Local Organising committee





Prof. H. B. Menon, Vice-Chancellor

Registration & Contact Details

Interested participants must register and only selected candidates would be invited for the workshop.

Local travel, boarding and lodging for the selected candidates will be covered by School of Chemical Sciences (SCS), Goa University. Interested participant should register using the following link:

Registration deadline: 24th December 2022

Shortlisted candidates will be intimated by email, latest by 28th December 2022.

Eligibility criteria:

- a. Minimum qualification: Post Graduate (Science) or B. Tech.
- b. Faculty/Scientists/Post-Doc Fellows/Ph. D. Fellows/Industry Prof. V. S. Nadkarni, Registrar

persons who are actively involved in R&D

Please note: Not more than 3 people from one Institute.

For more information, contact:

Co-ordinator: Dr. Prajesh S. Volvoikar E-mail: prajesh.volvoikar07@unigoa.ac.in

Contact: +91-7030965977



Prof. VMS Verenkar Dean, SCS



400 MHz NMR

SCXRD

Department of Science & Technology (DST)

funded

Training workshop under

STUTI

(Synergistic Training Program Utilizing the

Scientific and Technological Infrastructure)

7 Days Workshop on Operation of

NMR, Single crystal XRD, AES, HPLC &

Photoluminescence Instrument

from 2nd January 2023 to 9th January 2023

SCHOOL OF CHEMICAL SCIENCES (SCS), **Goa University**





Prof. S. N. Dhuri, Speaker



Dr. R. E. Patre Speaker



Dr. S. T. Bugde Speaker

Department of Sciences & Technology Government of India



Dr. H. K. Kadam Speaker



Dr. P. S. Volvoikar, Coordinator, Speaker





Photoluminescence

Acknowledgements



AES

Overview of STUTI and Objectives of Workshop

DST welcomes the participants for the workshop on NMR, Single crystal XRD, AES, HPLC & Photoluminescence instrument organised under STUTI. STUTI is intended to build human resource and its knowledge capacity through open access S&T Infrastructure across the country. The program envisions hands-on-training and familiarisation of equipment funded by DST. DST has identified Panjab University, Chandigarh as a Project Management Unit (PMU) to conduct and co-ordinate training sessions under the STUTI program. **The workshop will be held at SCS, Goa University**.

The workshop is aimed to provide an insight into the functioning of NMR, Single crystal XRD, AES, HPLC & Photoluminescence instrument. The participants will be introduced to principles of instruments, hands-on-experience, sample preparation and analysis, data processing. The participants will have an opportunity to interact with subject Experts and also, to analyse their own samples (with prior approval).

DAY 1		DAY 2		DAY 3		DAY 4	
0900	Inaugural session	0900	Session 2A	0900	Session 3A	0900	Session 4A
1100	Tea Break	1100	Tea Break	1100	Tea Break	1100	Tea Break
1130	Session 1A	1130	Session 2B	1130	Session 3B	1130	Session 4B
1300	Lunch	1300	Lunch	1300	Lunch	1300	Lunch
1400	Session 1B	1400	Session 2C	1400	Session 3C	1400	Session 4C
1530	Tea	Tea	Теа	Tea	Tea	Tea	Tea
1545	Session 1C	1545	Session 2D	1545	Session 3D	1545	Session 4D

			ts

Session 1 A:Introduction of the participants and host; Overview of various DST sponsored schemes. User requirements of participants.

Session 1 B & C: Introduction to instruments : SCS lab visit.

Session 2 A: Overview of NMR.

Session 2 B: Fundamentals of NMR, sample preparation techniques, familiarisation of instrument.

Session 2 C: Overview of SCXRD.

Session 2 D: Fundamentals and working of SCXRD, familiarization of instrument.

Session 3 A: Overview of AES.

Session 3 B: Fundamentals of AES, sample preparation techniques, familiarisation of instrument.

Session 3 C: Overview of HPLC and Photoluminescence instrument.

Session 3 D:Fundamentals and working of HPLC and Photoluminescence instrument instrument.

Session 4-5 A:Demonstration of sample analysis using NMR.

Session 4-5 B:Demonstration of sample analysis using SCXRD.

