



Shri Shivaji Education Society, Amravati's
Shri Shivaji Science College, Amravati

Accredited by NAAC with 'A' Grade
Identified as UGC- CPE, DST- FIST & SGBAU- Lead College
Shivaji Nagar, Amravati, MS - 444603

**Six Days Hands on
Training Course on**
**Advanced Instrumentation
Techniques and Their
Practical Applications
for PG and Research Students**

Duration : 28 March, 2022 to 2 April, 2022

Organized by
Department of Chemistry

- Course to be Conducted by -

Dr. Shrikant A. Wadhal
Course Coordinator

Dr. G. N. Chaudhari
Head of the Department

Dr. G. V. Korpe
Principal

Report on Six Days Hands on Training Course on “Advanced Instrumentation Techniques and their Practical Applications for PG and Research Students”

Organized by the Department of Chemistry

The Department of Chemistry has organized Six Days Hands on Training Course on “Advanced Instrumentation Techniques and their Practical Applications for PG and Research Students” from 28/03/2022 to 02/04/2022. Dr Shrikant A. Wadhal, Professor, Department of Chemistry took initiative as a course co-ordinator to effectively carry out the sessions of this course. In this course total 34 students from different colleges participated for six days. Mr. Amol Gawande from Peaks Analytical and Research Centre, Nagpur, Dr Shrikant A. Wadhal, Professor, Department of Chemistry and Mr Satish Dashore provided the students with hands on training regarding some latest instruments like HPLC, FTIR, UV- Visible, XRD, Atomic Absorption Spectrophotometer used in laboratories. This course proved to be very useful for students to get employment in various industries and Chemical laboratories and also to start their own enterprise. This certificate course definitely enhanced the student’s skill in instrumental techniques in chemistry. This course was successfully organized by the Department of Chemistry.

The course was inaugurated under the guidance of Dr G. V. Korpe, Principal, Dr. G. N. Chaudhari, Head , Department of Chemistry the Chief Guest of the function. Mr. Amol Gawande, Scientist, Peaks Analytical and Research Centre, Nagpur, was guest of honor. Mr. Amol Gawande discussed about his seventeen years working experience in various Industries. Mr. Amol Gawande gave Hands on Training of HPLC to the participants. Dr Shrikant A. Wadhal, Professor, Department of Chemistry and Mr. Satish Dashore, Incharge, Central Instrumentation Cell, provided hands on training of IR, UV- Visible and XRD, Atomic Absorption Spectrophotometer. Total 34 participants from different colleges of SGB Amravati University Amravati participated in this course, In this course participants were from G.V.I.S.H. Amravati, G. S.

Tompe Arts, Commerce, Science College, Chandur Bazar, Vidyabharati College, Amravati, Shri Shivaji Science College, Amravati. Certificates provided to students with A,B,C grade depending on score secured (A⁺>=80%, A>= 65-79, B >= 50-64%, No certificate< 50%) 40% marks depends on assignment submitted and attendance and 60% marks depends on final examination score.

This course designed for:

- PG and research students intending to work in a laboratory with scientific instrumentation.
- Students preparing for Industrial jobs after completion of PG and Ph.D. degree.
- The course designed for 40 hrs under value added course.
- Each participant paid course Fee Rs 1500/- for this course.

The course objectives achieved:

- To impart the required knowledge of Industrial Scope, Applications & Opportunities for Chemistry
 - To impart the required knowledge, necessary skills & to provide the exposure to modern & sophisticated techniques of analysis that are being used all over the world including industries, government & public testing labs
- Theoretical knowledge of HPLC, IR, UV-Visible, XRD, Atomic Absorption Spectrophotometer,.
- Practical Hands on Training of HPLC,IR, XRD and UV-Visible, Atomic Absorption Spectrophotometer,
- To operate and to maintain the HPLC, AAS,UV-Visible, IR and XRD equipments.
- Instrumentation, Calibration and their practical applications in Industries.
- Wide courage has been given to Trouble shooting, Operation and method development skills.
- Perform cleaning evaluation on equipment for drug substance and residual detergents.

- Interactive sessions were engaged after completion of Hands on training session .In these sessions interaction between participants and resource persons were held to solve difficulties regarding problems in the instrumentations.

- **COURSE SESSIONWISE DETAILED INFORMATION:**

These are the detailed information of theory and Hands on training of HPLC, IR, UV-Visible, XRD, Atomic Absorption Spectrophotometer, .

