

SHRI RAM COLLEGE (AUTONOMOUS), MUZAFFARNAGAR

REPORT

ORIENTATION WORKSHOP ON VIRTUAL LAB

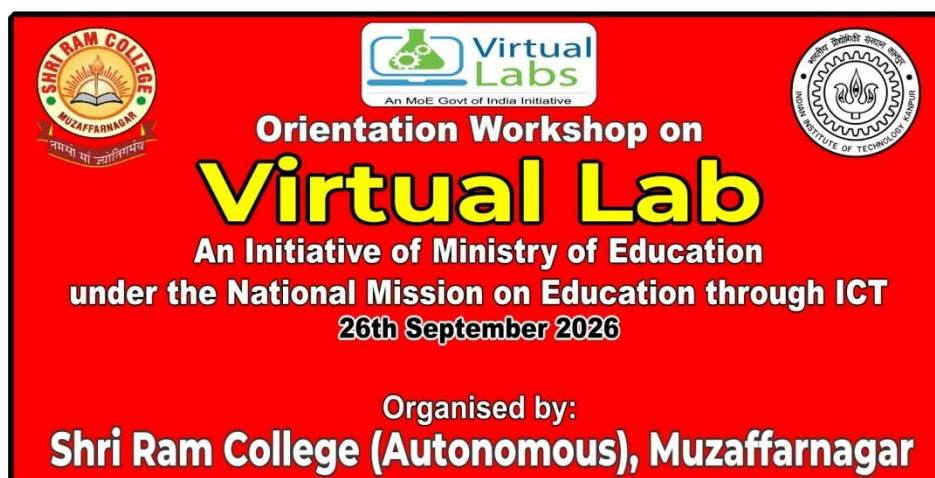
Name of Institution: Shri Ram College (Autonomous), Muzaffarnagar

Activity: Virtual Lab Orientation Workshop

Academic Session: 2026–27

Date: 26 September 2026

Venue: Block B- Computer Lab: 03 (First Floor)



1. Introduction

Shri Ram College (Autonomous), Muzaffarnagar organized an orientation workshop on **Virtual Labs** to familiarize faculty members with the use of online laboratory resources in teaching and learning. Virtual Labs provide an interactive digital environment where students can perform laboratory experiments through simulations, animations, demonstrations, and virtual instruments. They are particularly useful for understanding scientific concepts, laboratory procedures, experimental principles, and data interpretation. The initiative aims to supplement conventional laboratory teaching and provide students with an opportunity to access experiments beyond the limitations of physical laboratory infrastructure, time, equipment availability, and batch size.

2. Objectives

The major objectives of the Virtual Lab initiative were:

1. To introduce faculty members to the Virtual Lab platform.

2. To demonstrate the procedure for accessing and performing virtual experiments.
3. To integrate digital laboratory resources with conventional practical teaching.
4. To provide students with additional opportunities for experimental learning.
5. To develop scientific understanding through interactive simulations and demonstrations.
6. To familiarize faculty members with the use of Virtual Labs in their respective subjects.
7. To encourage technology-enabled and student-centred learning.
8. To promote blended learning in Sciences education.

3. Programme Proceedings

The programme commenced with an introduction to the concept and importance of Virtual Labs in higher education. Faculty members were informed about the availability of various virtual experiments relevant to Biotechnology, Microbiology, Agriculture, Zoology, Botany, Chemistry, Physics, Home Science and Computer Application subjects.

A demonstration was provided on how to:

- Access the Virtual Lab portal.
- Search for experiments according to subject and discipline.
- Open an individual experiment.
- Study the theoretical background.
- Follow the experimental procedure.
- Perform the virtual experiment.
- Record observations.
- Analyse experimental results.
- Attempt quizzes and assessment components.
- Use the available learning resources for classroom teaching.

Faculty members were encouraged to identify suitable Virtual Lab experiments and incorporate them into practical classes wherever appropriate.

4. Areas Covered

During the orientation, the following major components were discussed:

A. Introduction to Virtual Laboratory

The concept, importance, advantages and applications of virtual laboratory education were explained.

B. Access and Navigation

Participants were demonstrated the procedure for accessing the Virtual Lab platform and navigating through different disciplines, laboratories and experiments.

C. Virtual Experiments

The participants were introduced to the procedure for conducting experiments using interactive virtual environments.

D. Learning Resources

The use of theory, procedure, simulation, animation, observation, assignment and quiz sections was explained.

E. Academic Integration

Faculty members were encouraged to use Virtual Labs as a supplementary resource before, during and after practical classes.

