis of Time Division Multiplexing (TDM) waveforms
22 Study of characteristics of Junction Field Effect Transistors
23 Study of characteristics of Unijunction Transistors
24 Study of Hartley Oscillators
25 Study of Colpitt Oscillators
26 Study of Flipflops (SR, D, JK, JK Master-Slave)
27 Study of Shift Registers (SISO, SIPO, PISO and PIPO configurations)
28 Study of Counters (Asynchronous and Synchronous configurations)
29 Experimenting with Arduino microcontrollers

Zoology: (42)

1 Phylogenetic analysis using bioinformatic tools.
2 DNA isolation from bacterial culture.
3 Agarose gel electrophoresis.
4 Culturing and observation of ciliates/bacteria.
5 Polymerase chain reaction (PCR) using 18S rRNA primers.
6 Isolation of environmental DNA from soil samples.
7 Determination of zooplankton diversity in freshwater samples.
8 Virtual experiment on antibiotic resistance/sensitivity in the curd bacteria.
9 Comic video on antibiotic resistance.
10 DNA extraction from human cheek cells and tomato: Virtual experiment.
11 DNA extraction from banana: Virtual experiment.
12 DNA extraction from onion: Virtual experiment.
13 Virtual experiment on antibiotic resistance/sensitivity in the curd bacteria.
14 Comic video on antibiotic resistance.
15 DNA extraction from human cheek cells and tomato: Virtual experiment.
16 DNA extraction from banana: Virtual experiment.
17 DNA extraction from onion: Virtual experiment.
18 Study of growth kinetics of Gram –ve bacteria using homemade spectrophotometer: Virtual experiment.
19 Effect of different concentrations of antibiotics on bacteria using potato slices as media: Virtual experiment.
20 Preparation of culture media: Virtual experiment.
21 Gelatin gel electrophoresis: Virtual experiment.
22 Plasmid DNA isolation: Virtual experiment.
23 Determination of effect of temperature on the activity of the enzyme lipase: Virtual experiment.
24 Preparation of buffer solutions of different pH.
25 Predicting the structure of protein using on line softwares.
26 Separation of component from a mixture of red and blue ink by paper chromatography: Virtual experiment.
27 Study the effect of temperature on the activity of salivary amylase: Virtual experiment.
28 Qualitative analysis of oils and fats.
29 Estimation of vitamin c or ascorbic acid.
30 Determination of pH and temperature in a pond ecosystem.
31 To determine the pH of different water sample: Virtual experiment.
32 Determination of the intensity of light penetration using a secchi disc in different water samples: Virtual experiment.
33 Comparing alkalinity of different water samples from different sources by using red cabbage as pH indicator.
34 Determination of population density, frequency and abundance in a hypothetical community (alphabets on a newspaper) by quadrat method and calculation of Shannon-Weiner diversity

index for the same community.

35 Determination of the pH of different soil sample.

36 Study plankton diversity in pond water by using fold scope.

37 Study of pond water collected from different places to observe diversity in Protista using videos.

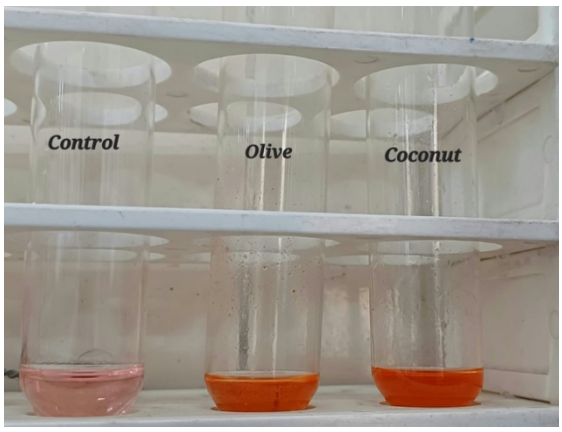
38 Study of soil samples collected from different places to observe diversity in nematodes using videos.

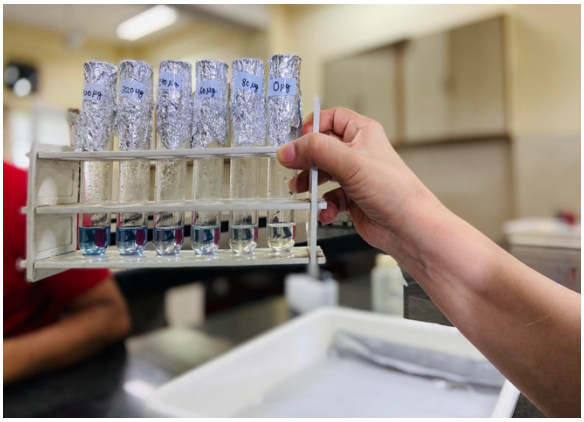
39 Pedigree analysis of human inherited traits using data.

40 Study and verification of Hardy-weinberg law by Chi-square analysis.

41 Study of the principle & method involved in counting of total leucocytes from blood (Life Science-3rd Semester).

42 Study of the principle, method and physiological significance of estimating bilirubin.





Appendix XII

Publications (Scopus Indexed)

Publications in Scopus
2021-2022

1. Das, R., Kotra, K., Singh, P., Loh, B., Leptihn, S. and Bajpai, U. (2021) Alternative Treatment Strategies for Secondary Bacterial and Fungal Infections Associated with COVID-19. Infect Dis Ther 11(1):53-78.
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14. Chourasiya D., Gupta M. M, Sahni S., Oehl F., Agnihotri R., Buade R., Maheshwari H. S., Prakash A. and Sharma M. P. (2021) Unraveling the AM fungal community for understanding its ecosystem resilience to changed climate in agroecosystems.Symbiosis, 84(3), 295–310.
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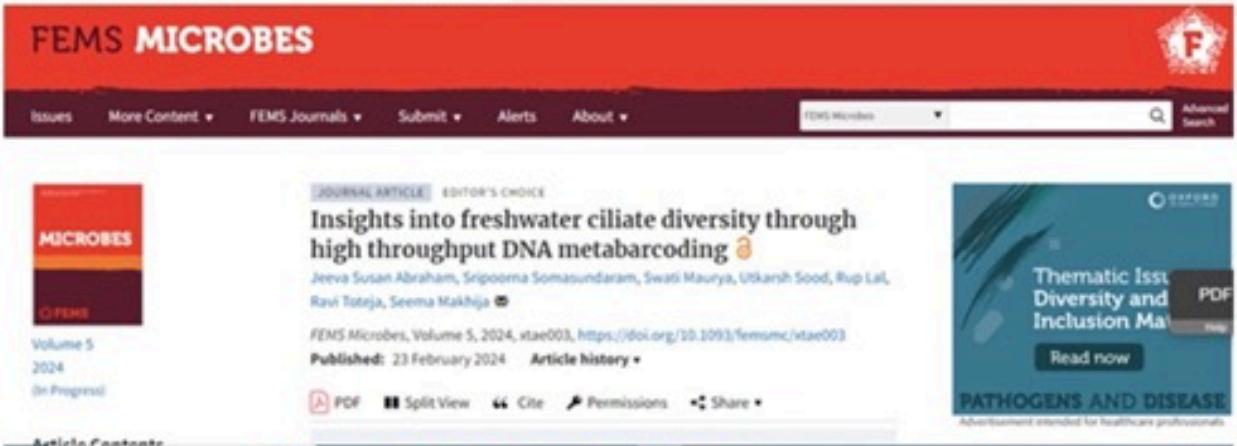
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Jeeva Susan Abraham, Sripoorna Somasundaram, Swati Maurya, Utkarsh Sood, Rup Lal, Ravi Toteja, Seema Makhija

FEMS Microbes, Volume 5, 2024, xtae003, https://doi.org/10.1093/femsmc/xtae003

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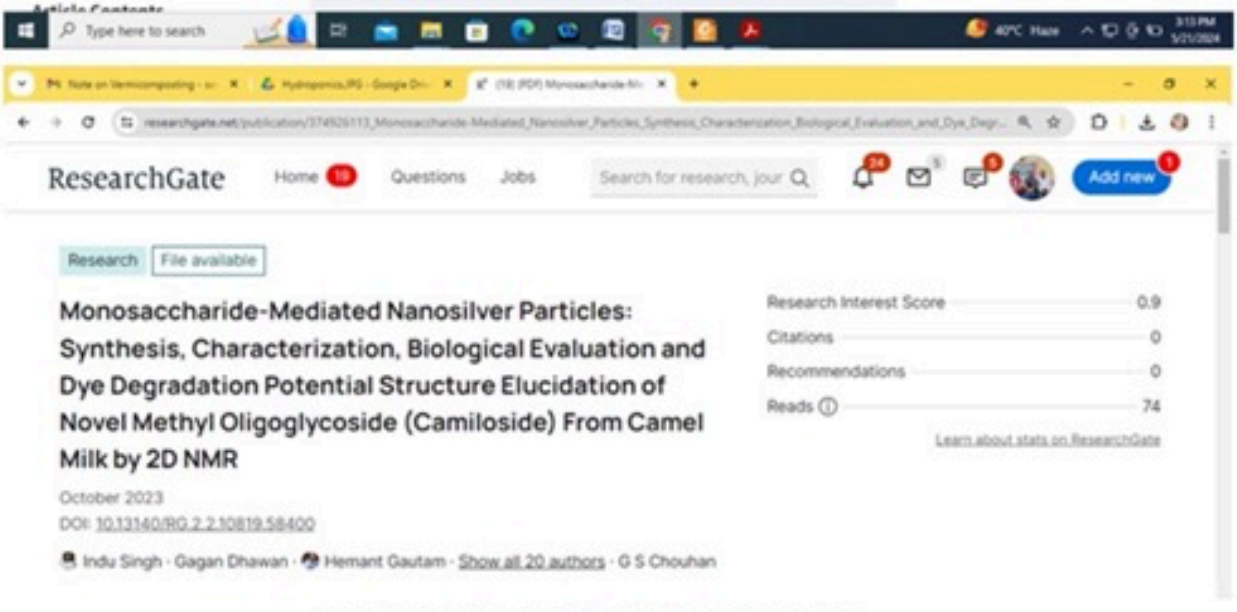
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Appendix XIII

Training Received by Faculty

2021-2022

Biomedical Science: (04)

- Dr Sunita Jetly attended International Conference on infection and immunity held at Daulat Ram College, University of Delhi from October 8-10, 2021.
- Dr Satendra Singh attended Five Day Workshop on Flow cytometry and qPCR based blood analysis organized by Department of BMS, Acharya Narendra Dev College, DU from October 20-24, 2021.
- Dr Satendra Singh attended National seminar on "Introduction to Bionest-UDSC and Bio entrepreneurship" organized by Department of BMS, Acharya Narendra Dev College, DU on February 15, 2022.
- Dr Rimpy Kaur Chowhan attended E-workshop on "Meta-sentiment-bibliometric Analysis using R" organized by Commacad from September 27-29, 2021

Botany: (11)

- Dr Anupama Shukla attended five day FDP on 'Environmental Audit' conducted by Kirori Mal College, University of Delhi in association with MHRD PMMMNMTT from June 28th -July 2nd, 2021.
- Dr Anupama Shukla attended one and a half month Executive Development Programme (equivalent to Certificate course) on "Hands-on with MS Office Essentials" conducted by Department of Vocation, Ramanujan College; University of Delhi, from July 19th- September 3rd, 2021.
- Dr Anita Narang attended five day FDP on 'Environmental Audit' conducted by Kirori Mal College, University of Delhi in association with MHRD PMMMNMTT from June 28th -July 2nd, 2021.
- Dr Anita Narang attended one and a half month Executive Development Programme (equivalent to Certificate course) on "Hands-on with MS Office Essentials" conducted by Department of Vocation, Ramanujan College; University of Delhi, from July 19th- September 3rd, 2021.
- Dr Yash Mangla attended one week (Online) Interdisciplinary Faculty Development Programme on 'Interdisciplinary Studies and Higher Education: Prospects and Challenges', organised by Dyal Singh College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi, 26th- 31stJuly, 2021.
- Dr Anita Thakur attendedfive-week National Workshop on Statistical Analysis of Biological Data with grade A+, organised by Department of Botany, Zakir Husain Delhi College, University of Delhi, 17th Jan- 21st Feb, 2022.
- Dr Manoj Kumar attended FDP on Edible Mushrooms- From Lab to Farm' organized by Shaheed Rajguru College of Applied Sciences for Women, 15th Feb 2021-19th Feb 2021.
- Dr Sumit Sahni attended Applications of AI and Machine Learning' organized by Rajasthan Technical University (KOTA) Aryabhatta College of Engineering , Ajmer, 02- 06 February, 2021.

- Dr Sumit Sahni attended Faculty Development Program on Edible Mushrooms-From Lab to Farm held from 15th Feb 2021-19th Feb 2021
- Dr SumitSahni attended 1 week online FDP on "Applications of Genomics, Metagenomics and Bioinformatics in Biological Systems" organized by Mahatma Hansraj Faculty Development Centre, Hansraj College,16th- 20th August, 2021.
- Dr SumitSahni attended Advanced Online Refresher Course/Two Week FDP on "Data Visualization with Tableau" organized by Guru Angad Dev Teaching Learning Centre, a centre under PMMMNMTT, Ministry of Education, Government of India in collaboration with Praxis Business School from 12th Aug – 25th August 2021

Chemistry: (11)

- Dr. Geetu Gambhir attended Four-Quadrant Model for Development of E-Content, MOOCs and Teacher's e-Kit, Online, 29th September to 5th October, 2021, Guru Angad Dev Teaching Learning Centre of MHRD, University of Delhi.
- Dr Pooja Bhagat attended 'V-Lab Development Bootcamp 1.0',January 17 to January 22, 2022 organized by Acharya Narendra Dev College under the aegis of DBT STAR College Scheme.
- Prof. Rashmi Thukral, Dr. Kavita Mittal were involved in developing E-content in four quadrants in chemistry at GAD-TLC of MHRD.
- Dr Manisha Jain and Dr NeetiMisra were involved in Development of virtual lab simulation on redox titrations
- Dr. Neeti Misra attended Online interdisciplinary two-week refresher course on 'Managing online classes and co-creating MOOCS 11.0' from 07-21 February, 2022 organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of PMMMNMTT.
- Dr. Pooja Bhagat and Dr. Geetu Gambhir attended An International Conference of Indian Network for Soil Contamination Research (INSCR) on 'Microbes in Sustainable Development' on November 15-18, 2021.
- Dr Pooja Bhagat, Dr Geetu Gambhir, Dr Manisha Jain and Dr NeetiMisra attended A 5- day online bootcamp' V-Lab Development Bootcamp 1.0' organized by Acharya Narendra Dev College from January 17 to January 22, 2022 under the aegis of DBT STAR College Scheme.
- Dr. Kavita Mittal participated in webinar titled "Plagiarism in Academic Writing & Research" organized by RASAYANATVA: The Chemical Society of Hansraj College, University of Delhi on 20th November, 2021.
- Dr. Kavita Mittal participated in Two days International E-Conference on "Recent Trends in Drug Discovery and Development" organized by Department of Chemistry, Maitreyi College, University of Delhi, from 8th- 9th October, 2021.
- Dr Neeti Mishra participated in webinar on "Understanding Plagiarism Detection Software Ouriginal" organized by University of Delhi in association with eGalactic Pune on 28th January 2022.
- Dr Neeti Mishra participated in a four-day National Virtual Lab Workshop on "Computer aided Drug design" organized by Department of Chemistry, Aggarwal College Ballabhgarh from 6-9th October 2021.

Computer Science: (07)

- Ms Priyanka Sharma attended Four Week Faculty Induction Programme for “Faculties in Universities/Colleges/ Institutes of Higher Education”, under the aegis of Ministry of Human Resource Development Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching Learning Centre Ramanujan College University of Delhi from July 19- August 17, 2021.
- Ms Shiva Saini, Ms. Nishu Singh, Ms. Gunjan Rani, Ms. Vandita Grover and Mr. Mahesh Kumar attended Four Week Faculty Induction Programme for “Faculties in Universities/Colleges/ Institutes of Higher Education”, under the aegis of Ministry of Human Resource Development Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching Learning Centre Ramanujan College University of Delhi from March 20- April 19, 2022.
- Dr Gunjan Rani attended One week online FDP on “Internet of Things (IoT)” by ATAL Academy from December 06-10, 2021.
- Dr Vandita Grover attended One week online FDP on “Cyber Security Analytics”, JNTU, AnantpurNovember, 17-21, 2021.
- Dr Vandita Grover attended One week online FDP on “Critical Design Thinking in Engineering and Collaborative Team Learning Strategies for Effective Team Work” from August 9-13, 2021
- Ms. Priyanka Sharma, Ms. Gunjan Rani attended Three months online CSEDU Program (Every weekend) on “Effective Teaching of Machine Learning” from IIT Delhi from 25th Aug ust- December 03,2022.
- Ms. Nishu Singh attended Three months online CSEDU Program (Every weekend) on “Effective Teaching of Programming in Python” from IIT Delhi from 25th Aug ust- December 03,2022.

Electronics: (36)

- Prof. Anju Agrawal, Dr. Ravneet Kaur, Dr. Monika Bhattacharya, Ms. Gauri Ghai attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Big Data Analytics (FDP-106),organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from November 4 2022 to November 11, 2022.
- Prof. Anju Agrawal, Dr. Ravneet Kaur, Dr. Monika Bhattacharya and Ms. Gauri Ghai attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Python: Essentials, Programmingand Analytics (FDP-102),organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from October 27, 2022 to November 3, 2022.

- Dr. Monika Bhattacharya attended MATLAB Workshop for Faculty Members organised by FOSS Club, Department of Computer Science, Acharya Narendra Dev College, Universiry of Delhi on October 12 and October 17, 2022.
- Prof. Anju Agrawal, Dr. Ravneet Kaur, Dr. Monika Bhattacharya, Mr. Dinesh Kumar and Ms. Gauri Ghai, attended Virtual Mini Colloquia (MQ) on 75thAnniversary of Transistor Invention" organised by IEEE EDS Delhi Chapter (New Delhi, India) from August 22, 2022 to August 29, 2022.
- Dr. Ravneet Kaur, attended IPR awareness/training program under the special mission called "National Intellectual Property Awareness Mission (NIPAM)" organised by Acharya Narendra Dev College, University of Delhi on August 27, 2022.
- Mr. Dinesh Kumar attended Two weeks (Online) Interdisciplinary Faculiy Development Programme on Introduction to Python Programming organised by Delhi Effective Education Pedagogy Cluster in collaboration with Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi, from August 8, 2022 to August 19, 2022.
- Prof. Anju Agrawal, Dr. Ravneet Kaur, Dr. Monika Bhattacharya, Ms. Gauri Ghai, attended One Week Online Workshop on "Recent Development in the Field of Electronics (RDFE-2022) organised by Department of Electronic Science, University of Delhi, in collaboration with IEEE EDS and IEEE APS & CRFID Delhi Chapter from July 25, 2022 to July 29, 2022.
- Prof. Amit Garg , Prof. Anju Agrawal, Dr. Ravneet Kaur, Ms. Gauri Ghai, Dr. Monika Bhattacharya and Mr. Dinesh Kumar served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Mr. Dinesh Kumar attended 2022 IEEE SPS Seasonal School on Al for Optimisation in Signal Processing (AISP) organisedbyIEEE Signal Processing Society Delhi Chapter from July 11, 2021 to July 15, 2021.
- Dr. Monika Bhattacharya attended One Week Online Faculty Development Program On Advanced Research Methodology Applicable in New Education Policy,organised by Digvijai Nath Post Graduate College Gorakhpur & Science Tech Institute, Lucknow from June 22 to June 28, 2022.
- Dr. Monika Bhattacharya and Ms. Gauri Ghai attended Biotech Startup Expo – 2022 , Biotech Startup Innovations: Towards AatmaNirbharBharat,organised by DBT, Ministry of Science and Technology, Government of India, at Pragati Maidan, New Delhi from June 9 to June 10, 2022.
- Dr. Monika Bhattacharya attended Virtual Mini-Colloquia (MQ) on Advances in II-N Devices and Systems organised by IEEE, Electron Devices Society (EDS), Delhi Chapter from June 1 to June 4, 2022

- Dr. Monika Bhattacharya attended Online International Workshop on Statistical Data Analysis using SPSS organised by Aryabhatt Institute of Academic and Research & Science Tech Institute, Lucknow from May 21 to May 27, 2022.
- Prof. Anju Agrawal, Dr. Ravneet Kaur, Ms. Gauri Ghai, Mr. Dinesh Kumar and Dr. Monika Bhattacharya conducted Training workshop and demonstration of Control Lab with software and data acquisition and Universal Dev Board with FPGA and CPLD for Teachers in collaboration with industry partner M/s Silicom Electronics on April 25, 2022.
- Prof. Anju Agrawal, Dr. Ravneet Kaur, Ms. Gauri Ghai, Mr. Dinesh Kumar and Dr. Monika Bhattacharya conducted Training Workshop and demonstration of lab Equipment for Teaching and Non- Teaching Staff in collaboration with industry partner M/s Vijayanta Electronics on March 23, 2022.
- Dr. Ravneet Kaur and Ms Gauri Ghai served as Resource person in a five-day workshop on "Development of Competency Framework and Revisiting of the Learning Outcomes in Science and Mathematics (PAC 6.01/2021-22)" held online at DESM, NCERT, New Delhi from March 7, 2022 to March 11, 2022.
- Mr. Dinesh Kumar attended One-Day Interdisciplinary National Workshop entitled "WELLNESS AND LEARNING: A Holistic Approach Towards Leading a Meaningful Life" organised by Guru Angad Dev Teaching Learning Centre, a Centre under the Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMIT) of Ministry of Education, SGTB Khalsa College, University of Delhi., on February 12, 2022.
- Mr. Dinesh Kumar attended webinar on Accelerate your research using Elsevier's Scopus organised by., Aishwarya nayal Customer Constuitant, University of Delhi from February 11, 2022.
- Mr. Dinesh Kumar attended Faculty Development Program on "Developing Positive Mental Health for Teaching-Learning Environment" organised by Guru Angad Dev Teaching Learning Centre, a Centre under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMIT) of Ministry of Education, SGTB Khalsa College, University of Delhi, from January 25, 2022 to January 31, 2022.
- Dr. Ravneet Kaur served as a Resource person in a five-day workshop on "Online Course in Teaching of Science at Upper Primary Stage." held online at DESM, NCERT, New Delhi from January 10, 2022 to January 14, 2022.
- Dr. Ravneet Kaur served as a Resource person in a five-day workshop on "Online Course in Teaching of Science at Upper Primary Stage." held online at DESM, NCERT, New Delhi from January 17, 2022 to January 21, 2022.
- Dr. Ravneet Kaur and Ms. Gauri Ghai attended 6-Day Bootcamp entitled "Virtual Lab Development 1.0" organised by ANDC, University of Delhi, New Delhi, from January 7, 2022 to January 21, 2022

- Dr. Ravneet Kaur, Dr. Monika Bhattacharya and Ms. Gauri Ghai of the department served as Resource Person in one-day interaction programme “Science Adda”, held on December 20, 2021, organized under the DBT Star College Scheme by Acharya Narendra Dev College.
- Dr. Ravneet Kaur delivered a lecture as a “Resource Person” on the topic Communication: Past, Present and Future on February 3, 2022, organized by Internal Quality Assurance Cell (IQAC) of ARSD College.
- Dr. RavneetKaurand Ms. Gauri Ghai attended 6-Day Bootcamp entitled “Virtual Lab Development 1.0” organized by ANDC, University of Delhi, New Delhi from January 17, 2022 to January 22, 2022.
- Dr. Ravneet Kaur attended the webinar on, “Understanding Plagiarism Detection Software Ouriginal” organized by University of Delhi in Association With eGalactic Pune on January 28, 2022.
- Dr. Ravneet Kaur amd Ms. Gauri Ghai attended the Training Program on “New Measurement Technologies and Simulation Techniques in Electronics" organized by IEEE Electron Device Society-Delhi Chapter & Department of Electronic Science, University of Delhi South Campus during October 17-18, 2022.
- Attended Special Mini Colloquia (MQ) in Virtual Mode on "Emerging Device Architectures for Tunnel FET" as part of the "75th Anniversary of Transistor Invention" organized by IEEE Electron Device Society - Delhi Chapter (New Delhi, India), The National Academy of Sciences India - Delhi Chapter and DeenDayal Upadhyaya College (University of Delhi) during September 26 to October 5, 2022.
- Prof. Anju Agrawal, Dr. Ravneet Kaur and Ms. Gauri Ghai attended Online Lecture Series on “Fundamentals and Applications of Technology Driven Sensors.” organised by IEEE EDS Delhi Chapter, from September 24, 2021 to September 25, 2021.
- Prof. Anju Agrawal, Dr. Ravneet Kaur and Ms. Gauri Ghai attended Robonetics: 30 days intense workshop on “Robotics and it’s analogy implementation organised by Tech Analogy, from September 24, 2021 to October 23, 2021.
- Mr. Dinesh Kumar attended Faculty Development Program on Digital Skills for Teachers organised by Guru Angad Dev Teaching Learning Centre, a Centre under the Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMIT) of Ministry of Education, SGTB Khalsa College, University of Delhi., from November 10, 2021 to December 4, 2021.
- Dr. Ravneet Kaur attended IP Awareness/Training program under National Intellectual Property Awareness Mission organised by Intellectual Property Office, India, on December 29, 2021.
- Dr. Ravneet Kaur attended International Symposium on “History and Future of Transistors” organised by IEEE EDS Delhi Chapter, on December 23, 2021.

