DBT Star College Scheme
Annual Report [April 2023-March 2024]
Hindu College
(Department of Botany, Chemistry, Physics and Zoology)

The DBT Star College Scheme aims to strengthen the academic and practical skills of undergraduate (UG) students by providing enhanced support for quality improvement in science education. This report highlights the various academic activities organized by the various science departments of Hindu College under this scheme during the period **April 2023-March 2024**, focusing on Extension Experiments in regular laboratory courses, Project Work, Value-Added /Add-On Courses, Invited Talks, Field/Lab Visits & Laboratory Staff Training.

Annexure I

EXTENSION EXPERIMENTS

Department of Botany

S.No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	To study karyotypes of different plants and to prepare an ideogram.	Dr. K.K. Koul	24	B. Sc. (H) Botany/ II Sem
2.	Working of Projection Microscope with camera and taking images from it.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
3.	Preparation of herbarium and identification of Ethnobotanical important plants.	Dr. Rajesh Kumar	17	B. Sc. (H) Botany/ II Sem
4.	Introduction to Bioinformatics and Python and Recent Trends in Health care AI.	Dr. Vivek Chopra	24	B. Sc. (H) Botany/ II Sem
5.	Hands on training on literature and data extraction from PUBMED.	Dr. Vivek Chopra	24	B. Sc. (H) Botany/ II Sem
6.	To estimate TDS of five water samples.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
7.	Identification of medicinal plants and part of plant used.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
8.	Identification and classification of plants in the campus.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
9.	How to use the autoclave and other sterilization techniques?	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
10.	Preparation of the Nutrient Agar media.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
11.	Isolation of microbes from the soil, air and water.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
12.	Purification of single microbe using the streaking.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem
13.	How to write a scientific review paper?	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ II Sem

Department of Chemistry

S. No.	Title of extension experiments	Name of the Associated Faculty member(s)	Number of Beneficiaries /students	Course/Sem
1	Bromination by Green Method	Dr. Charu Kumar Dr. Devanshi Magoo	22	PSC/I
2	To prepare silver nanoparticles using neem/curry leaves extract	Prof. Reena Jain, Dr. Sudershan Kumar, Dr. Devanshi Magoo, Dr. Sriparna Dutta, Dr. Pragya Naulakha	87	Chem (H)/V
3	Estimation of iron in the given iron tablet.	Prof. Reena Jain; Dr. Sudershan Kumar	40	Chem (H)/II
4	Synthesis of Nerolin	Dr. Dinesh Kumar; Dr. Sriparna Dutta; Dr. Anupama Saini	70	Chem (H)/II
5	To determine the rate constant of the saponification of the ethylacetate by NaOH conductometrically	Dr. Geetika Bhalla; Dr. Vinita Narula	80	Chem (H)/IV
6	To estimate the calcium ion strength in the milk sample.	Prof. Reena Jain, Dr. Manoj Chahal, Dr. Saroj	34	Chem (H)/IV
7	To determine the free chlorine content in the bleaching powder solution.	Prof. Reena Jain, Dr. Manoj Chahal, Dr. Saroj	38	
8	Qualitative organic analysis on micro scale so as to reduce the use of excess chemicals thereby reducing pollution and wastage	Dr. Sriparna Dutta Dr. Manoj Chahal Dr. Anju Singh	114	PSC/VI
9	Separation of o- and p-nitrophenol by using Column chromatography	Dr. Devanshi Magoo Dr. Anupama Saini Dr. Anju Singh	64	Chem (H)/II
10	Extraction of clove oil from clove bud by steam distillation.	Dr. Neha Kapoor Dr. Dinesh Kumar	26	Bot. Zoo., Physics (H)/ GE II
11	Determination of concentration of heavy metal (Cd2+) in the given soil or water sample by spectroscopic techniques	Dr. Vinita Narula Dr. Manolata Devi	19	Chem (H)/VI
12	Extraction of silver from the discarded X-ray films	Dr. Hemant Verma Dr. Jaspreet Kaur	29	Chem (H)/VI

13	Potentiometric titration of dibasic acids (malonic acid and tartaric acid) with strong base	Dr. Geetika Bhalla Dr. Jaspreet Kaur	50	Chem (H)/IV
14	Kinetic study of iodination of acetone using colorimeter	Dr. Geetika Bhalla Dr. Jaspreet Kaur	46	Chem (H)/IV

Department of Physics

S.No	Extension Experiment	Faculty	No. of Beneficiaries
1.	Estimate the Fermi Energy of various metals and semiconductors with given material parameters through modeling using SCILAB.	Amit Tanwar	20
2.	To establish the equivalence of T and Pi networks	Adarsh Singh	20
3.	Design 5V/9V DC power supply using capacitor filter and IC regulator	Adarsh Singh Sanjay Chauhan	20
4.	Modeling & Solving Physics Problems on topics: Motion of Falling body in a Resisting Medium, Variation of current & charge in a LR circuit, Projectile Motion, Energy Oscillation in LC Circuit, Coupled Oscillators (Mechanical & Electrical) (MP-2 Lab)	Pragati Ashdhir, Amit Tanwar, Neha Batra	30
5.	Modeling Heat Conduction in 1D & 2D, Electrostatic Potential Distribution in 2D, Debye's Specific Heat of Solid using Numerical Integration, FFT of damped & undamped Harmonic Oscillators (MP-3 Lab)	Pragati Ashdhir, Neha Batra	50
6.	Preparation of ferrite nanoparticles by sol-gel method and investigation of their structural and magnetic properties.	Vivek Verma	10
7.	Ultrasonic sensor and microcontroller based system for object detection with LED indicator.	Virendra Kumar Kashima Arora	30
8.	Design and development of ATmega microcontroller and IR sensor based object sensing system.	Virendra Kumar Kashima Arora	30
9.	Design and development of Arduino microcontroller and servo motor based electromechanical system.	Virendra Kumar Kashima Arora	30

Department of Zoology

S.No.	Extension Experiment	Faculty Coordinators	No. of Beneficiaries
1.	Extraction of protein from pulses	Dr Soma M Ghorai Dr Neetu	34
2.	Protein Estimation by Bradford's Method	Dr Soma M Ghorai Dr Neetu	34
3.	Separation of Proteins by SDS PAGE	Dr Soma M Ghorai, Dr Neetu	34
4.	Demonstration of Separation of Proteins by SDS PAGE	Dr Neetu Dr Divya Bajaj	90
5.	(a) Setting up and maintenance of aquarium	Dr Ravi K. Goswami	120
	(b) Study of schooling behaviour and response to photo stimulus in fishes (Animal Behaviour project)	Dr Anupam V. Sharma Mr Kiran K. Salam	3
6.	To perform histopathological studies by Microtomy	Dr Anupam V. Sharma Mr Kiran K. Salam	40
7.	Study of *in situ* developmental stages of chick	Dr Soma M. Ghorai Dr Divya Bajaj	120

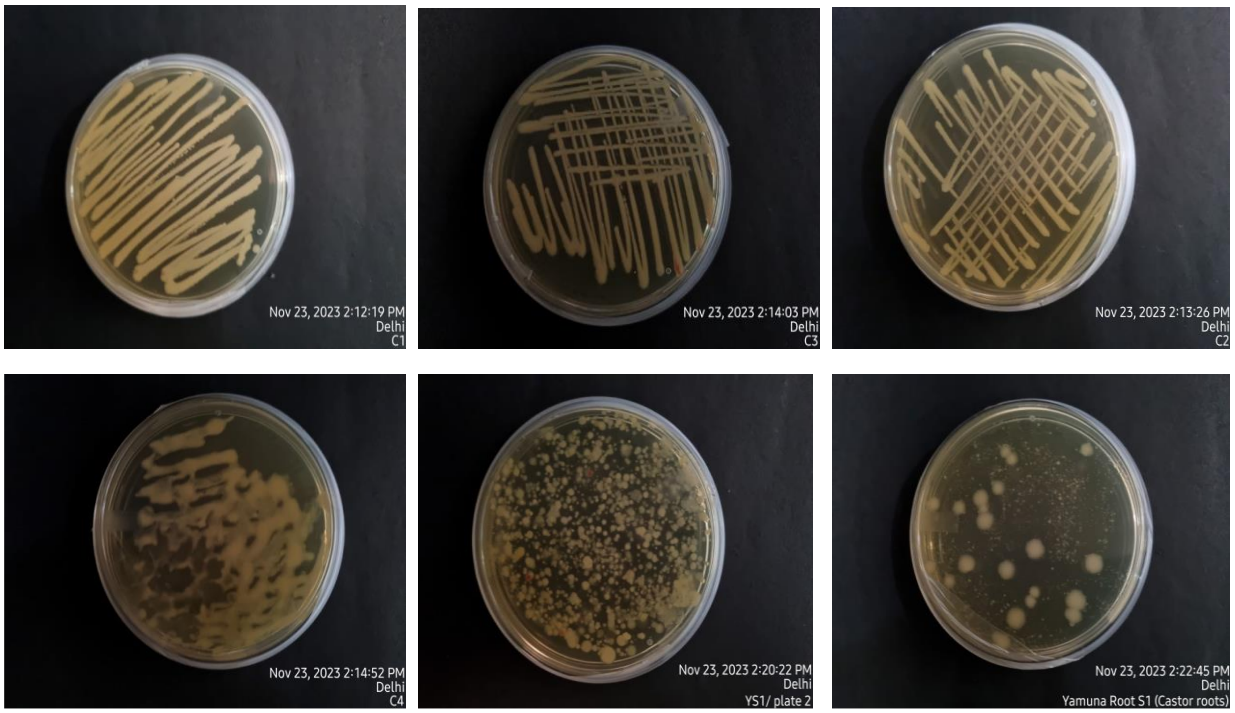
Annexure II

INTERNSHIPS/PROJECTS

Department of Botany

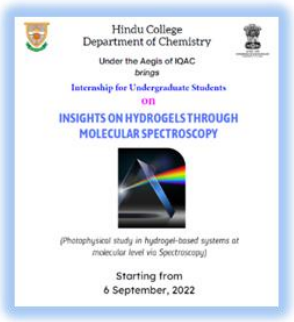
S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	Isolation of microbes from soil.	Dr. Rajesh Kumar, Dr. Savita Singh	24	B. Sc. (H) Botany/ VI Sem
2.	Finding an antagonistic microbe from the soil.	Dr. Rajesh Kumar, Dr. Savita Singh	24	B. Sc. (H) Botany/ VI Sem
3.	Isolation of Microbes from the oil rich soil for oil degrading microbes.	Dr. Rajesh Kumar, Dr. Savita Singh	24	B. Sc. (H) Botany/ VI Sem
4.	In this study, karyotyping analysis was performed to understand the chromosome characteristics of *Vicia faba*.	Dr. Kuldeep Kumar Koul	8	B. Sc. (H) Botany/ VI Sem

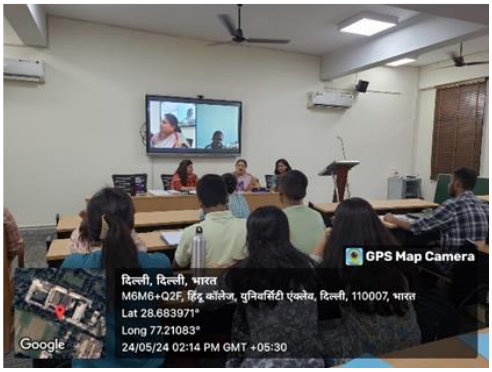
Project work showing steps in isolation of microbes and streak plate and lawn culture