5. Benefits of Virtual Lab

The following benefits were highlighted during the programme:

- **Accessibility:** Experiments can be accessed digitally from different locations.
- **Flexibility:** Students can repeat experiments multiple times.
- **Safety:** Students can understand experimental procedures without initial exposure to laboratory hazards.
- **Cost effectiveness:** It supplements practical learning without requiring additional quantities of consumables for every demonstration.
- **Conceptual clarity:** Animations and simulations help students understand complex processes.
- **Pre-laboratory preparation:** Students can familiarize themselves with an experiment before entering the physical laboratory.
- **Continuous learning:** Students can revisit experiments outside scheduled practical hours.
- **Individual learning:** Students can learn at their own place.
- **Assessment:** Quizzes and assignments can be used for evaluating conceptual understanding.

6. Role of Faculty Members

Faculty members were encouraged to:

1. Identify relevant Virtual Lab experiments for their courses.
2. Introduce students to the appropriate Virtual Lab resources.
3. Use virtual experiments as pre-lab or post-lab learning activities.
4. Encourage students to repeat simulations independently.
5. Integrate Virtual Lab activities with practical records and classroom discussions.
6. Monitor student participation and learning outcomes.
7. Maintain appropriate records of Virtual Lab utilization.

7. Outcome of the Programme

The orientation workshop successfully created awareness among faculty members regarding the academic applications and pedagogical benefits of Virtual Labs. Participants gained an understanding of the basic process of accessing, navigating, and conducting virtual experiments. They also discussed various ways to effectively integrate Virtual Labs with existing practical teaching and laboratory-based learning.

During the hands-on session, each participant performed **4–5 virtual experiments related to their respective subject areas**, gaining practical experience in conducting experiments, observing results, and understanding the functionality of the Virtual Lab platform. The session enhanced faculty members' confidence in using Virtual Labs as an effective supplementary resource for practical and experiential learning.

The programme also highlighted that Virtual Labs should be used as a **supplement to physical laboratory training rather than a complete replacement for hands-on laboratory experience**.

8. Conclusion

The implementation of Virtual Labs represents an important step towards strengthening technology-enabled education at Shri Ram College (Autonomous), Muzaffarnagar. The initiative can provide students with additional opportunities for experimentation, revision and self-learning while supporting faculty members in delivering effective practical instruction.

We will continue to encourage the systematic use of Virtual Labs and integrate suitable virtual experiments with the existing practical curriculum wherever academically appropriate.

SHRI RAM COLLEGE (AUTONOMOUS), MUZAFFARNAGAR

ORIENTATION WORKSHOP ON VIRTUAL LAB

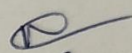
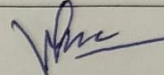
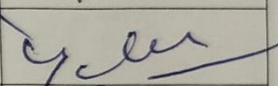
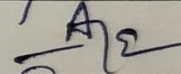
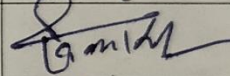
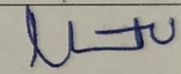
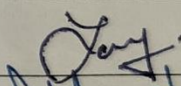
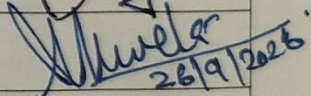
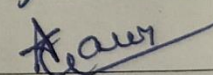
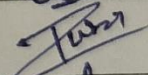
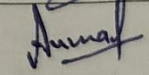
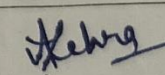
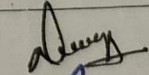
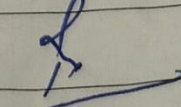
Attendance Sheet

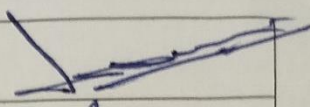
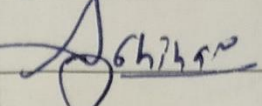
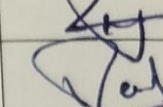
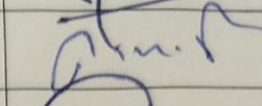
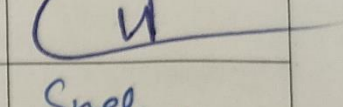
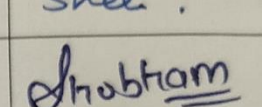
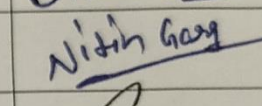
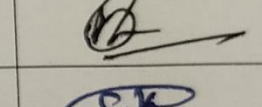
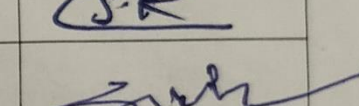
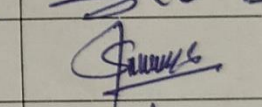
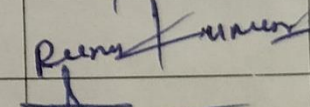
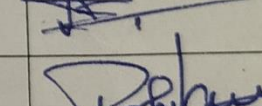
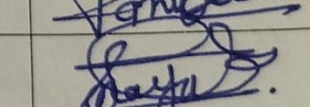
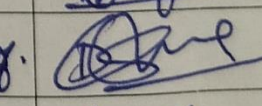
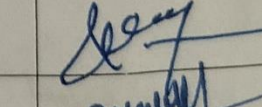
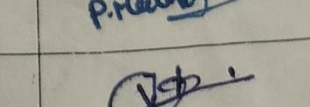
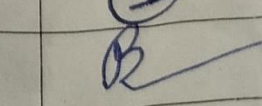
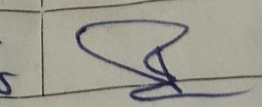
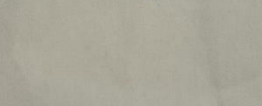
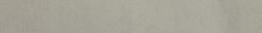
Date: 26 September 2026