- Dr. Ravneet Kaur attended Vice-Chancellors' Conclave On "National Education Policy 2020: Its Implementation, Opportunities and Challenges organised by Rajdhani College, University of Delhi, New Delhi, on December 16, 2021.
- Mr. Dinesh Kumar attended IEEF SPS AIVA 2021 (Artificial Intelligence for Visual Applications) organised by., IEEE Signal Processing Society Delhi Chapter and Indraprastha Institute of Information Technology-Delhi, India in collaboration with 10 SPS Chapters of the IEEE India Council and the SBl Lab of IIT-D from June 24, 2021 to June 28, 2021.
- Mr. Dinesh Kumar attended One week (Online) Interdisciplinary Faculty Development Programme on Basics of Research" " organised by., Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi in collaboration with PARAMARSH, UGC SCHEME from June 18, 2021 to June 24, 2021.

Physics: (08)

- The following faculty members successfully participated in the Intellectual Property Awareness program under National Intellectual Property Awareness Mission (NIPAM) on January 19, 2022

  Prof. Arijit Chowdhuri, Dr. Manisha Verma,, Dr. Sanjeeta Rani, Dr, Satya Prakash Yadav, Dr. V Bhasker Raj and Dr. Sanjay Kumar
- Dr. Sanjeeta Rani 5-day online bootcamp' V-Lab Development Bootcamp 1.0' organized by Acharya Narendra Dev College from January 17 to January 22, 2022 under the aegis of DBT STAR College Scheme.
- Dr. V. Bhasker Raj Participated in online faculty development program on moocs and e-learning in context of National education policy organised by Delhi school of public policy and governance, institution Of eminence, university of delhi in collaboration with national law university and judicial Academy assam and bhartiyashikshanmandal and national institute of open schooling, Ministry Of Education, Government Of India From October 18, 2021 To October 24, 2021.
- Dr. Pradeep Kumar Gupta successfully completed two week online Refresher Course in Physics from 28 July to 11 August 2022, from Teaching Learning Centre, Ramanujan College under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) scheme.
- Dr. Satya Prakash Yadav successfully completed four week online Orientation Course from 19 July to 17 August 2022, from Teaching Learning Centre, Ramanujan College under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) scheme
- Dr. V. Bhasker Raj successfully completed Two Week (Online) Interdisciplinary Faculty Development Programme on 'MOOC's, E-Content Development, Research Methodology and Statistical Tools in Open Education World '(3rd August – 17th August 2021) organised by Kalindi College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) scheme

- Dr. Rohtash Singh successfully completed Two Week (Online) Interdisciplinary Faculty Development Programme on 'MOOC's, E-Content Development, Research Methodology and Statistical Tools in Open Education World '(3rd August – 17th August 2021) organised by Kalindi College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) scheme
- Dr. Sanjay Kumar successfully completed Two Week (Online) Interdisciplinary Faculty Development Programme on 'MOOC's, E-Content Development, Research Methodology and Statistical Tools in Open Education World '(3rd August – 17th August 2021) organised by Kalindi College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) scheme

Zoology: (10)

- Prof. Sarita Kumar attended AHI EVRAN International Conference on Scientific Research, Kırşehir Ahi Evran University, Turkey, November 30-December 2, 2021.
- Prof. Sarita Kumar, Prof Ravi Toteja, Dr Monica Misra, Prof Seema Makhija, Dr Aparna Sharma and Dr Sweety Shrimali Attended IP Awareness/Training Program organized under the National Intellectual Property Awareness Missionby the Intellectual Property Office, India, 29th December 2021.
- Prof Ravi Toteja and Prof Seema Makhija attended 5-day online bootcamp' V-Lab Development Bootcamp 1.0' organized by Acharya Narendra Dev College from January 17 to January 22, 2022 under the aegis of DBT STAR College Scheme.
- Mr Ravinder Sagar attended Webinar Series (Professional) on "Transforming Teaching-Learning Process using ICT TOOLs" from 28-30th August 2020 organized by PGDAV College, University of Delhi.
- Mr Ravinder Sagar attended Webinar Series (Professional) on "Transforming Teaching-Learning Process using ICT TOOLs" from 28-30th August 2020 organized by PGDAV College, University of Delhi.
- Dr Aparna Sharma attended One Week Faculty Development Programme (online) on 'Computational Approach to Drug Discovery' conducted from 02 August to 07August, 2021 organised by Deshbandu College, University of Delhi and Center for Bioinformatics, Computational and Systems Biology in collaboration with Mahatma Hansraj Faculty Development Center, Hansraj College, University of Delhi.
- Dr Sweety Srimali Attended an International Conference on Chronobiology (ICC 2021)held virtually via Zoom, organized by JNCASR, Bangalore, INDIA and UC Davis, USA, 15th – 17thJuly 2021.
- Mr Vineet Girdhwal Participant- National workshop on Flow cytometry and qPCR based blood analysis- October 20-24, 2021.
- Mr Abhay Pratap Singh attended FDP on Wildlife Conservation and Management held at Daulat Ram College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi from October 04-09, 2021.

- Ms Bhumika Chauhan attended Interdisciplinary Faculty Development Programme (FDP) on "Roadmap for building New India with New Education Policy" held at Hansraj College, University of Delhi from July 21-25, 2021

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Biomedical Science: (15)

- Dr Satendra Singh attended faculty development programme Sericulture: Rearing And Its Application organized by Acharya Narendra Dev College, Shaheed Rajguru College of Applied Science for Women, Shri Guru Tegh Bahadur KhalsaCollege, Skill Enhancement Course Committee, University of Delhi from August 8-14, 2023.
- Dr Rimpy Kaur Chowhan attended Evidencing benefits of probiotics on gut-brain axis in aging & neuro-degeneration at All India Institute of Medical Science (AIIMS) from July 20-21, 2023
- Dr Archna Pandey attended Navigating Education in a Globalised World at EletsTechnomedia at Elets World Education Summit held from July 4-5, 2023.
- Dr Rimpy Kaur Chowhan attended Navigating Education in a Globalised World at EletsTechnomedia at Elets World Education Summit held from July 4-5, 2023.
- Dr Sunita Jetly attended Palliative care in Cancer organized by Palliative Care Volunteer Program with DharamshilaRahat Medical Centre on March 25, 2023 and from November 12-13, 2022
- Prof. Urmi Bajpai attended International conference Towards End TB: Achievements, Challenges and Future directions organized by DBT-THSTI, Faridabad from March 23- 25, 2023.
- Dr Rimpy Kaur Chowhan attended Computational Approaches to Protein Condensates organized by Dr. Monika Fuxreiter, University of Padov (The Protein Society) on January 24, 2023.
- Prof. Urmi Bajpai attended ICBRAM Conference, Society for Bacteriophage Research and Therapy at Karnataka University from November 26-27, 2022.
- Dr Archna Pandey attended 7th Annual International Conference on INSCR on “modulating the environment with microbes” conducted by Indian Network for soil contamination Research (INSCR) from November 8-11, 2022.
- Dr Rimpy Kaur Chowhan attended 7th Annual International Conference on INSCR on “modulating the environment with microbes” conducted by Indian Network for soil contamination Research (INSCR) from November 8-11, 2022.
- Dr Ritu Khosla attended 7th Annual International Conference on INSCR on “modulating the environment with microbes” conducted by Indian Network for soil contamination Research (INSCR) from November 8-11, 2022.
- Prof. Urmi Bajpai attended a seminar on Communicable and Non-Communicable Diseases: Prevention, Cure, and Future Preparedness organized by Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, New Delhi, India from November 2-4, 2022.

- Dr Archna Pandey attended a seminar on Communicable and Non-Communicable Diseases: Prevention, Cure, and Future Preparedness organized by Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, New Delhi, India from November 2-4, 2022.
- Dr Rimpy Kaur Chowhan attended a seminar on Communicable and Non-Communicable Diseases: Prevention, Cure, and Future Preparedness organized by Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, New Delhi, India from November 2-4, 2022.
- Dr Rimpy Kaur Chowhan attended Hands-on training workshop about Animal models in teaching and research organized by Department of Zoology, Banaras Hindu University October 7-9, 2022

Botany: (07)

- Dr Geetika Kalra attended Faculty development program at CCS, HAU Hisaron Hydroponics and Aeroponics Farming from 4 to 10 September 2023.
- Dr Sumit Sahni attended Faculty development program at CCS, HAU Hisaron Hydroponics and Aeroponics Farming from 4 to 10 September 2023.
- Dr Mandeep Kaur attended Faculty development program at CCS, HAU Hisaron Hydroponics and Aeroponics Farming from 4 to 10 September 2023.
- Dr Mandeep Kaur attended Faculty development program at CCS, HAU Hisaron Organic Farming andBiofertilizers from 7 to 12 August 2023.
- Dr Vineet Kumar Singh, Department of Botany has been resource person in Hands-on Training on SPSS: Basic Biostatistics using SPSSand Role of Statistical Softwareduring the national workshop on statistical analysis of biological data in Zakir Hussain Delhi College 17/01/2022 to 21/02/2022.
- Dr Vineet Kumar Singh, Department of Botany has been resource person in National Workshop on Biostatistics Basics at Ramjas College, University of Delhi, 13-14 August 2021.
- Dr Vineet Kumar Singh, Department of Botany has been resource person in Summer Training on Techniques in Plant Science, at Shivaji College, University of Delhi, 2021.

Chemistry: (08)

- Dr. Neeti Misra attended Online interdisciplinary two-week refresher course on ‘Managing online classes and co-creating MOOCS 11.0’ from February 07-21, 2022, organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of PMMMNMTT.
- Dr. Kavita Mittal, Dr Rashmi Thukral and Dr Pooja Bhagat Participated in IP Awareness/Training program under National Intellectual Property Awareness Mission organised by Intellectual Property Office, India on 27th August 2022 through online mode.

- Dr. Kavita Mittal and Prof Rashmi Thukral Attended webinar on QUILLBOT – awareness program organised by Acharya Narendra Dev College Library, University of Delhi, on September 29, 2022.
- Dr. Kavita Mittal Participated in One day Hands On Workshop on Forensics Science, organized by the Department of Biomedical Science, Acharya Narendra Dev College, University of Delhi on April 12, 2023, under the aegis of IQAC and DBT STAR College Scheme.
- Dr. Neeti Misra Successfully completed One-Week Online National Faculty Development Program "Python: Essentials, Programming and Analytics" jointly organized by University of Delhi and Guru Angad Dev Teaching and learning centre, SGTB, Khalsa College, DU, under the aegis of PMMMNMT of Ministery of Education from 27th October-3rd November 2022.
- Dr Rashmi Thukral Attended One week online National FDP For Building Leadership organised by GAD TLC, SGTB Khalsa College, D.U, under PMMMNMTT of Ministry of Education from 14th April-20th April 2022.
- Dr Rashmi Thukral Successfully completed one week online National Faculty Development Program on SAFER AND GREENER CHEMISTRY LABS organised by GAD TLC, SGTB Khalsa College, D.U under PMMMNMTT of MOE from 19th July- 25th July 2022.
- Dr Rashmi Thukral Attended International-Online Conference on 'Emerging Trends in Higher Education' organised by NPTC Group of Colleges UK, and GAD TLC, SGTB Khalsa College, D.U under PMMMNMTT of MOE from 28th March-29th March 2023.

Computer Science: (03)

- Ms. Priyanka Sharma attended Three months online CSEDU Program (Every weekend) on "Effective Teaching of Machine Learning" from IIT Delhi from 25th Aug ust- December 03, 2022.
- Ms. Gunjan Rani attended Three months online CSEDU Program (Every weekend) on "Effective Teaching of Machine Learning" from IIT Delhi from 25th Aug ust- December 03, 2022.
- Ms. Nishu Singh attended Three months online CSEDU Program (Every weekend) on "Effective Teaching of Programming in Python" from IIT Delhi from 25th Aug ust-December 03,2022.

Electronics: (13)

- Prof. Anju Agrawal attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Big Data Analytics (FDP-106), organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from November 4 2022 to November 11, 2022.
- Dr. Ravneet Kaur attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Big

- Data Analytics (FDP-106), organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from November 4 2022 to November 11, 2022.
- Dr. Monika Bhattacharya attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Big Data Analytics (FDP-106), organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from November 4 2022 to November 11, 2022.
- Ms. Gauri Ghai attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Big Data Analytics (FDP-106), organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from November 4 2022 to November 11, 2022.
- Prof. Anju Agrawal attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Python: Essentials, Programming and Analytics (FDP-102),organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from October 27, 2022 to November 3, 2022.
- Dr. Monika Bhattacharya attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Python: Essentials, Programming and Analytics (FDP-102),organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from October 27, 2022 to November 3, 2022.
- Ms. Gauri Ghai attended Online Faculty Development Programs (FDPs) / Refresher Coursesfor capacity building towards NEP-2020 based Skill Enhancement Courses, Python: Essentials, Programming and Analytics (FDP-102),organised by University of Delhi in collaboration with GAD-TLC, a Centre under PMMMNMTT, Ministry of Education, Government of India held from October 27, 2022 to November 3, 2022.
- Dr. Monika Bhattacharya attended MATLAB Workshop for Faculty Members organised by FOSS Club, Department of Computer Science, Acharya Narendra Dev College, University of Delhi on October 12 and October 17, 2022.
- Prof. Anju Agrawal attended Virtual Mini Colloquia (MQ) on 75th Anniversary of Transistor Invention" organised by IEEE EDS Delhi Chapter (New Delhi, India) from August 22, 2022 to August 29, 2022.
- Dr. Ravneet Kaur attended Virtual Mini Colloquia (MQ) on 75th Anniversary of Transistor Invention" organised by IEEE EDS Delhi Chapter (New Delhi, India) from August 22, 2022 to August 29, 2022.

- Dr. Monika Bhattacharya attended Virtual Mini Colloquia (MQ) on 75th Anniversary of Transistor Invention" organised by IEEE EDS Delhi Chapter (New Delhi, India) from August 22, 2022, to August 29, 2022
- Mr. Dinesh Kumar attended Virtual Mini Colloquia (MQ) on 75th Anniversary of Transistor Invention" organised by IEEE EDS Delhi Chapter (New Delhi, India) from August 22, 2022, to August 29, 2022.
- Ms. Gauri Ghai, attended Virtual Mini Colloquia (MQ) on 75th Anniversary of Transistor Invention"

Physics: (08)

- Dr. V. Bhasker Raj and Prof. Arijit Chowdhuri were Resource Persons for National Workshop on Career and Skill Enhancement for Non-teaching Staff organied by Acharya Narendra Dev College from 15 – 21 September 2022.
- Dr. V. Bhasker Raj and Prof. Arijit Chowdhuri were Resource Persons and held other positions at Hands-on training Workshop on Semiconductor Device Fabrication organized by Miranda House, University of Delhi, in collaboration with CIIDRET, UDSC and DSSEED, University of Delhi. The workshop was organized from 20 March – 3 April 2023 under the aegis of 100 days Skill Festival of University of Delhi.
- Dr. Ranjeeet Singh completed one weeklong FDP on Blended Learning – Concepts and Tools from TLC, Ramanujan College under the aegis of DoE, PMMMNMTT initiative. The FDP was held from 01 – 07 July 2023.
- Dr. Ranjeet Singh presented a paper titled 'non-local regime of Relativisitic Weibel Instability in the presence of a LASER pump in Plasma' at the 3rd International Conference on Plasma Theory and Simulations (PTS 2023) organized from 21 – 23 September 2023 at Jawahar Lala Nehru University, New Delhi.
- Dr. Satya Prakash Yadav and Dr. Pradeep Gupta completed two weeklong FDP on PHYSICS from TLC, Ramanujan College under the aegis of DoE, PMMMNMTT initiative. The FDP was held from 28 July -11 August 2022.
- Dr Dinesh Kumar Verma and Dr. Pradeep Gupta completed One-Week Online National Faculty Development Program "Python: Essentials, Programming and Analytics" from 27 October – 03 November 2022 jointly organized by University of Delhi and Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education.
- Dr. V. Bhasker Raj completed One-Week National Faculty Development Program from 17 – 23 July 2023 organized by University of Delhi (Skill Enhancement Course Committee) in collaboration with Daulat Ram College, DU (Department of Physics) and Guru Angad Dev Teaching Learning Centre, a Centre under PMMMNMTT, Ministry of Education, Government of India.

- Mr. Pawan Kumar completed two-week interdisciplinary Refresher Course on Research Methodology and Data Analysis" from 28th July – 10th August, 2023 from TLC, Ramanujan College under the aegis of DoE, PMMMNMTT initiative.

Zoology: (12)

- Dr. Sweety Shrimali attended Professional Development Programme on 'Implementation of NEP2020 for University and College Teachers' organized by Indira Gandhi National Open University, New Delhi from September 09-17, 2022.
- Dr. Aparna Sharma attended UGC-Approved Short-Term Professional Development Programme on 'Implementation of NEP-2020 for University and College Teachers' organized by INDIRA GANDHI NATIONAL OPEN UNIVERSITY Under PanditMadan Mohan Malaviya National Mission on Teachers and Teaching from October 27, 2020 to November 05, 2022.
- Dr Vineet Girdharwal, Dr Shrankhla and Ms. Bhumika Chauhan attended Skill Development for sustainable Aqauculture organized by Department of Zoology, University of Delhi from June 19-25, 2023.
- Dr Shrankhla and Ms. Bhumika Chauhan attended Skill Development for sustainable Aqauculture organized by Department of Zoology, University of Delhi from June 19-25, 2023.
- Ms. Bhumika Chauhan attended Skill Development for sustainable Aqauculture organized by Department of Zoology, University of Delhi from June 19-25, 2023.
- Mr Ravinder Kumar Sagar, Dr Neelgagan Singh, Dr Rahul Dev, Mr Vineet Girdharwal and Dr Shrankhla attended One-week National Faculty Development Programme(FDP) Sericulture: Rearing and Its Application" organized by Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi-110019 in collaboration with Skill Enhancement Course Committee (University of Delhi), Department of Zoology (University of Delhi), Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), GAD-TLC, SGTB Khalsa College, Ministry of Education, PMMMNMTT, Govt. of India and Atma Ram Sanatan Dharma College, University of Delhi August 8-14, 2023.
- Dr Neelgagan Singh, Dr Rahul Dev, Mr Vineet Girdharwal and Dr Shrankhla attended One-week National Faculty Development Programme(FDP) Sericulture: Rearing and Its Application" organized by Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi-110019 in collaboration with Skill Enhancement Course Committee (University of Delhi), Department of Zoology (University of Delhi), Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), GAD-TLC, SGTB Khalsa College, Ministry of Education, PMMMNMTT, Govt. of India and Atma Ram Sanatan Dharma College, University of Delhi August 8-14, 2023.
- Dr Rahul Dev, Mr Vineet Girdharwal and Dr Shrankhla attended One-week National Faculty Development Programme(FDP) Sericulture: Rearing and Its Application" organized by Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi-110019 in collaboration with Skill Enhancement Course Committee (University of Delhi), Department of Zoology (University of Delhi), Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), GAD-TLC, SGTB Khalsa College, Ministry of Education, PMMMNMTT, Govt. of India and Atma Ram Sanatan Dharma College, University of Delhi August 8-14, 2023.