Department of Chemistry

S. No.	Titles of Projects/ Internships	Name of the Associated Faculty member(s)	Number of Beneficiaries/students	Course
1.	Internship on Insights on hydrogels through Molecular Spectroscopy	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Devanshi Magoo, Dr. Sriparna Dutta, Dr. Aman Bhardwaj	45	45-Chem (H)
2.	Internship on Green perspectives on waste/spent lithium-ion batteries	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Devanshi Magoo, Dr. Sriparna Dutta, Dr. Aman Bhardwaj	35	35-Chem (H)
3.	Internship program on "Synthesis and Characterization of Medicinal Important Organic Compounds"	Prof. Anju Srivastava Prof. Reena Jain, Dr. Devanshi Magoo, Dr. Dinesh Kumar	15	Chem (H)/IV
4.	Internship on "Extraction, Isolation and Phytochemical Screening of *Berberis Asiatica*"	Dr. Vinita Narula, Dr. Neha Kapoor	5	Chem (H)/V
5.	Internship on "Application of computational methods for drug discovery, design and optimization."	Dr. Neera Sharma (Chemistry) Dr. Soma M. Ghorai (Zoology)	42	Chem., Bot., Zoo. (H)/II, IV&VI
6.	Hands-on internship program on "Nanoscience & Technology"	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Geetika Bhalla, Dr. Devanshi Magoo, Dr. Dinesh Kumar, Dr. Sriparna Dutta, Dr. Sushma Yadav, Dr. Manolata Devi	41	Chem (H)/II





Department of Physics

S.No.	Project title	Faculty	No. of Beneficiaries
1.	To study the cooling rate of engine oils used in the automobile industry using Arduino microcontroller and estimate various parameters of oil via modelling through SCILAB.	Amit Tanwar	2
2.	Understanding the dynamics of spring using an Arduino microcontroller.	Amit Tanwar	3
3.	To determine the effect of salting and harmful chemicals on fresh vegetables using simple electrical techniques	Adarsh Singh Reema Gupta	2
4	To study the variation in Refractive Index of water infected with varying concentrations of lead and cadmium	Adarsh Singh Reema Gupta	2
5	1. Laplace Equation in Spherical Polar Coordinates using FDM 2. Numerical Solution to 1-D Steady State Heat Conduction problem using Finite Element Method 3. Estimating Ground State Energy of 2D Square & Triangular Lattices using MD Simulation 4. Coriolis Force and its effect on Orbiting Satellites 5. Solving Burgers Equation using Spectral Method 6. Analyzing Fraunhofer Diffraction Patterns of variedly shaped Apertures using FFT 7. Investigating the Normal Modes of Vibration of a String using FDM and FFT techniques 8. A Computational Illustration of Born-von Karman Periodic Boundary Conditions in Dynamics of 1D and 2D Lattices (Paper Presentation in APS March Meeting 2023) 9. Investigation of Non-Linear Thermal Transport using Continuum Modeling and Molecular dynamics Simulations (Paper Presentation in APS April Meeting 2024)	Pragati Ashdhir	2 2 2 2 2 2 2 2 3
6.	Optimization methodology for denoising implementation in high pass filtering operation in image processing (NCICP 2023)	Pragati Ashdhir Amit Tanwar Neha Batra	3
7.	A computational investigation on motion of a spinning top (NCICP 2023)	Pragati Ashdhir Amit Tanwar	4

		Neha Batra	
8.	Investigating the transient motion of a simple pendulum as an approximation for chaos using adaptive computational algorithms (NCICP 2023)	Pragati Ashdhir Amit Tanwar Neha Batra	4
9.	Design and Development of Artificial Intelligence Based System for Leaf Disease Detection.	Virendra Kumar	3
10.	Design and Development of Artificial Intelligence Based Traffic Sign Recognition System	Virendra Kumar	3

Bulletin of the American Physical Society

APS March Meeting 2023

Volume 68, Number 3

Las Vegas, Nevada (March 5-10)

Virtual (March 20-22); Time Zone: Pacific Time

Session T T02: V: Computational Methods for Statistical Mechanics - Advances and Applications

Abstract: T T02.00006 : A Computational Illustration of Born-von Karman Periodic Boundary Conditions in Dynamics of 1D and 2D Lattices.

Bulletin of the American Physical Society

APS April Meeting 2024

Wednesday–Saturday, April 3–6, 2024; Sacramento & Virtual

Session CC01: V: Computational Physics III: Modeling Molecules and Materials

Abstract: CC01.00003 : Investigation of Non-Linear Thermal Transport using Continuum Modeling and Molecular Dynamics Simulations

ENVIRONMENTAL SCIENCE ARCHIVES

ISSN: 2583-5092

Volume 10 Issue 1 (TPC1), 2024

RESEARCH PAPER OPEN ACCESS

A Simple Electrical Technique to Demonstrate the Effect of Salting and Harmful Chemicals on Fresh Vegetables

Reema Gupta, Chirag Singh, Prerna Dhankar and Adarsh Singh

Author Contributions

RG, CS, PD and AS conceived the concept, wrote and approved the manuscript.

Acknowledgements

The authors are thankful to Principal, Hindu College, University of Delhi for providing th necessary support to carry out the present work.

Funding

The authors are grateful to Department of Biotechnology, Govt. of India, Star College Schem (Sanction No: HRD-11011/20/2022-HRD-DBT) for providing the necessary support for the projec work.

Phys. Educ. 59 (2024) 025026 (10pp)

Investigating the effect of coolant on cooling rate of engine oil used in automobile industry using Arduino interfaced temperature sensor

Amit Kumar Pandey[1], Raghav Sharma[1], Nikhil[2], Divyanshu Choudhary[2], Neha Batra Bali[3], Maya Verma[3], Rashmi Menon[3] and Amit Tanwar[1,*]

Abstract

Heat is lost by the system due to temperature difference between the hot object and surroundings. Two models which explain cooling are conduction-convection method and radiation method. During an automobile engine operation, both engine and engine oil get heated up. To overcome the problem of excessive heat generated, coolant is used to cool down the system. In present study, cooling rate of engine oil kept at high temperature was studied in the absence and presence of coolant. In the absence of coolant, engine oil follows the natural law of cooling stated by Newton and follows the exponential decay in temperature. Cooling rate constant was estimated through fitting first order and second order exponential decay with experimental data and found to be $3.35 \times 10^{-4}\ s^{-1}$ and $2.39 \times 10^{-3}\ s^{-1}$ (in first 50 min) respectively. Cooling rate in the presence of coolant was studied which shows rapid decrease in temperature for first few minutes which may be attributed to high heat capacity of coolant which surrounds the hot engine oil. After 50 min of cooling, temperature of both fluids found to decrease exponentially. Thus, the use of coolant was found to absorb the heat content from the engine oil rapidly in comparison to natural environment. Cooling rate constant were estimated through fitting

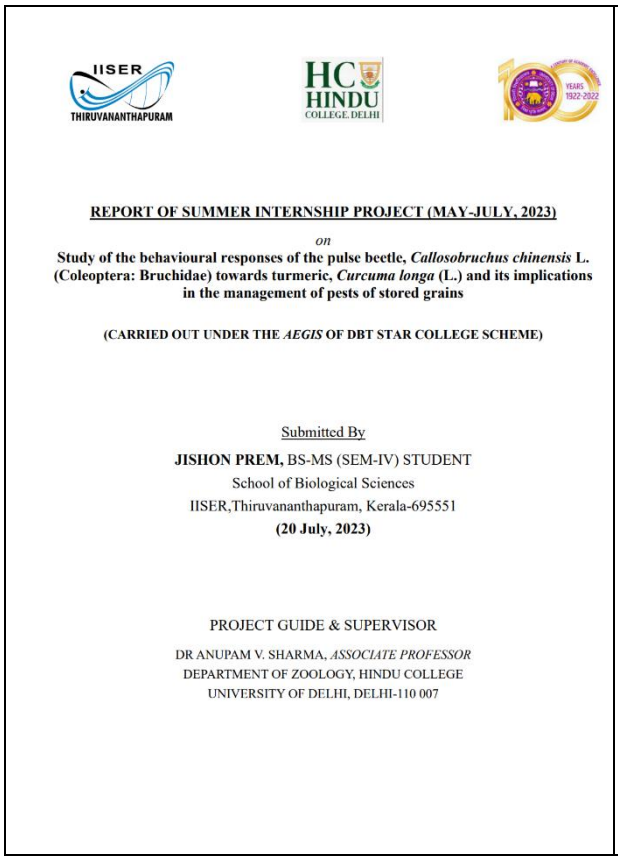
Acknowledgments

Authors with affiliation from Hindu College, University of Delhi, Dr Amit Tanwar, Dr Neha Batra Bali, Mr Amit Kumar Pandey and Mr Raghav Sharma wish to thank the Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India, for providing financial support under the DBT Star College Scheme fund (Grant No. HRD-11011/20/2022-HRD-DBT).

Department of Zoology

S. No.	Internship/ Project	Faculty	No. of beneficiaries
1.	**Title of project:** Study of the effect of turmeric, *Curcuma longa* (Gingiberaceae) on the biology of pulse beetle, *Callosobruchus chinensis* (Coleoptera, Bruchidae) and its implications in its management **Project intern:** Mohd Roshan V.K., BS-MS (SEM-IV) student, School of Biological Sciences IISER, Thiruvananthapuram, Kerala-695551 **Duration:** 23 May-20 July, 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC	Dr Anupam V. Sharma	**1**
2.	**Title of project:** Study of the behavioural responses of the pulse beetle, *Callosobruchus chinensis* L. (Coleoptera: Bruchidae) towards turmeric, *Curcuma*	Dr Anupam V. Sharma	**1**

	longa (L.) and its implications in the management of pests of stored grains **Project intern:** Jishon Prem, BS-MS (SEM-IV) student, School of Biological Sciences IISER, Thiruvananthapuram, Kerala-695551 **Duration:** 23 May-20 July, 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC		
3.	Title of project: Analysing the toxic effects of Bisphenol-A (BPA) an environmental pollutant which is an endocrine disruptor in Drosophila model Project interns: 1. Ritvik Laira, University of Jammu 2. Pushpanjali Singh, Ramjas College, University of Delhi Duration: June 2023- January 2024 Venue: Drosophila Research Lab., Hindu College	Dr Soma M. Ghorai Dr Divya Bajaj	2



REPORT OF SUMMER INTERNSHIP PROJECT (MAY-JULY, 2023)

on

Study of the behavioural responses of the pulse beetle, *Callosobruchus chinensis* L. (Coleoptera: Bruchidae) towards turmeric, *Curcuma longa* (L.) and its implications in the management of pests of stored grains

