Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya, Latur

(Empowered Autonomous Institution)

Department of Biotechnology

A) Summary

1) Title of Programme:		Hands-On Training Program on Bioinstrumentation (PM-USHA Sponsored)		
2) Name of Organizing Department/Unit:		Department of Biotechnology		
3) Name of Chief Organizer Joint- Chief Organizer Convener Co-convener		Chief Organizer: Dr. Mahadev Gavhane Joint- Chief Organizer: Prof. S. N. Shinde Head: Dr. S. S. Kulkarni Convenor: Mr. U.P. Sirdeshmukh		
4) Date(s) of the Programme:		8 January 2026 to 10 January 2026		
5) Venue/ Mode:		Dept. of Biotechnology, Rajarshi Shahu Mahavidyalaya Latur (Empowered Autonomous Institution), CIC (Main campus), Rajarshi Shahu Mahavidyalaya, Latur (Empowered Autonomous Institution)		
6) Target Group:		B.Sc. Biotechnology B.Sc. Microbiology M.Sc. Biotechnology		
7) Number of Participants:		**Male**	**Female**	**Total**
A separate list with signatures be maintained in the department/Unit)	Teaching	00	00	00
	Non-Teaching	00	00	00
	Students	11	49	60

8) Name(s) and details of Resource Person(s), if any:	1. Dr. Vipin Hiremath Director, Progenome Lifesciences Pvt.Ltd. Chhatrapati Sambhajinagar 2. Dr. Maroti Sudewad Assistant Professor, Department of Chemistry and Analytical Chemistry Rajarshi Shahu Mahavidyalaya, Latur (Empowered Autonomous Institution) 3.Dr. Abhishek Suryawanshi Research Scientist, CyGenica Ltd., Pune 4. Mr. Udaybhanu Sirdeshmukh Assistant Professor, Department of biotechnology, Rajarshi Shahu Mahavidyalaya, Latur (Empowered Autonomous Institution) 5. Mr. Suraj Kadam Assistant Professor, Department of biotechnology, Rajarshi Shahu Mahavidyalaya, Latur (Empowered Autonomous Institution) 6. Dr. Manisha Dhotre Assistant Professor, Department of biotechnology, Rajarshi Shahu Mahavidyalaya, Latur (Empowered Autonomous Institution)
9) Total Expenditure for the Programme:	RS. 24000/
10) Source of Funding:	PM - USHA

B) Report

i. Title: Hands-On Training Program on Bioinstrumentation

ii. Introduction:

The Department of Biotechnology at Rajarshi Shahu Mahavidyalaya, Latur (Autonomous), under the aegis of Shiv Chhatrapati Shikshan Sanstha, is organizing a comprehensive "Hands-on Training Program on Bioinstrumentation," sponsored by PM-USHA, from January 8 to January 10, 2026, between 10:00 AM and 5:00 PM at the Department of Biotechnology and the Central Instrumentation Centre (CIC) on the main campus. The program is designed to provide intensive practical exposure to advanced analytical instruments and modern bioanalytical techniques essential for contemporary biological research, enabling participants to gain hands-on experience in instrument handling, experimental procedures, data analysis, and interpretation under expert guidance, thereby strengthening their technical competence, research aptitude, and employability in the fields of biotechnology and allied life sciences.

iii. Objectives of the Programme/ Issues addressed

- To provide in-depth practical training in Polymerase Chain Reaction (PCR), including protocol optimization, DNA template preparation, amplification procedures, and analysis of amplified products using Agarose Gel Electrophoresis.
- To train participants in the operation and application of High-Performance Liquid Chromatography (HPLC) for quantitative analysis (e.g., caffeine estimation) and to develop skills in Fluorescence Microscopy for imaging and studying cellular organelles.
- To equip participants with practical knowledge of SDS-PAGE techniques for protein isolation, purification, and profiling, including gel casting, electrophoretic separation, and staining methods.
- To enable participants to interact with expert trainers and keynote speakers, fostering the ability to interpret complex biological data and master standardized protocols associated with advanced laboratory instrumentation.

iv. Details of Participants

Total Participants 60 (Male 11 and Female 49) attended the program.

v. Brief Summary of Events/ Sessions

The "Hands-on Training Program on Bioinstrumentation" is thoughtfully structured to provide a systematic progression from molecular genetics to analytical biochemistry and advanced protein research. Each day integrates conceptual lectures with intensive "Demonstration and Performance" sessions, ensuring that participants gain both theoretical understanding and practical expertise in modern bioanalytical techniques.