- Mr Vineet Girdharwal and Dr Shrankhla attended One-week National Faculty Development Programme(FDP) Sericulture: Rearing and Its Application" organized by Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi-110019 in collaboration with Skill Enhancement Course Committee (University of Delhi), Department of Zoology (University of Delhi), Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), GAD-TLC, SGTB Khalsa College, Ministry of Education, PMMMNMTT, Govt. of India and Atma Ram Sanatan Dharma College, University of Delhi August 8-14, 2023.
- Dr Shrankhla attended One-week National Faculty Development Programme(FDP) Sericulture: Rearing and Its Application" organized by Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi-110019 in collaboration with Skill Enhancement Course Committee (University of Delhi), Department of Zoology (University of Delhi), Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), GAD-TLC, SGTB Khalsa College, Ministry of Education, PMMMNMTT, Govt. of India and Atma Ram Sanatan Dharma College, University of Delhi August 8-14, 2023
- Dr. Aparna Sharma attended IP Awareness/Training Program under National Intellectual Property Awareness Mission (online) on 27 August, 2022 Organized by Intellectual Property Office, India.
- Dr Rahul Dev attended 7th Annual International Conference on INSCR on "modulating the environment with microbes" conducted by Indian Network for soil contamination Research (INS

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Biomedical Science: (15)

- Dr Archna Pandey and Dr Rimpy Kaur Chowhan from Department of Biomedical Science attended International Conference on "Antimicrobial Resistance, Novel Drug Discovery and Vaccine Development: Challenges and Opportunities", organised by SRM University at India Habitat Centre, New Delhi. March 18-20, 2024
- Dr Rimpy Kaur Chowhan from Department of Biomedical Science attended Professional Development Programme on "National Education Policy 2020: Professional Development Programme", organised by IGNOU Staff Training and Research Institute of Distance Education. November 1-20, 2024
- Dr Rimpy Kaur Chowhan from Department of Biomedical Science attended Webinar on "Protein Dynamics: the key to Biological Function", organised by Protein Society. October 07, 2023
- Dr Archna Pandey and Dr Rimpy Kaur Chowhan from Department of Biomedical Science attended AWS public sector symposium New Delhi, organised by Amazon Web Services. September 22, 2023
- Dr Satendra Singh from Department of Biomedical Science attended Faculty Development/Training Programme on "Sericulture: Rearing And Its Application", organised by Acharya Narendra Dev College, Shaheed Rajguru College of Applied Science for Women, Shri Guru Tegh Bahadur Khalsa College, Skill Enhancement Course Committee, University of Delhi. August 8-14, 2023

- Dr Rimpy Kaur Chowhan from Department of Biomedical Science attended workshop on "Evidencing benefits of probiotics on gut-brain axis in aging & neuro-degeneration", organised by All India Institute of Medical Science (AIIMS). July 20-21, 2023 Dr Archna Pandey and Dr Rimpy Kaur Chowhan from Department of Biomedical Science attended Conference on "Navigating Education in a Globalised World", organised by Elets Technomedia, Elets World Education Summit. July 4-5, 2023.
- Dr Satendra Singh (Biomedical Science) attended FDP on "NEP 2020 Orientation and Sensitization Programme" organised by UGC-MMTTC (GAD-MMTTC), SGTB Khalsa College, University of Delhi from June 04-14, 2024.
- Dr Rimpy Kaur Chowhan (Biomedical Science) attended FDP on "NEP 2020 Orientation and Sensitization Programme" organised by UGC-MMTTC (GAD-MMTTC), SGTB Khalsa College, University of Delhi from June 04-14, 2024.
- Dr Deepshikha (Biomedical Science) attended FDP on "NEP 2020 Orientation and Sensitization Programme" organised by UGC-MMTTC (GAD-MMTTC), SGTB Khalsa College, University of Delhi from June 04-14, 2024.
- Dr Satendra Singh (Biomedical Science) attended FDP on "Forensic Science (Interdisciplinary)" organised by UGC-MMTTC/ GAD-MMTTC), SGTB Khalsa College, University of Delhi in collaboration with University of Delhi (Department of Anthropology and Skills Enhancement Committee); Acharya Narendra Dev College, DU (Department of Biomedical Science) and Forensic Science Unit, SGTB Khalsa College, University of Delhi, from April 06-18, 2024.
- Dr Rimpy Kaur Chowhan (Biomedical Science) attended FDP on "Forensic Science (Interdisciplinary)" organised by UGC-MMTTC/ GAD-MMTTC), SGTB Khalsa College, University of Delhi in collaboration with University of Delhi (Department of Anthropology and Skills Enhancement Committee); Acharya Narendra Dev College, DU (Department of Biomedical Science) and Forensic Science Unit, SGTB Khalsa College, University of Delhi, from April 06-18, 2024.
- Dr Ritu Khosla (Biomedical Science) attended FDP on "Forensic Science (Interdisciplinary)" organised by UGC-MMTTC/ GAD-MMTTC), SGTB Khalsa College, University of Delhi in collaboration with University of Delhi (Department of Anthropology and Skills Enhancement Committee); Acharya Narendra Dev College, DU (Department of Biomedical Science) and Forensic Science Unit, SGTB Khalsa College, University of Delhi, from April 06-18, 2024.
- Dr Deepshikha (Biomedical Science) attended FDP on "Forensic Science (Interdisciplinary)" organised by UGC-MMTTC/ GAD-MMTTC), SGTB Khalsa College, University of Delhi in collaboration with University of Delhi (Department of Anthropology and Skills Enhancement Committee); Acharya Narendra Dev College, DU (Department of Biomedical Science) and Forensic Science Unit, SGTB Khalsa College, University of Delhi, from April 06-18, 2024.
- Dr Deepshikha (Biomedical Science) attended FDP on "AI Tools for e-Content Development and Teaching-Learning" organised by UGC-MMTTC (GAD-MMTTC), SGTB Khalsa College, University of Delhi from April 01-12, 2024.
- Dr Deepshikha (Biomedical Science) attended FDP on "NEP 2020 Orientation and Sensitization Programme" organised by UGC-MMTTC (GAD-MMTTC), SGTB Khalsa College, University of Delhi from June 04-14, 2024.

Botany: (05)

- Dr. Geetika Kalra attended Faculty development program at CCS, HAU Hisaron Hydroponics and Aeroponics Farming from 4 to 10 September 2023.
- Dr. Sumit Sahni attended Faculty development program at CCS, HAU Hisaron Hydroponics and Aeroponics Farming from 4 to 10 September 2023.
- Dr. Mandeep Kaur attended Faculty development program at CCS, HAU Hisaron Hydroponics and Aeroponics Farming from 4 to 10 September 2023.
- Dr. Mandeep Kaur attended Faculty development program at CCS, HAU Hisaron Organic Farming and Biofertilizers from 7 to 12 August 2023.
- Prof. Anupama Shukla, Prof. Anita Narang, Prof. Charu K Gupta, Dr Geetika Kalra, Dr Vineet K Singh, Dr Anita Thakur and Dr Mandeep Kaur attended FDP on "NEP 2020 Orientation and Sensitization Programme" organised by UGC-MMTTC (GAD-MMTTC), SGTB Khalsa College, University of Delhi from June 04-14, 2024.

Chemistry: (10)

- Dr. Kavita Mittal Participated in One day Hands On Workshop on Forensics Science, organized by the Department of Biomedical Science, Acharya Narendra Dev College, University of Delhi on April 12, 2023, under the aegis of IQAC and DBT STAR College Scheme.
- Prof.Sunita Hooda, successfully participated in INDO-UK Webinar entitled "Future of Teaching-Learning and Assessment in Higher Education" jointly organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching(PMMMNMTT) of Ministry of Education and NPTC Group of Colleges, Wales, United Kingdom held on01st September 2023.
- Prof.Sunita Hooda, has participated in the One Week National level Online Faculty Development Program on Outcome Based Education and Application of Generative AI in Teaching and Research, organised by the DST-CURIE-AI center of Sri PadmavatiMahilaVisvavidyalayam (SPMVV University), Tirupati, in association with ipsr solutions limited from 18 March 2024 to 23 March 2024.
- Prof. Sunita Hooda and Prof.GeetuGambhir, have participated in INDO-UK Webinar entitled "Future of Teaching-Learning and Assessment in Higher Education" jointly organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education and NPTC Group of Colleges, Wales, United Kingdom held on 01st September 2023.
- Prof. Seema Gupta attended Twelve Principles of Green Chemistry and UN-SDGs, being organized by Green Chemistry Network Centre, Hindu College, University of Delhi at the Research Centre, Hindu College, University of Delhi on 9-10 November 2023.
- Prof. Seema Gupta participated & deliberated upon establishing the guidelines for Continuous Assessment for the courses under the Theme "Chemistry" in a Two-day workshop on Establishment Of Modalities for Skill Enhancement Courses organised by Skill Enhancement

Course Committee, University of Delhi, on 4-5th March, 2024 in Conference Centre, University of Delhi.

- Prof. Seema Gupta attended attended National Conference on One earth • One family • One future organized by department of commerce, acharya Narendra Dev College, University of Delhi, Delhi School of Economics, University of Delhi in collaboration with Indian Commerce Association (ICA), Delhi NCR Chapter on April 03, 2023.
- Prof. Seema Gupta, successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.
- Prof. Pooja Bhagat successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.
- Prof. Geetu Gambhir successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

Computer Science: (02)

- Prof. Sharanjit Kaur attended Faculty Development Programme (FDP) ON Natural Language Processing and LLMs (28th February 2024 to 9th March 2024) organized by Electronics & ICT Academy, National Institute of Technology, Warangal.
- Prof. Harita Ahuja successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

Electronics: (08)

- Dr. Ravneet Kaur attended the Symposium on TREnds in Aptitude for Skill Development in Undergraduate Research (TREASURE) organized by on September 20, 2023 organized by Science Foundation Committee, Star DBT College Program, The National Academy of Sciences India - Delhi Chapter and Deen Dayal Upadhyaya College (University of Delhi) on September 20,2023.
- Dr. Ravneet Kaur attended 8th International Conference of Indian Network for Soil Contamination Research (INSCR-2024) on 'Exploring the Microbial World from Human Health to Environmental Sustainability' and 4th International Symposium on Ciliate Biology (ISCB-2024), organised by INSCR and Acharya Narendra Dev College, University of Delhi (UoD) from April 03-05, 2024 at Conference Centre, UoD, Delhi, India.
- Dr. Ravneet Kaur attended "Advancements in Antenna Development: Current Trends and Challenges" organised by Department of Electronic Science, University of Delhi South Campus, New Delhi, India in Collaboration with IEEE APS & CRFID Delhi Chapter held on 29th Jan, 5th Feb & 7th Feb 2024 in the hybrid mode.

- Prof. Anju Agrawal attended "Advancements in Antenna Development: Current Trends and Challenges" organised by Department of Electronic Science, University of Delhi South Campus, New Delhi, India in Collaboration with IEEE APS & CRFID Delhi Chapter held on 29th Jan, 5th Feb & 7th Feb 2024 in the hybrid mode.
- Dr. Ravneet Kaur attended a series of Workshops on Evolution of Transistor and Emerging Research Devices" as part of the Celebration of 75 Years of Invention of the Transistor organized by IEEE Electron Device Society - Delhi Chapter (New Delhi, India), The National Academy of Sciences India - Delhi Chapter and Deen Dayal Upadhyaya College (University of Delhi).
- Dr. Ravneet Kaur attended Workshop on Electrical (DC, AC, and transient analysis) and thermal characterization of Advanced CMOS, SOI, and FinFET
- Dr. Ravneet Kaur attended Workshop on Technical Lecture in Workshop on Electrical and thermal characterization of HEMT.
- Dr Monika Bhattacharya successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

Physics: (07)

- Dr. V. Bhasker Raj and Prof. Arijit Chowdhuri were Resource Persons and held other positions at Hands-on training Workshop on Semiconductor Device Fabrication organized by Miranda House, University of Delhi, in collaboration with CIIDRET, UDSC and DSSEED, University of Delhi. The workshop was organized from 20 March – 3 April 2023 under the aegis of 100 days Skill Festival of University of Delhi.
- Dr. Ranjeeet Singh completed one weeklong FDP on Blended Learning – Concepts and Tools from TLC, Ramanujan College under the aegis of DoE, PMMMNMTT initiative. The FDP was held from 01 – 07 July 2023.
- Dr. Ranjeet Singh presented a paper titled 'non-local regime of Relativisitic Weibel Instability in the presence of a LASER pump in Plasma' at the 3rd International Conference on Plasma Theory and Simulations (PTS 2023) organized from 21 – 23 September 2023 at Jawahar Lala Nehru University, New Delhi.
- Dr. V. Bhasker Raj completed One-Week National Faculty Development Program from 17 – 23 July 2023 organized by University of Delhi (Skill Enhancement Course Committee) in collaboration with Daulat Ram College, DU (Department of Physics) and Guru Angad Dev Teaching Learning Centre, a Centre under PMMMNMTT, Ministry of Education, Government of India.
- Mr. Pawan Kumar completed two-week interdisciplinary Refresher Course on Research Methodology and Data Analysis" from 28th July – 10th August, 2023 from TLC, Ramanujan College under the aegis of DoE, PMMMNMTT initiative.
- Prof. Rachna Joshi successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

- Dr Ambika Negi successfully completed “NEP orientation and Sensitization Programme”, Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

Zoology: (12)

- Dr Vineet Girdharwal, Dr Shrankhla and Ms. Bhumika Chauhan attended Skill Development for sustainable Aqauculture organized by Department of Zoology, University of Delhi from June 19-25, 2023.
- Mr Ravinder Kumar Sagar, Dr Neelgagan Singh, Dr Rahul Dev, Mr Vineet Girdharwal and Dr Shrankhla attended One-week National Faculty Development Programme(FDP) Sericulture: Rearing and Its Application” organized by Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi-110019 in collaboration with Skill Enhancement Course Committee (University of Delhi), Department of Zoology (University of Delhi), Shaheed Rajguru College of Applied Sciences for Women (University of Delhi), GAD-TLC, SGTB Khalsa College, Ministry of Education, PMMMNMTT, Govt. of India and Atma Ram Sanatan Dharma College, University of Delhi August 8-14, 2023.
- Dr Shrankhla attended International Conference on Global Scenario and Sustainable Solutions in Silk Industry on 28th February 2024.
- Dr Sushma Bharadwaj attended International Conference on Global Scenario and Sustainable Solutions in Silk Industry on 28th February 2024.
- Dr Shrankhla attended Two-day workshop on Establishment of Modalities for Skill Enhancement Courses on 4th-5th March, 2024.
- Dr Shrankhla attended One-day workshop on Scientific Writing and Communication on 13th February 2024.
- Prof. Ravi Toteja successfully completed “NEP orientation and Sensitization Programme”, Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.
- Prof. Seema Makhija successfully completed “NEP orientation and Sensitization Programme”, Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.
- Dr Aparna Sharma successfully completed “NEP orientation and Sensitization Programme”, Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.
- Dr Rahul Dev successfully completed “NEP orientation and Sensitization Programme”, Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.
- Dr Shrankhla successfully completed “NEP orientation and Sensitization Programme”, Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission

(UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

- Mr Vineet Girdharwal successfully completed "NEP orientation and Sensitization Programme", Under Malaviya Mission Teacher Training Programme (MMTTP) of University Grant Commission (UGC), Organized by UGC-MMTC (GAD-MMTC), S.G.T.B. Khalsa College, University of Delhi, from 6th August 2024 to 16th August 2024.

सत्यमेव जयते
Government of India

MALAVIYA MISSION
TEACHER
TRAINING PROGRAMME

ज्ञान-विज्ञान विमुक्तये
University Grants Commission

CERTIFICATE OF PARTICIPATION

NEP 2020 ORIENTATION & SENSITIZATION PROGRAMME

This is to certify that **PROF. SEEMA MAKHIJA** from **ACHARYA NARENDRA DEV COLLEGE, UNIVERSITY OF DELHI** has completed the NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) Organized by UGC-MMTTC (GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from **04th to 14th June 2024.**

Prof. Vimal Rarh
Programme Director, (MMTTC)

NEP-JUN-A-2024-01689-162

Appendix XIV

Exhibitions/Seminars/training courses/Projects /Visits conducted

2021-2022

Biomedical Science: (07)

- Prof.Urmi Bajpai organized DBTSTAR-IQAC_ANDC Webinar on "Designing of a Novel Vector for One-Step Cloning & Expression in E. coli" by Mr Shino James, IISER, Bhopal on January 28, 2022.
- Prof.Urmi Bajpai organized DBTSTAR-IQAC_ANDC Webinar on "Introduction to BioNEST-UDSC & Bio entrepreneurship" by Mr Vijay Kantharia, CEO, BioNEST- UDSC on February 15, 2022.
- Prof. Urmi Bajpai and Dr Rimpy Kaur Chowhan- organized Online Python learning workshop with resource persons -Ms Shruti Gupta and Mr Alok Anand, Jawaharlal Nehru University.
- November 2021. (weekends, 20 hour).
- Prof. Gagan Dhawan (Coordinator) organized National Seminar on Vigilance, Corruption and Transparency in Governance - A Re-assessment on the occasion of Vigilance Awareness Week 2021 being organized in association with Vivekananda College and Daulat Ram College, University of Delhi on Noveber 01, 2021.
- Dr Sunita Jetly, Dr Ritu Khosla and Dr Deepshikhaorganised a Five-Day National Workshop (Virtual) On Flow Cytometry and qPCR Based Blood Analyses from October 20-24, 2021.
- Dr. Archna Pandey (Convenor) organised Six Days National workshop on "Skill enhancement of non-teaching staff" from June13-20, 2022.

Botany: (06)

- Organized One Week Online Boot Camp on Virtual lab development under the aegis of DBTSTAR College Scheme from January 17-22, 2022.About 250 students across departments registered for this workshop. The speciality of this workshop is that Resource persons were also UG students. A wonderful P-P learning experience.
- Organized a workshop on Tools in Modern Biology for the support staff to familiarize them with the new equipment purchased under the STAR Scheme, April 2022.
- Organized an online workshop on Initiating Virtual Labsin collaboration with IITDon August 24, 2021.
- Organized a hands-on workshop on Revisiting Laboratory Techniques in Botany October 20-26, 2021.
- Organized a hands-on workshop on Superheroes against Superbugs for the students to familiarize them with Anti-microbial resistance and Foldscope, October 11, 2022.
- Organized a workshop on How to Read Scientific Literature for the students on October 14, 2022.

Chemistry: (06)

- Prof. Sunita Hooda, Dr. Geetu Gambhir, Dr. Kavita Mittal organized Lecture series in online mode of "Journey of an Alumni" held weekly from 16th October 2021, Acharya Narendra Dev College, DU.
- Prof. Sunita Hooda, Dr. Geetu Gambhir, Dr. Pragati Malik organized Two days online workshop on "Photoshop" organized by Acharya Narendra Dev College from 30th Sept 2021 to 1st Oct 2021under the aegis of IQAC and DBT STAR College Scheme.
- Prof. Sunita Hooda, Dr. Geetu Gambhir, Dr. Pragati Malik organized Two days online workshop on Computational Chemistry organized by Acharya Narendra Dev College from 6th Oct - 7thOct 2021 under the aegis of IQAC and DBT STAR College Scheme.
- Dr. Geetu Gambhir, Prof. Sunita Hooda, Drushya organized Five days workshop on Analytical Laboratory techniques organized by Acharya Narendra Dev College from 25thOct 2021 to 29th Oct 2021under the aegis of IQAC and DBT STAR College Scheme.
- Department of Chemistry organized The Chemistry Fest "SYNERGIA – 2022", was organised by 'ABHIKRIYA' The Chemistry Society, on19th April 2022.It comprised of Guest lecture of Ms. Shreya Arora (Taylor & Francis Group) followed by many student activities like Paper presentation, ABHIQUEST (Quiz), ABHICHITRA (Rangoli), etc.
- Dr Pooja Bhagat organizedTwo days 'hands on training' workshop for the skill development of the interested residents of the adopted area, Govindpuri under the aegis of UBA

Computer Science: (07)

- Five Days online Workshop under FOSS Club on "Data Analysis and Visualization of Covid-19 data using Python" on 22- 26 June 2021"by Dr. Sharanjit Kaur, Dr. Harita Ahuja, Ms. Gunjan Rani, Ms. Vandita Grover, Mr. Mahesh Kumar, Faculty of Computer Science Department, ANDC, DU.
- Two Days online Workshop under FOSS Club on" Effective Presentation and Image Management for Success" on 24 Aug. 2021-25 Aug. 2021 by Mrinal Gupta Virmani, Confidence Coach &Softskills Trainer, Image Consultant & Chartered Accountant.
- Two days online workshop on Front End WebUI Frameworks Overview: Bootstrap on 2nd Oct. 2021 – 3rd Oct 2021 by Mr. Ashwani Bhatia, Web Designer/ Developer.
- Two Days online Workshop under FOSS Club on "HTML: A Prerequisite for MERN Stack" on 6th Oct. 2021 – 7th Oct 2021 by Mr. Rishi Sarbobhoum, Mr. Aditya Goyal, Mr. Devesh Yadav, Mr. Sushant Sharma, Students, ANDC.
- Five Days online Workshop under FOSS Club on" A First Step Towards Developing Virtual Lab Using MERN Stack" on 9th Oct2021 – 24th Oct 2021 (only on Saturday and Sunday) by Mr. Prabhat Chandra, Freelance Trainer/ Developer.
- Five Days online Workshop under FOSS Club on "Face Recognition using Python" on 26th Oct. 2021-30th Oct 2021 by Dr. Xavier Chelladurai, Director and Professor, Christ Human Resource Centre.
- Three Days online Workshop under FOSS Club on" Let's Talk DevOps" on 11th March 2022 to 13thMarch, 2022 by Mr. Shailesh Thakur, Senior DevOps Engineer, o9 Solutions Inc.

Electronics: (04)

- Training workshop and demonstration of Control Lab with software and data acquisition and Universal Dev Board with FPGA and CPLD for Teachers in collaboration with industry partner M/s Silicom Electronics on April 25, 2022.
- Training Workshop and demonstration of lab Equipment for Teaching and Non- Teaching Staff in collaboration with industry partner M/s Vijayanta Electronics on March 23, 2022.
- One Week National Workshop on Skill Enhancement of Non-teaching Staff (Coordinating department) from July 13-20, 2022.
- One Week National Workshop on Career and Skill Enhancement for Non-teaching Staff (Coordinating department) from September 15-21, 2022

Physics: (04)

- Hands on workshop on Digital Systems & Applications with Microprocessors and Microcontrollers organized by Department of Physics and IQAC, Acharya Narendra Dev College under the aegis of DBT STAR College scheme on October 20 – 27, 2021.
- Hands – on workshop on Modern Physics organized by Department of Physics and Internal Quality Assurance Cell (IQAC) Acharya Narendra Dev College under the aegis of DBT STAR College scheme on November 10 – 17, 2021.
- Hands – on workshop on Basic & Contemporary Thermal Physics, Mechanics and LASER Application organized by Department of Physics and Internal Quality Assurance Cell (IQAC) Acharya Narendra Dev College under the aegis of DBT STAR College scheme on November 12 – 19, 2021.
- Organized a webinar on Intellectual Property Rights Awareness Program under National Intellectual Property Awareness mission (NIPAM) under the aegis of DBT Star College Scheme in collaboration with Office of the Controller General of Patents, Designs & Trademarks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India on January 19, 2022.

Zoology: (06)

- Organized seven days Hands-on workshop on Biological Techniquesorganized under the aegis of DBTSTAR College Scheme and IQAC from September 27 –October 4, 2021.During this workshop, students were given hands on experience for the preparation of LB Media, Blood group determination. SDS-PAGE and ELISA etc
- Organized two days Hands-on workshop on Tools and Techniques of Biotechnology under the aegis of DBT STAR College Scheme and IQAC from April 7-8, 2022. During this workshop, students were given hands on experience for DNA isolation, Agarose Gel Electrophoresis, PCR, Haemoglobin estimation, BP measurement and Southern Blotting.
- Organized One Week Online Boot Camp on Virtual lab development under the aegis of DBTSTAR College Scheme from January 17-22, 2022.About 250 students across departments registered for this workshop. The speciality of this workshop is that Resource persons were also UG students. A wonderful P-P learning experience.
- Organized three days online International Conference of Indian Network for Soil Contamination Research (INSCR) on Microbes in Sustainable Development from November 15-18, 2021, in collaboration with various institutes. During this conference two workshops were organized on

Bioinformatics and Art of scientific writing and Communications were organized for UG students. An Agar Competition was also organized, Students from across the globe participated in this.