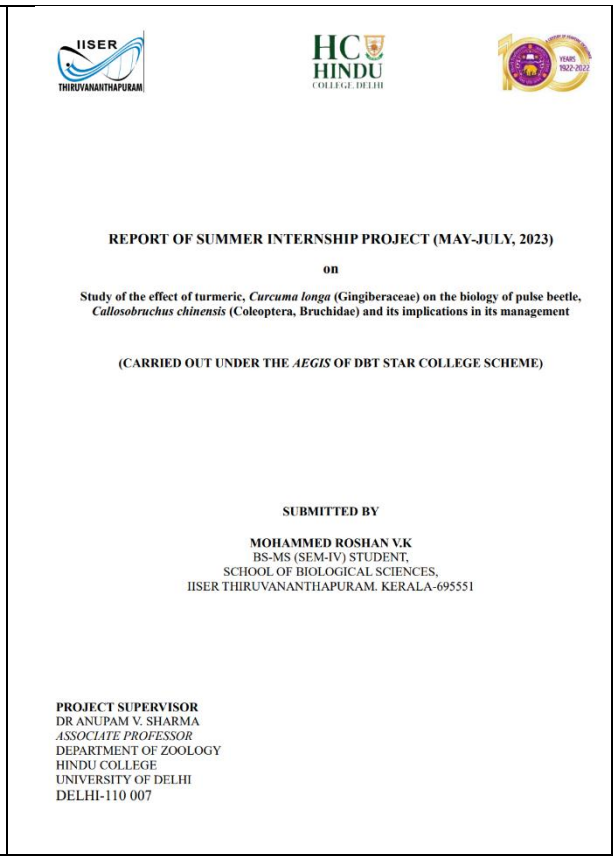
(CARRIED OUT UNDER THE *AEGIS* OF DBT STAR COLLEGE SCHEME)

Submitted By

JISHON PREM, BS-MS (SEM-IV) STUDENT
School of Biological Sciences
IISER,Thiruvananthapuram, Kerala-695551
(20 July, 2023)

PROJECT GUIDE & SUPERVISOR

DR ANUPAM V. SHARMA, *ASSOCIATE PROFESSOR*
DEPARTMENT OF ZOOLOGY, HINDU COLLEGE
UNIVERSITY OF DELHI, DELHI-110 007



REPORT OF SUMMER INTERNSHIP PROJECT (MAY-JULY, 2023)

on

Study of the effect of turmeric, *Curcuma longa* (Gingiberaceae) on the biology of pulse beetle, *Callosobruchus chinensis* (Coleoptera, Bruchidae) and its implications in its management

(CARRIED OUT UNDER THE *AEGIS* OF DBT STAR COLLEGE SCHEME)

SUBMITTED BY

MOHAMMED ROSHAN V.K
BS-MS (SEM-IV) STUDENT,
SCHOOL OF BIOLOGICAL SCIENCES,
IISER THIRUVANANTHAPURAM. KERALA-695551

PROJECT SUPERVISOR
DR ANUPAM V. SHARMA
ASSOCIATE PROFESSOR
DEPARTMENT OF ZOOLOGY
HINDU COLLEGE
UNIVERSITY OF DELHI
DELHI-110 007

Annexure III

INDUSTRIAL VISITS/ ACADEMIC/FIELD TRIPS

Department of Botany

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries/ students	Course/semester
1.	Visit to Mother Dairy Plant in Delhi to understand the working of the plant.	Prof. Anuradha Sharma, Dr. Vivek Chopra, Dr. Basanta Kumar Das	50	B. Sc. (H) Botany/ I, III, V Sem
2.	Visit to PUSA IARI Delhi, Phytotron facility, Microbiology lab, Seed development division.	Dr. Rajesh Kumar	50	B. Sc. (H) Botany/ I, III, V Sem
3.	Visit to IGIB to learn the techniques of sequencing the genome.	Prof. Anuradha Sharma, Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ I, III, V Sem
4.	Visit to Botany Department University of Delhi to see the working of Electron Microscope.	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ I, III, V Sem
5.	Visit to Division of Microbiology, ICAR- IARI	Dr. D. Monika Ram, Dr. Divya Mohanty, Dr. Gurumayum Suraj Sharma	45	B. Sc. (H) Botany/ III, V Sem
6.	Industrial Visit to Yakult Danone India Pvt. Ltd., Sonepat, Haryana	Dr. K.K. Koul, Dr. D. Monika Ram, Dr. Ravindra Kumar	30	B. Sc. (H) Botany/ VI Sem
7.	Visit to Yamuna Biodiversity Park, Delhi	Dr. K.K. Koul, Dr. D. Monika Ram, Dr. Ravindra Kumar, Dr. Vivek Chopra, Dr. Divya Mohanty, Dr. Gurumayum Suraj Sharm	53	B. Sc. (H) Botany/ I, III, V Sem
8.	Visit to IARI Delhi Blue Green Algae Division	Dr. Rajesh Kumar	24	B. Sc. (H) Botany/ I, III, V Sem

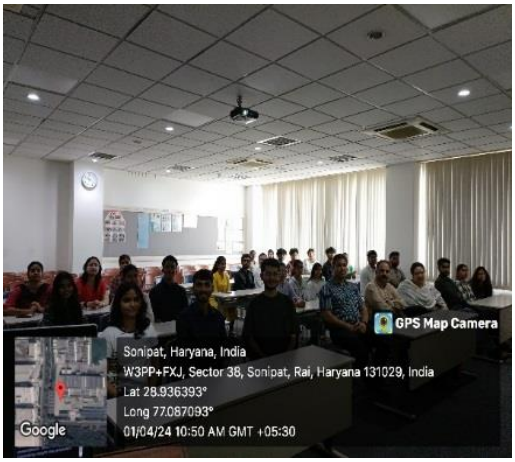
Educational Visit Report: Division of Microbiology, ICAR- IARI
Department of Botany, Hindu College

24th November, 2023

EDUCATIONAL FIELD VISIT TO YAMUNA BIODIVERSITY PARK
Organised by Department of Botany, Hindu College
March 15. 2024



Industrial visit to Yakult Danone India Pvt. Ltd., Sonepat, Haryana
Organised by Department of Botany, Hindu College
April 1, 2024



Department of Chemistry

S. No.	Details Industrial/ Academic/ Field Visits	Name of the Associated Faculty member(s)	Number of Beneficiaries/students
1	IIT Delhi (22nd & 23rd June 2023)	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Devanshi Magoo, Dr. Dinesh Kumar, Dr. Sriparna Dutta, Dr. Sushma Yadav	44
2	Ultra International Limited, Sahibabad, Ghaziabad, U.P. (6th April 2024)	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Geetika Bhalla, Dr. Devanshi Magoo, Dr. Dinesh Kumar	15

Department of Physics

S.No.	Industrial visit/Field visit	Faculty	No. of Beneficiaries
1.	Visit to NPL on 4.10.2023	Vivek Verma, Manish Kansal, Neha Batra Bali, Ginminlen Touthang	100
2.	Visit to Jantar Mantar 1.11.2023	Amit Tanwar, Manju Bala, Ankur Shandiliya	110
3.	Visit to NPL, Metrology Day, 19.05.23	Vivek Verma	50

4	Visit to IUAC, 28th Feb 2024, National Science Day Program	Priyanka	12

Department of Zoology

S.No.	Lab Visits	Faculty	No. of beneficiaries
1.	Visit to the Division of Entomology, IARI, Pusa, New Delhi **Date:** 20th July, 2023	1. Dr Anupam V. Sharma (Coordinator) 2. Dr S. Subramanian Principal Scientist, Division of Entomology, IARI, Pusa New Delhi	3

Annexure IV

CONFERENCES/SEMINARS/WORKSHOPS

Department of Botany

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	Handling of chromosomes in plants, meiosis and mitosis, karyotype and construction of idiograms.	Dr. Kuldeep Kumar Koul	8	B. Sc. (H) Botany/ VI Sem

Department of Chemistry

S. No.	Title of the Activity / Technique	Name of the Faculty member(s)	Number of Beneficiaries
1	**MW assisted reaction**- green synthesis of Cu2+ phthalocyanine complexes	Dr. Anupama Saini Dr. Pragya Naulakha	40

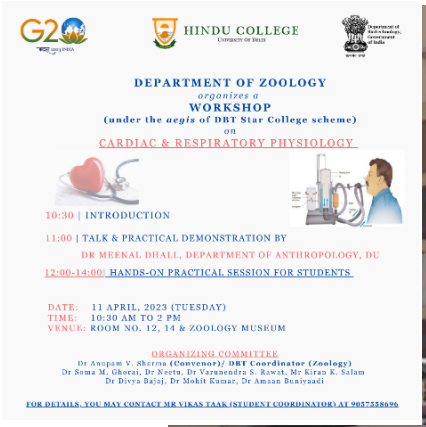
Department of Physics

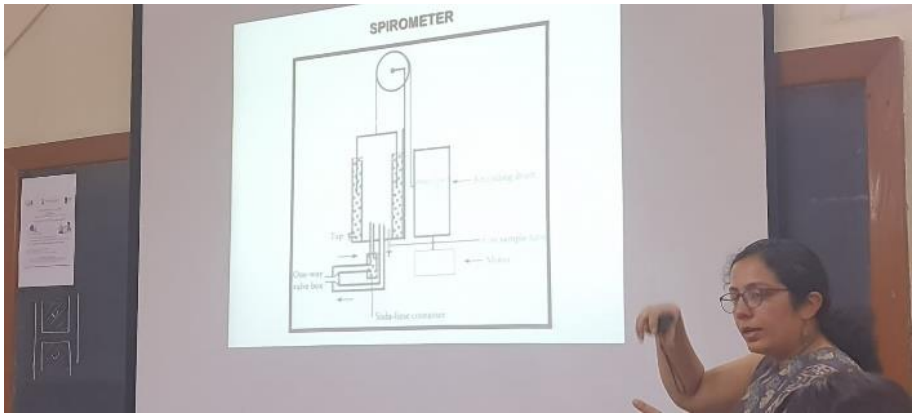
S.No	Hand on training for students	Faculty	No. of Beneficiaries
1.	2-Day Workshop on learning astronomy using stellarium 20-21 November 2023	Pragati Ashdhir, Adarsh Singh, Amit Tanwar, Neha Batra Bali	117
2.	3-Day Workshop on Matlab Software Training from 26-28 July 2023	Dr. Reema Gupta, Dr. Geeta Ray	15

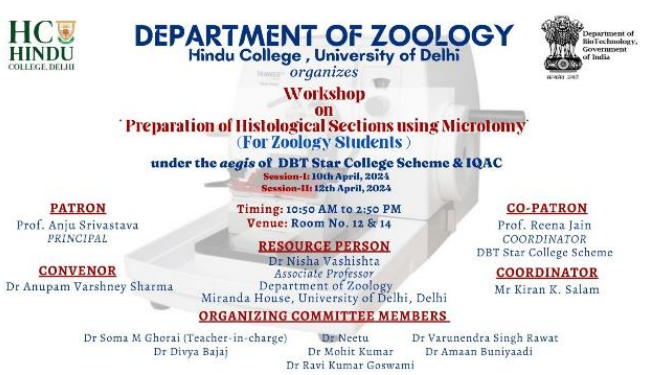
Department of Zoology

S.No.	Hands-on training/ Workshop	Associated Faculty	No. of beneficiaries
1.	Workshop on Cardiac and Respiratory physiology **Resource person**: Dr Meenal Dhall, Assistant Professor, Department of Anthropology, DU. **Date:** 11th April, 2023 **Venue:** Lab. No. 12 & 14, Dept Zoology, HC	Dr Anupam V. Sharma (Coordinator) & Organizing Committee (Department Faculty)	40
2.	Practical Demonstration and Hands-On Session on Microtomy **Resource person:** Dr Divya Bajaj **Date:** 10th July, 2023 **Venue:** Lab. No. 12, Dept Zoology, HC	Dr Soma M. Ghorai (Coordinator) & Organizing Committee (Department Faculty)	40
3.	Preparation of histological sections using Microtomy **Resource person:** Dr Nisha Vashishta, Associate Professor, Department of Zoology, Miranda House, University of Delhi, Delhi **Date:** 10th & 12th April, 2024 **Venue:** Lab. No. 12 & 14, Dept Zoology, HC	Mr Kiran K. Salam (Coordinator) & Organizing Committee (Department Faculty)	40
4.	Protein separation by Electrophoresis, Immunoblotting **Duration:** Mar.-April. 2024	Dr Neetu Dr Divya Bajaj	92