Session 4-5 C: Demonstration of sample analysis using AES.

Session 4-5 D:Demonstration of sample analysis using HPLC and Photoluminescence.

Session 6 A: Hands-on experience to perform NMR analysis.

Session 6 B:Hands-on experience to perform SCXRD analysis.

Session 6 C: Hands-on experience to perform AES.

Session 6 D:Hands-on experience to perform HPLC and Photoluminescence.

Session 7 A: Analysis of participant's samples for NMR and SCXRD.

Session 7 B: Analysis of participant's samples for AES, HPLC and Photoluminescence.

DAY 5 DAY 6 DAY 7 Session 5A 0900 **Session 5A** 0900 Session 6A 0900 Tea Break 1100 Tea Break 1100 Tea Break 1100 Session 6B 1130 Session 5B 1130 1130 Session 7B 1300 Lunch 1300 Lunch 1300 Lunch 1400 Session 5C 1400 Session 6C 1400 Valedictory 1530 Tea 1530 Tea 1530 Tea 1545 **Session 5D** 1545 Session 6D 1545 Certificates

HANDS ON TRAINING PROGRAM

on

Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES), High Performance liquid Chromatography (HPLC) & Photoluminescence Instruments

 2^{nd} January 2023 to 9^{th} January 2023 at SCS, Goa University

List of Participants:

Sr. No.	Candidate Name	Educational Qualification	Caste	Institution Name
1	Ms. K.Dhanavardhini	Research Scholar	OBC	Vellore Institute of Technology, Tamil Nadu
2	Dr. Ansari Palliyarayil	Post Doctoral Fellow	General	CSIR-Central Leather Research Institute, Tamil Nadu
3	Mr. Huidrom Mangalsana	Research Scholar	General	CSIR-Central Leather Research Institute, Tamil Nadu
4	Mr. Vikash	Research Scholar	SC	CSIR-Central Leather Research Institute, Tamil Nadu
5	Dr. Umamaheshwari S	Assistant Professor	OBC	JSS Academy of Higher Education & Research, Mysuru, Karnataka
6	Dr. Sindhu R	Assistant Professor	General	JSS Academy of Higher Education & Research, Mysuru, Karnataka
7	Dr. Chinmay Bhat	Assistant Professor	General	Government First Grade College Chamarajanagar, Karnataka
8	Ms. Gautami Prakash Shinde	Masters Student	SC	Institute of Chemical Technology Mumbai, Maharashtra
9	Dr. Kiran Dayaram Patil	Assistant Professor	OBC	SVKM'S Institute of Pharmacy, Dhule, Maharashtra
10	Mrs. Navpreet Kaur	Research Scholar	OBC	Panjab University, Chandigarh

11		Assistant	General	
11	Dr. Priyanka	Professor	General	Doon University, Dehradun, Uttarakhand
12	Ms. Isha Riyal	Research Scholar	General	Doon University, Dehradun, Uttarakhand
13	Dr. P. Senthilkumar	Associate Professor	OBC	SRM Institute of Science and Technology / Genetic Engineering, Chennai, Tamil Nadu
14	Mr. Mahendra M	Research Scholar	OBC	JSS Academy of Higher Education & Research, Mysuru, Karnataka
15	Dr. Varada S. Damare	Assistant Professor	General	Goa University, Taleigao, Goa
16	Ms. Imrana Shaikh	Research Scholar	General	Goa University, Taleigao, Goa
17	Mr. Kandukuri Sravya	Research Scholar	OBC	Goa University, Taleigao, Goa
18	Mr. Shivam Kumar Kori	Research Scholar	SC	Dr. Harisingh Gour University, Sagar, Madhya Pradesh
19	Mr. Komal Kashyap	Masters Student	OBC	Dr. Harisingh Gour University, Sagar, Madhya Pradesh
20	Mr. Satyam Yadav	Masters Student	OBC	Dr. Harisingh Gour University, Sagar, Madhya Pradesh
21	Mr. Rajiv Kashyap	Research Scholar	OBC	Panjab University, Chandigarh
22	Dr. Sanket Gaonkar	Assistant Professor	General	P.E.S.S.R.S.N college of Arts and science, Ponda, Goa
23	Mrs. Pooja Dattaram Gadekar	Assistant Professor	OBC	Dnyanprassarak Mandal's College and Research Centre, Goa
24	Dr. Sudarshana D. Mardolkar	Assistant Professor	OBC	Dnyanprassarak Mandal's College and Research Centre, Goa
25	Dr. Amrita R. Natekar	Assistant Professor	General	Dnyanprassarak Mandal's College and Research Centre, Goa
26	Mr. Jaspreet Singh	Research Scholar	OBC	Panjabi University, Patiala, Punjab
27	Ms. Natasha Da Costa	Research Scholar	General	P.E.S.S.R.S.N college of Arts and science, Ponda, Goa