- Organized a workshop on Tools in Modern Biology was organized for the support staff to familiarize them with the new equipment purchased under the STAR Scheme.
- Organized an online workshop on Initiating Virtual Labsin collaboration with IITDon August 24, 2021

2022-2023

Biomedical Science: (12)

- Organized Seminar on "Quality Control of Variant Peptides in Proteogenomics-Catching the (Un)Usual Suspects" on July 04, 2023.
- Organized Cathexis 2023: Reproductive Health on April 13, 2023.
- One day hands-on-workshop on Forensics Science was organized on April 12, 2023.
- Department organized Career Counselling Series: Panel Discussion With Alumni on April 11, 2023.
- Co-organized One day workshop on Quantitative Microbial Ecology: Opportunities and ways ahead at Acharya Narendra Dev College on February 04, 2023.
- Hands-on training workshop was organized on "Phage Biology- Discovery and Analysis and Webinars on Bacteriophage Therapy" at Acharya Narendra Dev College from January 20-25, 2023.
- Co-Organized a workshop on 'How to Read Scientific Literature' for the students on October 14, 2022.
- Co-Organized an Outreach Workshop on "Cell and Molecular Biology Techniques" on October 12-13, 2022.
- Co-Organized a hands-on workshop on Anti- Microbial Resistance and foldscope titled "Superheroes against superbugs" on October 11, 2022.
- The Department has organized a National hands-on workshop on "PCR for Diagnostics and Gene Expression Analyses from September 27-29, 2022.
- Co-Organized a National workshop on Digital & Financial Skill enhancement for Non-teaching staff from September 15-21, 2022.
- Co-Organized a National workshop on Skill enhancement of non-teaching staff (NWSENS-2022) from July 13-20, 2022.

Botany: (03)

- Department organized a Workshop on Mushroom Culture techniques for the students of Shivaji College, University of Delhi on July 13, 2022
- Organized A hands-on workshop on Superheroes against Superbugs for the students to familiarize them with Anti-microbial resistance and Foldscope on October 11, 2022.
- A workshop on 'How to Read Scientific Literature' for the students was organized on October 14, 2022

Chemistry: (06)

- Organized a five-day Bootcamp on 'V-Lab Development 2.2' under the aegis of DBT STAR College Scheme from April 24-28, 2023.
- Workshop on 'IPR- Patents & Designs filing' in association with Rajiv Gandhi National Institute for Intellectual Property Management (RGNIIPM) under National Intellectual Property Awareness Mission (NIPAM) on August 27, 2022.
- Organized a 400 hours course on 'Web Developer' as the 'Skill Hub Initiative' under Pradhan Mantri Kaushal Vikas Yojana 3.0 (PMKVY 3.0) for school dropouts and out- of-education candidates from March 16, 2022-November 21, 2022.
- Organized a 60 hours value added course on 'Research Methodology' for Physical Science students from August 30, 2022-November 19, 2022.
- Organized a 60 hours value added course on 'Tools and Techniques in Biological Sciences' for Life Science students August 29, 2022-November 11, 2022.
- Organized a 40 hours certificate course on Basics of Research Methodology for Physical Science and Life Science students of first year from January 05, 2023 -17 June 2023.

Computer Science: (04)

- Two Days Workshop under FOSS club on "MATLAB" on 12th October 2022 and 17th October 2022 by Mr. Manoj Kumar, Sr. Application Engineer at DesignTech Systems Pvt. Ltd., New Delhi.
- Six days workshop on "Revisit Bootcamp 1.1 for V-Lab Development" on 9th January 2023 to 14th Jan 2023 by Mr. Pankaj Sahu and Mr. Shahnwaz Khan, Students of Acharya Narendra Dev College, Delhi University.
- Five Days workshop on "V-Lab Development (Building Block of Simulator)" held on 24th April 2023 to 28 April 2023 by Mr. Vaibhav Thapiyal, Mr. Vibhor Gupta, Mr. Pankaj Sahu, Students of Acharya Narendra Dev College, Delhi University.
- Five Days workshop on "V-Lab Development 2.2" held on 24th April 2023 to 28 April 2023 by the students at Acharya Narendra Dev College, Delhi University. Mr. Vaibhav Thapiyal, Mr. Vibhor Gupta, Mr. Pankaj Sahu.

Electronics: (05)

- Department has organised 5 days workshop on Machine Learning with Python Interfacing in technical collaboration with industry partner Brain Mentors Pvt. Ltd. from September 25-29, 2023.
- Department has organized a One-day workshop on 3D Printing Technology on September 23, 2023.
- Department has organized a Workshop on Hologram Recording and Reconstruction on February 04, 2023
- Department has organized One Day offline Workshop on Arduino and Sensor Interfacing on January 31, 2023.
- Hands-on Workshop was organized on Arduino and Sensor Interfacing in technical collaboration with industry partner Touch Techno Pvt. Ltd. September 10, 2022

Physics: (05)

- Dr. V. Bhasker Raj and Prof. Arijit Chowdhuri were involved in organization of Hands- on training Workshop on Semiconductor Device Fabrication organized by Miranda House, University of Delhi, in collaboration with CIIDRET, UDSC and DSSEED, University of Delhi. The workshop was organized from 20 March – 3 April 2023 under the aegis of 100 days Skill Festival of University of Delhi.
- One day seminar on 'Hydorelectric cell the best option to do away global warming and green hydrogen generation by water splitting' on 21 March 2023 by Dr. R.K. Kotnala ex-Chairman NABL, Raja Ramanna Fellow, Department of Atomic Energy and Chief Scientist, CSIR-National Physical Laboratory, New Delhi, INDIA
- One day seminar on 'High level Overview of Semiconductor Industry' on 09 November 2022 by Dr. Sujit Kumar, Scientist Interuniversity Microelectronics Centre, Leuven BELGIUM. rganized an educational visit on 31 May 2023 for 09 students to Dr. Anjali Sharma Kaushik's
- One day seminar on 'Quantum Communication' on 09 November 2022 by Mr. Siddhartha K. Das, Nanoelectronic Systems, Technical University of Dresden, GERMANY.
- One day seminar on 'High Energy Physics and Artificial Intelligence' on 14 October 2022 by Dr. Ramakrishna Sharma, CERN, Geneva, SWITZERLAND

Zoology: (10)

- Co-Organized a Workshop on Anti-Microbial Resistance and foldscope: A hands-on workshop on Anti-Microbial Resistance and foldscope was organised under the aegis of DBT Star Scheme by the departments of Botany, Zoology and Biomedical Science. Dr Anupma Harshal W., Superheroes against Superbugs Fellow, Woman in STEM was the resource person. Students also learnt how to make and use foldscope.
- 3rd International Symposium on Ciliate Biology (ISCB 2022): In commemoration of Centenary Celebrations, Acharya Narendra Dev College and Maitreyi College, in collaboration with INSCR (Indian Network for Soil Contamination Research) organized an online 3rd International Symposium on Ciliate Biology 2022 (ISCB 2022). Thirteen Speakers of International repute enlightened the gathering about their research work.
- One-week Revisit Bootcamp 1.1 for V-Lab Development: This workshop was organized for the first year and second year students of all streams of the college. The bootcamp was mainly for those students who has shown interest in to be part of the V-Lab team, and for developing V-labs of their respective courses in future. This workshop exemplifies Peer to Peer Learning.
- Five day Bootcamp on 'V-Lab Development 2.2 and Bootcamp on 'V-Lab Development (Building Blocks of Simulator)': Organized a five day Bootcamp on 'V-Lab Development 2.2' and 'V-Lab Development (Building Blocks of Simulator)' under the aegis of DBT STAR College Scheme. This workshop was organized for the First and Second year students of all streams of the college. The resource persons were Mr Vaibhav Thapliyal. Mr. Shahnawaz Khan and Mr. Pankaj Sahu who were final year students of B.Sc.(H) Physics, B.Sc.(H) CS and B.Sc.(P) Physical Science with CS respectively from the college.

- 7th International Conference of National Soil Contamination and Research (INSCR 2022) Modulating the Environment with Microbes: Organized by Acharya Narendra Dev College, DU in collaboration with Deen Dayal Upadhyaya College (DU), Gargi College (DU), Kirori Mal College (DU), PG Department of Zoology, Magadh University (MU), Ramjas College (DU), Sri Venkateswara College (DU), Sri Guru Tegh Bahadur Khalsa College (DU), C.M.P. College (AU), Bhaskaracharya College of Applied Sciences, Shivaji College, Miranda House, KIIT Bhubenswar, Devbhoomi, U.K., Kolhan University, Jharkhand, PhiXgen Pvt. Ltd., Gurugram and College of Commerce, Arts & Science, Patna. The Conference was attended by more than 500 participants.
- An online workshop on 'IPR- Patents & Designs filing': The College organized an online workshop on 'IPR- Patents & Designs filing' in association with Rajiv Gandhi National Institute for Intellectual Property. Kumar Raju was the resource person. August 27, 2022.
- Summer Internship organized by Microbial Technology Laboratory, Acharya Narendra Dev College University of Delhi: Basic Techniques of Laboratory attended by Beenit Kushwaha (Galgotia's University); Tenure: 1 month from 4th July to 4th August 2023.
- Workshops on 'Genomics, Metagenomics and Bioinformatics in Microbial Ecology'was organized with the support of International Microbiological Societies, ISME, International Society of Microbial Ecology and FEMS, Federation of European Microbiological Societies on November 07, 2022
- Workshops on 'Art of Scientific Writing and Communication' Ecology' was organized with the support of International Microbiological Societies, ISME, International Society of Microbial Ecology and FEMS, Federation of European Microbiological Societies on November 08, 2022.
- Department organized 60 Hour Value Addition Course on 'Tools and Techniques in Biological Sciences' for Life Science students from August August 29, 2022-November 11, 2022. This course was conducted by PMRF of IITD.

2023-2024

Biomedical Science: (22)

- Organised workshop on Graphical Abstract and Career in Publishing. March 08, 2024
- Conducted Panel Discussion with Alumni of Biomedical Science Department. March 08, 2024
- Organised Workshop on 'On-site monitoring of heavy metal contaminated drinking water using a handheld LD Nova luminometer'. February 15, 2024
- Organised Forensic's Fair, the workshop on Forensic Science. February 15, 2024
- Organised Panel Discussion on "Not All Jokes are Jokes". February 14, 2024
- Organised Hand-on Workshop on Foldscope. February 14, 2024
- Organised Free Health Camp in collaboration with NSS@ANDC. February 14-15, 2024
- Co-Organised one day workshop on "Scientific Writing and Communication" organized by ANDC and ISME. February 13, 2024
- Conducted Screening of Movie "The Vaccine War". February 13, 2024
- Organised Cathexis'24, Department's Annual fest on the theme of Holistic Health and Gut Microflora. February 13-15, 2024
- Organised Five Day Workshop on Online RBPT Based National Workshop on Biolgical Data Analysis with R. January 27-31, 2024

- Organized and moderated a Webinar Series featuring clinicians with experience in delivering Phage Therapy. November 23- December 22, 2023
- Organized an online workshop "Genome Annotation of Bacteriophages for Clinical Applications". October 25-November 7, 2023
- Organised Cathexis'23, Annual festival of Department of Biomedical Science on the theme of "Reproductive Health". April 13, 2023
- Organised One Day Hands-on Workshop on 'Forensic Science'. April 12, 2023
- Organised Panel Discussion With Alumni of Biomedical Science Department as part of the Career Counselling Series. April 11, 2023.
- Co-organized 'One-Month Online National Faculty Induction Programme (Guru Dakshta)' organized by UGC-MMTTC/GAD-MMTTC, SGTB Khalsa College, University of Delhi from May 13- June 08, 2024.
- Co-organised "NEP 2020 Orientation & Sensitization Programme" under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) alongwith UGC-MMTTC (GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from May 14-24, 2024.
- Organised "One-week National Faculty Development Program (Interdisciplinary-Science) on Forensic Chemistry" in association with UGC-MMTTC/GAD-MMTTC, SGTB Khalsa College, University of Delhi (UoD), ANDC, UoD, Department of Anthropology and Skills Enhancement Committee, UoD; Forensic Science Unit, SGTB Khalsa College, UoD from April 22-30, 2024
- Organised One-week National Faculty Development Program (Interdisciplinary-Science) on Forensic Science" in association with UGC-MMTTC/GAD-MMTTC, SGTB Khalsa College, UoD, ANDC, UoD, Department of Anthropology and Skills UoD of Delhi from April 06-18, 2024
- Co-organised 8th International Conference of INSCR (Indian Network for Soil Contamination Research) and 4th International Symposium on Ciliate Biology, in association with INSCR and other departments of Acharya Narendra Dev College, UoD from April 03-05, 2024 at Conference Centre, UoD, Delhi, India.
- Co-organised pre-conference workshop of INSCR 2024 on 'Art of Scientific Writing and Communication' held on April 02, 2024

Botany: (05)

- Organized Workshop on Prakriti (Ayurvedic Concept of Constitution): Important Tool for Health and Disease
- Organized National Symposium & Hands on Training on Ecosystem Restoration & Sustainability
- Organized Online RBPT Based National Workshop on Biolgical Data Analysis with R. January 27-31, 2024
- Organized Workshop on Role of Seed Ball Technology in Ecological Restoration
- Organized Hands-on Session on Nature-Based Bio-Enzyme Production for Sustainable Living

Chemistry: (13)

- Organized a five day Bootcamp on 'V-Lab Development 2.2' under the aegis of DBT STAR College Scheme from April 24-28, 2023.
- A five day Bootcamp on 'V-Lab Development (Building Blocks of Simulator)' under the aegis of DBT STAR College Scheme A five day Bootcamp on 'V-Lab Development (Building Blocks of Simulator)' under the aegis of DBT STAR College Scheme
- Organized a 40 hours certificate course on Basics of Research Methodology for Physical Science and Life Science students of first year from January 05, 2023 -17 June 2023.
- A Hands-on Workshop for college students on 'Basic Language Skills' under the aegis of DBT Star College and IQAC from August 07-11, 2023
- One week FDP on 'Sericulture: Rearing and its Application' in collaboration with Skill Enhancement Course Committee, University of Delhi, Department of Zoology, University of Delhi, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi, Guru Nanak Angad Dev TLC, SGTB Khalsa College, University of Delhi and Atma Ram Sanatan Dharma College, University of Delhi, under the aegis of DBT Star College and IQAC from August 08-14, 2023
- A three day online International Conference on Chemical and Biological Sciences (ICCBS-2024) in collaboration withthe Department of Chemistry, Atma Ram Sanatan Dharma College (University of Delhi) under the aegis of Internal Quality Assurance Cell (IQAC), in association with Kwangwoon University (South Korea), North-West University (South Africa), Acharya Narendra Dev College (University of Delhi) and SRM Institute of Science & Technology (Ghaziabad) January 27 - 29, 2024
- A 40 hours certificate course on Practical Training in Research Methodologies for college students from October 28, 2023-April 27, 2024.
- An e-workshop on 'Learning the Basics of ChemDraw Software'on February 18, 2024.
- A workshop on 'Exploring the Fundamentals of Scifinder' on March 14, 2024.
- Co-organized Annual Convention of Chemists ACC 2023, by Indian Chemical Society (ICS) in association with University of Delhi and Council of Scientific and Industrial Research (CSIR), on, IIT Delhi Campus, HauzKhas, New Delhi – 110016 from 20-21st Dec. 2023
- Co-organized international conference on Fostering Sustainable Catalysis, FSC-2024, Organized by Department of Chemistry, University of Delhi and Maharaja SurajmalBrij University, at G-12, Maharishi KanadBhawan, (Opposite Department of Chemistry), University of Delhi, Delhi – 110007 from January 19-20, 2024
- Organized Workshop on E-RESOURCES OF DELHI UNIVERSITY AND INFLIBNET N-LIST at Acharya Narendra DevCollege on October 26, 2023
- A workshop on 'Introduction of RTI ACT@2005' on April 12, 2024

Computer Science: (06)

- Five Days workshop on "V-Lab Development (Building Block of Simulator)" held on 24th April 2023 to 28 April 2023 by Mr. Vaibhav Thapiyal, Mr. Vibhor Gupta, Mr. Pankaj Sahu, Students of Acharya Narendra Dev College, Delhi University.
- Five Days workshop on "V-Lab Development 2.2" held on 24th April 2023 to 28 April 2023 by the students of Acharya Narendra Dev College, Delhi University. Mr. Vaibhav Thapiyal, Mr. Vibhor Gupta, Mr. Pankaj Sahu.
- One Day workshop under the IQAC and the aegis of DBT Star College Scheme on "IOT and Cloud Computing" held on 29 February, 2024 by Dr. Nikhil Rajput, Assistant Professor, Ramanujan College, University of Delhi.
- One Day workshop under the IQAC and the aegis of DBT Star College Scheme on "Hands on Experience in Blockchain" held on 5th March 2024 by Prof. Ihtiram Raza Khan, Professor, Computer Science and Engineering, Jamia Hamdard Deemed University, New Delhi.
- Five Days workshop under the IQAC and the aegis of DBT Star College Scheme on in collaboration with Department of Physics "Hands – on workshop on Arduino Microcontrollers and PCB designing" held from 18 March to 22 March 2024 by Ms. Babita Sharma and Mr. Satyam Garg, Mr. Arun Kumar.
- Five days workshop on "One-week Bootcamp 2.1 for V-lab Development" on (11 March – 15 March, 2024) by Mr. Ayush Choudhary, Mr. Pranjal, Mr. Ayush Bhardwaj Mr. Arpit Bhardwaj, Ms. S. Kanak Megha MR. Avishkaar Pawar and Mr. Ravi Tomar, Students of Acharya Narendra Dev College, Delhi University.

Electronics: (04)

- Department has organised 5 days workshop on Machine Learning with Python Interfacing in technical collaboration with industry partner Brain Mentors Pvt. Ltd. from September 25-29, 2023.
- Department has organized a One-day workshop on 3D Printing Technology on September 23, 2023.
- Department has organised 5 Day Workshop on "Internet of Things" with Our Industry Partner Brain Mentors Pvt. Ltd. from 26.02.2024- 01.03.2024.
- Interschool Videography Competition, "Light Through Lens" on May 16, 2024 to celebrate International Day of Light, under the under the student SPIE chapter, under the aegis of IQAC and DBT Star College Scheme, Acharya Narendra Dev College, University of Delhi.

Physics: (02)

- Dr. V. Bhasker Raj and Prof. Arijit Chowdhuri were involved in organization of Hands-on training Workshop on Semiconductor Device Fabrication organized by Miranda House, University of Delhi, in collaboration with CIIDRET, UDSC and DSSEED, University of Delhi. The workshop was organized from 20 March – 3 April 2023 under the aegis of 100 days Skill Festival of University of Delhi.
- Five Days workshop under the IQAC and the aegis of DBT Star College Scheme on Arduino Microcontrollers and PCB designing"in collaboration with Department of Computer Science from 18 March to 22 March 2024 by Ms. Babita Sharma and Mr. Satyam Garg, Mr. Arun Kumar.

Zoology: (13)

- Five-day Bootcamp on 'V-Lab Development 2.2 and Bootcamp on 'V-Lab Development (Building Blocks of Simulator)': Organized a five-day Bootcamp on 'V-Lab Development 2.2' and 'V-Lab Development (Building Blocks of Simulator)' under the aegis of DBT STAR College Scheme. This workshop was organized for the First- and Second-year students of all streams of the college. The resource persons were Mr Vaibhav Thapliyal. Mr. Shahnawaz Khan and Mr. Pankaj Sahu who were final year students of B.Sc.(H) Physics, B.Sc.(H) CS and B.Sc.(P) Physical Science with CS respectively from the college.
- Five Days workshop on "V-Lab Development 2.2" held on 24th April 2023 to 28 April 2023 by the students of Acharya Narendra Dev College, Delhi University. Mr. Vaibhav Thapiyal, Mr. Vibhor Gupta, Mr. Pankaj Sahu.
- Summer Internship organized by Microbial Technology Laboratory, Acharya Narendra Dev College University of Delhi: Basic Techniques of Laboratory attended by Beenit Kushwaha (Galgotia's University); Tenure: 1 month from 4th July to 4th August 2023.
- Co-organized three days International Conference on Chemical and Biological Sciences (ICCBS-2024) being organized by the Department of Chemistry under the aegis of Internal Quality Assurance Cell (IQAC), Atma Ram Sanatan Dharma College (University of Delhi) in association with Kwangwoon University (South Korea), North-West University (South Africa), and SRM Institute of Science & Technology (Ghaziabad) from January 27th to 29th, 2024.
- Organized Seven Day Faculty Development Program on Sericulture: Rearing and its Applications for the faculty of University of Delhi in which hands-on experience was given on rearing methods for mulberry silkworm.
- Organized National Workshop in collaboration with Environmental Pollution Laboratory (EPL), Department of Environmental Studies, University of Delhi, sponsored by Department of Science and Technology (DST), Government of India.The workshop titled 'Raising Awareness on Urban Air Quality, Climate Change, Health and e-Resillience' was held on November 28th, 2023.
- Organized One-week Bootcamp 2.1 for V-lab Development under the aegis of IQAC and DBT Star College Scheme from January 11 – 15, 2024 for the first year and second year students of all streams of the college.
- Organized one-day ISME sponsored Hands on Workshop on "Scientific Writing and Communication" under the aegis of IQAC and DBT Star College Scheme on February 13, 2024
- Co-Organized National Workshop on Biological Data Analysis under the aegis of IQAC and DBT Star College Scheme from January 27-31, 2024.
- Organized the workshop on Art of Scientific Writing and Communication in association with Federation of European Microbiological Societies (FEMS) & Indian Network for Soil Contamination Research (INSCR) on April 02, 2024.
- Organized the workshop on Genomics, Metagenomics & Bioinformatics in Microbial Ecology in association with the International Society for Microbial Ecology (ISME) & Indian Network for Soil Contamination Research (INSCR) on April 02, 2024.
- Organized NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) organized by UGC-

MMTTC (GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from June 04-14, 2024.

- Organized 8th International Conference of INSCR (Indian Network for Soil Contamination Research) and 4th International Symposium on Ciliate Biology, in association with INSCR and other departments of Acharya Narendra Dev College, UoD from April 03-05, 2024 at Conference Centre, UoD, Delhi, Ind


MARVELS OF FORENSIC SCIENCE

Appendix XV

Outreach Activities/Visits/Popular Lectures

2021-2022

Outreach activities - College Level

- Acharya Narendra Dev College, University of Delhi conducted a One Day Interaction Program called "Science Adda" (under the aegis of DBT Star College Scheme) for school students on December 20, 2021. A total of 14 schools registered for the workshop, while the number of individual participants attending the workshop was 33. The event was organized to give hands-on demonstration of some simple easy to do experiments by different departments of our college including Physics, Chemistry, Computer Science, Electronics, Biomedical Science, Zoology and Botany. The workshop was conducted in both physical as well as online mode. The session was concluded by an interesting quiz pertaining to the experiments shown and explained to the students. All the attendees were given certificates of participation, a foldscope and scientific kits for electronic experiments.
- An outreach programme for school students, "ECOVILLE" was organized on February 27, 2022 as a part of the E- conference that invited submission of avant- garde research projects, video presentations, environmental quiz and paper presentations. The highlight of the day was the inauguration of Virtual lab presided over by Dr Garima Gupta, Scientist F, Department of Biotechnology, Govt. of India. A career counselling session was also organized for the school students One of the key highlights and a nicheendeavour by the college, this particular outreach program not only sought to introduce young minds to the infinite spectrum of research and innovative thinking, it also encouraged them by funding avant-garde projects, awarding exciting prizes for quiz winners and best presenters, while providing participation certificates to all.
- The College organized a National workshop on Skill enhancement of Non-teaching staff (NWSENS-2022) from July 13-20, 2022. More than 60 non-teaching staff from various colleges of University of Delhi including Institute of Home economics, Lady Irwin college, Ramjas College, etc. participated in the workshop. The workshop was designed for holistic development of the non-teaching staff, and covered topics like financial management, tax-filling, stock-keeping, computational skills, operation of GeM portal, basic laboratory skills for safe handling and usage of scientific equipments raging from pH meters, electrophoresis units, centrifuges, micro-pipettes, microscopes and spectrophotometers.