1st day of Training Programme (28/03/2022)

On 28th March 2022 Mr. Amol Gawande, Scientist, Peaks Analytical and Research Centre, Nagpur delivered Keynote speech on “Industrial Scope, Applications & Opportunities for Chemistry”. He delivered lecture “Instrumentation & Theory of HPLC” and then he provided hands on training of HPLC to all the participants in CIC Instrumentation laboratory.

He provided information regarding following good operating practices

- Isocratic HPLC, Gradient HPLC, Chromatographic conditions, Industries work based on Chemistry.
- Reverse phase HPLC, Normal Phase HPLC,
- In Instrumental training of HPLC Mr. Amol Gawande provided
- Training regarding Column(stationary phase) and liquid (mobile phase).
- How to inject dissolved sample into the flow path of the mobile phase.
- How to detect analytes bands, to quantitate peaks generated.
- .All these points were covered by providing individual sample to each participants and performing their hands on training.



GPS Map Camera



Amravati, Maharashtra, India

Shri Shivaji Science College Library, Opposite Neharu Stadium, Morshi Road, Morshi Rd, Amravati, Maharashtra 444601, India

Lat 20.939876°

Long 77.766081°

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GPS Map Camera



Amravati, Maharashtra, India

Shri Shivaji Science College Library, Opposite Neharu Stadium, Morshi Road, Morshi Rd, Amravati, Maharashtra 444601, India

Lat 20.93986°

Long 77.766493°

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2nd day of Training Programme (29/03/2022)

On 2nd day of Training programme each participant got hands on training of

1. Trouble shooting.
2. Calibration HPLC instrument.
3. Sampling and HPLC Software handling.

Mr Amol Gawande also emphasized on the importance of HPLC in the research of Chemistry, trouble shooting, calibration of instruments through theory as well as practical.



3rd day of Training Programme (30/03/2022)

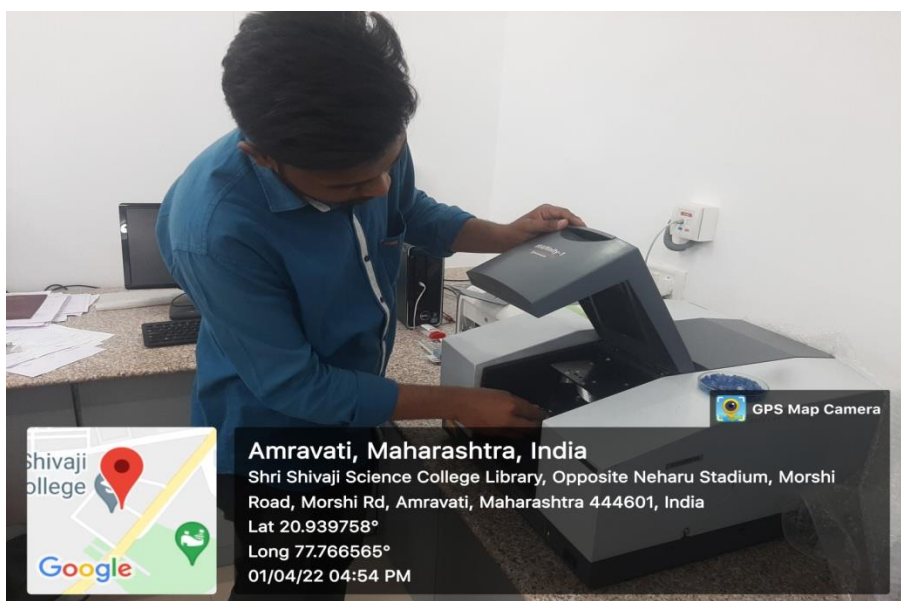
On 3rd day of Training programme Dr. Shrikant A. Wadhwal and Mr Satish Dashore had given hands on training XRD instrumentation. Participants had carried out the theory and practical training of samples for this XRD instrumentation.



4th day of Training Programme (31/03/2022)

On 4th day of Training programme Dr Shrikant A. wadhwal had given hands on training to each participant about IR, FTIR instrumentation. Participants had carried out the IR practical training of samples of research students.

1. Preparation of sample KBr pallet.
2. Performance of individual IR practical of each participants of various samples through IR.
3. Recording of IR spectra with interpretation of IR spectrum.
4. Theoretical sessions on i) Theory of IR spectroscopy and
ii) Interpretation of IR spectrum



5th day of Training Programme (01/04/2022)

On 5th day of Training programme Dr. Shrikant A. Wadhwal and Mr Satish Dashore had given hands on training of Atomic Absorption Spectrophotometer instrumentation. Participants had carried out the practical training of samples for this instrumentation.