5.	Practicals in Molecular Biology: Isolation of DNA, Designing of primers, PCR **Duration:** Mar.-April. 2024	Dr Neetu Dr Divya Bajaj	92
6.	Molecular taxonomy studies: DNA and Protein Sequence analysis, Construction of Phylogenetic trees **Duration:** Mar.-April. 2024 **Venue:** ICT-1	Dr Varunendra S. Rawat Mr Kiran K. Salam Dr Ravi K. Goswami	92





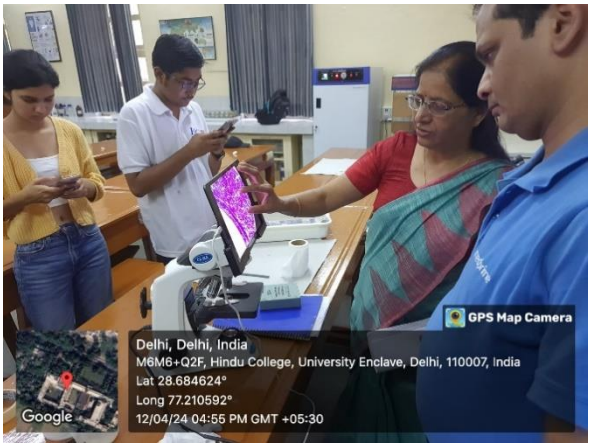

HC
HINDU
COLLEGE DELHI
DEPARTMENT OF ZOOLOGY
Hindu College , University of Delhi
organizes
Workshop
on
'Preparation of Histological Sections using Microtomy'
(For Zoology Students)
under the aegis of DBT Star College Scheme & IQAC
Session-I: 10th April, 2024
Session-II: 12th April, 2024
Department of BioTechnology, Government of India
PATRON
Prof. Anju Srivastava
PRINCIPAL
Timing: 10:50 AM to 2:50 PM
Venue: Room No. 12 & 14
CO-PATRON
Prof. Reena Jain
COORDINATOR
DBT Star College Scheme
RESOURCE PERSON
Dr Nisha Vashishta
Associate Professor
Department of Zoology
Miranda House, University of Delhi, Delhi
CONVENOR
Dr Anupam Varshney Sharma
COORDINATOR
Mr Kiran K. Salam
ORGANIZING COMMITTEE MEMBERS
Dr Soma M Ghorai (Teacher-in-charge)
Dr Divya Bajaj
Dr Neetu
Dr Mohit Kumar
Dr Ravi Kumar Goswami
Dr Varunendra Singh Rawat
Dr Amaan Buniyaadi


GPS Map Camera
Delhi, Delhi, India
M6M6+Q2F Chemistry Lawn, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.684584°
Long 77.210481°
10/04/24 11:08 AM GMT +05:30
Google


GPS Map Camera
Delhi, Delhi, India
M6M6+Q2F Chemistry Lawn, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.684579°
Long 77.210483°
10/04/24 11:17 AM GMT +05:30
Google


DEPARTMENT OF ZOOLOGY
GPS Map Camera
Delhi, Delhi, India
M6M6+Q2F Chemistry Lawn, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.684584°
Long 77.210481°
10/04/24 11:09 AM GMT +05:30
Google


GPS Map Camera
Delhi, Delhi, India
M6M6+PCJ, Sudhir Bose Marg, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.684104°
Long 77.210899°
12/04/24 01:01 PM GMT +05:30
Google


GPS Map Camera
Delhi, Delhi, India
M6M6+Q2F, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.684624°
Long 77.210592°
12/04/24 04:55 PM GMT +05:30
Google


GPS Map Camera
Delhi, Delhi, India
M6M6+Q2F, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.6846°
Long 77.210623°
12/04/24 03:40 PM GMT +05:30
Google

Annexure V

INVITED TALKS

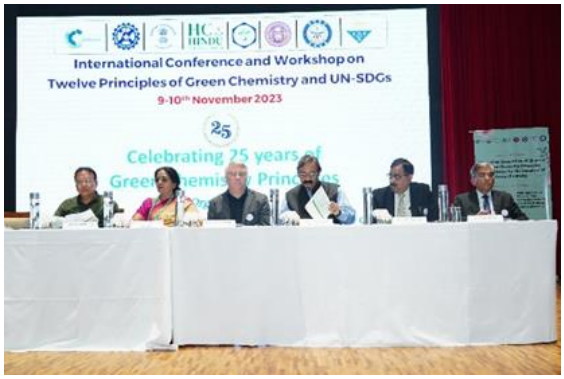
Department of Botany

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	Inaugural lecture on "The Good, The Bad, The Algae" for the deep understanding of algae by Dr. Alok Arun, Associate Professor, Inter American University of Puerto Rico, USA on October 14, 2023.	Dr. Kuldeep Kumar Koul	75	
2.	Invited Talk by Prof. K. C. Bansal on "Genes to Genome Editing for Genetic Improvement of Living Organisms" [Special Focus-GMO: Ethics & Regulatory Concerns] on March 7, 2024.	Dr. Kuldeep Kumar Koul, Dr. Divya Mohanty, Dr. Gurumayum Suraj Sharma	101	B.Sc. (H) Botany Semester I, III, V from other colleges as well
3.	Career counselling session by Mr. Saurabh Choudhary, IRS on April 5, 2024	Dr. Kuldeep Kumar Koul		

Inaugural Talk on "The Good, The Bad, The Algae"
Dr. Alok Arun, Associate Professor, Inter American University of Puerto Rico, USA
14th Oct 2023

Department of Chemistry

S. No.	Details of Seminars/ Talks/ Visiting Faculty visits	Number of Beneficiaries	Name of the Faculty member(s)
1.	National Symposium on Integrated Vector Management (IVM) 9th June 2023	200	**Department of Chemistry**, Department of Zoology, Department of Botany
2.	International conference and workshop on twelve principles of green chemistry and UN-SDGs 9-10th November 2023	250	**Department of Chemistry**, Department of Zoology, Department of Botany, Department of Physics
3.	Polymers: What, why and where 21st November 2023	180	**Department of Chemistry**



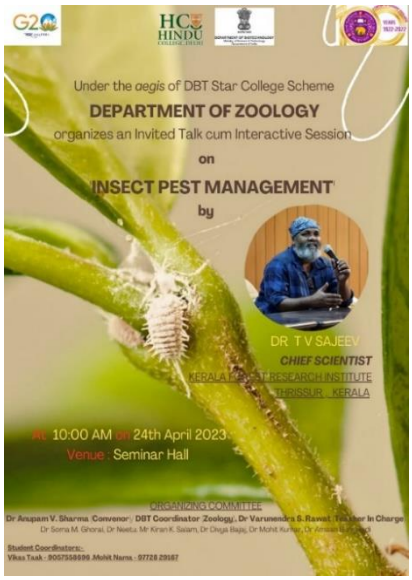
Department of Physics

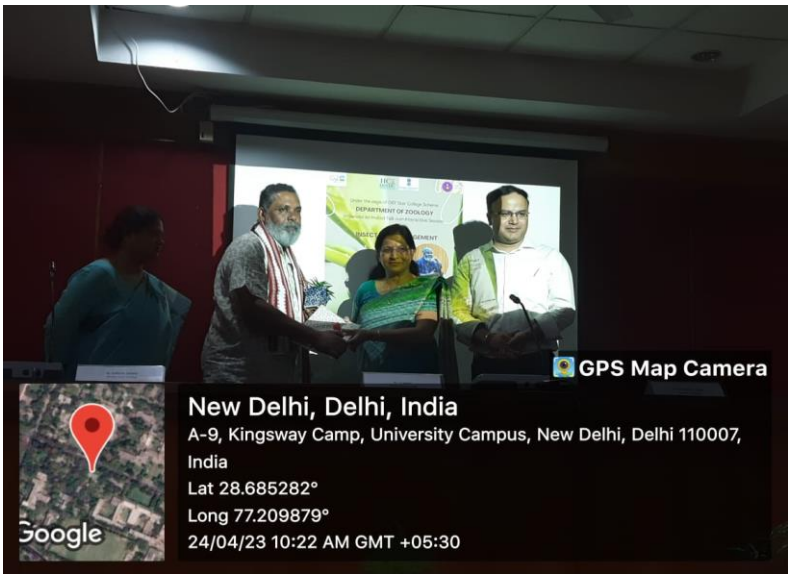
S.No	Detail of invited talk	Faculty	No. of Beneficiaries
1.	SI units in perspective of Industry by Dr. Mahesh Kumar, Sr Scientist, CSIR, GOI 5 September 2023	Adarsh Singh, Vivek Verma	150
2.	Climate change and depletion of ground water in India and on global Scale" by Prof. Dr Werner Aeschbach, Institute of Environmental Physics, University of Heidelberg, Germany on 29 Sep 2023	Dr. Adarsh Singh	150
3.	A talk by Dr. Vikas Kumar Singh, Scientist E , SSPL - DRDO on Evolution of Semiconductor Technology in India as part of **Semiconductor for Viksit Bharat: A need of hour** event held on 13 March 2024.	Vivek Verma	150
4.	Space Science in India, by Dr. Seetha Somasundarum, 19 March 2024	Adarsh Singh	150

Department of Zoology

S. No.	Speaker/ Resource person	The topic of Invited talk	Faculty	No. of beneficiaries
1.	DR T.V. SAJEEV, Chief Scientist, Kerala Forest Research Institute (KFRI), Thrissur, Kerala	INSECT PEST MANAGEMENT **Date:** 24th April, 2023 **Venue:** Seminar Room, HC	DBT Coordinator (Zoology) & Organizing Committee (Department Faculty)	120
2.	National Symposium on Integrated Vector Management (IVM) in collaboration with Absolute Human Care Foundation (AHCF), ND	**Date:** 9 June, 2023 **Venue:** Sushila Devi Auditorium, HC	DBT Coordinator (Zoology) & Organizing Committee (Department Faculty)	200
3.	DR ANUPAM V. SHARMA Associate Professor Department of Zoology Hindu College, DU	MANIPULATING THE ORIENTATION BEHAVIOUR OF MOSQUITOES – A TARGETED AND AN EFFECTIVE APPROACH TOWARDS THE ERADICATION OF MOSQUITO-BORNE DISEASES **Date:** 9 June, 2023 **Venue:** Sushila Devi Auditorium, HC	Team of Absolute Human Care Foundation (AHCF), ND & Organizing Committee, Departments of Zoology, Botany & Chemistry	100
4.	DR KAMALESH GULIA, Scientist 'G' & Head, Division of Sleep Research, Biomedical Technology wing, Sri Chitra Thirunal Institute for Medical Sciences and Technology, Thiruvanathapuram, Kerala:	SCIENCE OF SLEEP FOR GOOD HEALTH: ANIMAL STUDIES DRIVING CONCEPTS FROM BASICS TO BENCH SIDE **Date:** 6 October, 2023 **Venue:** Seminar Room, HC	DBT Coordinator (Zoology) & Organizing Committee (Department Faculty)	90
5.	PROF. J.K. ROY (RETD) Cytogenetics Lab., Department of Zoology	CHALLENGES AND PROSPECTS FOR BIOLOGISTS IN HIGHER STUDIES	DBT Coordinator (Zoology)	60

