### Report

## **Inter College 2021**

#### SHORT TERM CERTIFICATE COURSE

on

## Preparation & Application of Magnetic Nanoparticles and Hands-on Software Training

This is hereby reported that a 30 hour long Inter College 'Short Term Certificate Course' on 'Preparation & Application of Magnetic Nanoparticles and Hands-on Software Training' was organized by Shyam Lal College, University of Delhi during 20<sup>th</sup> Sep – 24<sup>th</sup> Sep 2021 under the aegis of DBT Star College Scheme in collaboration with IQAC (Annexure 1). A total of 30 students participated from various colleges of Delhi University and Amity University. The participants were given hands-on training on the preparation of magnetic nanoparticles using potato extract and their application in the degradation of dye which was studied using UV-Vis Spectrophotometer. This exercise gave a unique flavour of material synthesis using both nanotechnology and green chemistry. In addition to this, students also learnt the handling of one of the widely used instruments called UV-Vis Spectrophotometer. The students were also given hands-on training on various scientific softwares including ChemDraw, Mathematica, Latex and Origin which are an integral component of scientific research and development. With the help of these softwares, the students can now be able to draw molecular structures and reaction schemes, plot and analyse scientific data obtained from various analytical instruments and can also do mathematical computations using programming language. Hence, it is believed that the training workshop would have unquestionably helped the students in the development of their technical skills and made them stood apart from the rest. At the last, all the participants were felicitated by giving a certificate of participation. To evaluate the success of the event, a Google Form was circulated amongst the participants, where an overwhelming response was observed. 96.8% of the participants found the workshop to be very useful and stated that the ideas and the concepts the faculty members presented were very clear to everyone and all of them would like to attend such events in the near future as well (Annexure 2). Special thanks to Prof. Rabi Narayan Kar (Principal) and Prof. Kusha Tiwari (Coordinator IQAC) for their support and guidance throughout the course. Glimpses of the course are attached herewith as **Annexure 3**.

#### **Annexure 1**



# SLC (University of Delhi) SHYAM LAL COLLEGE



under the aegis of DBT Star College Scheme in collaboration with IQAC Organizes

**INTER COLLEGE 2021** 

## SHORT TERM CERTIFICATE COURSE

on Preparation & Application of Magnetic Nanoparticles and Hands-on Software Training

(30 h duration course during 20th Sep – 24th Sep 2021)

DATE	TIME SLOT & SKILLS	
	10:00 AM-01:00 PM	01:15 PM- 04:15 PM
20 <sup>th</sup> Sep '21	Preparation of Magnetic Nanoparticles	
21st Sep '21	Latex	ChemDraw
22 <sup>nd</sup> Sep '21	ChemDraw	Origin
23 <sup>rd</sup> Sep '21	Mathematica	Origin
24 <sup>th</sup> Sep '21	Application of Magnetic Nanoparticles	
Vo	nue: Day 1 & 5: Chemist	rylah SIC

Venue: Day 1 & 5: Chemistry Lab, SLC

Venue: Day 2, 3 & 4: Computer Lab, SLC



Limited seats for 30 students only!

Please email your names to
ashugupta@shyamlal.du.ac.in

Certificate will be provided to each participant upon course completion

#### ORGANIZING COMMITTEE

Dr. Ashu Gupta Prof. Kusha Tiwari Prof. Rabi Narayan Kar
Overall Coordinator DBT, Coordinator IQAC Principal, SLC
Department of Chemistry

#### **Teacher Coordinators**

Ms. Radhika Gupta, Dr. Yukti Monga, Dr. Ajay Pratap Singh, Mr. Rahul Tomar, Dr. Anuj Sharma

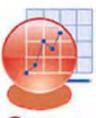


MAGNETIC NANOPARTICLES



**Chem Draw** 





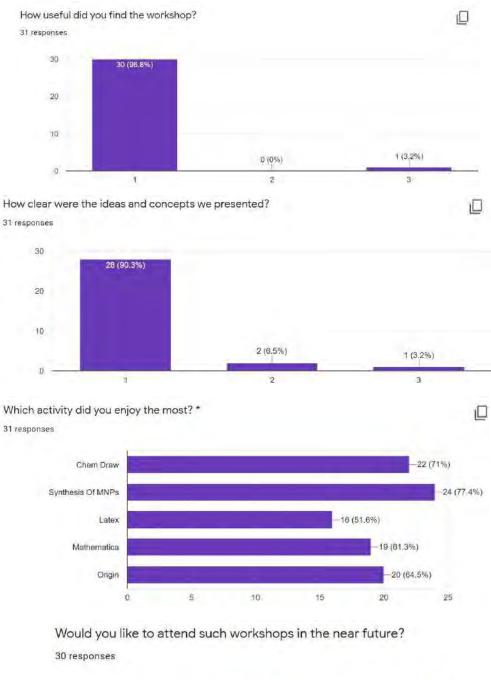
ORIGIN'

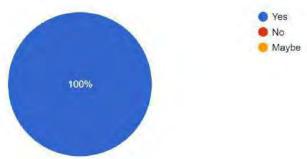




WATER REMEDIATION

## **Annexure 2**





#### Your remarks regarding this workshop31 responses

#### Good

The workshop was a helpful and a great opportunity for us students to have explored the realms of science and technology. A great initiative by Shyam Lal College.

Students need more workshops like this especially for chemistry based experiments as the hands-on approach is extremely useful for students

10/10

The workshop was very beneficial, got introduced to many softwares which are very useful for my further studies. Also, the preparation of MNPs included lab work which would help me in my further research. The workshop did sharpen my critical thinking in some areas and I'm glad I attended this workshop.