6th day of Training Programme (02/04/2022)

On 6th day of Training programme Dr Shrikant a. Wadhwal and Mr Satish Dashore had given hands on training to each participants about UV –Visible instrumentation. Participants had carried out the practical training of sampling, Recording of Spectrum for this instrumentation. Students performed UV-Visible practical of various samples. In the final session Final examination was conducted on this Instrumentation Course.



Six Days Hands On Training Course on “Advanced Instrumentation Techniques and their Practical Applications for PG and Research Students”

LIST OF PARTICIPANTS & RESULT

(Grade A+ >=80%, A >= 65-79, B >= 50-64)

Sr No	Name of the Participant	Name of the Institute/College	E-mail ID	Grade
1	Ms. Bhargavi A. Narsekar	Shri Shivaji Science College, Amravati	bhargavinarskar1999@gmail.co	A
2	Ms. Vaishnavi S. Saraf	Shri Shivaji Science College, Amravati	vaishnavi.saraf@gmail.co	A+
3	Ms. Gauri R. Thakare	Shri Shivaji Science College, Amravati	gaurithakare1709@gmail.co	A+
4	Ms. Dnyaneshwari P. Fale	Shri Shivaji Science College, Amravati	dnyneshwarif@gmail.com	A+
5	Ms. Riya D. Sagane	Shri Shivaji Science College, Amravati	riyasagane09@gmail.com	A
6	Ms. Vaishnavi K. Akolkar	Shri Shivaji Science College, Amravati	vaiskakolkar2000@gmail.co	A
7	Ms. Sakshi P. Thakare	Shri Shivaji Science College, Amravati	sakshi.thakare@gmail.com	A+
8	Ms. Monali S. Dapurkar	Shri Shivaji Science College, Amravati	Monalidapurkar20@gmail.c	A+
9	Mr. Tejas A. Thakare	Shri Shivaji Science College, Amravati	tejasthakare8442@gmail.co	A+
10	Ms. Sakshi R. Zade	Shri Shivaji Science College, Amravati	Sakshizade600@gmail.com	A+
11	Ms. Nikita D. Rewalani	Shri Shivaji Science College, Amravati	nikitarewlani@gmail.com	A+
12	Ms. Pallavi A. Belsare	Shri Shivaji Science College, Amravati	Pallavibelsare44@gmail.co	A+
13	Ms. Samiksha N. Chorode	Shri Shivaji Science College, Amravati	Samikshachorode897@gm	A
14	Ms. Poonam G. Bakhade	Shri Shivaji Science College, Amravati	bakhadepoonam7@gmail.c	A+
15	Ms. Shraddha V. Werulkar	Shri Shivaji Science College, Amravati		A+
16	Ms. Vishkha V. Tayade	Shri Shivaji Science College, Amravati	vishakhatayade077@gmail.	A
17	Ms. Mayuri P. Kavitar	Shri Shivaji Science College, Amravati	mayurikavitkar199@gmail.c	A+

18	Mr. Dipak A. Maldhure	Shri Shivaji Science College, Amravati	dipqkmaladhure@gmail.com	A+
19	Mr. Akshay P. Dhurve	Shri Shivaji Science College, Amravati	akshaydhurve7887@gmail.com	A+
20	Mr. Bhushan S. Belsare	Shri Shivaji Science College, Amravati	belsarebhushan99@gmail.com	A+
21	Ms. Shivani R. Thakur	G.V.I.S.H., Amravati	Shivthakur2496@gmail.com	A+
22	Ms. Radhika P. Sherje	G.V.I.S.H., Amravati	radhikasherje45678@gmail.com	A+
23	Mr. Amar S. Dahane	G. S. Tompe Arts , Commerce Science College, Amravati	amardahane1998@gmail.com	A+
24	Mr. Rushikesh R. Tathe	Vidyabharati Mahavidyalaya Amravati	rushitathe16@gmail.com	A+
25	Mr. Swapnil G. Tale	Vidyabharati Mahavidyalaya Amravati	taleswapnil712@gmail.com	A
26	Ms. Monali S. Tatte	Shri Shivaji Science College, Amravati	monatatte@gmail.com	A+
27	Ms. Ashwini M. Shahakar	Shri Shivaji Science College, Amravati	Ashwinishahakar07@gmail.com	A
28	Ms Nilima S. Keche	Shri Shivaji Science College, Amravati	nilimakeche99@gmail.com	A+
29	Ms. Laxmi A. Gawande	Shri Shivaji Science College, Amravati	Laxmigawande3016@gmail.com	A+
30	Mr. Pravin V. Meshram	Shri Shivaji Science College, Amravati	pmeshram2211@gmail.com	A+
31	Ms. Pallavi V. Shende	Vidyabharati Mahavidyalaya Amravati	pallavivshende@gmail.com	A+
32	Ms. Rajashri V. Sukalkar	Vidyabharati Mahavidyalaya Amravati	rajshrisukalkar@gmail.com	A+
33	Ms. Pranali P. Hiwase	Shri Shivaji Science College, Amravati	Pranalihiwase01@gmail.com	A+
34	Ms. Shrutika S. Wankhade	Shri Shivaji Science College, Amravati	wshrutika4@gmail.com	A+