Outreach activities – Department Level

Biomedical Science (11)

- Prof. Urmi Bajpai delivered talk in the Webinar on "Bacteriophages and encoded lysin enzymes as potential therapeutics" organized by Emerging Biopharmaceutical Manufacturers (EBPMN), and International Bacteriophage Research Consortium (IBRC) on December 3, 2021.

- Prof.Urmi Bajpai delivered an online talk on “Bacterial infections, antibiotic resistance and prospects of phage lysins as a new class of antimicrobials” in the Biotechnology Lecture Series, organized by Department of Biotechnology, Cochin University of Science & Technology, Kochi, Kerela-682022 on April 12, 2022.
- Prof. Urmi Bajpai delivered a talk on “Antibiotic Resistance: A silent epidemic”, at the SERB sponsored seminar on Drug Resistance: Causes and Challenges Ahead. Organized by Noida Institute of Engineering and Technology (Pharmacy Institute), Greater Noida on June 11, 2022.
- Prof.Urmi Bajpai delivered a talk on “Computational Mining of Bacteriophage Genomes for Antibacterial Agents. Organized by Department of Computational Biology, Indraprastha Institute of Information Technology (IIIT), Okhla Phase III, Delhi on July 1, 2022.
- Prof.Gagan Dhawan delivered talk on 13th annual conference on Advances in Cell and Tissue Culture 2021 (ACTC 2021), on topic “Exploring the effect of polydopamine-aminoglycoside nanoconjugates for combating bacterial biofilms and augmenting cell migratory effect” on November 3, 2021.
- Dr Sunita Jetly as state blood cell Coordinator organized Webinar and Screening program for thalassemia in NSUT, Gargi College and BCAS, DU on October 29, 2021.
- Dr Sunita Jetly held the position of session chair on October 10, 2021 for one of the session in the International Conference on infection and immunity from October 8- 10, 2021.
- Dr Satendra Singh, Dr Rimpy Kaur Chowhan and Dr Ritu Khosla delivered talk on “Document Verification” at National workshop on “Skill enhancement of Non- teaching staff” on July 13, 2022.
- Dr Satendra Singh, Dr Rimpy Kaur Chowhan and Dr Ritu Khosla delivered talk on “Working of electrophoresis and Centrifuge machine” at National workshop on “Skill enhancement of Non-teaching staff” on July 14, 2022.
- Dr Rimpy Kaur Chowhan delivered talk on “Operation of GeM Portal” at National workshop on “Skill enhancement of Non-teaching staff” on July 19, 2022.
- Dr Ritu Khosla delivered talk on Principle and working of q-PCR atNational Workshop on “Flow Cytometry and qPCR based Blood Analyses” on October 20-24, 2021.

Botany (8)

- Dr Rashmi Sharma organized a interactive session was organised at Tagore International School to familiarise students about CUET and the admission process to Central Universities with specific reference to University of Delhi and basic science courses on Jul 12, 2022.
- Students from Shivaji College were trained at the Mushroom facility on lignocellulosic waste as a valuable bioresource.
- Students visited Dhanaulti and Kanatal to gain knowledge about mushroom cultivation, ecology and herbarium.
- Virtual Visit to Yakult Industrial Plant Sonepat
- Students visited Mukteshwar and Nainital and studied ecology, herbarium preparation
- Virtual Science Setu Programme on Viruses and Immunity for UG students by eminent scientists from THISTI on March 17, 2021.
- Students from Shivaji College were trained at the Mushroom facility on lignocellulosic waste as a valuable bioresource.

- GD Goenka University Student workshop.

Electronics (8)

- Science Education Outreach Program and workshop on Sensor Interfacing using Arduino and TinkerCAD simulation was organised for school students from October 18-30,
- Organized International Day of Light 2021 Celebration under the theme 'Let your Light Shine' on May 16, 2021.
- Dr. Ravneet Kaur and Ms Gauri Ghai served as a resource person in a five-day workshop on "Development of Competency Framework and Revisiting of the Learning Outcomes in Science and Mathematics (PAC 6.01/2021-22)" held online at DESM, NCERT, New Delhi from March 7, 2022 to March 11, 2022.
- Dr. Ravneet Kaur and Ms Gauri Ghai served as a resource person in a five-day workshop on "Development of Competency Framework and Revisiting of the Learning Outcomes in Science and Mathematics (PAC 6.01/2021-22)" held online at DESM, NCERT, New Delhi from February 28, 2022 to March 4, 2022.
- Dr. Ravneet Kaur serves as a resource person in a five-day workshop on "Online Course in Teaching of Science at Upper Primary Stage." held online at DESM, NCERT, New Delhi from January 10, 2022 to January 14, 2022.
- Dr. Ravneet Kaur serves as a resource person in a five-day workshop on "Online Course in Teaching of Science at Upper Primary Stage." held online at DESM, NCERT, New Delhi from January 17, 2022 to January 21, 2022.
- Dr. Ravneet Kaur delivered a lecture as a "Resource Person" on the topic Communication: Past, Present and Future on February 3, 2022, organized by Internal Quality Assurance Cell (IQAC) of ARSD College.
- Prof. Amit Garg, Prof. Anju Agrawal, Dr. Ravneet Kaur, Ms. Gauri Ghai, Dr. Monika Bhattacharya and Mr. Dinesh Kumar served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) organised by Acharya Narendra Dev College from July 13 to July 20, 2022.

Physics (15)

- Dr. Mamta Bhatia, Program coordinator of one week online "Women and Sustainable Business Development": International Certificate program,20-25 January,2022,in collaboration with National Law University, Delhi and Trakya University, TURKIYE
- Prof. Arijit Chowdhuri and Dr. V. Bhasker Raj have been resource persons in delivering knowledge content and conducting hands-on sessions on
- Generating wave shapes using Function Generators (FGs)
- Analyzing wave shapes using Digital Storage Oscilloscopes (DSOs)
- at the National Workshop on Skill Enhancement of Non-teaching Staff (NWSENS – 2022) organized in commemoration of Centenary Celebrations of University of Delhi under the aegis of DBT STAR College Scheme and IQAC from July 13 - 20, 2022
- Prof. Arijit Chowdhuri and Dr. V. Bhasker Raj have been coordinators for Intellectual Property Awareness program under National Intellectual Property Awareness mission (NIPAM) on January 19, 2022.

- As resource persons of Science Adda Program, Prof. Arijit Chowdhuri, Dr. Sanjay Kumar and Dr. V. Bhasker Raj conducted hands-on demonstration of the following experiments to school students
- Total internal reflection using LASER light.
- To study diffraction pattern of LASER using plane transmission grating.
- To study diffraction pattern of LASER using plane reflection grating and measure its wavelength using a ruler as grating.
- To study the flow of water through narrow tube. optical experiments including total internal reflection.
- Prof. Arijit Chowdhuri, Dr. Sanjay Kumar and Dr. V. Bhasker Raj have been resource persons in the Hands-on workshop on Digital Systems and Applications with Microprocessors and Microcontrollers organized by Department of Physics & IQAC, Acharya Narendra Dev College October 20-27, 2021.
- Prof. Arijit Chowdhuri, Dr. Siddhartha and Dr. Ambika have been resource persons Hands-on Workshop on Modern Physics. November 10-17, 2021.
- Prof. Arijit Chowdhuri, Dr. Rakesh Sonker and Mr. Pawan Kumar have been resource persons Hands – on workshop on Basic & Contemporary Thermal Physics, Mechanics and LASER Application November 12 – 19, 2021.
- Two month long hands-on training of 05 (five) students on advanced thin film deposition and characterization equipment at Smart Materials and Devices Laboratory at Miranda House, University of Delhi, Delhi – 110 007 during June – July 2022.
- Organized an educational visit on May 31, 2022 for 10 students to Dr. Anjali Sharma Kaushik's Material Science research laboratory in ARSD College, University of Delhi, Dhaula Kuan Enclave I, Dhaula Kuan, New Delhi, Delhi – 110 021
- Organized an educational visit on March 03, 2022 for 10 students to Electronic Materials and Devices Laboratory, Department of Physics & Astrophysics, University of Delhi, Delhi– 110007
- Organized an educational visit on March 02, 2022 for 10 students to Micro-Fabrication Facility, Department of Physics & Astrophysics, University of Delhi, Delhi – 110 007
- Organized an educational visit on 28 February 2022 (National Science Day) for 10 students to Inter University Accelerator Centre (formerly Nuclear Science Centre) Aruna Asaf Ali Marg, near Vasant Kunj, Vasant Kunj, New Delhi, Delhi – 110 067
- Organized an educational visit on 28 February 2022 (National Science Day) for 10 students to National Physical Laboratory, Dr KS Krishnan Marg, Pusa, New Delhi, Delhi – 110 012
- Organized an educational visit on 26 December 2021 for 10 students to Smart Materials and Devices Laboratory at Miranda House, University of Delhi, Delhi – 110 007

Zoology (10)

- An online International Outreach Program was organized to Celebrate International Microorganism Day as "MICROSPHERE 2021" by ANDC in collaboration with 10 different institutes to generate awareness about microbes to the school stuents on September 27, 2021. About 800 students attended the program.

- Dr Rahul Dev, Dr Neel Gagan Singh and Prof. Seema Makhija were resource person in demonstrating Isoltion of DNA from Cabbage to school students during the Science Adda Program held on December 13, 2021 at ANDC under the aegis of DBT STAR College Scheme.
- Dr Rahul Dev, Dr Neelgagan Singh, Mr Vineet Girdharwal and Prof Seema Makhija were resource persons in demonstrating the following practicals to the Non Teaching staff during National workshop on Skill enhancement of Non-teaching staff (NWSENS- 2022) from July 13-20, 2022:
- Use of UV-VIS Spectrophotometer and
- Colorimeter
- Handling and Cleaning of Microscopes
- Caliberation of Micropippetes
- Dr Monica Misra, Professor Seema Makhija. Dr Neel Gagan Singh and Dr Sushma Bhardwaj organized a session on visit to Zebra Culture facility and other research facilities in the Zoology Department for the Non Teaching staff on September 17, 2022 during the NATIONAL WORKSHOP on Career and Skill Enhancement for Non- teaching Staff under the aegis of DBT STAR College Scheme and IQAC.
- Dr Sarita Kumar delivered a talk on 'An Overview of Animal Classification: Understanding Criteria' for the students of Department of Zoology, Punjab Agricultural University, Ludhiana, Punjab; Feb 22, 2022
- Dr Sarita Kumar delivered a talk on 'Mendelian and Non-Mendelian Inheritance' for the students of Department of Zoology, Punjab Agricultural University, Ludhiana, Punjab; Feb 23, 2022.
- A trip organized by the Department of Zoology under the aegis of DBT STAR college scheme to Sulabh International Museum of toilets on April 18, 2022.
- A trip was organized by the Department of Zoology under the aegis of DBT STAR college scheme to South end IVF Centre on April 05, 2022. students enjoyed learning about IVF processes.
- Virtual tour of Aravalli Biodiversity Park on February 10, 2022.

2022-2023

Outreach activities - College Level

- Bani School Innovation Camp II (BaSIC V) and Biar Initiative: A School Outreach Program for Enrichment II (BIoSCOPE II). Organizing Team: Prof. Rup Lal, Fellow-Indian National Science Academy; Prof. Sukanya Lal, PhiXgen Pvt. Ltd. and various faculty members and UG students from different colleges of University of Delhi, Dr. Shailly Anand from Deen Dayal Upadhyaya College; Dr. Princy Hira and Dr. Ritu Dhingra from Maitreyi College; Dr. Pushp Lata from Dept. of Zoology; Dr. Charu Dogra Rawat, Ramjas College; Dr. Gauri Garg Dhingra and Dr. Utkarsh Sood from Kirori Mal College; Dr. Kiran and Dr. Shekhar Nagar from Deshbandhu College; Dr. Meghali, Shivaji College
  Date: February 13-14, 2023
  Number of Participants: 41

Biomedical Science: (20)

- Prof Urmi Bajpai delivered a talk on “Bacteriophages: the dark matter of the biospheres” in a symposium on “Data Driven Approaches to Understand Biological Systems. At the CSIR-IGIB, Mathura Road on April 29, 2023.
- Prof Urmi Bajpai delivered a talk on Unleashing Potential, Breaking Boundaries” on the International Day for Women & Girls in Science at the CSIR, HRDG, Pusa on February 10, 2023.
- Prof Urmi Bajpai delivered a talk on Bacteriophages and Lysin Banks to Combat Antibacterial Drug Resistance”. At the 63rd annual international conference of Association of Microbiologists (AMI) of India. at the MDU, Rohtak on February 4, 2023.
- Prof Urmi Bajpai delivered a talk on Importance of Bacteriophage and Lysin Banks to Mitigate the Silent Pandemic" at the 3rd International Conference on Bacteriophage Research and Antimicrobial Resistance (ICBRAR) on November 27, 2022.
- Prof Urmi Bajpai was Co-panelist with Prof Herman Barkema, University of Calgary, in an online panel discussion on “Antimicrobial Resistance & One Health: Stakes involved and the way forward”, organized by IBLOT, EBPMN and TechInventionPvt Ltd. On November 18, 2022.
- Dr Sunita Jetly organised Free Cancer Awareness Program at various locations of Delhi & Uttar Pradesh.
- Dr Sunita Jetly organized Thalassemia Awareness Program at various locations of Delhi & Uttar Pradesh,
- Ganga Ram Hospital (invited by Thalassaemic India 35 years Old NGO for thalassemia to showcase our work)
- Dr Satendra Singh was resource person in the National Workshop on Career and Skill Enhancement for Non-Teaching Stafffrom September 15-21, 2022.
- Dr Satendra Singh was resource personin the National Workshop on Skill Enhancement for Non-Teaching Staff from July 13-20, 2022.
- Dr Rimpy Kaur Chowhan Co-chaired a session in the 3rd International Symposium on Ciliate Biology (ISCB-2022) on November 8, 2023.
- Dr Rimpy Kaur Chowhan was Resource person in the National Workshop on Career and Skill Enhancement for Non-Teaching Staff from September 15-21, 2022.
- Dr Rimpy Kaur Chowhanwas resource person in the National Workshop on Skill Enhancement for Non-Teaching Staff from July 13-20, 2022.
- Dr Ritu Khosla was Resource person in the National Workshop on Career and Skill Enhancement for Non-Teaching Staff from September 15-21, 2022.
- Dr Ritu Khosla was Resource person in theNational Workshop on Skill Enhancement for Non-Teaching Staff from July 13-20, 2022.
- Dr Ritu Khosla wasResource person in the National hands-on workshop on “PCR for Diagnostics and Gene Expression Analyses” from September 27-29, 2022.
- Dr Deepshikha was Resource person in the National Workshop on Career and Skill Enhancement for Non-Teaching Staff from September 15-21, 2022.
- Mr Vinesh Kumar was Resource person in the National Workshop on Skill Enhancement for Non-Teaching Staff from July 13-20, 2022.

- Dr Archna Pandey wasResource person in the National hands-on workshop on "PCR for Diagnostics and Gene Expression Analyses" from September 27-29, 2022.
- Dr Sunita Jetly delivered atalk on "Cancer Prevention", under Jan Jagriti Foundation, Noida, at community centre, Jal Vayu Vihar Noida on September 23, 2023.
- Dr Sunita Jetly delivered a talk on "Holistic Health" invited by mera Sahar on the occasion of Pre Independence-Celebrations Day, joint women programmed at A276, sector 31, Noida. UP on August 14, 2023.

Botany: (03)

- Outreach Workshop on "Cell and Molecular Biology Techniques": In commemoration of centenary celebrations of University of Delhi, Acharya Narendra Dev College organized an Outreach Workshop on Cell and Molecular Biology Techniques under the patronage of Prof. Ravi Toteja, Principal, ANDC. 24 B.Sc students and 26 M.Sc students from GD Goenka University, Gurugram, Delhi were given complete hands-on training on cell and molecular biological techniques like Preparation of Competent cells and Transformation Experiment, making of mitosis slides, plasmid DNA isolation, polymerase chain reaction, agarose gel electrophoresis and restriction mapping October 12-13, 2022.
- Visit to Sanjay Van: Dr Charu K Gupta, Dr Vineet K Singh, Dr Mandeep Kaur and Dr Anita Thakur took BSc (H) Botany to Sanjay Van and Neela Hauz to study the ecology of the system on 25th April 2023
- Visit to Tuglakabad Biodiversity Park: Dr Charu K Gupta, Dr Vineet K Singh and Dr Sumit Singh had taken 45 students from the department for a plantation drive on World Environment Day 5th June 2023

Chemistry: (05)

- Under Community outreach activity five workshops on 'Safer And Greener Chemistry Lab' were organised in **five** schools in collaboration with GAD TLC SGTB Khalsa College by Department of Chemistry A.N.D College under aegis of IQAC and DBT Star College Scheme (Co-ordinator and resource person-Dr Rashmi Thukral) on 28th-31th Jan, 2023

Electronics: (29)

- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on "Development of Learning Outcomes based activities in Biology, Chemistry, Physics and Mathematics at Secondary Stage (Level II)." held at DESM, NCERT, New Delhi from August 21, 2023 to August 25, 2023.
- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on "Online Course in Teaching of Science at Middle Stage." held at DESM, NCERT, New Delhi from July 31, 2023 to August 4, 2023.
- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on "Development of Audio Video Resources based on Laboratory Manual in Science at Upper Primary Stage." held at DESM, NCERT, New Delhi from July 10, 2023 to July 14, 2023.
- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on "Development of Audio Video Resources based on Laboratory Manual in Science at Upper Primary Stage" held at DESM, NCERT, New Delhi from February 27, 2022 to March 03, 2023.

- Prof. Amit Garg, Prof. Anju Agrawal, Dr. Ravneet Kaur, Ms. Gauri Ghai, Dr. Monika Bhattacharya and Mr. Dinesh Kumar served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Prof. Anju Agrawal and Dr. Ravneet Kaur served as Judge for the Inter-School S.T.E.M. Fest-Robotron'23, Delhi Public School, Mathura Road, August 11, 2023.
- Dr. Ravneet Kaur chaired a session in International Conference on Advances in IoT, Security with AI (ICAISA-2023), Deen Dayal Upadhyaya College, University of Delhi, Sector-3, Dwarka on March 24, 2023.
- Prof. Anju Agrawal and Dr. Ravneet Kaur trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, New Delhi for duration of two months (July 1, 2023- August 31 2023 on Portfolio Website Development.
- Dr. Ravneet Kaur and Dr. Monika Bhattacharya served as Expert Reviewer for IT related Vocational Education courses at Bhartiya Shiksha Board (BSB).
- Prof. Anju Agrawal chaired a session in the 3rd International Symposium on Ciliate Biology (ISCB-2022) organized by Acharya Narendra Dev College and Maitreyi College, University of Delhi under the aegis of DBT STAR College Scheme and IQAC held on November 8, 2022.
- Resource Person in One Week National Workshop on Career and Skill Enhancement for Non-teaching Staff organised by Acharya Narendra Dev College from September15 to September 21, 2022.
- Prof. Amit Garg served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Prof. Anju Agrawal served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Dr. Ravneet Kaur served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Ms. Gauri Ghai served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Dr. Monika Bhattacharya served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.
- Mr. Dinesh Kumar served as Resource Person in National Workshop on Skill Enhancement of Non-Teaching Staff (NWSENS-2022) Organised by Acharya Narendra Dev College from July 13 to July 20, 2022.

- Prof. Anju Agrawal acted as a judge in the Inter-School S.T.E.M. Fest- Robotron'23, Delhi Public School, Mathura Road, August 11, 2023.
- Dr. Ravneet Kaur acted as judge for the Inter-School S.T.E.M. Fest- Robotron'23, Delhi Public School, Mathura Road, August 11, 2023.
- Dr. Ravneet Kaur chaired a session in International Conference on Advances in IoT, Security with AI (ICAISA-2023), Deen Dayal Upadhyaya College, University of Delhi, Sector-3, Dwarka on March 24, 2023.
- Prof. Anju Agrawal trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, New Delhi on Portfolio Website Development for two months (July 1, 2023-August 31, 2023).
- Dr. Ravneet Kaur trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, New Delhi on Portfolio Website Development for two months (July 1, 2023-August 31, 2023).
- Dr. Ravneet Kaur served as Expert Reviewer for IT related Vocational Education courses at Bhartiya Shiksha Board (BSB).
- Dr. Monika Bhattacharya served as Expert Reviewer for IT related Vocational Education courses at Bhartiya Shiksha Board (BSB).
- Prof. Anju Agrawal chaired a session in the 3rd International Symposium on Ciliate Biology (ISCB-2022) organized by Acharya Narendra Dev College and Maitreyi College, University of Delhi under the aegis of DBT STAR College Scheme and IQAC held on November 8, 2022.
- Organized an excursion to The Bureau of Indian Standards for the students of B.Sc(H) Electronics and SPIE society chapter member @ANDC, on April 7, 2023.
- Organized an excursion to National Science Centre for the students of B.Sc(H) Electronics and SPIE society chapter members @ANDC, on February 11, 2023.
- Organized an education visit to Nehru Planetarium, New Delhi on for the students of B.Sc (H) Electronics and SPIE society chapter members @ANDC, September 24, 2022
- Organized an Education visit to PM Museum (Pradhanmantri Sangrahalaya), New Delhi for the students of B. Sc (H) Electronics and SPIE society chapter members @ANDC, on September 24, 2022.