	Institute of Science, BHU, Varanasi	**Date:** 28th February 2024 (National Science Day). **Venue:** Lab. No. 14, Dept Zoology, HC	& Organizing Committee (Department Faculty)	

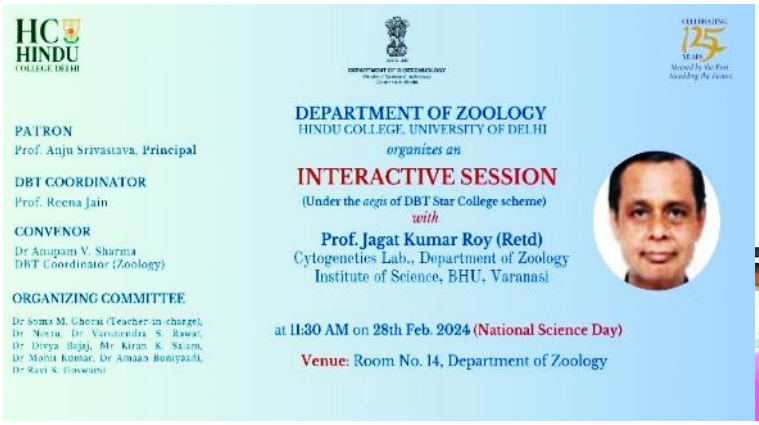





HC HINDU COLLEGE,DELHI
Under the aegis of IQAC & DBT Star college scheme
DEPARTMENT OF ZOOLOGY
Organizes a Lecture cum Interactive session on
SCIENCE OF SLEEP FOR GOOD HEALTH: ANIMAL STUDIES
DRIVING CONCEPTS FROM BASICS TO BENCH SIDE
6 OCTOBER, 2023
11:00 AM-12.30 PM
SEMINAR ROOM
Resource person
(alumna of Hindu College-Batch of 1984)
DR KAMALESH GULIA
ORGANIZING COMMITTEE
DR ANUPAM V. SHARMA
Coordinator (Zoology) DBT Star college scheme
DR SOMA M. GHORAI (Teacher-in-charge) &
the entire Faculty, Department of Zoology
Scientist 'G' & Head, Division of Sleep Research
Biomedical Technology Wing
Sree Chitra Tirunal Institute for Medical Sciences & Technology
Thiruvananthapuram 695011, Kerala.
Prof. Reena Jain
Coordinator, DBT Star college scheme
Prof. Anju Srivastava
PATRON, Hindu College


HC HINDU
Under the aegis of IQAC & DBT Star college scheme
DEPARTMENT OF ZOOLOGY
Organizes a Lecture cum Interactive session on


HC HINDU
Under the aegis of IQAC & DBT Star college
DEPARTMENT OF ZOOLOGY


HC HINDU COLLEGE DELHI
CELEBRATING 125 YEARS
DEPARTMENT OF ZOOLOGY
HINDU COLLEGE, UNIVERSITY OF DELHI
organizes an
INTERACTIVE SESSION
(Under the aegis of DBT Star College scheme)
with
Prof. Jagat Kumar Roy (Retd)
Cytogenetics Lab., Department of Zoology
Institute of Science, BHU, Varanasi
at 11:30 AM on 28th Feb. 2024 (National Science Day)
Venue: Room No. 14, Department of Zoology
PATRON
Prof. Anju Srivastava, Principal
DBT COORDINATOR
Prof. Reena Jain
CONVENOR
Dr Anupam V. Sharma
DBT Coordinator (Zoology)
ORGANIZING COMMITTEE
Dr Soma M. Ghorai (Teacher-in-charge),
Dr Neetu, Dr Varunendra S. Rawat,
Dr Divya Bajaj, Mr Kiran K. Saini,
Dr Mohit Kumar, Dr Amaan Buniyaadi,
Dr Ravi S. Goswami


GPS Map Camera
Delhi, Delhi, India
M6M6+Q2F, Hindu College, University Enclave, Delhi, 110007, India
Lat 28.684603°
Long 77.210612°
28/02/24 12:51 PM GMT +05:30
Google

Certificate of Participation

Certified that **DR ANUPAM VARSHNEY SHARMA, Associate Professor** from **Department of Zoology, Hindu College, University of Delhi,** participated & made **ORAL PRESENTATION** in the NATIONAL SYMPOSIUM ON INTEGRATED VECTOR MANAGEMENT (IVM) *cum* OUTREACH PROGRAM FOR PUBLIC AWARENESS ON MOSQUITO-BORNE DISEASES & THEIR MANAGEMENT, organized from **9-10 June, 2023** under the *aegis* of **DBT Star College scheme** & in collaboration with **Absolute Human Care Foundation (AHCF), New Delhi,** at Relaxo Research Center, **Hindu College, University of Delhi, Delhi-110007.**

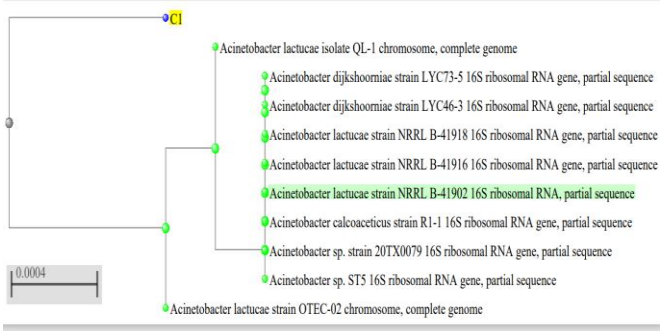
Dr P.K. Srivastava	Dr R.S. Sharma	Prof. Reena Jain	Prof. Anju Srivastava
DIRECTOR Absolute Human Care Foundation (AHCF) New Delhi	DIRECTOR Absolute Human Care Foundation (AHCF) New Delhi	CO-ORDINATOR DBT Star College Scheme Hindu College University of Delhi	PRINCIPAL Hindu College University of Delhi Delhi-110 007

Annexure VI

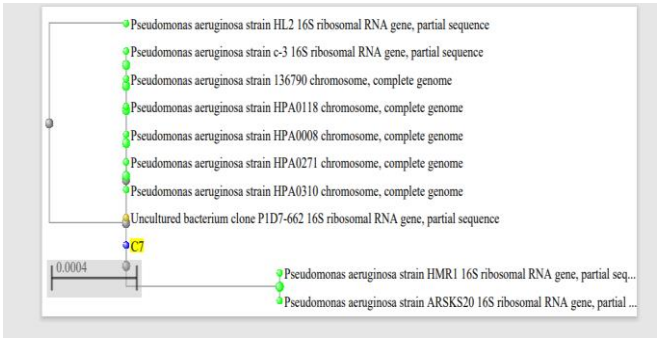
SUMMER/WINTER TRAINING/ADD-ON/ VALUE ADDED COURSES

Department of Botany

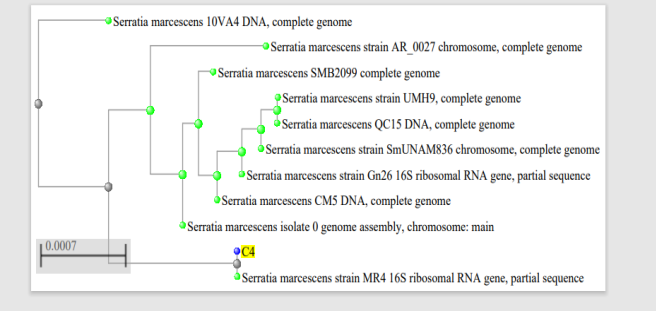
S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	Extraction of secondary metabolites and the active compound from plants with medicinal value and to see its effect on microbial growth.	Dr. Rajesh Kumar	2	B. Sc. (H) Botany/ V Sem
2.	Identification of bacterial strains using 16s rRNA.	Dr. Rajesh Kumar	8	B. Sc. (H) Botany/ V Sem
3.	Study of algal diversity in pond water.	Dr. Rajesh Kumar	22	B. Sc. (H) Botany/ V Sem



Phylogenetic tree of the identified bacteria Acinetobacter lactucae strain NRRL B-41902 16S ribosomal RNA, partial sequence using 16srRNA gene sequences analysis



Phylogenetic tree of the identified bacteria Pseudomonas aeruginosa strain HMR1 16S ribosomal RNA gene, partial seq.. 16S ribosomal RNA gene, partial sequence using 16srRNA gene sequences analysis.



Phylogenetic tree of the identified bacteria Serratia marcescens strain Gn26 16S ribosomal RNA gene, partial sequence using 16srRNA gene sequences analysis.

Department of Chemistry

No. of the Summer / winter Schools	Details of Summer/ winter Schools	Name of the Associated Faculty member(s)	Number of Beneficiaries/students (Ist/IInd/IIIrd years) and their course			
			School students	Ist	IInd	IIIrd
3	Insights into Fundamentals of Spectroscopic & Microscopic Techniques (Part-I: Microscopic techniques, XPS & Raman Spectroscopy) 1st-16th June 2023	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Devanshi Magoo, Dr. Dinesh Kumar, Dr. Sriparna Dutta, Dr. Sushma Yadav	44	34	10	
	Insights into Fundamentals of Spectroscopic & Microscopic Techniques (Part-II: NMR, IR, UV-VIS and Fluorescence Spectroscopy) 19thJune-5th July 2023	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Devanshi Magoo, Dr. Dinesh Kumar, Dr. Sriparna Dutta, Dr. Sushma Yadav	44	34	10	
	Winter training on "Introduction to various hazards, lab safety rules and guidelines." 12th March-15th April 2024	Dr. Devanshi Magoo	53	53		

Department of Physics

S.No	Summer/Winter Training	Faculty	No. of Beneficiaries
1.	Add On Course: Robotics using Arduino from 1.6.23 to 31.7.23.	Prof. Pragati Ashdhir, Dr. Amit Tanwar, Dr. Neha Batra Bal	7
2.	Value Addition Course: Computational Quantum Mechanics using XCOS from 1.6.23 to 14.8.23	Dr. Amit Tanwar, Dr. Neha Batra Bali	10
3.	12 Week Project Based Online Course on Machine Learning in Physics (16 September-10 December 2023; (16 students from other DU Colleges: ANDC, Ramjas, Kalindi, ARSD,DDU); 02 IITD PMRF scholars also as Resource Persons	Pragati Ashdhir Amit Tanwar Neha Batra	27

Department of Zoology

S. No.	Summer/Winter Training	Faculty	No. of beneficiaries
1.	**Title of project:** A preliminary investigatio1 of the potential of botanicals -clove, *Syzygium aromaticum* L. and clove oil in the management of pulse beetle, *Callosobrunchus chinensis* L. (Coleoptera: Bruchidae) in an effective and eco-friendly manner	Dr Anupam V. Sharma	**1**