Day 1 focuses on Molecular Markers and Polymerase Chain Reaction (PCR) techniques, emphasizing PCR as a powerful molecular tool in biological research. The program begins with inaugural ceremonies, followed by a technical lecture on PCR applications delivered by Dr. Vipin Hiremath. During the hands-on session, participants actively engage in setting up PCR protocols, preparing template DNA reactions, and initiating the amplification process. The day concludes with the analysis of amplified products through Agarose Gel Electrophoresis, enabling participants to visualize results and interpret band patterns effectively.

Day 2 centers on Analytical Chromatography and Fluorescence Microscopy, highlighting chemical quantification and high-resolution cellular imaging. Technical sessions include expert lectures on the application of HPLC in biochemical studies by Mr. Maroti Sudewad and on fluorescence microscopy in research by Mr. Udaybhanu Sirdeshmukh. The practical component involves hands-on training in the identification and quantification of caffeine using HPLC systems, followed by specimen preparation and imaging of cellular organelles using fluorescence microscopy techniques.

Day 3 is dedicated to Protein Isolation and Profiling, with a primary focus on SDS-PAGE methodologies for protein purification and analysis. The day features a keynote address by Dr. Abhishek Suryawanshi on the applications of SDS-PAGE in protein profiling and research. Participants then undertake practical sessions involving protein extraction and purification, gel casting, sample loading, and electrophoretic separation. The program concludes with staining and destaining procedures for protein visualization on gels, final data interpretation, and an interactive Q&A session to consolidate learning outcomes.

vi. Conclusion

The "Hands-on Training Program on Bioinstrumentation" serves as a vital bridge between academic theory and professional laboratory practice. By providing specialized training in PCR, HPLC, Fluorescence Microscopy, and SDS PAGE, the program equips participants with the technical proficiency required for advanced biological research. Participants gain direct experience in setting protocols for molecular markers, quantifying biochemicals like caffeine, and performing protein profiling. The sessions are led by a diverse panel of experts, including Dr. Vipin Hiremath, Mr. Maroti Sudewad, Mr. Udaybhanu Sirdeshmukh, and Dr. Abhishek Suryawanshi, ensuring high-quality instruction and industry-relevant insights. Sponsored by PM-USHA, this initiative by the Department of Biotechnology and the Central Instrumentation Centre (CIC) underscores a commitment to fostering innovation and skill development within the student community.

vii. Appendix: List of participants

Date: 11/01/2026

HOD
Head
Department of Biotechnology
Rajarshi Shahu Mahavidyalaya
(Autonomous) Latur-413 531

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya,Latur
(Autonomous)

C) Geotagged Photographs / Screenshots

Inauguration of PM-USHA Sponsored Hands-on Training Program on Bioinstrumentation Professor and Vice-Principal S.N. Shinde and Chief Guest Dr. Vipin Hiremath

Lamp Lighting Ceremony in the presence of Vice-Principal Prof.S.N. Shinde, Dr.Vipin Hiremath,Mr.Manoj Borse,Dr.Sachin Kulkarni and Mr.U.P.Sirdeshmukh

Technical Session I: Dr. Vipin Hiremath speaks on PCR Techniques and its applications as Molecular Marker

Hands-on Session I on PCR and Agarose Gel Electrophoresis by Dr. Vipin Hiremath

Hands-on Session I on PCR

Demonstration and Hands-on of Agarose Gel Electrophoresis of PCR Products by Mr. Suraj Kadam and Dr. Vipin Hiremath

DAY 2: Applications of HPLC Technique in Biochemical studies.

Technical session II by Mr. Maroti Sudewad on Applications of HPLC Technique in Biochemical studies.

Hands-on Session by Mr. Maroti Sudewad on HPLC on Caffeine identification and Quantification

Session by Dr.Manisha Dhotre on applications of HPLC technique in Biopharma

Technical Session III by Mr. Udaybhanu Sirdeshmukh on Application of Fluorescence microscopy in biological research.

Hands-on session of Fluorescence microscopy by Mr. Udaybhanu Sirdeshmukh

DAY 3: Applications of SDS PAGE for Protein Isolation, Purification, and Protein Profiling in

Technical Session IV by Dr. Abhishek Suryawanshi on Protein Purification and protein Profiling.