Physics: (05)

- Two month long hands-on training of 05 (five) students on advanced thin film deposition and characterization equipment at Smart Materials and Devices Laboratory at Miranda House, University of Delhi, Delhi – 110 007 during June – July 2023.
- Organized an educational visit on 31 May 2023 for 09 students to Dr. Anjali Sharma Kaushik's Material Science research laboratory in ARSD College, University of Delhi, Dhaula Kuan Enclave I, Dhaula Kuan, New Delhi, Delhi – 110 021

- Organized an educational visit on 28 February 2023 (National Science Day) for 10 students to Inter University Accelerator Centre (formerly Nuclear Science Centre) Aruna Asaf Ali Marg, near Vasant Kunj, Vasant Kunj, New Delhi, Delhi – 110 067
- Organized an educational visit on 28 February 2023 (National Science Day) for 10 students to National Physical Laboratory, Dr KS Krishnan Marg, Pusa, New Delhi, Delhi – 110 012
- Organized an educational visit on 28 February 2023 (National Science Day) for 10 students to Smart Materials and Devices Laboratory at Miranda House, University of Delhi, Delhi – 110 007

Zoology: (10)

- MICROSPHERE 2.0: An International Outreach Program: An initiative to promote Microbial Literacy in school and UG Students on September 17, 2022
- Dr Monica Misra, Professor Seema Makhija. Dr Neel Gagan Singh and Dr Sushma Bhardwaj organized a session on visit to Zebra Culture facility and other research facilities in the Zoology Department for the Non-Teaching staff on September 17, 2022 during the NATIONAL WORKSHOP on Career and Skill Enhancement for Non- teaching Staff under the aegis of DBT STAR College Scheme and IQAC.
- Outreach Workshop on "Cell and Molecular Biology Techniques": In commemoration of centenary celebrations of University of Delhi, Acharya Narendra Dev College organized an Outreach Workshop on Cell and Molecular Biology Techniques under the patronage of Prof. Ravi Toteja, Principal, ANDC. 24 B.Sc students and 26 M.Sc students from GD Goenka University, Gurugram, Delhi were given complete hands-on training on cell and molecular biological techniques like Preparation of Competent cells and Transformation Experiment, making of mitosis slides, plasmid DNA isolation, polymerase chain reaction, agarose gel electrophoresis and restriction mapping October 12-13, 2022.
- One day workshop on Quantitative microbial ecology: Opportunities and Way-ahead: Acharya Narendra Dev College, University of Delhi (UoD) in association with Gargi College, UoD; IMiLI-SAC & PhixGen Pvt. Ltd. organized a workshop on Microbial Ecology. This event was sponsored by International Society for Microbial Ecology (ISME) on February 04, 2023.
- Bani School Innovation Camp II (BaSIC V) and Biar Initiative: A School Outreach Program For Enrichment II (BIoSCOPE II): This was the second camp organized in commemoration of Centenary Celebrations of University to motivate and ignite young minds of Govt. Senior Secondary School (GSSS), Bani and Biar located in the Hamirpur District of Himachal Pradesh. This camp was organized for students of classes VI-XI with an aim of uplifting the rural areas through propagation of scientific thoughts, promotion of student-teacher interactions and development of communication skills on February 13-14, 2023.
- Prof. Sarita Kumar was Resource Person in Workshop on 'Modification and Upgradation of Biology and Biotechnology Laboratory', DESM, NCERT from August 1-5, 2022.

- Prof. Sarita Kumar was Resource Person in Online Review Workshop (reviewing the e- content, uploading Comments & Suggestions on the Google Drive Link Shared, and coordinating with MPD, CIET NCERT faculty from October-December, 2022.
- Prof. Seema Makhija delivered a talk and conducted workshop on 'Fascinating World of Microbes, Protozoans and Career Opportunities' in G.D. Goenka University, Gurugram
- Organized two one day Educational Trip to National Zoological Park, New Delhi on 29 September 2022 to observe behavior of animal for their Animal Behaviour & Chronobiology paper. Delhi Zoological Park is home to large species of birds and multiple exceptional animals such as White Tiger, Royal Bengal Tiger, Gaur, Jaguar, Rhinoceros, Elephants, Asiatic Lion and lion-trailed monkey

2023-2024

Biomedical Science :(29)

- Prof Urmi Bajpai delivered a talk on "AMR crisis and the way forward" at the 3rd International Conference on "Antimicrobial Resistance, Novel Drug Discovery and Vaccine Development: Challenges and Opportunities" being organized by SRM University Delhi-NCR. India Habitat Centre, New Delhi. March 18 – 20, 2024
- Prof Urmi Bajpai Chaired 6th session "Session VI" at the 3rd International Conference on "Antimicrobial Resistance, Novel Drug Discovery and Vaccine Development: Challenges and Opportunities" being organized by SRM University Delhi-NCR. India Habitat Centre, New Delhi. March 19, 2024
- Prof Urmi Bajpai was a panelist in "Drug discovery and repurposing" theme at the BioInsight Forum, organized by BioSoc-DTU during Invictus '24, the Annual Techfest of Delhi Technological University. February 29, 2024
- Prof Urmi Bajpai gave Invited Talk on "Bacteriophages in the pre-and post-antibiotic era" In the Luminaries Lecture Series" organized by the Department of Biotechnology, School of Engineering and Technology, School of Engineering and Technology, Manav Rachna International Institute of Research and Studies. February 01, 2024
- Prof Urmi Bajpai delivered a talk on "Investigating structural & functional diversity of mycobacteriophage endolysins: a promising avenue to combat AMR" at the VIROCON 2023 conference 'Advancements in Global Virus Research Towards One Health' organized by ICAR-National Research Centre for Banana, Tiruchirappalli, Tamil Nadu and Indian Virological Society (IVS), New Delhi in Tiruchirappalli. December 01-03 2023
- Prof Urmi Bajpai was a co-chair in the session on "Phage and Phage Therapy" at the VIROCON 2023 conference 'Advancements in Global Virus Research Towards One Health' organized by ICAR-National Research Centre for Banana, Tiruchirappalli, Tamil Nadu and Indian Virological Society (IVS), New Delhi in Tiruchirappalli. December 01-03 2023
- Prof Urmi Bajpai delivered a talk on Mycobacteriophage Endolysins: Diversity in Domain Architecture and Function" at the Annual Amrita Legion for Antimicrobial Resistance Management (ALARM) two-day hybrid International Conference on "Preventing Antimicrobial Resistance Together" At Amrita School of Biotechnology, Kerela. November 17-18, 2023
- Prof Urmi Bajpai was a Panelist in "Community Round Table" at the Annual Amrita Legion for Antimicrobial Resistance Management (ALARM) two-day hybrid International Conference on

"Preventing Antimicrobial Resistance Together" At Amrita School of Biotechnology, Kerala November 17-18, 2023

- Prof Urmi Bajpai was a Panelist in "Community Round Table" at the Annual Amrita Legion for Antimicrobial Resistance Management (ALARM) two-day hybrid International Conference on "Preventing Antimicrobial Resistance Together" At Amrita School of Biotechnology, Kerela. November 17-18, 2023
- Prof Urmi Bajpai moderated talk of Dr Sougata Hazra Associate Professor, Department of Biosciences and Bioengineering, Joint Faculty, Centre for Nanotechnology, IIT Roorkee, India during online workshop "Genome Annotation of Bacteriophages for Clinical Applications". November 03, 2023, 7.30-8.30 p.m.
- Prof Urmi Bajpai moderated talk of Dr Kiran Kondabagil, Professor, Department of Biosciences and Bioengineering, IIT Bombay, Mumbai, India during online workshop "Genome Annotation of Bacteriophages for Clinical Applications". October 31, 2023, 7.30-8.30 p.m
- Prof Urmi Bajpai delivered a talk on "Current scenario of AMR and Bacteriophage therapy from global perspectives" in a Workshop entitled "Basics of Bacteriophage Biology & Clinical Applications to Combat the Emerging Antimicrobial Resistance: A Hands-on Training. At the Banaras Hindu University, Varanasi. October 03, 2023
- Prof Urmi Bajpai delivered a talk on "Bacteriophages: the dark matter of the biospheres" in a symposium on "Data Driven Approaches to Understand Biological Systems. At the CSIR-IGIB, Mathura Road. April 29, 2023.
- Dr Sunita Jetly organised Free Cancer Awareness Program at various locations of Delhi & Uttar Pradesh, including:
- Jal Vayu Vihar, Sector 2, Noida (September 23, 2023)
- Luxmi Narayan Mandir Sector 56, Noida (August 06, 2023)
- R.G. Residency Sector 120, NOIDA (July 15, 2023)
- Instiute of Chartered Accountants, C56,/9A Sector 62, NOIDA (July 01, 2023)
- Prateek Stylome, Sector 45, NOIDA (June 04, 2023)
- Sector 26, NOIDA (May 06, 2023)
- Dr Sunita Jetly organised Thallesemia Awareness Program at various locations of Delhi & Uttar Pradesh, including:
- Luxmi Narayan Mandir, Sector 56, Noida (September 17, 2023)
- Shyama Prasad Sarvodaya Vidyalaya Chitranjan Park Delhi (May 11, 2023)
- Ganga Ram Hospital (invited by Thalassaemic India 35 years Old NGO for thalassemia to showcase our work) (May 09, 2023)
- Dr Sunita Jetly delivered talk on "Cancer Prevention", Jan Jagriti Foundation, Noida, community centre, Jal Vayu Vihar Noida. September 23, 2023
- Dr Sunita Jetly delivered talk on "Holistic Health" invited by mera Sahar on the occasion of Pre Independence-Celebrations Day, joint women programme, A276, sector 31, Noida, UP. August 14, 2023.
- Dr Rimpy Kaur Chowhan delivered a talk on "Scientific Art & Creating Graphical Abstracts" in One day workshop on "Scientific Writing and Communication" organized by ANDC and ISME. February 13, 2024.

- Prof. Urmi Bajpai delivered a talk on "Phage-encoded Endolysins" at the AMR Research Conference-2024, jointly hosted by Tata Institute for Genetics Studies (TIGS) and National Centre for Biology Research (NCBS) on August 22, 2024.
- Prof. Urmi Bajpai delivered a talk on "Novel interventions to tackle AMR" at the A Global Summit: Himalaya Calling 2024 organised by School of Health Sciences and Technology (SoHST) on theme Antimicrobial Resistance (AMR) & One Health on September 10, 2024 (Online).
- Prof. Urmi Bajpai delivered a talk on "Bacteriophage Power: Viruses as allies in combating Antibiotic Resistance" at the National Conference on Antimicrobial Resistance (AMR): Research Priorities & Action Plan, organized by Research and Development Cell (RDC) Swami Rama Himalayan University, Dehradun, Uttarakhand on April 06, 2024.
- Prof. Urmi Bajpai delivered a talk on "Coevolutionary Dynamics of Microbes, Climate Change and AMR" at the 8th International Conference of Indian Network for Soil Contamination Research (INSCR) & 4th International Symposium on Ciliate Biology on "Exploring the Microbial World: Human Health and Environmental Sustainability", organised by Acharya Narendra Dev College on April 04, 2024.
- DrRimpy Kaur Chowhan delivered a talk on "Data Presentation and Illustration" at the Pre-conference workshop of 8th International Conference of Indian Network for Soil Contamination Research (INSCR-2024) on 'Art of Scientific Writing and Communication' organized by Federation of European Microbiological Societies and ANDC on April 02, 2024.
- Dr. Sunita Jetly organised a Holistic Health Camp with free multi-facilities at Ramanujan College, University of Delhi.
- Dr. Sunita Jetly organised a Holistic Health Camp at Shaheed Rajguru College of Applied Sciences.
- A Holistic Health Camp was organised by Dr. Sunita Jetly at Garden Galeria, Sector 44, NOIDA.
- Dr. Sunita Jetly organised a Holistic Health Camp in collaboration with Lions Club Shree Radhe Delhi.
- A Holistic Health Camp was held at NRI Residency, Sector 45, NOIDA, organised by Dr. Sunita Jetly.
- A Holistic Health Camp was organised by Dr. Sunita Jetly at Community Centre, Sector 19, NOIDA in association with Lions Club Shree Radhe.

Botany: (06)

- Dr Anita Narang was invited speaker in the joint conference of 5th International Conference on Biosciences and Medical Engineering & 2nd International Conference on Innovative Agricultural Technology at Bali, Indonesia from 30-31 August 2023.
- Dr Vineet K Singh deliverd a talk on Morphology, Plantation and Diseases in Mulberry at FDP on Sericulture organized by Acharya Narendra Dev College from August.
- Dr Vineet K Singh has participated and deliberated upon establishing guidelines for conitinuous assessment for the courses under the theme "Landscaping" in a two Day workshop on "Establishing of Modalities for Skill Enhancement Courses organised by Skill Enhancement Courses Committee, University of Delhi, 4-5 March 2024, University of Delhi

- Visit to Sanjay Van: Dr Charu K Gupta, Dr Vineet K Singh, Dr Mandeep Kaur and Dr Anita Thakur took BSc (H) Botany to Sanjay Van and Neela Hauz to study the ecology of the system on 25th April 2023
- Visit to Tuglakabad Biodiversity Park: Dr Charu K Gupta, Dr Vineet K Singh and Dr Sumit Singh had taken 45 students from the department for a plantation drive on World Environment Day 5th June 2023.
- Visit to Mushroom Cultivation Centre at Shaheed Rajguru College of Applied Sciences for Women: Dr Anupama Shukla and Dr Anita Narang had taken 25 students on March 18, 2024.

Chemistry: (06)

- Swachh Bharat Club and Department Of Chemistry organized the following workshop in the college under the aegies of DBT Star Scheme:
- Tracking Life Cycle of Wet/Dry Waste in and Around the Institute
- Cleanliness Drive
- Identify plastic and e-waste in and around institute
- Identify events that generate maximum waste.
- Create Questionnaire to conduct interview of stakeholders
- SwachhataPakhwada Rally

Computer Science: (04)

- Prof. Sharanjit Kaur, Poster Presentation title " Identifying structural hierarchy in social organisms using k-core Decomposition " at the 8th International Conference of Indian Network for Soil Contamination Research (INSCR-2024) on 'Exploring the Microbial World from Human Health to Environmental Sustainability' and 4th International Symposium on Ciliate Biology (ISCB-2024), organised by INSCR and Acharya Narendra Dev College, University of Delhi (UoD) from April 03-05, 2024 at Conference Centre, UoD, Delhi, India.
- Prof. Sharanjit Kaur, college level jury at round-2, for meticulous evaluation of the participating teams, for next level participation at the Dark Patterns Buster Hackathon (DPBH-2023). organized by Deptt of Consumer Affairs alongwith NIT Banaras Hindu University.
- Prof. Sharanjit Kaur, Advisor on the Selection Committee for ASRB in Feb 2024
- Organized an educational visit to National Science Centre, Pragati Maidan, New Delhi for the 2nd year students of B. Sc (H) Computer Science on February 22, 2024.

Electronics: (20)

- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on "Development of Learning Outcomes based activities in Biology, Chemistry, Physics and Mathematics at Secondary Stage (Level II)." held at DESM, NCERT, New Delhi from August 21, 2023 to August 25, 2023.
- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on "Online Course in Teaching of Science at Middle Stage." held at DESM, NCERT, New Delhi from July 31, 2023 to August 4, 2023.

- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on “Development of Audio Video Resources based on Laboratory Manual in Science at Upper Primary Stage.” held at DESM, NCERT, New Delhi from July 10, 2023 to July 14, 2023.
- Prof. Anju Agrawal acted as a judge in the Inter-School S.T.E.M. Fest- Robotron’23, Delhi Public School, Mathura Road, August 11, 2023.
- Dr. Ravneet Kaur acted as judge for the Inter-School S.T.E.M. Fest- Robotron’23, Delhi Public School, Mathura Road, August 11, 2023.
- Prof. Anju Agrawal trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, R. K. Puram, New Delhi on Portfolio Website Development for two months (July 1, 2023-August 31, 2023).
- Dr. Ravneet Kaur trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, R. K. Puram, New Delhi on Portfolio Website Development for two months (July 1, 2023-August 31, 2023).
- Prof. Anju Agrawal trained Anushka Bhargava and Arjun Bhargava of Delhi Public School, Mathura Road, New Delhi on Coding Bootcamp for one months (February 1-29, 2024).
- Dr. Ravneet Kaur trained Anushka Bhargava and Arjun Bhargava of Delhi Public School, Mathura Road, New Delhi on Coding Bootcamp for one months (February 1-29, 2024).
- Dr. Ravneet Kaur participated as Resource Person in a five-day workshop on “Development of Learning Outcomes based activities in Biology, Chemistry, Physics and Mathematics at Secondary Stage (Level II).” held at DESM, NCERT, New Delhi from August 21, 2023 to August 25, 2023.
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- Prof. Anju Agrawal and Dr. Ravneet Kaur served as Judge for the Inter-School S.T.E.M. Fest-Robotron’23, Delhi Public School, Mathura Road, August 11, 2023.
- Prof. Anju Agrawal and Dr. Ravneet Kaur trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, New Delhi for duration of two months (July 1, 2023- August 31 2023 on Portfolio Website Development.
- Dr. Ravneet Kaur and Dr. Monika Bhattacharya served as Expert Reviewer for IT related Vocational Education courses at Bhartiya Shiksha Board (BSB).
- Prof. Anju Agrawal acted as a judge in the Inter-School S.T.E.M. Fest- Robotron’23, Delhi Public School, Mathura Road, August 11, 2023.
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- Dr. Ravneet Kaur trained Raghav Aggarwal and Jaysal Manchanda of Delhi Public School, Sector 12, New Delhi on Portfolio Website Development for two months (July 1, 2023-August 31, 2023).

- Organized an excursion to The Bureau of Indian Standards for the students of B.Sc(H) Electronics and SPIE society chapter member @ANDC, on April 7, 2023.

Physics: (05)

Two month long hands-on training of 05 (five) students on advanced thin film deposition and characterization equipment at Smart Materials and Devices Laboratory at Miranda House, University of Delhi, Delhi – 110 007 during June – July 2023.

Organized an educational visit on 31 May 2023 for 09 students to Dr. Anjali Sharma Kaushik's Material Science research laboratory in ARSD College, University of Delhi, Dhaula Kuan Enclave I, Dhaula Kuan, New Delhi, Delhi – 110 021

Prof. Arijit Chowdhuri delivered a talk on "Sensor Phenomenology" at the 6th International Conference on Emerging Technologies: Micro to Nano (ETMN – 2024) held from 22 – 23 November 2024 jointly organized by Faculty of Engineering & Technology Jamia Millia Islamia, New Delhi and Manipal University, Jaipur, INDIA .

Prof. Arijit Chowdhuri delivered a talk on "Basics of Physics Laboratory Instruments" at the one-day workshop organized by Physics Seminar Society of Department of Physics, Atma Ram Sanatan Dharma College, University of Delhi on 13 September 2024 – Arijit Chowdhuri

5. Prof. Arijit Chowdhuri delivered a talk on "Fast response gas sensing using dopant-engineered nanocrystalline SnO2 Films" on 08 August 2024, at the National Conference on Multifunctional Advanced Materials (MAM – 2024) organized by Amity School of Applied Sciences & Amity Centre of Nanotechnology, Amity University Haryana from 7 – 9 August 2024 – Arijit Chowdhuri

Zoology: (20)

- Prof. Sarita Kumar Took classes for the students pursuing M.Sc. Public Health Entomology (PHE) course, Academic Session 2023-2025, at ICMR-RMRC, Dibrugarh, Assam - MPHE-204 'Control of Vectors of Public Health Importance'.
- Prof. Sarita Kumar was External expert in the Expert Group Meeting of Scientific Advisory Committee, RMRC NE, Dibrugarh held on 5-6 April, 2024.
- Prof. Sarita Kumar was Resource person in the workshop on 'Modification and Development of Biology and Biotechnology Laboratory', NIE, DESM, 24-28th July, 2023.
- Prof. Sarita Kumar was Resource person in the workshop on 'Modification and Development of Biology and Biotechnology Laboratory', NIE, DESM, 9-13th October, 2023.
- Prof. Sarita Kumar was Resource person in the workshop on 'Developing textbooks in Science for Classes 6 and 9', NIE, DESM, 15-19th January, 2024; 29th January-2nd February, 2024.
- Prof. Sarita Kumar Delivered a talk on 'Silkworm Pests and Diseases' during Faculty Development Program on 'Sericulture Rearing and its Application', AND College, 9 August, 2023.
- Prof. Sarita Kmar is Member of the Scientific Advisory Committee (SAC) of ICMR-RMRC-NE, Dibrugarh, Assam for reviewing ongoing scientific endeavours and new project proposals.
- Prof. Sarita Kmar was External expert in the Expert Committee formulated to finalise the course and Curriculum Framework of the B.Sc. degree (multidisciplinary) programme under UGC-CCFUP 2022, IGNOU; 3rd November, 2023.
- Prof. Sarita Kmar was External expert in the Expert Committee formulated to finalise the syllabus of APM-01 (Integrated Pest Management), a skill-based course for BDP program, IGNOU, 30th Jan 2024.

- Prof. Sarita Kmar was Expert in the Doctoral Committee meeting for Ph.D. (Life Sciences) Programme of IGNOU, held in 2nd April, 2024.
- Prof. Sarita Kmar conducted interviews for the post of PGT (Biology) at Mata Jai Kaur Public School, Ashok Vihar, 17th February 2024
- Prof. Ravi Toteja delivered an invited talk on Enhancing Education: The importance of internship and undergraduate research on March 01, 2024 in FDP organized by National Institute of Educational planning and Administration (NIEPA).
- Prof. Sarita Kmar was External expert in the Expert Group Meeting of Scientific Advisory Committee, RMRC NE, Dibrugarh, held on 5-6 April, 2024.
- Prof. Seema Makhija delivered an invited talk on Ecotoxicological Risk Assessment of Heavy metals in Ciliates by using Cellular, Molecular and Bioinformatics Approaches in 4th International Conference on Recent Trends in Life Sciences and Biotechnology organized by International Association of Zoologists, Siddhi Artha Group of Education in collaboration with Department of Biosciences and Technology, Maharishi Markandeshwar (Deemed to be University), Mullana-Ambala and Sharda Institute of Science Technology Education & Research.
- Prof. Seema Makhija delivered a talk and conducted workshop on Facinating World of Microbes, Protozoans and Career Opportunities' in G.D. Goenka University, Gurugram on May 16, 2023.
- Students of Sri Venketeswara College, studying Insect Vector and Diseases, visited the mosquito rearing laboratory on 21st March, 2024.
- Students pursuing M.Sc. in Public Health Entomology (MPHE) course at ICMR-RMRC, Dibrugarh, visited the Insect Pest & Vector laboratory and ANDC on 24th Nov, 2023.
- Undergraduate Students from different colleges of University of Delhi visited the Sericulture Skill centre as a part of their curriculum on 21.10.2023, students of B.Sc life sciences 6 Semester form Shivaji College and students of B.Sc 1st Semester from Maitreyi College visited the sericulture facility. On 3rd Nov 2023, B.Sc life sciences students 6th semester from Zakir Hussain College came to visit the silkworm culture. During the visits, students were briefed about the sericulture practices and visited the mulberry garden. They observed the various stages of silk moth. Hands-on training was given on the post-cocoon treatments including stifling, deflossing, degumming' and reeling the silk from the cocoons on mulberry silkworm.
- Department of Zoology organized one-day educational trip under the aegis of DBT-STAR college scheme to National Zoological Park, New Delhi on 7 th March 2024.Total of 40 students of B.Sc. (H) Zoology 4 th semester along with 3 staff members visited the park to observe behavior of various animals for their Animal Behaviour paper.
- Organized Students educational trip to the National Centre for Disease Control, New Delhi on 19th April, 2024.
- Organized Students educational trip to the Entomological Department, ICAR, PUSA, New Delhi on February 08, 2024.

- Organized a visit to IGIB, South Campus, Mathura Road for the undergraduate students of B.Sc. (H) Zoology III Year on April 12, 2024. They demonstrated Zebrafish culturing and introduced the students to Next Generation Sequencing

Educational Visit to ANDC, DU
Date : 21/10/2023
Paper : Sericulture 1 (SEC)

Maitreyi College
Students feedback:

	Name	Course	Roll No.	Feedback
1	Gargi Dubey	BA Programme	2022/0202	It was a great visit with nice instructors!
2.	Pooja Verma	B.Sc. life science	2022/1343	Great experience.
3.	Harmandeep Kaur	B.Sc(H) Zoology	2022/0137	Had great experience from theory to practical
4.	Sushasini	"	2022/1428	Nice visit

ZAKIR HUSAIN DELHI (COLLEGE
University of Delhi
Department of Zoology
SERI CULTURE (SEC) B.Sc. IIIrd Year (L.S.)