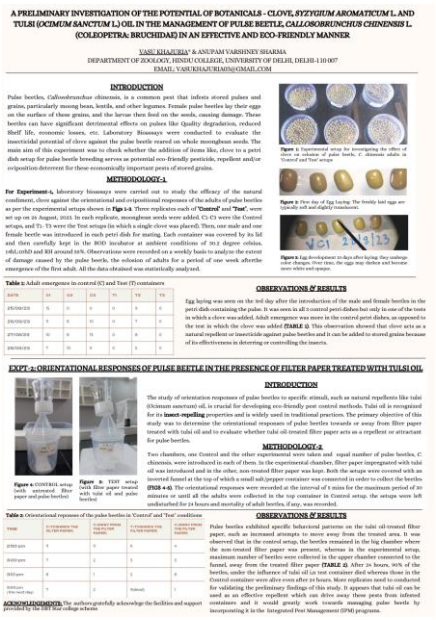
	Project intern: Akshat Rastogi, BSc (H) Zoology, Sem-V, Hindu College, DU **Duration:** 1 August – 15 Nov. 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC		
2.	**Title of project:** Investigation of the potential of clove, *Sygyium aromaticum* L. in reducing the infestation and damage to stored Mungbean (*Vigna radiata* L.) by the pulse beetle, *Callosobruchus chinensis* (L.) (Coleoptera: Bruchidae) **Project intern:** Jyoti Chaudhary, BSc (H) Zoology, Sem-V, Hindu College, DU**Duration:** 1 August – 15 Nov. 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC	Dr Anupam V. Sharma	**1**
3.	**Title of project:** A preliminary investigation of the potential of botanicals - Clove, *Syzygium aromaticum* L. and Tulsi (*Ocimum sanctum* L.) oil in the management of pulse beetle, *Callosobrunchus chinensis* L. (Coleopetra: Bruchidae) in an effective and eco-friendly manner **Project intern:** Vasu Khajuria, BSc (H) Zoology, Sem-V, Hindu College, DU **Duration:** 1 August – 15 Nov. 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC	Dr Anupam V. Sharma	**1**
4.	**Title of project:** Management of insect pests of stored grains by using botanicals **Project intern:** Navya Verghese, BSc (H) Zoology, Sem-V, Daulat Ram College, DU **Duration:** 1 August – 15 Nov. 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC	Dr Anupam V. Sharma	**1**
5.	Tests for adulterants in various food items, and their impact on human health **Duration:** August-Nov. 2023	Dr Anupam V. Sharma, Mr Kiran K. Salam	34 Students of GE-Food Nutrition and Health
6.	Testing of milk quality of different brands of packaged milk **Duration:** August-Nov. 2023	Dr Anupam V. Sharma, Mr Kiran K. Salam	34 Students of GE-Food Nutrition and Health
7.	Study of nutritional indices of various dietary items. **Duration:** August-Nov. 2023	Dr Anupam V. Sharma, Mr Kiran K. Salam	34 Students of GE-Food

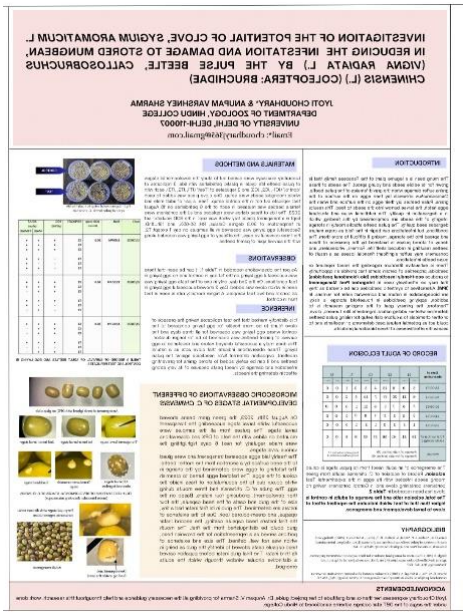
			Nutrition and Health
8.	Study of insect fauna in household conditions: Observations of insect pest infestation in stored grains and their management by ecofriendly methods **Duration:** 1 Aug.-15 Nov., 2023 **Venue:** Room. No. 108 (Life Sciences Lab.), Research Center, HC	Dr Anupam V. Sharma	4 Students of BSc (H) Zoology Sem-
9.	Field studies on the behaviour of birds: Behavioural response in purple sun bird **Duration:** March-April, 2024	Dr Anupam V. Sharma, Mr Kiran K. Salam	2 Ayushi Sharma, Avinash Dwivedi BSc (H) Zoology Sem-IV
10.	Study of the life cycle stages of holometabolous insects: *Callosobruchus chinensis; Drosophila melanogaster* **Duration:** March-April, 2024 **Venue:** Room. No. 108 (Life Sciences Lab.), & *Drosophila* Research Lab., Research Center, HC;	Dr Anupam V. Sharma Dr Soma M. Ghorai	40 Students of BSc (H) Zoology (Sem-IV)
11.	Study of behaviour of dogs in the college campus and its implications in their relocation: Territorial behaviour and feeding habits in dogs **Duration:** March-April, 2024 **Venue:** College campus	Dr Anupam V. Sharma, Mr Kiran K. Salam	3 Students of BSc (H) Zoology (Sem-IV)
12.	Behavioural differences in pet dogs and street dogs **Duration:** March-April, 2024 **Venue:** College campus, and PG	Dr Anupam V. Sharma, Mr Kiran K. Salam	2 Students of BSc (H) Zoology (Sem-IV)


MANAGEMENT OF INSECT PESTS OF STORED GRAINS BY BOTANICAL INSECTICIDES

INVESTIGATION OF THE POTENTIAL OF CLOVE, SYGIUM AROMATICUM L. IN THE MANAGEMENT OF THE PULSE BEETLE, CALLOSOBRUCHUS CHINENSIS (L.) (COLEOPTERA: BRUCHIDAE)

AKSHAT RASTOGI* & ANUPAM VARSHNEY SHARMA


A PRELIMINARY INVESTIGATION OF THE POTENTIAL OF BOTANICALS - CLOVE, SYZYGIUM AROMATICUM L. AND TULSI (OCIMUM SANCTUM L.) OIL IN THE MANAGEMENT OF PULSE BEETLE, CALLOSOBRUNCHUS CHINENSIS L. (COLEOPETRA: BRUCHIDAE) IN AN EFFECTIVE AND ECO-FRIENDLY MANNER


INVESTIGATION OF THE POTENTIAL OF CLOVE, SYGIUM AROMATICUM L. IN REDUCING THE INFESTATION AND DAMAGE TO STORED MUNGBEAN, (VIGNA RADIATA L.) BY THE PULSE BEETLE, CALLOSOBRUCHUS CHINENSIS (L.) (COLEOPTERA: BRUCHIDAE)

Annexure VII

OUTREACH PROGRAMME

Department of Botany

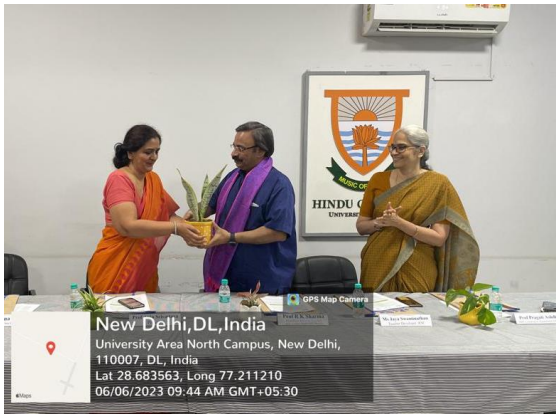
S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	Genetics: Study of Gregor Mendel Genetics	Dr. Kuldeep Kumar Koul	30	10+2 Medical students
2.	Understanding Biotechnology its role and applications	Dr. Kuldeep Kumar Koul	30	10+2 Medical students
3.	Study of Mitosis the division of cell using onion root tips	Dr. Kuldeep Kumar Koul	30	10+2 Medical students
4.	Plantation drive in Delhi School.	Prof. Anuradha Sharma, Dr. Vivek Chopra	60	10+2 students and teachers



Outreach activity at Govt School, New Delhi

Department of Chemistry

S. No.	Details of Outreach Programmes	Name of the Associated Faculty member(s)	Number of Beneficiaries
1.	RSC Teachers' Training Programme 6-7th June 2023	**Department of Chemistry**, Department of Physics, Department of Zoology, Department of Botany	**36** From different Schools, Delhi/NCR
2.	Outreach Program For Public Awareness on Mosquito-Borne Diseases & Their Management (10th June 2023)	**Department of Chemistry**, Department of Zoology, Department of Botany	**200**
3.	Preventive health checkup program cum medical consultation for young girls in collaboration with Tirath Ram Shah Charitable Hospital, Delhi 24th November 2023	Department of Chemistry, Department of Physics, Department of Zoology, Department of Botany	**150**

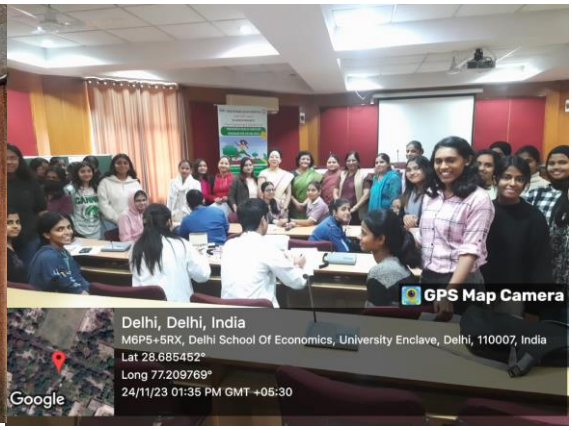


Department of Physics

S.No.	Outreach activities	Faculty	No. of Beneficiaries
	Pending		

Department of Zoology

S. No.	Details of Outreach Programmes	Name of the Associated Faculty member(s)	Number of Beneficiaries
1.	Outreach Program For Public Awareness On Mosquito-Borne Diseases & Their Management: **10th June 2023**	Faculty, Departments of **Zoology**, Botany & Chemistry	**200**
2.	Preventive health checkup program cum medical consultation for young girls in collaboration with Tirath Ram Shah Charitable Hospital, Delhi: **24th November 2023**	Faculty, Departments of **Zoology**, Botany, Chemistry & Physics	**150**



Annexure VIII

NON-TEACHING TRAINING PROGRAMMES

Department of Botany

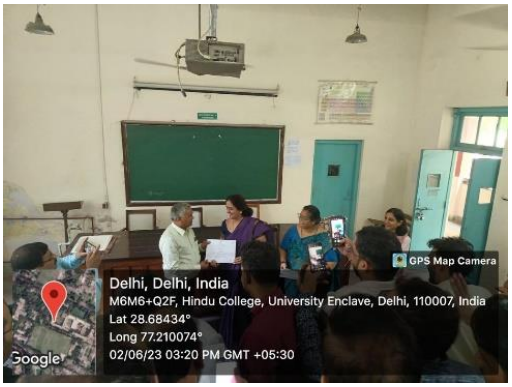
S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries/ students	Course/semester
1.	Proper knowledge regarding Fixation of Materials for practical classes.	Dr. Kuldeep Kumar Koul	8	Lab staff
2.	Training for Laboratory Equipment Handling and Maintenance.	Dr. Kuldeep Kumar Koul	8	Lab staff
3.	Familiarization about various Sterilization Techniques and Handling of Microbial Cultures.	Dr. Rajesh Kumar	8	Lab staff
4.	Training for Laboratory Equipment Handling and Maintenance using microscopes.	Dr. Kuldeep Kumar Koul	8	Lab staff
5.	Use of Spectrophotometer.	Dr. Rajesh Kumar	6	Lab staff

Laboratory Staff Training Session on Microscopy
On 21 March, 2024

Lab staff activity on sterilisation technique and use of spectrophotometer

Department of Chemistry

S. No.	Details Workshop/ Industrial Training	Name of the Associated Faculty member(s)	Number of Beneficiaries/ non-teaching staff
1	Laboratory Staff Training Programme on Basic IT Skills, Instrumentation Techniques and Stock Maintenance 29th May-2nd June 2023	Department of Chemistry	30