Dr. Shrikant A. Wadhwal
Course Coordinator



Dr. G. N. Chaudharl
, Head & Principal ,
Dept. of Chemistry
Shri Shivaji Science College,
Amravati-444 605 (M.S.)

PERMISSION LETTER

To,
The Principal,
Shri Shivaji Science College Amravati

Subject: To seek permission to organize Hands on Training Course on " Advanced Instrumentation and their Practical Applications for UG and PG students"

Respected sir,

With reference to the above subject I would like to request you to grant permission to organize Hands on Training Course on "Advanced Instrumentation and their Practical Applications for UG and PG students" by Department of Chemistry, Shri Shivaji Science College, Amravati from 28th March to 3rd April 2022. The admission fee for above course is Rs 1500/- per student.

Thanking you

Date: 24/03/2022

Co-ordinator,



Dr Shrikant A. Wadhal
Professor,
Department of Chemistry

Forwarded


Permitted
J.A.C.
25/03/2022

SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

SIX DAY HANDS ON TRAINING COURSE ON

"ADVANCED INSTRUMENTATION TECHNIQUES AND THEIR PRACTICAL

APPLICATIONS FOR PG AND RESEARCH STUDENTS"

ORGANIZED BY DEPARTMENT OF CHEMISTRY

DATE: 28/03/2022 TO 02/04/2022

LIST OF PARTICIPANTS AND ATTENDANCE

S. No.	Name	28/03/22	29/03/22	30/03/22	31/03/22	01/04/22	02/04/22
1	Ms. Bhargavi A. Narsekar	Bhargavi	Bhargavi	Bhargavi	Bhargavi	Bhargavi	Bhargavi
2	Ms. Vaishnavi S. Saraf	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi
3	Ms. Gauri R. Thakare	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri
4	Ms. Dnyaneshwari P. Fale	Dnyaneshwari	Dnyaneshwari	Dnyaneshwari	Dnyaneshwari	Dnyaneshwari	Dnyaneshwari
5	Ms. Riya D. Sagane	Riya	Riya	Riya	Riya	Riya	Riya
6	Ms. Vaishnavi K. Akolkar	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi	Vaishnavi
7	Ms. Sakshi P. Thakare	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi
8	Ms. Monali S. Dapurkar	Monali	Monali	Monali	Monali	Monali	Monali
9	Mr. Tejas A. Thakare	Tejas	Tejas	Tejas	Tejas	Tejas	Tejas
10	Ms. Sakshi R. Zade	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi
11	Ms. Nikita D. Rewlani	Nikita	Nikita	Nikita	Nikita	Nikita	Nikita
12	Ms. Pallavi A. Belsare	P.A. Belsare	P.A. Belsare	P.A. Belsare	P.A. Belsare	P.A. Belsare	P.A. Belsare