28	Ms. Madhuri Mahadev Gaikwad	Assistant Professor	General	P.E.S.S.R.S.N college of Arts and science, Ponda, Goa
29	Ms. Disha F. Gauns	Research Scholar	General	Goa University, Taleigao, Goa
30	Ms. Sonali S. Gaonkar	Research Scholar	ST	Goa University, Taleigao, Goa
31	Ms. Manasi A. Ugvekar	Research Scholar	General	Goa University, Taleigao, Goa
32	Ms. Apeksha H. Naik	Research Scholar	OBC	Goa University, Taleigao, Goa
33	Mr. Vignesh R. Naidu	Research Scholar	General	Goa University, Taleigao, Goa

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

2nd January 2023 to 9th January 2023 at SCS, Goa University

Sr. No		Session 1A Inaugural	Session 1B Invited speaker 1	Session 1C Invited speaker 2	Session 1D Invited SCS Visit
31110		9.30 am to	11.30 am to	2.00 pm to	3.45 pm to
		11.00 am	1.00 pm	3.30 pm	5.15 pm
1	Ms K.Dhanavardhini	73X	XX	4	**
2	Dr. Ansari Palliyarayil	2	12	A.	
3	Mr Huidrom Mangalsana	- Mayel	H. Mayas	· Mayalan	H. Mach
4	Vikash	@112	(ilee)	(4) Voyo	CHIOL >
5	Dr Umamaheshwari S	4 1-16-	5:1-1-	5 1-1-	3115
6	Dr. Sindhu R	Grilly K	Linkhu K	Listin K	Sallimit
7	Dr Chinmay Bhat	DE-	45:-	de Cair	48
8	Gautami Prakash Shinde	0000	7029	GON	0.90
9	Dr. Kiran Dayaram Patil	Chaul	of all I	(fill)	Talu
10	Mrs. Navpreet Kaur	Margus	i Name	Nagu- 2	Watery
11	Dr. Priyanka	Benlin	Soule	1 Back	Darly
12	Isha Riyal	Pela	(1) Le	13/3	Vo Z
13	Dr. P. Senthilkumar	D (2)	- QUE	Of the	- Du
14	Mr. Mahendra M	alok-	ستعلق	Olde	م العالم ا
15	Dr. Varada S. Damare	Vaure.	1 lane.	· Sauce-	Jana -
16	Dr. Pranav Naik	1		-	
17	Miss Imrana Shaikh	donero	THEER	BUTTER	groge
18	Kandukuri sravya	just	Keil	tor	my:
19	Shivam Kumar Kori	Ekosy.	SKPAY.	Bragg	Briage
20	Komal Kashyap	Horas.	Formal	1 - Fromal	· Home
21	Satyam Yadav	July am you	- Josephen Infor	Language	Juna
22	Mr. Rajiv kashyap	(Paily)	Payly	TRUN	Bill
23	Dr. Sanket Gaonkar	Guer	Comer	Cuerca	(query
24	Mrs Pooja Dattaram Gadekar	Bodele	Barlete-	16 Liebay	Shodday.
25	Dr. Sudarshana D Mardolkar	-Acutellan	sandelen-	Garden	Sando lear
26	Dr. Amrita R. Natekar	Applatilian	spalatelias	Ole ment	ARMINETO
27	Jaspreer Singh	Jas Kedh	Jasketh:	Jayrest &	
28	Ms. Norgsha Da Costa	alcoho	5 Loesto	A) cesto	Strooms
29	MG Madhyri Mahadu gaika	J. Dalhar	- Latinian	Padran	and the
30	Mandsi A. Vairekar	Marie	MODEL	MAChele	Milyel
31	pisha L. Gouns.	89	100	19	12
32	Sonali S. Geronkon	Donn	· Marial ·	Xleures	Xieuru

