

June 2019

1. Hands-on-Workshop on “Basic Laboratory Techniques” was organized on 3rd June, 2019 for the Laboratory Staff of Department of Zoology.

Under the aegis of DBT-Star College Scheme for presentation cum demonstration of various techniques were done. The workshop had three components. In the first component, Dr Sanjukta Das apprised the laboratory staff about the importance of preparing accurate buffer solutions of different molarity and how to measure their pH using the pH meter. The second component was organized by Dr Haren Ram Chiary, whereby, study of life tables and plotting of survivorship curves of different types from the Hypothetical/ Real data were explained. The third component was to understand the ‘setting-up’ and maintenance of an aquarium. Study of ornamental fishes and aquarium management has gain lot of importance as skill enhancement course. The development of proper skill and knowledge regarding aquarium management to the lab technicians will help the students to gain better knowledge regarding the maintenance. This technical knowledge will be helpful in proper maintenance of aquarium in the lab. Apart of academic interest, lab technicians can start their own business gaining the knowledge of aquarium management through this workshop.

2. Two- day Workshop on “MS Office” for Lab Staff of Department of Botany, Chemistry, Physics and Zoology was organised in Computer Lab 3 on 18th and 19th June 2019.

The workshop was well represented by 40 staff members and began with a basic introduction about the DBT Star College Scheme by the Co-ordinators. The first day Lectures *cum* demonstrations were on MS Word were conducted by Dr. Vibha, Department of Botany, Dr. Raksha, Department of Physics. The second day Ms. Pushkala and Dr. Shikha, Department of Computer Science and Dr. Upasana, Department of Chemistry gave Hands-on training to the staff on MS Excel worksheet.

[Detail Report](#)

(In the detail report: Program schedule, the photos and more detail can show up)

Under the aegis of DBT-Star College Scheme a Workshop for Lab staff on various Instrumentation techniques for UG Chemistry Lab was done. Lectures and Practical demonstration on UV Visible Spectrophotometer, pH meter, Colorimeter and Conductometer were given by teachers of Department of Chemistry. Dr. Shashwat, Dr. Bhagat & Dr. Seema demonstrated UV-Vis spectrophotometer in which they explained how to find λ_{\max} for Acetone solution, drawing of spectrum and to evaluate the concentration of unknown solution. The working instructions of pH-meter and calibration by measuring pH of different buffer solutions were demonstrated. The cleaning, storage and maintenance of glass electrode were explained in detail by Dr. Pratik and Dr. Arun. Dr. Upasana & Dr. Hemlata explained how to calibrate conductometer by measuring conductance of 0.1N solution of KCl. Also, demonstrated variation of conductivity with concentration for given KCl solution. The cleaning, storage and maintenance of Conductivity cell was also explained. Dr. Gaijohn & Dr. Upasana demonstrated calibration of colorimeter by determining λ_{\max} of potassium permanganate (KMnO_4) solution. Also, Lambert Beer's law for aqueous solution of KMnO_4 was verified. Working Instruction Manual has been made for each lab in the Department for Lab staff, teachers and students.



The laboratory staff attending the MS Office workshop

3. Workshop on “Basic Lab Instrumentation for UG Chemistry Lab” for Lab Staff of Department of Chemistry was organised in Chemistry Lab 3 on 26th June 2019

On 26th June, 2019, under the aegis of DBT star, Lectures and Practical demonstration on UV Visible Spectrophotometer, pH meter, Colorimeter and Conductometer was organized by Department of Chemistry. Lectures were given by Dr.Shashwat, Dr.Bhagat, Dr.Pratik, Dr.Arun, Dr.Upasana, Dr.Hemlata, Dr.Gaijohn and Dr.Seema in Chemistry Lab 3. A working Instruction Manual has been made for each lab in the Department. The lectures included Different spectroscopic techniques, the concept of Electromagnetic spectrum, Absorption spectroscopy- its

principle and working and finally the Instrumentation and Applications of UV-Visible absorption spectroscopy.