Department of Physics

S.No	Details Workshop/ Industrial Training	Number of Beneficiaries/ non-teaching staff
1.	"One Week National Workshop for non-teaching staff on Skill Enhancement" from 12-16 June 2023	27

Department of Zoology

S.No.	Activity	Faculty Coordinators	No. of beneficiaries
1.	Training for Installation & Maintenance of Benedict Roth Spirometer **Resource person**: Dr Meenal Dhall, Assistant Professor, Department of Anthropology, DU. **Date:** 11th April, 2023 **Venue:** Lab. No. 12 & 14, Dept Zoology, HC	Dr Anupam V. Sharma (Coordinator) & Organizing Committee (Department Faculty)	2
2.	Handling and maintenance of microscopes **Resource persons:** 1. Mr Madhav Arya 2. Mr Ved Prakash Sini M/s Medprime Technologies (P) Ltd. Mumbai **Date:** 14th March, 2024 **Venue:** Lab. No. 14, Dept Zoology, HC	Dr Varunendra Singh Rawat (Coordinator) & Organizing Committee (Department Faculty)	20
3.	Training on the preparation of histological sections using microtomy **Resource person:** Dr Anupam V. Sharma, DBT Coordinator (Zoology) **Date:** 10th & 12th April, 2024 **Venue:** Lab. No. 12, Dept Zoology, HC	Mr Kiran Kumar Salam (Coordinator) & Organizing Committee (Department Faculty)	6
4.	**Computer Training:** Working on MS-Office, Maintenance of digital records	Dr Anupam V. Sharma Mr Kiran K. Salam	3

Annexure IX

FACULTY DEVELOPMENT PROGRAM (FDP)

A. Measure to upgrade the skills of Faculty by participating in FDP.

Department of Botany

S.No.	Faculty upgrade program (FDP/Refresher Course/ Orientation Course Attended)	Faculty	No. of beneficiaries
1.	Participated in Two-Week Refresher Course in "BOTANY" organized by Teaching Learning Centre, Ramanujan College, under PMMMNMTT-MHRD, Government of India, from 29 July - 13 August, 2023	Dr. Gurumayum Suraj Sharma	-
2.	Participated in Four Weeks Faculty Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education" organized by Teaching Learning Centre, Ramanujan College, and Army Institute of Education (AIE) affiliated to Guru Gobind Singh Indraprastha University, Delhi, under PMMMNMTT-MHRD, Government of India, from 23 May - 21 June, 2023		
3.	Participated in Online Training on "Engaging Youth and Adolescents in Disaster Risk management and Climate change adaptation" organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with Hansraj College University of Delhi, 26th – 28th July, 2023.		
4.	Participated in National Symposium on "Integrated Vector Management (IVM) cum Outreach Program for Public Awareness on Mosquito-borne DISEASES & Their Management" organized by DBT Star College Scheme, Hindu College, University of Delhi, in collaboration with		

	Absolute Human Care Foundation (AHCF), New Delhi, 9th-10th June, 2023		
5.	Participated in Annual National Conference on "Advances in Plant Biology (APB-2024): Innovations & Strategies for Sustainable Agricultural Productivity for Viksit Bharat@2047" organized by Department of Botany, Hansraj College in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), February 10, 2024		
6.	Participated in International Conference cum Workshop on Making Sense of Omics: Proteomics, Transcriptomics, and Molecular Drug Design, organized by Department of Botany, Zakir Husain Delhi College, University of Delhi, from 23-24 April, 2024		
7.	Participated in Four Weeks Faculty Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education" organized by Teaching Learning Centre, Ramanujan College, and Army Institute of Education (AIE) affiliated to Guru Gobind Singh Indraprastha University, Delhi, under PMMMNMTT-MHRD, Government of India, from 23 May - 21 June, 2023	Dr. Divya Mohanty	
8.	Participated in Two-Week Refresher Course in "BOTANY" organized by Teaching Learning Centre, Ramanujan College, under PMMMNMTT-MHRD, Government of India, from 29 July - 13 August, 2023.		
9.	Participated in Online Training on "Engaging Youth and Adolescents in Disaster Risk management and Climate change adaptation" organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with Hansraj College University of Delhi, 26th – 28th July, 2023		
10.	Participated in National Symposium on "Integrated Vector Management (IVM) cum Outreach Program for Public Awareness on Mosquito-borne DISEASES & Their Management" organized by DBT Star College Scheme, Hindu College, University of Delhi, in collaboration with Absolute Human Care Foundation (AHCF), New Delhi, 9th-10th June, 2023		
11.	Participated online one week Faculty Development Programme on Intellectual Property Rights organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching from January 12-18, 2024		
12.	Attended FDP on Essential skills for Genomics at South Campus University of Delhi from 4-11 August, 2023	Dr. Rajesh Kumar	
13.	Participated in One-Week National Faculty Development Program (FDP) on "Floriculture and Horticulture", 16th to 22nd August 2023.	Dr. Ravindra Kumar	

14.	Participated in One-Week National Faculty Development Program (FDP) on "Green Belt development for Smart Cities", 05th September to 11th September 2023.		

Department of Chemistry

S.No	Faculty upgrade program (FDP/Refresher Course/ Orientation Course Attended)	Faculty	No. of Beneficiaries
1.	Completed Inter-Disciplinary Two-Week Refresher Course on "Advanced Research Methodology" held on 22nd April – 6th May 2023 organized by TLC, Ramanujan College, University of Delhi under the Aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (Ministry of Education) April 22 to May 6, 2023.	Dr. Jaspreet Kaur	-
2.	Completed 4 Week Faculty Induction/ Orientation Programme for "Faculty in Universities/Colleges/ Institute of Higher Education" organized by TLC, Ramanujan College, University of Delhi under the Aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (Ministry of Education) 23rd April – 22nd May 2023	Dr. Dinesh Kumar	
3.	Completed 4 Week Faculty Induction/ Orientation Programme for "Faculty in Universities/Colleges/ Institute of Higher Education" organized by TLC, Ramanujan College, University of Delhi under the Aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (Ministry of Education) 23rd May – 21st June 2023	Dr. Sushma Yadav	
4.	Completed Inter-Disciplinary Two-Week Refresher Course on "Managing Online Classes & Co-Creating MOOCS 27.0" organized by TLC, Ramanujan College, University of Delhi under the Aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (Ministry of Education). 6th – 20th June 2023	Dr. Dinesh Kumar	
5.	Completed 4 Week Faculty Induction/ Orientation Programme for "Faculty in Universities/Colleges/ Institute of Higher Education" organized by TLC, Ramanujan College, University of Delhi under the Aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (Ministry of Education). 22nd July – 20th August 2023	Dr. Manoj Chahal	

6.	Completed One-Week National Faculty Development on Organic Farming and Biofertilizers jointly organized by University of Delhi (Department of Botany and SEC Committee); Swami Shraddhanand College, University of Delhi; Shaheed Rajguru College of Applied Sciences for Women, University of Delhi; Chaudhary Charan Singh Hisar Agricultural University (CCSHAU), Hisar 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 7th – 13th August 2023	Dr. Neha Kapoor	
7.	Completed Seven-Days Bioinformatics Skill Development Training Program on Ligand-Protein Interaction through Molecular Docking, MD Simulation & PCA in Determining Essential Dynamics organised by CSIR-Central Institute of Medicinal & Aromatic Plants, Lucknow 7th – 14th December 2023	Dr. Neera Sharma	
8.	Completed the Capacity Building Workshop on Green Hydrogen organized by Hydrocarbon Sector Skill Council (HSSC) OIDB Bhawan, Noida, U.P and received certificate of Master Trainer 18-19 December 2023	Prof. Anju Srivastava	
9.	Completed the Capacity Building Workshop on Green Hydrogen organized by Hydrocarbon Sector Skill Council (HSSC) OIDB Bhawan, Noida, U.P and received certificate of Master Trainer 18-19 December 2023	Prof. Reena Jain	
10.	Completed the Capacity Building Workshop on Green Hydrogen organized by Hydrocarbon Sector Skill Council (HSSC) OIDB Bhawan, Noida, U.P and received certificate of Master Trainer 18-19 December 2023	Dr. Devanshi Magoo	
11.	Completed the Capacity Building Workshop on Green Hydrogen organized by Hydrocarbon Sector Skill Council (HSSC) OIDB Bhawan, Noida, U.P and received certificate of Master Trainer 18-19 December 2023	Dr. Dinesh Kumar	
12.	Completed NEP Orientation and Sensitization Programme (online) organised by UGC Malviya Mission-Teacher Training Programme (MM-TTP), NIPA. 18th to 28th December 2023	Dr. Manolata Devi	
13.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour	Dr. Charu Kumar	

	Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024		
14.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Prof. Anju Srivastava	
15.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Mr. Ajai Kumar	
16.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Prof. Reena Jain	
17.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Geetika Bhalla	
18.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-	Dr. Vinita Narula	

	MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024		
19.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Sudershan Kumar	
20.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Devanshi Magoo	
21.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Dinesh Kumar	
22.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Sriparna Dutta	
23.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Manoj Chahal	

24.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Sushma Yadav	
25.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Jaspreet Kaur	
26.	Completed one week Faculty Development Programme on "Sensory Science in Education: Fragrance and Flavour Awareness" organized by Department of Chemistry, Hindu College, University of Delhi in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi Under the Aegis of DBT Star College Scheme 1st to 6th April 2024	Dr. Manolata Devi	

Department of Physics

S.No	Faculty upgrade program (FDP/Refresher Course/ Orientation Course Attended)	Faculty	No. of Beneficiaries
1.	Completed FDP on NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programme(MM-TTP) of UGC organized by UGC-MMTTC(GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from April 16 to April 26, 2024.	Sh. Ginminlen Touthang	-
2.	Completed One-Week National Faculty Development Program on "Basic Skill in Experimental Physics" organized by University of Delhi in collaboration with Daulat Ram College, DU and Guru Angad Dev Teaching Learning Centre, a Centre under PMMMNMTT, Ministry of Education, Government of India held from 17th July to 23rd July, 2023	Sh. Ginminlen Touthang	
3.	One-week of Faculty Development Program (FDP) on DESIGN THINKING and INNOVATION. Program Details: Date: 14th to 21st May 2024 (One Week)	Dr. Lalit Kumar	-

4.	Completed FDP on NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programme(MM-TTP) of UGC organized by UGC-MMTTC(GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from April 16 to April 26, 2024.	Dr. Ankur Shandilya	-
5.	Completed One-Week National Faculty Development Program on "Basic Skill in Experimental Physics" organized by University of Delhi in collaboration with Daulat Ram College, DU and Guru Angad Dev Teaching Learning Centre, a Centre under PMMMNMTT, Ministry of Education, Government of India held from 17th July to 23rd July, 2023	Dr. Ankur Shandilya	-
6.	Completed FDP on NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programme(MM-TTP) of UGC organized by UGC-MMTTC(GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from April 16 to April 26, 2024	Dr. Manoj Verma	-
7.	Two Day Conference on Aspects of Effective Teaching (July 30-31,2023) organized by Teaching & Learning Centre of BITS-Pilani, Hyderabad Campus & Hyderabad Chapter of INYAS	Prof. Pragati Ashdhir	-
8	FDP on NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programme(MM-TTP) of UGC organized by UGC-MMTTC(GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from April 16 to April 26, 2024	Dr. Geeta Ray	-
9.	Two week Interdisciplinary Refresher Course in “Advanced Research Methodology” , by Teaching learning centre, Ramanujan College under the aegis of Ministry of Education PMMMNMTT from 22 August to 05 September 2023.	Dr. Geeta Ray	-
10.	Completed One-Week National Faculty Development Program on "Basic Skill in Experimental Physics" organized by University of Delhi in collaboration with Daulat Ram College, DU and Guru Angad Dev Teaching Learning Centre, a Centre under PMMMNMTT, Ministry of Education, Government of India held from 17th July to 23rd July, 2023	Dr. Virendra Kumar	-
11	FDP on NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programme(MM-TTP) of UGC organized by UGC-MMTTC(GAD-MMTTC), Sri Guru Tegh Bahadur Khalsa College, University of Delhi from April 16 to April 26, 2024	Dr Neha Batra Bali	-
12	Completed one - week Faculty Development Programme on “Python with Data Analytics” from 07 – 13 August, 2023 organized by Teaching Learning Centre, Ramanujan College University of Delhi In collaboration with Department of	Dr Neha Batra Bali	-