34 Vignesh R Naidu

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

2nd January 2023 to 9th January 2023 at SCS, Goa University

	Attendance: Date		023 (Day 2)		
		Session 1A		Session 2C	Session 2D
	· **	Introduction		Overview	Working of
		to host,	Session 2B	of SCXRD,	SCXRD,
		participant	Introduction	fundament	familiarizati
		and DST	to	als of	on of
Sr. No	Name of Participant	scheme		SCXRD	instrument
		9.30 am to	11.30 am to	2.00 pm to	3.45 pm to
		11.00 am	1.00 pm	3.30 pm	5.15 pm
1	Ms K.Dhanavardhini	- lin	Ri.	-14	14
2	Dr. Ansari Palliyarayil		-AL	38	81
3	Mr Huidrom Mangalsana	H. Majaban	H. Mapalon	H. Mayala	H. Musch
4	Vikash	al coon	(1) (cost)	O'hes_	OTEN.
5	Dr Umamaheshwari S	3.1-1	SITTLE	5.1-17-	Sille
6	Dr. Sindhu R	Lillin Bi	Souther	Kinthu &	- Balliur
7	Dr Chinmay Bhat	V-C:	90	0	De.
8	Gautami Prakash Shinde	39	108-1	10091	1985
9	Dr. Kiran Dayaram Patil	18 mil	1200-	But,	The ,
10	Mrs. Navpreet Kaur	Shower	Naukot	Nayul	Dayse
11	Dr. Priyanka	Shels	7 22	- Sail	8 - 2
12	Isha Riyal	9200	Jala .	nie.	sole.
13	Dr. P. Senthilkumar	alex	CUNT	Day	Oly 8
14	Mr. Mahendra M			1	We-
15	Dr. Varada S. Damare	law	Car.	Was -	The.
16	Dr. Pranav Naik			1000	
17	Miss Imrana Shaikh	Annega	ANTER	America	Anses
18	Kandukuri sravya	k-V	100	him	ker
19	Shivam Kumar Kori	& Kasatt	8 Karig	Skary	RKONY
20	Komal Kashyap	Fimal.	#omcu!	Momon!	vamal.
21	Satyam Yadav	- hisy angula	Dubyon 1.1.	Julywysa	Tobyon 101
22	Mr. Rajiv kashyap	Parly	Pairon	1000	Paylo
23	Dr. Sanket Gaonkar	Guerra	Euro	- Car	- Cars
24	Mrs Pooja Dattaram Gadekar	Fraditi-	ande-	- Foundate	Carallan
25	Dr. Sudarshana D Mardolkar	13 ridolles	earlola-	Glandallia-	Sadolle
26	Dr. Amrita R. Natekar	ARNakhai		pertablian	Apalallar
27	Jaspreet Singh _	Jasket R	Jashsed R.	Jaspred B	Transet &
28	Ms Natasha Da Costa		Macile	of rosto	· Al costs
29	Ms. Madhuri Mahadev Gaikwad	A costo	Lind tall	Vachalle	Watter
30	manasi A - cyckar	MAUbel	WAllnet	Marie	Whereh
31	DISTICLE F. GOURS.	30/	12%	The same	Je-
32	Sonali S. Gaonkart.	Olan-	Stency	O torot	Denay
53. 34	Apriksha y. Naik	Aluk	Really	Alwie	Minle