Time: 3:00 PM onwards

Venue: Block B- Computer Lab: 03 (First Floor)

Organized by: Virtual Lab Coordinator, Shri Ram College, Muzaffarnagar

S. No.	Name of Participant	Department	Designation	Signature
1	Dr. Pulkit Srivastava	Bioscience	Amistant Professor	
2	Dr Vinit Kumar Sharma	Mathematics	Professor	
3	Dr. Beeta Mishra	Bioscience		
4	Mr. Ankit Kumar	Bioscience	Asstt. Profess	
5	Mr. Vikas Kumar	Bioscience	Asstt. Prof.	
6	Neetu Singh	Comp. Application	Asst Prof.	
7	Mr. Sangay Kant	Comp. App	Asst. Prof.	
8	Dr. Shweta Pathi	Home Science	Dean	 26/9/2026
9	Aaysha Gaur	Home Science	Asst. Prof.	
10	Ruby Paswal	Home Science	Asst. Prof.	
11	Anmol	Agriculture	Lab. Asst.	
12	Zehra Husaini	Bioscience	Asst. Prof	
13	Lingya Patiyal	Bioscience	Asst Prof.	
14	Dr. Richab Bhardwaj	Chemistry	Associate Professor	

15	Himanshu Hore	CA	Asst. Prof.	
16	Abhinav	CA	Asst Prof	
17	MOHD YUSUF	CA	Asstt Prof	
18	Devanshi Sharma	CA	Asst. Prof	
19	Dr Manoj K. Mittal	Basic Sci	Ass. Prof	
20	Vikas Kumar	CA	Asst. Prof.	
21	Dr. SNEH YADAV.	Agriculture.	Ass. Prof.	Sneh.
22	Shubham Chautan	CA	Ass Prof.	Shubham
23	Nitin Garg	CA	Ass. Prof.	Nitin Garg
24	Mukul Kumar	C.A.	Asst. Prof.	
25	Sachin Kumar	Bioscience	Asst. Prof.	
26	Sidhant Garg	Comp App	Asst Prof	
27	Swraj Singh	Agriculture	Assit. prof.	
28	Dr. Reenu Kumar.	Agriculture	Assit. Prof.	
29	Dr. ARShyn Kumar	Agriculture	Asst. prof	
30	Rahul Karmawad	CA	Ass. Prof	
31	Shobhit Kumar	CA	Asst. Prof	
32	Deepshree Chaudhary H.Sc.		Assistant Prof.	
33	Dr. Mohd Nazeem.	Agriculture	HOD.	
34	Dr. Parveen Malik	Agriculture	Asst. Prof.	
35	Dr. Varun Kumar	Bioscience	Associate Professor	
36	Dr Rahul Arya	Basic Sc	Professor	
37	Rama Median	Basic Science	Assistant Professor	

39	Ms. Mahak Naz	Basic sci	Assist. Prof	<u>Anshu</u>
	Mr. Sachin Sharma	Basic science	Assist. Prof.	<u>Sachin</u>
40	Dr. Pooja Tomar	Basic Science	Head	<u>Pooja</u>
41	Ms. Anjali Goyal	Basic sci	Assist. Prof.	<u>A</u>
42	Mr. Vinak	Basic Science	Asst. Prof.	<u>Vinak</u>
43	Dr. Renu Pundhi	Basic sc	Asst. Prof.	<u>Renu</u>
44	Dr. SANTOSH	Agriculture	Asst. Prof.	<u>Santosh</u>
45	Pankaj Verma	Exam cell	Office clerk	<u>Pankaj</u>
46	Mohd. Salman	Bio science	Asst. Prof.	<u>Salman</u>
47	Dr. Umara Rahmani	Agriculture	Asst. Prof.	<u>Umara</u>
48	Dr. Anjali Jaxhar	Agriculture	Asst. Prof.	<u>Anjali</u>
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Prerna
Dr. Prerna Mittal
 Principal
 Shri Ram College, Muzaffarnagar

Vipin
Dr. Vipin Kumar Saini
 Nodal Coordinator, Virtual Lab
 Shri Ram College (Autonomous),
 Muzaffarnagar