Detail Report

A Hands-on-Workshop on the Introduction and Applications of UV-Visible Absorption Spectroscopy was organized by the Department of Chemistry, Kirori Mal College, (University of Delhi) under the aegis of DBT Star College Scheme on June 26, 2019. It constituted a lecture on the topic “UV-Visible Absorption Spectroscopy” by Dr. Shashwat, was followed by a Hands-on-session.



Dr Shashwat explain the Basic Lab Instrumentation to the Lab staff

Lectures and Practical demonstration on UV Visible Spectrophotometer, pH meter, Colorimeter and Conductometer were given by teachers of Department of Chemistry. Dr. Shashwat, Dr. Bhagat & Dr. Seema demonstrated UV-Vis spectrophotometer in which they explained how to find λ_{\max} for Acetone solution, drawing of spectrum and to evaluate the concentration of unknown solution. The working instructions of pH-meter and calibration by measuring pH of different buffer solutions were demonstrated. The cleaning, storage and maintenance of glass electrode were explained in detail by Dr. Pratik and Dr. Arun. Dr. Upasana and Dr Hemlata explained how to calibrate conductometer by measuring conductance of 0.1N solution of KCl. Also, demonstrated variation of conductivity with concentration for given KCl solution. The cleaning, storage and maintenance of Conductivity cell was also explained. Dr Gaijohn & Dr Upasana demonstrated calibration of colorimeter by determining λ_{\max} of potassium permanganate (KMnO_4) solution. Also, Lambert Beer's law for aqueous solution of KMnO_4 was verified. Working Instruction Manual has been made for each lab in the Department for Lab staff, teachers and students.

4. A Two- week Summer Training on Basic Biochemical and Microbial techniques for Students was organized by Department of Botany from 24th June -5th July 2019

A Two- week Summer Training, under the aegis of DBT Star college scheme was organized by Department of Botany from 24th June -5th July 2019, on '**Basic Biochemical and Microbial techniques**' wherein, eleven students were selected from different colleges on the basis of their interests and given hands-on training on the basic biochemical and microbial techniques. Four students from Kalindi and Maitreyi college also attended the workshop.



Kirori Mal College
(University of Delhi)
Accredited by NAAC with 'A' Grade
CGPA 3.54
DBT Star Scheme



Summer Training
on
Microbial and Biochemical Techniques
(June 24 to July 07, 2019)



Organized
by
Department of Botany
Kirori Mal College

Subject Coordinator

Dr. Renu Kathpalia

Convener

Dr. Rajni Gupta

Principal

Dr. Vibha Singh Chauhan

Coordinator

DBT Star College Scheme

Dr. Anita K. Verma

Detail Report

The program was designed to include lectures and practical demonstration for clarity of concepts followed by performing the related experiment. Students were trained to perform 12 experiments keeping in mind the protocol to be followed. Each student was given personal attention and their training concluded after submission a report of the workshop.

Dr. Rajni Gupta was the convener of the summer training and trained the students on microbial techniques. Dr. Rajni Gupta, Dr. Saloni, Dr. Leena and Dr. Yamal Gupta designed six experiments which included preparation of media, culturing and isolation of microbes. VAM (Vesicular arbuscular mycorrhiza) were isolated from soil samples. Students also learnt the method of formation of silver nanoparticle. During workshop a special lecture on “**Biochemistry: it’s relevance to life sciences**” by Dr. Manju A. Lal was organized. Dr. Renu Kathpalia, Dr. Vibha G. Checker and Dr. Yamal Gupta gave hands on to the students on chlorophyll pigment separation by paper, column and thin layer chromatography.



**2-week summer Training on “Microbial and Biochemical techniques” for students
organized by Department of Botany**

Demonstration of enzymatic reaction and the effect of various factors on enzyme activity were studied. In addition, students were also trained in making different concentration of solutions. The following students attended the workshop, namely Abhishek Kumar Bharti, Rishabh Chaubey, Aditya Kiran, Abhishek Chaudhary, Mansivi, Sachin, Lalit Kishor, Prial Taneja, Sheetal, Ritika, Nitika.. All the students individually submitted workshop report. The students were given participation certificates on the last day of the summer training.