Name	Roll No	Signature	Feedback
Jamini Vashney	21/1635	Jamini	It was informative and ... practical knowledge
Neetu Poddar	21/1636	Neetu Poddar	informative trip and nice ...
Baranjali Singhal	21/1629	Baranjali	It was very good experience ... sericulture and teachers ... of information, students ... aspects very well.
Muskan Khan	21/2056	Muskan	It was very good experience ... to do internship in this subje... It was informative and ... for me in sericulture ...
Anju Kumari	21/1630	Anju	It was a good experience ... want to do internship in ... It is quite intresting. ... It was very nice experi... explained by expert ...
Tooba	21/2031	Tooba	
Ritesh Kumar	21/2048	Ritesh	

College name: Shivaji College
Course Name: B.Sc. Life Sciences
Paper Name: Sericulture
Semester: V
Date of visit: 21.10.2023

Examination Roll no.	Class Roll no.	Student's name	Student's Signature Morning	Student's Signature Evening	Student Feedback for the Sericul
20071583001	21/23209	Aakash Jha			
20071583002	21/23140	Ajay Chauhan	Ajay	Ajay	Informative and helpf... them.
20071583004	21/23074	Akshara Sharma			
20071583006	21/23124	Ananya Tiwari			
20071583008	21/23078	Anisha Chakravorty			
20071583009	21/23070	Anjali Singh			
20071583010	21/23185	Ankit Kumar	Ankit Kumar	Ankit Kumar	very nice experie...
20071583013	21/23099	Arshit Daksh	Arshit	Arsh	good
20071583023	21/23129	Divisha	Divisha	Divisha	Nice experience
20071583024	21/23152	Eidzes Dolma	Dolma	Dolma	great exp...
20071583025	21/23062	Erin Tyagi			

Appendix XVI

Invited Lectures

2021-2022

Biomedical Science: (03)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Ms AnujaAgarwala	Senior Dietitian, AIIMS and Member, FSSAI	Kitchen is your Health tool	**April 18,2022**
2	Mr Vijay Kantharia	CEO, BioNEST-UDSC	Introduction to BioNEST-UDSC & Bioentrepreneurship	**February 15,2022**
3	Mr Shino James	IISER, Bhopal	Designing of a Novel Vector for One-Step Cloning & Expression in *E. coli*	**January 28, 2022**

Botany: (06)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Ms Anuja Agarwala	Senior Dietitian, AIIMS and Member, FSSAI	Kitchen is your Health tool	**April 18, 2022**
2	Prof. Manju M Gupta	Sri Aurobindo College, University of Delhi	From mycorrhizosphere to rhizosphere microbiome: The beautiful journey	**June 23, 2021**
3	Dr Dhanya Bhaskar, Associate Professor	Indian Institute of Forest Management, Bhopal	Biodiversity Conservation as if people and ecosystem matter'	**October 28, 2021**
4	Ms Deepti Gulati	National Institute of Food Technology Entrepreneurship and Management, Sonepat	Challenges and strategic solutions for breaking the bias for better nutrition and health outcomes	**March 08, 2022**
5	Prof. Mohammad Zahid Ashraf	Jamia Millia Islamia University, Delhi	Biomarker discovery for cardiovascular diseases using multi-omics approaches	**March 23, 2022**
6	Prof. Vishnu Bhat	Department of Botany, DU	Harnessing apomixis to preserve hybrid vigour	**April 20, 2022**

Chemistry: (06)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Mr Rahul Giri	Katayev Lab, University of Fribourg, Switzerland	Journey of an Alumni Episode -1 The Rise	**October 16, 2021**
2	Mr Sachin Giri	Gevorgyan Research Group, University of Texas, Dallas, United States	Journey of an Alumni Episode -2 The Rise	**October 22, 2021**
3	Ms Anmol Thanai	University of Manchester, United Kingdom	Journey of an Alumni Episode -3 The Rise	**October 30, 2021**
4	Dr Vipendra Kumar	University of Illinois, Urbana Champaign IL, USA,	Journey of an Alumni Episode -4 The Rise	**November 26, 2021**
5	Mr Vinod Singh Adhikari	Flying Officer in Indian Air Force	Journey of an Alumni Episode -5 The Rise	**December 10, 2021**
6	Ms Shreya Arora	Reviewer Selection Lead at Taylor & Francis, New Delhi	Ethics to Paper writing	**April 19, 2022**

Computer Science: (06)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Prof. Madhu Vij	Department of Computer Science	Role of IT in Indian Banking System	**July 14, 2021**
2	Dr Sarika Jain	Assistant Professor, Department of Computer Science, NIT, Kurukshetra.	Semantic Intelligence- The next step in Artificial Intelligence	**October 01, 2021**
3	Mr Pranjal Mishra	Lead Data Scientist, CIMB Bank.	Explainable AI	**October 04, 2021**
4	Dr Nihar Ranjan Roy	Associate Professor, Sharda University	Predictive Modeling using Python	**October 08, 2021**
5	Mr Bineet Kumar Joshi	Assistant Professor, Department of Computer Science, Swami Rama Himalayan University	Cisco Network Administration	**March 03-04, 2022**
6	Prof. Sanjay Kumar Dhurandher	Professor and Head in the Division of Information Technology, Netaji Subhas Institute of Technology (NSIT), University of Delhi, India.	Wireless Security Network	**March 04, 2022**

Electronics: (04)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Prof. Bijoy Kumar Kuanr	Special Centre for Nanoscience, JNU, New Delhi	Magnetic Nano-structures based Microwave Monolithic Signal Processing Devices	**April 19, 2022**
2	Prof. Gaurav Sharma	Electrical & Computer Engineering, University of Rochester, New York	Use of Physics U Math for Imaging Arithmetic	**June 29, 2021**
3	Dr Amita Kapoor	Shaheed Rajguru College of Applied Science	Digital Transformation and it's impact on the future after Covid-19	**July 7, 2021**
4	**Dr Ravinder Kaur**	**Deptt. Of Electronics, DeenDayalUpadhaya College, Delhi University**	**Creative Thinking and Entrepreneurial Skills**	**June 23, 2021**

Physics: (12)

S.No.	Name of guest/ faculty	Designation	Title	Date
1	Dr. David Kocman	Department of Environmental Sciences, Jožef Stefan Institute (JSI) Ljubljana, SLOVENIA	Engagement of citizens in co-designing citizen science studies in environmental epidemiology: Opportunities and challenges	**February 24, 2022**
2	Dr. Natasa Mori	Department of Organisms and Ecosystems Research, National Institute of Biology in Ljubljana, SLOVENIA	Aquatic biofilms as "bioengineers" for newly emerging pollutants removal	Februa **23,** ry 2022
3	Dr. Rajesh Jalota	Energy and Extractive and Southwest	Land Management and Carbon Sequestration: Simple Solution	Februa **26,** ry 2022

		Queensland Compliance unit, Queensland, AUSTRALIA	to Somewhat Big Problems		
4	Dr. Siva Karuturi	School of Engineering Australian National University, AUSTRALIA	Advanced Semiconductor and Catalytic Materials for Sustainable Hydrogen Generation	Februa ry 2022	**23,**
5	Prof. Michael W. Murray	University of Michigan Augusta University, USA	Environmental Indicators: Thoughts on Contributing to Sustainability and Equity in the Great Lakes Region and Beyond	Februa ry 2022	**24,**
6	Dr. Mukesh Kumar Thakur	J. Heyrovsky Institute of Physical Chemistry of the Czech Academy of Sciences, Prague, CZECH REPUBLIC	The Role of the 2D materials for sustainable Growth and Future Optoelectronic Device Applications for environment	Februa ry 2022	**22,**
7	Dr. Anjali Sharma Kaushik	Department of Physics, ARSD College, University of Delhi, New Delhi, INDIA	Low temperature operated efficient NO2 gas sensors for environmental monitoring	**February 2022**	**22,**
8	Ms. Parul Gupta	Practicing lawyer before the Supreme Court of India and National Green Tribunal, Delhi, INDIA	EIA As a Tool of Environmental Protection	**February 2022**	**28,**
9	Dr. Kajal Jindal	Department of Physics, Kirori Mal College, University of Delhi	In2Se3 thin films based high performance self-powered UV photodetector for environmental applications	**February 2022**	**25,**
10	Mr. Debadityo Sinha	Founder & Trustee, Vindhyan Ecology and Natural History	Understanding 'Forests' Beyond Dictionary Meaning- The	**February 2022**	**25,**

		Foundation and TEDx speaker, INDIA	Disconnect Between The Science And Law	
11	Prof. Chirashree Ghosh	Deptt. of Environmental Studies, University of Delhi, Delhi, INDIA	Nourish Ecosystems, Nurture Biodiversity, Enable Food and Enhance Resilience – Integrating Nature's potential	**February 28, 2022**
12	Dr Parminder Singh	Dronacharya Government College, Gurugram	An introduction to astronomical observations	**March 29, 2022**

Zoology: (18)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Prof. Gaytha A Lagolis	Prof. of Environmental Policy, Bryant University, Rhode Island, USA	Syzygy or Sisyphus: The Future of Environmental Policy Making	**February 22, 2022**
2	Prof. Andy Purvis	The Natural History Museum, London, UNITED KINGDOM	Using biodiversity models to support the nature-positive transition	**February 26, 2022**
3	Prof. Rup Lal	NASI Senior Scientist Platinum Jubilee Fellow, The Energy and Resources Institute (TERI), INDIA	Hot springs located Atop the Himalayan Ranges at Manikaran and Kheer Ganga in Himachal Pradesh, India: Potential Sources of Microbial Diversity and Thermostable Enzymes	**February 25, 2022**
4	Dr Sanjukta Subudhi	DBT-TERI Center of Excellence in Advanced biofuels & Bio-commodities, The Energy and Resources Institute (TERI), Delhi,	Microbial intervention for advanced Biofuel production	**February 28, 2022**

		INDIA		
5	Dr Bettina Sonntag	Research Department forLimnology, Mondsee, University of Innsbruck, AUSTRIA	Identification and monitoring of ciliated key protists in aquatic environments in the light of a sustainable environmental approach	**February 25, 2022**
6	Dr Mrityunjay Kar Suar	KIIT University	Incubating Ideas to Build Sustainable Environmental Technologies	**February 26, 2022**
7	Prof. Hardeep Kaur	Ramjas College, University of Delhi, Delhi, INDIA	Antifungal compounds: Emerging environmental pollutants	**February 22, 2022**
8	Dr B. Anjan Prusty	Department of Natural Resources Management & Geo-informatics, Berhampur University, Odisha, INDIA	Criteria for Identifying Coastal & Marine Eco Sensitive Areas: A Revisit	**February 24, 2022**
9	Dr. Rachna Chandra	Department of Environmental Science- Forestry, Faculty of Agriculture, Sri University, Cuttack, Odisha, INDIA	Mangrove plantation activities in Kachchh, Gujarat	**February 24, 2022**
10	Dr Nageswar Rao Amanchi	University College of Science, Osmania University, Hyderabad, Telangana, INDIA	Ecosystem Restoration – Certain key approaches, principles and interventions	**February 23, 2022**
11	Dr Gayatri Kanungo	Senior Environmentalist, World Bank, USA	Nourish Ecosystems, Nurture Biodiversity, Enable Food and Enhance Resilience – Integrating Nature's potential	**February 28, 2022**

12	Dr Binita Dutta	Senior Business Analyst, Hyloris Pharmaceuticals, BELGIUM	Health care sustainability	**February 27, 2022**
13	Dr Charu Dogra Rawat	Ramjas College, University of Delhi, Delhi, INDIA	Overcoming challenges in the sustainable remediation of Hexachlorocyclohexane (HCH) dumpsite soils	**February 22, 2022**
14	Prof. Ram Kumar	School of Earth, Biological and Environmental Science, Central University of South Bihar, Gaya, Bihar, INDIA	Zero Hunger and climate mitigation: Constraints and possibilities	
15	Dr Vikas Sachdev	Department of Gastroentrology, AIIMS, New Delhi	ELISA	**October 4, 2021**
16	Dr Raunak Dhanker	School of Engineering &Science, G D Goenka University, Gurugram, Haryana, INDIA	Environmental mitigation through biological approaches	**February 22, 2022**
17	Dr Himender Bharti	Department of Zoology and Environmental Science, Punjabi University, Patiala, INDIA	Anthropocene: A misplaced trust in Ecological Utopia	**February 22, 2022**
18	Dr Utkarsh Sood	The Energy and Resources Institute (TERI), Delhi, INDIA	The role of genomics in resolving classification anomalies of bacterial genera	**February 26, 2022**

2022-2023

Biomedical Science: (11)

S.No.	Invited Speaker	Designation/Affiliation	Title	Date
1	Dr Anil Kaura	Fingerprint Master, Orient Sourcing Solutions	Crime Scene Investigation	**April 12, 2023**
2	Mr Shubham Gautam	Cyber Forensic Strategist, Psyberbull	Cyber Forensics	**April 12, 2023**
3	Ms. Afreen Tarannum	Director, Academic Affairs, SIFS, India	Handwriting and Fingerprint Analysis	**April 12, 2023**
4	Dr Mehrotra Pawan	Managing Director, Aarna Biomedical Products- A Social Healthcare Enterprise	Panel Discussion with Alumni	**April 11, 2023**
5	Harshit Arora	MBA Healthcare Management, Goa Institute of Management		
6	Alok Anand	PhD Scholar, IIIT Delhi		
7	Mrinal Chawla	Indian Audit and Account Services (IAS)		
8	Animesh Kar	PhD SRF, Regional Center for Biotechnology, Haryana, India		
9	Sonanjali Aneja	PhD Scholar, National Institute of Immunology, Delhi, India		
10	Dr T. S. Balganesh	President and Member, Board of Directors, GangaGen Biotechnologies Pvt. Ltd. (GBPL)	Webinars on Inaugral Sessions of Hands-on training workshop on "Phage Biology- Discovery and Analysis and Webinars on Bacteriophage Therapy"	**20 January, 2023**
11	Dr Sabrina Green	Research Associate, KU, LeuvenUniversity, Belgium		

Botany: (02)

S.No.	Invited Speaker	Designation/Affiliation	Title	Date
1	Dr. Inderjeet Kaur Sethi	Retired Associate Professor, SGTB Khalsa college	Living in Sunshine	**12th October, 2022**
2	Dr. Sumer Pal Singh	Principal Scientist Division of Genetics, ICAR-IARI	Millets: Our National Pride	**23rd March, 2023**

Chemistry: (02)

S.No.	Invited Speaker	Designation/Affiliation	Title	Date
1	Dr. Vivek Mishra (Assistant Professor) and Dr. Ranjan Patra (Assistant Professor)	Amity Institute of Click Chemistry Research and Studies, Amity University, Noida	Exploring the world of Molecular Chemistry and its Future Prospects	**24th March, 2023**
2.	Dr. Meena Bisht (Assistant Professor)	Department of Chemistry, Sri Venkateswara College, University of Delhi	Improving the activity and stability of proteins/enzymes in presence of green solvents	**24th March, 2023**

Computer Science: (02)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Dr. Ihtiram Raja Khan,	Associate Professor, Department of Computer Science and Engineering, Jamia Hamdard University	Blockchain in Education	**11th April, 2023**
2	Dr. Navneet Sood,	Senior Consultant in Pulmonology, Dharamshila Narayana Hospital	How to keep your lungs healthy despite pollution	**25th August, 2023**

Electronics: (01)

S. No.	Name of guest/ faculty	Designation	Title	Date
1	Prof. H.C. Verma	RetiredProf., Dept. Of Physics, IIT Kanpur	TALK SHOW during Optics Outreach Culmination	**October 06, 2023**

Physics: (04)

S. No.	Name of guest/ faculty	Designation	Title	Date
1.	Dr. R. K. Kotnala .	ex-Chairman NABL, Raja Ramanna Fellow, Department of Atomic Energy and Chief Scientist, CSIR-National Physical Laboratory, New Delhi, INDIA	Hydrelectric cell the best option to do away global warming and green hydrogen generation by water splitting	**21 March, 2023**
2.	Dr. Sujit Kumar	IMEC, Leuven BELGIUM	High level of Overv iew Semiconducto r Industry	**9 November, 2022**
3.	Mr. Siddharth Kumar Das .	Nanoelectronic Systems, Technical University of Dresden, GERMANY	Quantum Communication	**9 November, 2022**
4.	Dr. Ramkrishna Sharma	CERN, Geneva, SWITZERLAND	High Energ Physics and Artificial Intelligence	**14 October, 2022**

Zoology: (32)

S. No.	Name of guest/ faculty	Designation	Title	Date
1	Prof Cristina Miceli	School of Biosciences and Veterinary Medicine University of Camerino via Gentile III da Varano 62032 Camerino (MC) ITALY	Ciliate as sensors for environmental stresses	**November 08, 2022**
2	Prof Bettina Sonntag	University of Innsbruck Research Department for Limnology, Mondsee, Austria	Identification of Planktonic Freshwater Ciliates and their Key Roles in Aquatic Environments	**November 08, 2022**
3	Prof Alexey Potekhin	Department of Microbiology, Faculty of Biology, St Petersburg	Diversity and Dynamics of Microbiomes associated with Freshwater Ciliates	**November 08, 2022**
4	Prof. Sergey Fokin	Department of Biology, Università, di Pisa, UNIPI	Ciliates and its symbionts from ecological point of view	**November 08, 2022**
5	Prof. Gaytha Langlois	Professor of Environmental Policy, Bryant University, Rhode Island, USA	Ciliates in extreme environments	**November 08, 2022**
6	Prof Zhongtang Yu	Professor, College of Food, Agricultural, and Environmental Sciences OSU Center of Microbiome Science Department of Animal Sciences	Genomics of Rumen Ciliates	**November 08, 2022**

7	Prof. Elena Sabaneyeva	Professor, Saint Petersburg State University	Symbiotic associations in ciliates: problems and perspectives	**November 08, 2022**
8	Dr. Alan Warren	Natural History Museum Cromwell Road, London 9SW7 5B, UK	Protists are for everyone: A Personal overview of knowledge dissemination and promoting public awareness	**November 08, 2022**
9	Dr Adriana Vallesi	Associate Professor, University of Camerino, Macerata, Marche, Italy	Pheromone and pheromone genes structure, expression and evolution.	**November 08, 2022**
10	Rosaura Mayén Estrada	Universidad Nacional Autónoma de México, Mexico	Symbiotic ciliates of molluscs with emphasis on species from Mexico	**November 08, 2022**
11	Dr Valentina Serra	Project Assistant, H2020-MSCA-RISE "NGTax" project, Pisa University	Next Generation Taxonomy: Ciliophora and their bacterial symbionts as a proof of concept" (Acronym: NGTax)	**November 08, 2022**
12	Dr Yuanyuan Wang	Laboratory of Protozoology, Institute of Evolution and Marine Biodiversity, Ocean University of China	Semi-conservative transmission of eukaryotic N6-adenine methylation, 6mA	**November 08, 2022**
13	Dr Harpreet Kaur	Postdoctoral Fellow Dacks Lab Division of Infectious Disease, Department of Medicine,	Expansion of SM and Qa- SNARE proteins to regulate vesicle fusion in ciliates	**November 08, 2022**

		University of Alberta		
14	S. Sripoorna	Postdoctoral Fellow Animal Science Building, Ohio State University, Columbus, Ohio, USA	Bioinformatics analysis of heavy metal (Cadmium and Copper) binding proteins and Cysteine-rich proteins in Tetmemenasp. SeJ-2015 to affirm their roles in heavy metal tolerance	**November 08, 2022**
15	Dr. Ved Prakash		Assisted Reproductive Techniques	**November 01, 2022**
16	Prof Brijesh Singh	Director-Global Centre for Land-Based Innovations; Distinguished Professor, Australia	Scaling-up and integrating system-based approaches in environmental microbiome to advance ecosystem services	**February 04, 2023**
17	Prof. Rup Lal	INSA Senior Scientist, Acharya Narendra Dev College, University of Delhi and Senior Advisor IMiLI	Microbiome: Human Health, Environment, and Societal Perspective	**February 04, 2023**
18	Dr Roshan Kumar	Assistant Professor, PG Department of Zoology, Magadh University	Monkey Pox Virus (MPXV): Phylogenomic, Host Pathogen Interactome, and Mutational Cascade	**February 04, 2023**
19	Dr Debasis Dash	Senior Scientist, CSIR-IGIB	Talk on Proteomics	**July 04, 2023**
20	Dr Komal Kamra	Associate Professor (Retd.) Department of Zoology, S.G.T.B.	Interactive Session on Let's think science	

		Khalsa College, University of Delhi		
21	Dr. Ved Prakash		Assisted Reproductive Techniques	**November 01, 2022**
22	Dr Komal Kamra	Associate Professor (Retd.) Department of Zoology, S.G.T.B. Khalsa College, University of Delhi	Interactive Session on Let's think science	
23	Dr. S. B. Dandin	Director (Retd.), Central Silk Board Ex-VC, University of Horticultural Sciences, Karnataka	Sericulture Scenario in India: Introduction	**August 08, 2023**
24	Dr. N. Krishna Kumar	Former Director, NBAIR (ICAR), Bangalore	Overview of Sericulture in India	**August 08, 2023**
25	Dr. Thallapally Mogili	Scientist (Retd.) Central Sericultural Research and Training Institute, Mysuru	Propagation, Pruning and Cultivation of Mulberry	**August 09, 2023**
26	Prof V. B. Upadhyay	Head, Deptt of Zoology (Retd.) DDU Gorakhpur University, Gorakhpur, Uttar Pradesh	Basics of Sericulture	**August 09, 2023**
27	Dr Sardar Singh	Scientist D and Head RSRS, CSB, Sahaspur, Dehradun	Hatching of eggs and Chawki silkworm rearing technique	**August 10, 2023**
			Different Techniques of late age silk worm Rearing	
28	Mr Surinder Bhat	Scientist D, Silk Technical Service Center, CSB, Premnagar, Dehradun	Post coccon Technology	**August 11, 2023**
29	Dr. Deepti Gupta	Professor IIT Delhi	Extraction and applications of sericin biomolecule	**August 12, 2023**

30	Dr. Yeruva Thirupathaiah	Scientist-C CSRTI, Mysuru	Use of Pupae in Livestock Feed and Cosmetics	**August 12, 2023**
31	Dr. K.M. Vijaya Kumari,	Director CMER&TI, Lahdoigarh, Jorhat, Assam	Eri and Muga Sericulture in India	**August 14, 2023**
32	Dr. Vivek Kumar Choudhary	Scientist Incharge & Field Biologist, Tughlaqabad Biodiversity Park CEMDE, University of Delhi	Integrating Tasar cultivation in an ecological restoration process for conservation of Vanya silkworm and development of sustainable livelihood option for local tribal at a degraded mined-out area of Purnapani, Odisha"	**August 14, 2023**

2023-2024

Biomedical Science: (16)