Biological Research

Hands-on session on SDS-PAGE by Dr. Abhishek Suryawanshi

Valedictory Session

Chief Guest Dr. Abhishek Suryawanshi's Address to Trainee in Valedictory Session

Feedback of Trainee Miss.Ankita Ravikar in Valedictory session

Photo of All Participants in Hands-on Training program on Bioinstrumentation

D) Brochure of the Program

Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya, Latur

(Empowered Autonomous Institution)

Department of Biotechnology

Hands-On Training Program on Bioinstrumentation (PM-USHA Sponsored)

Time: 10:00 AM to 5:00 PM

Batch A

Sr. No	Name of the Student	Gender	08.01.2026		09.01.2026		10.01.2026	
			Morning Session	Afternoon Session	Morning Session	Afternoon Session	Morning Session	Afternoon Session
1	Jagtap Arya Bhushan	F						
2	Jagtap Bhakti Sarjerao	F						
3	Shaikh Naaz Rahim	F						
4	Shaikh Bibi Mariyam Husen	F						
5	Kadam Dnyaneshwari Mahesh	F						
6	Shinde Pooja Madhav	F						
7	Gavali Prakash Ashok	M						
8	Lade Shweta Sadanand	F						
9	Patil Utkarsha Suhas	F						
10	Birajdar Shruti Dayanand	F						
11	Kshirsagar Aakanksha Pandit	F						
12	Uphade Vishakha Vitthalrao	F						
13	Budge Apurva Laxmikant	F						
14	Kiran Mahadev Ghule	F						
15	Devyani Amar Igave	F						
16	Mane Aditi Dattatrya	F						
17	Garad Pooja Rajendra	F						
18	Waghmare Shrasti	F						
19	Gulve Shweta Santosh	F						
20	Deshpande Srushti	F						
21	Hake Nikita govind	F						
22	Shaikh Aman balan	M						

Sr. No	Name of the Student	Gender	08.01.2026		09.01.2026		10.01.2026	
			Morning Session	Afternoon Session	Morning Session	Afternoon Session	Morning Session	Afternoon Session
23	Shaikh Mohammad Junaid Sardar Pasha	M						
24	Jadhav Dnyaneshwari Madhukar	F						
25	Phad Dipali Hanumant	F						
26	Waghmare Samruddhi Sanjay	F						
27	Biradar Omkar Vasantrao	M						
28	Katwate Shreya	F						
29	Shaikh Jainab Bhadur	F						
30	Sayyed Nabila Ansar	F						

Time: 10:00 AM to 5:00 PM

Batch B

Sr. No	Name of the Student	Gender	08.01.2026		09.01.2026		10.01.2026	
			Morning Session	Afternoon Session	Morning Session	Afternoon Session	Morning Session	Afternoon Session
1	Susange Aditi Janardhan	F						
2	Baride Dhanashri Sanjay	F						
3	Kulkarni Samruddhi Balvantrao	F						
4	Ruikar Sakshi Rajkumar	F						
5	Kathare Pallavi Tanaji	F						
6	Pathak Rutuja Sathish	F						
7	Mane Rohini Bhim	F						
8	Ambar Janvi Jalindar	F						
9	Korale Sarthak Mahendra	M						
10	Oza Aditi Rameshlal	F						
11	Shinde Bhakti Bhagwatrao	F						
12	Ghute Sumit Baburao	M						
13	Sayyed Saniya Taher	F						
14	Panchal pallavi Gopal	F						
15	Giram Vaishnavi Guruling	F						
16	Suryawanshi Priti Balaji	F						
17	Wange Pranjali Shivraj	F						
18	Shirure Dipali Shivaji	F						
19	Shaikh Fitain Murtuza	M						
20	Naikwadi Tanaya Chandrakant	F						
21	Sawant Sakshi Sanjay	F						
22	Ravikar Ankita Chandrashekhar	F						

Sr. No	Name of the Student	Gender	08.01.2026		09.01.2026		10.01.2026	
			Morning Session	Afternoon Session	Morning Session	Afternoon Session	Morning Session	Afternoon Session
23	Dhaygude Rohan Shankar	M						
24	Mhetre Suhas Hanumant	M						
25	Badad Pranita Balasaheb	F						
26	Mhetre Madhav Maroti	M						
27	More Shraddha	F						
28	Narwane Snehal Sanjay	F						
29	More Neeraj Sanjay	M						
30	Nade Aditi Dhananjay	F						

Head
Department of Biotechnology
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(Autonomous) Latur-413 531

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

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