13	Ms. Samiksha N. Chorode	Samiksha	Samiksha	Samiksha	Samiksha	Samiksha	Samiksha
14	Ms. Poonam G. Bakhade	Poonam	Poonam	Poonam	Poonam	Poonam	Poonam
15	Ms. Shraddha V. Werulkar	Shraddha	Shraddha	Shraddha	Shraddha	Shraddha	Shraddha
16	Ms. Visikha V. Tayade	Visikha	Visikha	Visikha	Visikha	Visikha	Visikha
17	Ms. Mayuri P. Kavithkar	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri	Mayuri
18	Mr. Dipak A. Maldhure	Dipak	Dipak	Dipak	Dipak	Dipak	Dipak
19	Mr. Akshay P. Dhurve	Akshay	Akshay	Akshay	Akshay	Akshay	Akshay
20	Mr. Bhushan S. Belsare	B.S. Belsare	B.S. Belsare	B.S. Belsare	B.S. Belsare	B.S. Belsare	B.S. Belsare
21	Ms. Shivani R. Thakur	Shivani	Shivani	Shivani	Shivani	Shivani	Shivani
22	Ms. Radhika P. Sherje	Radhika	Radhika	Radhika	Radhika	Radhika	Radhika
23	Mr. Amar S. Dahane	Amar	Amar	Amar	Amar	Amar	Amar
24	Mr. Rushikesh R. Tathe	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh
25	Mr. Swapnil G. Tale	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil
26	Ms. Monali S. Tatte	Monali	Monali	Monali	Monali	Monali	Monali
27	Ms. Ashwini M. Shahakar	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini
28	Ms Nilima S. Keche	Nilima	Nilima	Nilima	Nilima	Nilima	Nilima
29	Ms. Laxmi A. Gawande	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi
30	Mr. Pravin V. Meshram	Pravin	Pravin	Pravin	Pravin	Pravin	Pravin
31	Ms. Pallavi V. Shende	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi
32	Ms. Rajashri V. Sukalkar	Rajashri	Rajashri	Rajashri	Rajashri	Rajashri	Rajashri
33	Ms. Pranali P. Hiwase	Pranali	Pranali	Pranali	Pranali	Pranali	Pranali
34	Ms. Shrutika S. Wankhade	Shrutika	Shrutika	Shrutika	Shrutika	Shrutika	Shrutika

Dr. Shrikant A. Wadhal

CERTIFICATE OF STUDENT



Shri Shivaji Education Society, Amravati's
Shri Shivaji Science College, Amravati

Shivaji Nagar, Morshi Road, Amravati (MS)

NAAC Accredited by Grade 'A' with CGPA of 3.13 (Third Cycle), UGC Awarded Status of College with Potential for Excellence (Second Phase)
Identified by DST, Govt. of India for FIST and Sant Gadge Baba Amravati University, Amravati as Lead College



**Six Days Hands on Training Course on
"Advanced Instrumentation Techniques and
Their Practical Applications for PG and Research students"**

Duration : 28th March, 2022 to 2nd April, 2022

CERTIFICATE

This certificate is awarded to

Mr. Shivani R. Thakur

Position : P. G. Student **Affiliation :** G. V. I. S. H. , Amravati

For the successful completion of the Six Days Hands on Training Course on

"Advanced Instrumentation Techniques and Their Practical Applications for PG and Research students"

as prescribed and ported by Department of Chemistry during 28th March, 2022 to 2nd April, 2022.

He/She has successfully completed this hands on training course with practical and theoretical knowledge of IR, UV-VIS, , HPLC, ATOMIC ABSORPTION SPECTROPHOTOMETER, XRD INSTRUMENTATION with A+ grade.

Sawadhal

Dr. Shrikant A. Wadhal
Course Co-ordinator

ADH

Dr. G. N. Chaudhari
Head of the Department

Jac

Dr. G. V. Korpe
Principal

Grade : 'A+' >=80 , 'A' >=65-79,
'B' > 50 - 64, No Certificate <50

CERTIFICATE OF CO-ORDINATOR

	<p>Shri Shivaji Education Society, Amravati's Shri Shivaji Science College, Amravati Shivaji Nagar, Morshi Road, Amravati (MS) NAAC Accredited by Grade 'A' with CGPA of 3.13 (Third Cycle), UGC Awarded Status of College with Potential for Excellence (Second Phase) Identified by DST, Govt. of India for FIST and Sant Gadge Baba Amravati University, Amravati as Lead College</p>	
<p>Six Days Hands on Training Course on "Advanced Instrumentation Techniques and Their Practical Applications for PG and Research students"</p> <p>Duration : 28th March, 2022 to 2nd April, 2022</p> <p>CERTIFICATE</p> <p><i>This certificate is awarded to</i></p> <p>Dr. SHRIKANT ASHOKRAO WADHAL</p> <p><i>has actively participated in design and development of curriculum on Six Days Hands on Training Course on "Advanced Instrumentation Techniques and Their Practical Applications for PG and Research students" conducted by the Department of Chemistry during 28th March, 2022 to 2nd April, 2022.</i></p>		
 Dr. G. N. Chaudhari Head of the Department	 Dr. W. S. Barde IQAC Co-ordinator	 Dr. G. V. Korpe Principal