	Computer Science & Engineering Maharaja Agrasen Institute of Technology (MAIT)		
13	Two week Interdisciplinary Refresher Course in "Advanced Research Methodology" , by Teaching learning centre, Ramanujan College under the aegis of Ministry of Education PMMMNMTT from 22 June to 05 July 2023.	Dr Neha Batra Bali	-
14	NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programmee (MM-TTP) of UGC organised by UGC-MMTTC, Sri Guru Tegh Bahadur Khalsa College, University of Delhi from 16 April 2024 to 26 April 2024	Dr. Reema Gupta	-
15	One-Week Online National Faculty Development Program on AI Tools for e-Content Development and Teaching-Learning organized by UGC-Malaviya Mission Teacher Training Centre (UGC-MMTTC/GAD-MMTTC), SGTB Khalsa College, University of Delhi. 01st April to 12th April 2024	Dr. Reema Gupta	-

Department of Zoology

S.No.	Faculty upgradation program (FDP/Refresher Course/ Orientation Course Attended)	Faculty
1.	7-days hands-on Workshop for College Teachers on using *Drosophila melanogaster* for Biology Laboratory Classes **29 Jan.-04 Feb. 2024** DBT-sponsored Centre for Training Teachers in using *Drosophila melanogaster* for Biology Laboratories Cytogenetics Laboratory, Department of Zoology, Banaras Hindu University (BHU), Varanasi	Dr Anupam V. Sharma
2.	4-Week Faculty Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education" from **23 May-21 June, 2023** and obtained Grade A organized by Teaching Learning Centre Ramanujan College, University of Delhi in collaboration with Army institute of education (AIE) affiliated to Guru Gobind Singh Indraprastha University, Delhi under the *aegis* of PMMMNMTT, Ministry of Education.	1. Mr Kiran Kumar Salam 2. Dr Divya Bajaj 3. Dr Mohit Kumar
3.	One-Week National FDP on "Skill Development in Cultivating Green Future" organised by University of Delhi (Department of Botany) in collaboration with Chaudhary Charan Singh Hisar Agricultural University (CCSHAU), Haryana, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi, Swami Shraddhanand College, University of Delhi and Guru Angad Dev Teaching Learning	1. Mr Kiran Kumar Salam 2. Dr Mohit Kumar 3. Dr Amaan Buniyaadi

	Centre, SGTB Khalsa College, University of Delhi under PMMMNMTT of Ministry of Education, **4-10 Sept., 2023.**	4. Dr Ravi K. Goswami
4.	One-week faculty development program on "Sericulture: Rearing and its Application" organized by University of Delhi (Skill Enhancement Course Committee) in collaboration with Acharya Narendra Dev College from **8-14 August, 2023**.	1. Dr Divya Bajaj 2. Dr Mohit Kumar 3. Dr Amaan Buniyaadi
5.	Two-week Interdisciplinary refresher course on "Research Methodology and Data Analysis" organized by Ministry of Education PMMMNT in collaboration with Indian Accounting Association, NCR Chapter from **28 July-10 August, 2023**.	Dr Divya Bajaj
6.	Resource person in National Faculty Development Program "Skill Development for Sustainable Aquaculture" organised by University of Delhi (Department of Zoology) in collaboration with Shaheed Rajguru College of Applied Sciences for Women 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 on **19 June-25 June, 2023.**	Dr Amaan Buniyaadi Dr Ravi K. Goswami
7.	One-Week Online National Faculty Development Program "Sericulture" jointly organized by Centre for Skill Development and Seri-Technology & Department of Zoology, Hansraj College in collaboration with Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi under the Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education from **22-27 June, 2023.**	Dr Ravi Kumar Goswami

B. Measure to upgrade the skills of Faculty By Organizing FDP

Department of Botany

No. of the FDP	Details of FDP	Name of the Associated Faculty member(s)	Number of Beneficiaries
1.	Pending	-	-

Department of Chemistry

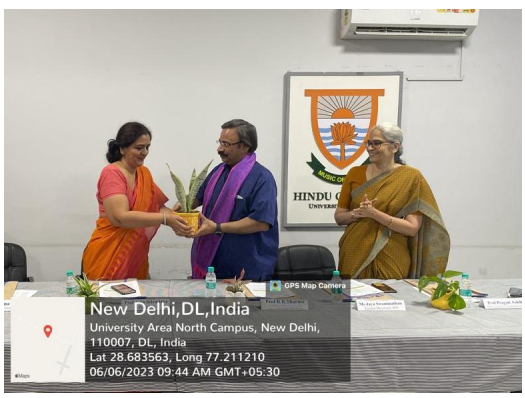
No. of the FDP	Details of FDP	Name of the Associated Faculty member(s)	Number of Beneficiaries
1	FDP on "Sensory Science in Education: Fragrance and Flavour Awareness" Date: April 1 - 6, 2024	Prof. Anju Srivastava, Prof. Reena Jain, Dr. Geetika Bhalla, Dr. Devanshi Magoo, Dr. Dinesh Kumar	38

Department of Physics

S.No	Faculty upgrade program (FDP/Refresher Course/ Orientation Course Organized)	Faculty	No. of Beneficiaries
1	Pending	-	-

Department of Zoology

S.No	Faculty upgrade program (FDP/Refresher Course/ Orientation Course Organized)	Faculty	No. of Beneficiaries
1.	RSC Teachers' Training Programme 6-7th June 2023	Department of Chemistry, Department of Physics, Department of Zoology, Department of Botany	**36** (From different Schools, Delhi/NCR)



Annexure X

ESTABLISHMENT OF LABORATORIES FOR SKILL ENHANCEMENT

1. DROSOPHILA LAB:

The adults of the tiny, fruit fly *Drosophila melanogaster* are generally found flying next to rotting and under ripe fruits, and their immature stages are found within those fruits. It is used as an experimental organism for the study of animal behavior, genetics, etc. Different activities take place in the *Drosophila* research lab. set up with the help of financial support from the DBT Star college scheme, for the students as stated below:

- Summer training, Internship and small projects. Fly Pushing (Virgin Collection; Experimental Crosses; Screening; Stock Constructions, etc.)
- Fly stocks maintained in BOD
- Fly work areas that are confined and their observation.

Stereo microscope Drosophila vial Drosophila bottles

2. E-waste Skill Center

Skill enhancement courses committee of university of Delhi has sanctioned the establishment of Skill Development center at Hindu College. The skill center will be a boon for the students and faculty members as it will enable reuse recycle of electronic components along with repairing of certain electronic equipments, thus leads to sustainability.

दिल्ली विश्वविद्यालय, दिल्ली–110007
University of Delhi, Delhi – 110007

Ref No.: SEC/2023/52

Skill Enhancement Courses Committee

Dated: 25/9/2023

The Principal
Hindu College
University of Delhi
Delhi

Dear Madam,

I am writing to you regarding the Skill Development Centre proposed by your college.

We are pleased to inform you that the Competent Authority of the University of Delhi has sanctioned a grant of Rs. 10 Lac (Rupees Ten Lac Only) as seed money for establishment of Skill Development Center.

You are advised to use the above mentioned sanctioned seed money as per GFR Rules-2017 and submit a Utilization Certificate, not later than March 31 of the financial year in which the grant is released. The inventory should be properly entered in stock register and details of expenditure duly authenticated & signed should be submitted with Utilization Certificate in GFR 12 A format.

We also expect the College to come forward in allocating the further required amount from their own funds to establish the skill centre and make it self-sustainable in future.

Needless to say that the grant released by the University of Delhi in terms of seed money should be used only for purchasing the equipment etc. specifically required for imparting of respective skills offered by the centre. It should not be used for the purchase and maintenance of general infrastructural facilities such as furniture and fixtures, air conditioners etc. and for the payment of salaries and honorarium to trainers and staff.

Keeping in view of the above, you are requested to accept the project and submit the following:

1. Name of the Skill Center.
2. (i) Special Skill Course run by your college.
   (ii) Other General Skill Courses.
   (iii) Any other add on courses
3. A small write up about your skill centre and prospective outcome.
4. Account No. IFSC Code and Bank name in which fund to be transferred.

Thanking you,

Yours sincerely,

(Prof. Payal Mago)
Chairperson,
Skill Enhancement Courses Committee

Annexure XI

PUBLICATIONS

Department of Botany

1. Kumar D, Kumar R, Singh B, Agrawal V. Modulation in the enzymatic antioxidants, MDA level and elicitation in conessine biomolecule in Holarrhena pubescens (medicinal tree) cultures exposed to different heavy metals: Ni, Co, Cr and As. 3 Biotech. 2023 Sep;13(9):307.
2. Kumar, Y., Jain, A., Kumar, R. (2023). Limitations of Current Drugs and Prospects of Plant-Based Compounds and Their Constructed Analogs as Therapeutics for Treatment of Malaria. In: Singh, A., Rathi, B., Verma, A.K., Singh, I.K. (eds) Natural Product Based Drug Discovery Against Human Parasites. Springer, Singapore.
3. Prem Sharma, Monika Kumari, Geeta Singh, Ravindra Kumar (2023) "Virtual screening for the design of inhibitors against plasmepsin X, synthesis, and anti-plasmodial effects evaluation" accepted for publication in Chemical Biology Letters.
4. Koul KK, Nagpal R. Female meiosis in plants, and differential recombination in the two sexes: a perspective. The Nucleus (Springer), 66: 195-203. (2023).

Department of Chemistry

Department of Physics

1. Investigating the effect of coolant on cooling rate of engine oil used in automobile industry using Arduino interfaced temperature sensor,;Amit Kumar Pandey, Raghav Sharma, Nikhil, Divyanshu Choudhary, Neha Batra Bali, Maya Verma, Rashmi Menon and Amit Tanwar; *Physics Education*, 59, 025026, 2024.
2. A Simple Electrical Technique to Demonstrate the Effect of Salting and Harmful Chemicals on Fresh Vegetables; Reema Gupta, Chirag Singh, Prerna Dhankar and Adarsh Singh; Environmental Science Archives; Volume III Issue-1 (TPC1), 2024.

Department of Zoology

1. Anupam Varshney Sharma. Development of an innovative and effective trap for rapid removal and collection of live adults of the pulse beetle, Callosobruchus chinensis (Coleoptera: Bruchidae) from infested stored pulses, for research studies in the laboratory conditions. J Entomol Zool Stud 2024;12(3):248-250. DOI: 10.22271/j.ento.2024.v12.i3c.9340