S. No.	Name of guest/ Faculty	Designation	Title	Date
1	Ms. Jaya Goyal	Managing Partner, Neo Juris LLP, Advocates & Solicitors, New Delhi	Law and Court Room Forensic	April 18, 2024
2	Dr. Arun Kumar	Professor and Head, Forensic medicine, JSS Medical college, Mysuru	New Opportunities and Challenges in Forensic Medicine in the Era of AI	April 16, 2024
3	Prof. R. P. Mitra	Professor, Department of Anthropology, University of Delhi	Forensic Anthropology: Issues and Challenges	April 16, 2024
4	Dr. Loveena Sehra	Senior Research Fellow, Teesri Sarkar Abhiyan, Panchparmeshwar Charitable Trust, Prayagraj, Uttar Pradesh.	Crime Ethnographies	April 15, 2024
5	Dr. Chakraverti Mahajan	Associate Professor, Department of Anthropology, University of Delhi	Criminology and Criminal Law	April 15, 2024
6	Dr. Nitin Mandla	Senior Scientific Officer, Regional Forensic Science Laboratory Moginand, Panchkula, Haryana	Handwriting Analysis	April 13, 2024
7	Prof. KewalKishan	professor of physical anthropology and former Chair of Department of Anthropology at Panjab University, Chandigarh, India	Skeletal Analysis and Palaeopathology	April 13, 2024
8	Dr. Richa Rohatgi	Assistant Professor at LNJN NICFS, NFSU Delhi campus, Noida, Uttar Pradesh, India	Forensic Ballistics	April 12, 2024
9	Dr. Biswa Nayak	Forensic Geneticist & Associate Professor,	Forensic Biology: Molecular/Serological	April 12, 2024

		Amity University	dimensions	
10	Dr. Abigail Lalnuneng	Assistant Professor, Department of Anthropology, University of Delhi	Questioned Documents	April 10, 2024
11	Dr. Ramesh Sahani	DNA laboratory at PortBlair office of An. S.I	Collection, Preservation and Transportation of Forensic Evidence	April 10, 2024
12	Dr. Sumiti Ahuja	Assistant Professor, Law Centre-II, Faculty of Law, University of Delhi	Nature and type of Forensic Evidence: Legality and Scientificity	April 09, 2024
13	Dr. Durga Rao Pedada	Associate Professor, Department of Anthropology, University of Delhi	Crime Scene Analysis and Investigation	April 09, 2024
14	Dr. Sonal Jain	DST INSPIRE Faculty at University of Delhi	Organizational set up: Forensic Laboratories and Institutions	April 08, 2024
15	Prof. P. R. Mondal	Faculty, Department of Anthropology, University of Delhi.	Branches of Forensic Science and Recent Trends	April 08, 2024
16	Prof. S. M. Patnaik	Head of the Department of Anthropology at University of Delhi.	Introduction: History, Basic Principles and Significance of Forensic Science	April 06, 2024

Botany (13)

S. No.	Name of guest/ Faculty	Designation	Title	Date
1	Mr Kunal Satyarthi	Joint Secretary (Advisor)National Disaster Management Authority, Ministry of Home Affairs, GoI	Climate Change and Disaster Management	October 13, 2023
2	Ramesh Guguloth	Assistant Professor, A&U Govt Tibbia College, Delhi	Know your 'Prakriti	November 30, 2023
3	Neha Rawat	Assistant Professor, A&U Govt Tibbia College, Delhi	Ayurvedic Diets	November 30, 2023
4	Dr. M. Shah Hussain	Associate Professor, University of Delhi	Ecological Restoration for India's Commitment to the Bonn Challenge and UN Decade of Ecosystem Restoration (2021-2030)	February 22, 2024
5	Prof. Yamini Gupt	Professor, University of Delhi	Valuation of Ecosystem Services in Urban Parks	February 22, 2024
6	Professor Radhey Shyam Sharma	Professor, University of Delhi	Ecological Entrepreneurship for Nurturing Viksit Bharat for Peace, Progress, and Prosperity	February 23, 2024
7	Dr. Dheeraj Mittal	IFoS	Mission LiFE: An India-led global mass movement to nudge individual and community action to protect and preserve the environment and biodiversity	February 23, 2024
8	Dr Hara Prasad	Pharmaceutical		January 27, 2024

	Mishra	Physician & AI Researcher Gen AI 4 Healthcare		
9	Vasu Dev Singh	Deep Learning Researcher	Biomedical Image Data Analysis	January 28, 2024
10	Dr. Sumeet Patiyal	Post Doc. Fellow, NIH, USA	Fundamentals of Biostatistics	January 29, 2024
11	Dr. Neel Das	Senior AI Expert, Roche Healthcare	Prompt Engineering for Biomedical Data Sciences	January 31, 2024
12	Shisba Chawla	Advocate, Supreme Court	Cyber Law	March 12, 2024
13	Dr. Jaspreet Kaur Dhanjal	Assistant Professor, IIIT, Delhi	Personalized Medicine and Big Data in Healthcare	January 30, 2024

Chemistry (2)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Prof.Alok Srivastava	P. U. Chandigarh	G20 Initiative LiFE from the perspective of Energy issue	
2	Mr. DevanshVashistha	Advocate	Patents and IPR	19th March. 2024.

Computer Science (6)

S. No.	Name of guest/ Faculty	Designation	Title	Date
1	Dr. Ihtiram Raja Khan,	Associate Professor, Department of Computer Science and Engineering, Jamia Hamdard University.	Blockchain in Education	11th April 2023
2	Dr. Navneet Sood,	Senior Consultant in Pulmonology, Dharamshila Narayana Hospital.	How to keep your lungs health despite pollution"	25th August 2023
3	Ms. Aakansha Rehan	Senior Data Scientist in Capgemini IT Pvt. Ltd. Services Gurugram, Haryana.	Data Drive: Surfing the waves of AI Innovation	25th February 2024

4	Dr. Nihar Ranjan Roy	Associate Professor, Department of Computer Science, Sharda University, Greater Noida, U.P.	Quantum Computing & Cyber Security: A New Era of Challenges	16th March 2024
5	Mr. Sudesh Chandel	Principal Data Scientist in AT&T India Pvt. Ltd., Hyderabad	Use of Machine Learning In Video Streaming	17th March 2024
6	Dr. Narendra Nath Dalei	Associate Professor, Department of Economics, Central University of Himachal Pradesh	Developing an Excellent Research Paper while adhering to Original Research and Publication Ethics	22nd March 2024

Electronics (1)

S. No.	Name of guest/ faculty	Designation	Title	Date
1	Prof. H.C. Verma	Retired Prof., Dept. Of Physics, IIT Kanpur	TALK SHOW during Optics Outreach Culmination	October 06, 2023

Physics: (01)

S. No.	Name of guest/ faculty	Designation	Title	Date
	Prof. Dhananjay V. Gadre	Professor at the Netaji Subhas University of Technology in the Department of Electronics and Communication Engineering and founder Director of CEDT and TI-CEPD	Tinkering for Physics	

Zoology: (20)

S.No.	Invited Speaker	Affiliation	Title	Date
1	Dr. Thallapally Mogili	Scientist (Retd.) Central Sericultural Research and Training Institute, Mysuru	Propagation, Pruning and Cultivation of Mulberry	August 09, 2023
2	Prof V.B. Upadhyay	Head, Deptt of Zoology (Retd.) DDU	Basics of Sericulture	August 09, 2023

		Gorakhpur University, Gorakhpur, Uttar Pradesh			
3	Dr Sardar Singh	Scientist D and Head RSRS, CSB, Sahaspur, Dehradun	Hatching of eggs and Chawki silkworm rearing technique	August 10, 2023	
4			Different Techniques of late age silk worm Rearing		
5	Mr Surinder Bhat	Scientist D, Silk Technical Service Center, CSB, Premnagar, Dehradun	Post coccon Technology	August 11, 2023	
6	Dr. Deepti Gupta	Professor, IIT Delhi	Extraction and applications of sericin biomolecule	August 12, 2023	
7	Dr. Yeruva Thirupathaiah	Scientist-C, CSRTI, Mysuru	Use of Pupae in Livestock Feed and Cosmetics	August 12, 2023	
8	Dr. K.M. Vijaya Kumari,	Director CMER&TI, Lahdoigarh, Jorhat, Assam	Eri and Muga Sericulture in India	August 14, 2023	
9	Dr. Vivek Kumar Choudhary	Scientist Incharge & Field Biologist, Tughlaqabad Biodiversity Park CEMDE, University of Delhi	Integrating Tasar cultivation in an ecological restoration process for conservation of Vanya silkworm and development of sustainable livelihood option for local tribal at a degraded mined-out area of Purnapani, Odisha"	August 14, 2023	
10	Prof. Chirashree Ghosh	Professor, Department of Environmental Science, University of Delhi	Actual causes and condition of air in the National Capital Delhi	November 28, 2023	
11	Prof. Shachi Shah,	Professor & Head, SOITS, IGNOU	importance of science and different visions in	November 28, 2023	

			it for the world	
12	Prof. Namita Rajput	Shri Aurobindo College, University of Delhi	Creating Safe campus: Understanding and Implementing UGC guidelines for gender Sanitization"	November 28, 2023
13	Mr. Gaurav	Assistant Professor, Ramanujan College, University of Delhi	Snakes in the city	November 28
14	Dr Devraj Joshi	Associate Professor Tribhuvan University Nepal	ISME activities in Nepal and organisation of SASME (South Asian Symposium for Microbial Ecology)	February 13, 2024
15	Prof. Rup Lal	ISME Ambassador, India Acharya Narendra Dev College University of Delhi	Introduction to ISME and Activities in India Importance of Scientific Writing and Communication: How to publish in ISME journals	February 13, 2024
16	Dr Jasvinder Kaur	Assistant Professor Gargi College University of Delhi	"Scientific reading exercise" Section A: How to read a paper	February 13, 2024
17	Dr Pushplata	Assistant Professor Department of Zoology University of Delhi	Scientific reading exercise" Section B: Peer-Review Process	February 13, 2024
18	Dr Utkarsh Sood	Assistant Professor Kirori Mal College University of Delhi& Editor ISME Communications	Introduction to ISME Journals	February 13, 2024
19	Dr Komal Kamra	Associate Professor (Retd.) SGTB Khalsa College, University of Delhi	Interactive Session on Let's think science	April 27, 2023
20	Dr Alan Warren	Natural History Museum, London	What have Ciliates Done for us	March 05, 2024


Prof. Yogesh Singh
Prof. Ravi Toteja


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Prof. Rachna Joshi
Dr. Ambika
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Acharya Narendra Dev College
University of Delhi
NAAC Accredited Grade 'A+' | NIRF 2024 All India Ranking- 18 | DBT Star College Status


Ministry of Education
Govt. of India
FACULTY DEVELOPMENT PROGRAM 2025
Welcome
PROF. RAVI TOTEJA
PROF. A. K. BAKHSHI

Appendix XVII

International/National Collaborations

College has collaborated with several institutes of international repute and signed several MoUs in order to improve the learning possibilities for their respective students and teachers,

- An MoU was signed with Auburn University of Montgomery, Alabama, USA (International) on December 06, 2021. Prof. Urmi Bajpai from the Department of Biomedical Sciences, served as the coordinator. As a result of this collaboration, (1) international credit transfer and progression arrangements were established through academic articulation agreements across various programs, facilitating seamless student mobility and recognition of coursework, and (2) initiatives such as the exchange of research and academic materials, collaborative research projects, faculty expertise sharing, development of e-learning modules, and the application of distance learning were launched to enhance academic engagement and global learning opportunities.
- An MoU was signed with Open Health System Laboratory (OHSL), USA, to establish the International Bacteriophage Research Consortium (IBRC) and promote collaborative research on November 05, 2018. Prof. Urmi Bajpai from the Department of Biomedical Sciences, served as the coordinator. As a result of this collaboration, (a) joint efforts were initiated to develop funding proposals for enhancing research infrastructure at the drug discovery laboratory at ANDC and at the forthcoming International Research Center of OHSL in Jhajjar, Haryana, and (b) collaborative academic activities were launched, including an online workshop on "Genome Analysis of Bacteriophage for Clinical Applications" held in association with Mahatma Gandhi University, SBRT, OSPF, and KHERN, as well as international clinician-led talks during World Antibiotic Awareness Week 2023 to promote awareness and clinical use of phage therapy.
- An MoU was signed with the National Institute of Immunology (NII), India, under the Science-Setu Programme on September 04, 2021. Prof. Seema Makhija and Dr. Archna Pandey from Acharya Narendra Dev College served as the coordinators. As a result of this collaboration, (a) an integrated programme was launched to connect undergraduate biology education with advanced research at NII, including student and teacher internships, mentorship for science projects, and exposure to cutting-edge scientific methodologies, and (b) a series of activities such as lectures, lab exercises, discussions, and career guidance sessions were initiated—delivered through both online and on-site modes—to nurture scientific curiosity and guide students toward careers in science and technology.
- An MoU was signed with the Translational Health Science and Technology Institute (THSTI) under the Science-Setu Programme on August 05, 2020. Prof. Urmi Bajpai, Dr. Anupama Shukla, Prof. Seema Makhija, Dr. Satendra Singh, Dr. Sumit Sahni, and Dr.

Rahul Dev served as the coordinators. As a result of this collaboration, (a) a structured platform was established for THSTI scientists to engage with undergraduate students and faculty of Acharya Narendra Dev College through research-focused interactions, and (b) academic enrichment activities such as research presentations, mentoring, and discussions were initiated to foster interest in translational health sciences among budding life science students. The MoU has been renewed for a period of three years until 2026.

- An MoU was signed with IIT Delhi under the Ministry of Education's Virtual Labs initiative (NMEICT) for the creation of Virtual Labs at Acharya Narendra Dev College on September 13, 2021. Prof. Seema Makhija, Dr. Sumit Sahni, Prof. Sharanjit Kaur, Dr. Pooja Bhagat, and Dr. Vineet Kumar Singh served as the coordinators. As a result of this collaboration, (a) Acharya Narendra Dev College became the first institution in the University of Delhi to launch V-Lab@ANDC, a virtual platform providing remote access to laboratory experiments for undergraduate science students, and (b) a range of future-ready e-content and simulations aligned with NEP 2020 were developed and hosted across four domains—Biological, Chemical, Physical, and Electronics Sciences—spanning seven departments, with active involvement of students in content creation and platform management. Two bootcamps for V-Lab development were also conducted in 2023 and 2024 to train faculty and students in simulator design.
- An MoU was signed with the Entrepreneurship Cell, School of Open Learning, University of Delhi on September 09, 2021. Prof. Sandeep Kumar Goel served as the coordinator. As a result of this collaboration, (a) a six-month certificate course in entrepreneurship and startups was introduced under the UGC's National Skills Qualifications Framework, open to students who have completed 10+2, and (b) dedicated support was provided to potential entrepreneurs from ANDC to access various central and state government entrepreneurship schemes.
- An MoU was signed between Acharya Narendra Dev College (University of Delhi) and SPIE, the international society for optics and photonics on August 6, 2010. Prof. Amit Garg from the Department of Physics served as the coordinator. As a result of this collaboration: (a) A series of student-led technical and outreach projects were initiated, including those focused on smart micro-irrigation systems, AR/VR applications in STEM education, and laser-based security systems, with several projects presented at national and international conferences and slated for publication; (b) An academic enrichment program was launched, enabling students to participate in specialized workshops (e.g., 3D printing, IoT, machine learning) and institutional visits (e.g., IUAC, Rashtrapati Bhavan Museum), while also facilitating student participation in national-level competitions and exchange of knowledge with alumni pursuing higher studies abroad.
- An MoU was signed with PhiXgen Pvt. Ltd. on January 30, 2018. Prof. Ravi Toteja and Prof. Seema Makhija served as the coordinators for this collaboration. As a result of this partnership, (a) joint research activities focusing on advancing bioinformatics skills and

their responsible global application will be pursued, and (b) technical services, including support for Next Generation Sequencing projects in Genomics, Transcriptomics, and Proteomics, will be provided to beginners facing challenges in their projects. Additionally, (c) training courses for graduates, post-graduates, and corporate professionals in the fields of bioinformatics and related areas will be organized both onsite and online.

- An MoU was signed with TSD Consulting, a Singapore-based entity, on August 29, 2023 to establish the ANDC-InStart Foundation TSD SCII Hub. Acharya Narendra Dev College (ANDC) InStart Foundation (AIF), a business incubator hosted and promoted by ANDC, coordinated the collaboration. As a result of this partnership, (a) Centres of Excellence (COE) will be set up, including the Centre for Quality Education, Life-Long Learning, Skills Training, and Professional Development (LLL) and the Centre for Entrepreneurship, Startups, Ventures, and Investments (ESVI). These centres will offer various services such as International Visiting Professors, Campus Talks with Industry Leaders, Entrepreneurship Foundation Modules, Exchange Programs, Internships, Co-working Space, Startup Incubator Services, and Acceleration Programs. (b) In addition, AIF has signed two Tripartite MOUs with Jaganath International Management School (JIMS), Kalkaji, and Bhagini Nivedita College, University of Delhi, to expand the TSD SCII Hub and share resources for incubation. (c) Over 700 students from the partner institutions have been sensitized about entrepreneurship as a career path through sensitization sessions conducted under the MOUs.
- An MoU was signed with Jagannath International Management School (JIMS), Kalkaji, on August 4, 2023 to establish the "JIMS ANDC InStart Business Incubator," a joint incubation facility managed and operated by the Acharya Narendra Dev College InStart Foundation (AIF). Prof. Amit Garg from the Department of Electronics, served as the coordinator. As a result of this collaboration, (a) AIF expanded its co-working space by 15 seats and provided its incubated startups with access to JIMS, Kalkaji's institutional infrastructure, including meeting rooms, an auditorium, and conference rooms. (b) In addition, AIF extended incubation facilities to students of JIMS, Kalkaji. (c) Over 10 major events, sessions, and workshops on entrepreneurship were conducted at JIMS, Kalkaji, including an investor pitch event where over 200 startups from across India participated, with 15 shortlisted startups pitching their business ideas to renowned investors. (d) This year, the duration of the MoU with JIMS, Kalkaji was extended for another five years. (e) AIF currently supports 19 Incubatees and 7 Pre-Incubatees across sectors such as EdTech, Biotechnology, Gaming, Media, Consumer Goods, Agriculture, Retail, Ecommerce, and IT, and enters into Incubation Agreements with its incubatees and pre-incubatees as part of its onboarding process.
- An MoU was signed with Breakthrough Trust in September 2022 to create a cooperative alliance aimed at sensitizing and building capacity among college students on issues related to sexual harassment, gender-based violence, gender equality, and corresponding

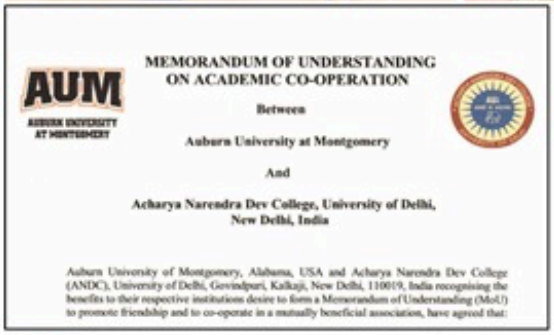
rights and laws. The collaboration was coordinated by Sashakt (Society for Women's Empowerment), ANDC. As a result of this partnership, awareness programs and workshops will be conducted to address these critical social issues, fostering a deeper understanding of gender-related challenges and legal frameworks.

Other Collaborations:

MoU between ANDC inStart Foundation and Mergerdemo on January 09, 2020.

Tri-Patriate MOU between ANDC inStart Foundation & T.S.D Consulting LLP and Jagannath International Management School on August 04, 2023.

Tri – Patriate MOU between ANDC inStart Foundation & T.S.D Consulting LLP and Bhagini Nivedita College on August 29, 2023.



MEMORANDUM OF UNDERSTANDING
ON ACADEMIC CO-OPERATION

Between

Auburn University at Montgomery

And

Acharya Narendra Dev College, University of Delhi,
New Delhi, India

Auburn University of Montgomery, Alabama, USA and Acharya Narendra Dev College (ANDC), University of Delhi, Govindpuri, Kalkaji, New Delhi, 110019, India recognising the benefits to their respective institutions desire to form a Memorandum of Understanding (MoU) to promote friendship and to co-operate in a mutually beneficial association, have agreed that:

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Government of National Capital Territory of D

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Certificate No.	IN-DL19096820737397T
Certificate Issued Date	04-Sep-2021 11:05 AM
Account Reference	IMPACC (IV)/ dl647003/ DELHI/ DL-DLH
Unique Doc. Reference	SUBIN-DLDL647003390016857156IT
Purchased by	ACHARYA NARENDRA DEV COLLEGE
Description of Document	Article 5 General Agreement
Property Description	Not Applicable
Consideration Price (Rs.)	0 (Zero)
First Party	NATIONAL INSTITUTE OF IMMUNOLOGY
Second Party	ACHARYA NARENDRA DEV COLLEGE

ACHARYA NARENDRA DEV COLLEGE
Preparing for the future...
आचार्य नरेंद्र देव कॉलेज

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding has been made and executed at Delhi on September 09, 2021

BETWEEN

AND

Co-ordinator
DOT STAR COLLEGE SCHEME
Acharya Narendra Dev College
(University of Delhi)

Virtual Labs
An initiative of Ministry of Education
under the National Mission on Education through ICT

Virtual Labs

Wireless Research Lab, Bharti School of Telecom
Indian Institute of Technology Delhi, Hauz Khas, New Delhi-11 0016, Tel: 011-26582005
www.vlab.co.in

Ref. No.: VLABS/IITD/NCS

Date: 13-09-2021

To,
The Principal,
Acharya Narendra Dev College,
Kalkaji, New Delhi

Sub: Virtual Labs Nodal Center

With reference to your Expression of Interest for Virtual Labs, it gives me immense pleasure to designate your Institute as a Nodal Center for Virtual Labs. As nominated by you, Dr. Sumit Sahni has been accepted to act as the Nodal Coordinator from your Institute. This approval is valid up to 31st December 2021. Subject to the following Terms and Conditions and any subsequent directives as issued by MoE from time to time:

1. Approved status of AICTE/STEB/UGC is mandatory for your college.
2. The necessary infrastructure (dedicated space having personal computers with 1Mbps broadband internet connectivity) to be maintained at your own cost for Virtual Labs.
3. Nodal centers will get operational technical support.
4. Students are not to be charged any extra fee for providing Virtual Labs facility for their usage.
5. Nodal Coordinator should attend the meeting held at IIT Delhi as per schedule and a semester wise report on V Labs usage and feedbacks by the faculty members and students should be submitted.
6. Strict adherence to the standard lab procedures and cyber security laws needs to be followed.
7. Any violation or the above will result in automatic cancellation of Nodal Center status for your college

Officiating Principal
Acharya Narendra Dev College
(University of Delhi)
Govindpuri, Kalkaji
New Delhi-110019

INTERNATIONAL CONFERENCES, WORKSHOPS AND OUTREACH PROGRAMS

Co-ordinator
DBT BTAR COLLEGE SCHEME
Acharya Narendra Dev College
(University of Delhi)

Officiating Principal
Acharya Narendra Dev College
(University of Delhi)
Govindpuri, Kalkaji
New Delhi-110019