#### EXCELLENT

It was very interesting

This workshop was totally worthwhile. Had a great experience in these 4 days. Really learned so many things in such a short period of time & the credit goes to the faculty who was amazing and extremely helpful, taught each & everything with patience & enthusiasm. Looking for more workshop like this in future.

This Workshop has helped me to focus on writing in computers, using software and increased my confidence. Provided me with the valuable information and improve my skills so that I can move forward in my ambitions. And the best thing about this Workshop is "Teachers",I have learned so much in classes with teachers. They provide both a great of mix of listening, speaking and practical learning and an very safe, supportive learning environment.

This workshop is very useful for me because from it ,I learnt some useful softwares which will definitely reproductive for me in future.

This workshop very useful for me In this workshop i learn about Synthesis of MNPs And Very useful Softwares like ChemDraw,Origin etc

This workshop is very useful to understand concept of MNPs and How to synthesize it and I also learn about some very useful softwares like ChemDraw,Origin,mathmatica and latex. Extremely satisfied. Thanks to all teachers

All the faculty were very good. Lectures were so interactive that i want to attend more workshops like this though i was not very willing to attend this one priorly.

Staff was very cooperative, Every concept was explained very clearly and effectively. I learned a lot from this workshop. Hope I get more chances in future for enhancement of my skills.

The workshop was very useful, got introduced to softwares which would help me in my further studies. The workshop also included lab work which did inprove my laboratory experience.

This course did sharpen my critical thinking. Thanks a lot for this course.

Thanks for the opportunity. Get to learn a lot of things which i have never gone through before. It was a very effective and brilliant workshop.

Very nice workshop wish to attend such workshop in future.

Excellent

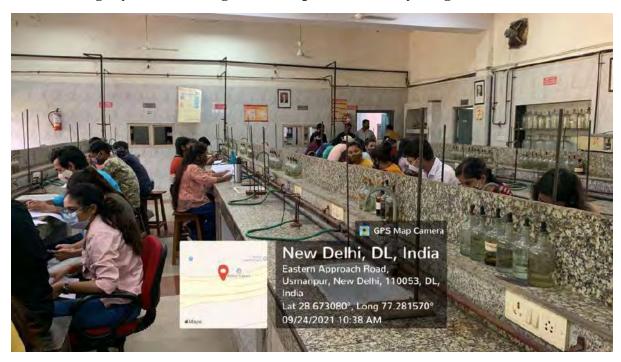
Nice ①

Such a wonderful experience and so much useful things for us

Teachers are very supportive and my overall experience was excellent.

It was a great experience to attend the workshop. This workshop was very useful. It was really Useful and friendly one.

**Annexure 3**Lab Training: Synthesis of Magnetic Nanoparticles and Dye Degradation



























## Software Training: Latex, ChemDraw, Mathematica, Origin



















## **Group Photographs and Distribution of Certificates**













#### Feedback of Students Captured from the Social Media Platform

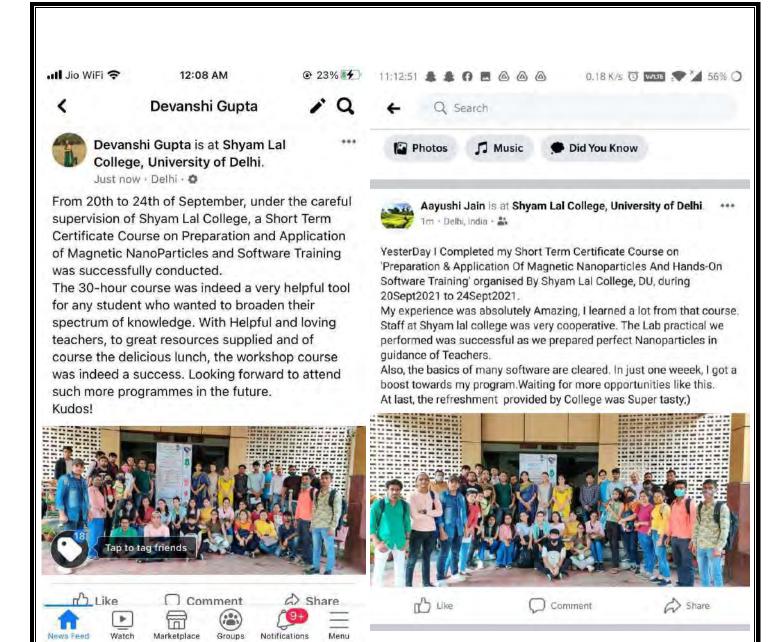


By: Yashvardhan Singh, B.Sc. (H) Chem, 2<sup>nd</sup> Year, Hans Raj College, **University of Delhi** 

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By: Kanhaiya Tiwari, B.Sc. Physical Sciences (Electronics) 3rd Year, Ramjas College, University of Delhi



By: Devanshi Gupta, B.Sc. (H) Chem, 2<sup>nd</sup> Year, Dyal Singh College, University of Delhi By: Aayushi Jain, B.Sc. (H) Chem, 2<sup>nd</sup> Year, Hans Raj College, University of Delhi



Sep 28 · Delhi, India · 👪

A short term 30h duration course organized by Shyam Lal College on "Preparation & Application of Magnetic Nanoparticles & Hands-on Software training" during 20th-24th Sep'21.

It was a wonderful experience being a part of this 5 day workshop. It really helped students to learn about the basics of softwares like ChemDraw, Orgin, Latex & Mathematica in just one week. Being a Chemistry student I know how important it is for us to have a hands-on practice on the experiments. We successfully synthesized perfect Magnetic NPs in the laboratory & learned how to work with instruments like UV-Vis Spectrophotometer under the guidance of teachers.



By: Lipika Sehgal, M.Sc. Chem, 2<sup>nd</sup> Year, Amity University, Noida