34 vignesh e North

Allune Bardy aili AP

Alcoin Alcons

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

Sr. No	Name of Participant	Session 3A Nuclear Magnetic Resonance	Session 3B High Performace Liquid Chromatograph	Session 3C Atomic Emission Spectroscopy	Session 3D Working of SCXRD, familiarizati on of instrument
		9.00 am to	11.15 am to 1.00	2.00 pm to	3.45 pm to
		11.90 am	pm Os	3.30 pm	5.15 pm
1	Ms K.Dhanavardhini	la la	ly	XX	XX
2	Dr. Ansari Palliyarayil	55	38		.80
3	Mr Huidrom Mangalsana	1. Mayaly	H. Magal.	4. Mayel	4. Mach.
4	Vikash	O'Cers	0,700	Colony	Cilcol)
5	Dr Umamaheshwari S	3157-	5-1-1-1-20	S, III	\$.1-1-
6	Dr. Sindhu R	Solhu S	Linu IV	ministr	La Vinte
7	Dr Chinmay Bhat	W-t-	& Car	Ver.	150
8	Gautami Prakash Shinde	G0950	Con	, coopher	1400
9	Dr. Kiran Dayaram Patil	This.	But 1	10 20	1
10	Mrs. Navpreet Kaur	Natiput	"Naymer	Delipute	Bayres
11	Dr. Priyanka	Set-	& a Ch	al al	1
12	Isha Riyal	Tisse	Osle	والعال	alla
13	Dr. P. Senthilkumar	alex	Dala	(VE)	(3)
14	Mr. Mahendra M	los-	713	3	Ma
15	Dr. Varada S. Damare	Cause	Vare !	Ten-	Ward i
16	Dr. Pranav Naik		V2.7		LAME .
17	Miss Imrana Shaikh	America	AVOISEE.	Grasie	Annaga
18	Kandukuri sravya	Kin	Ky.	Ky	kr.
19	Shivam Kumar Kori	Blease	Ries	PROST	8 Marst
20	Komal Kashyap	Forned!	Homes"	Garnal.	Land.
21	Satyam Yadav	& Bycon yel	Januar John	Julyany als	- whami
22	Mr. Rajiv kashyap	(Paris	Pair	Part	Palis
23	Dr. Sanket Gaonkar	and a	- Bulo	Bur	Gur
24	Mrs Pooja Dattaram Gadekar	Redeler	(Fodel)	Dodelon	Badelin-
25	Dr. Sudarshana D Mardolkar	diludeilen	Gadellear	Sandelles.	garlings
26	Dr. Amrita R. Natekar	exhalities	Aptietilias	ARIBIDIA	RRNAtelian
27	Jaspreer Singh	Jaspreth.			
28	Ms Natasha Da Costa	- coots	Ficeto n	Taspicet b	Jasket &
29	Ms. Madhuri Mahadev Gaikwad	Traditible	Manuar 1	2 costa	A casta
30	Manasi A. Ugvekaul	WAU greken	Millington		
31	Disha F. Gauns	T	Major	Milsyelia	WAS nelon
32	Sonalis Gaunkar	Xerrel	XErox.	Saray.	Wegat.
33	Apeksha H. Mark	Abril	- Will	M. S.	Musik

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

Sr. No	Attendance: Date	analysis using NMR.	Session 4B Hands-on experience to perform NMR analysis. 11.15 am to 1.00	Session 4C Demonstratio n of sample analysis using SCXRD	Session 4D Hands-on experience to perform SCXRD
		9.00 am to 11.00 am	pm	2.00 pm to 3.30 pm	3.45 pm to 5.15 pm
1	Ms K.Dhanavardhini	li	R	KS.	XX
2	Dr. Ansari Palliyarayil	8	87	8	8
3	Mr Huidrom Mangalsana	of Mayals	4. Mach	11. Nys	H Magds
4	Vikash	O'learly_	(<u>(((()</u>	Willey	Que
5	Dr Umamaheshwari S	5.1-1-1	3176	3.1-1-1-1	8.11-11
6	Dr. Sindhu R	Lallu K	a hillu K	fill in R	Litturk
7	Gautami Prakash Shinde	, 600	of gas	Cash-	Gas
8	Dr. Kiran Dayaram Patil	Den .	Jam	22	Riv.
9	Dr. Priyanka	Salz_	Sol	Sal "	Sel
10	Isha Riyal	Chr.	132	1786	Pole
11	Dr. P. Senthilkumar	Flus	DI	008	8
12	Mr. Mahendra M	De	Dolo	1	.Ole
13	Kandukuri sravya	KM	W	16-1	FX
14	Ms Natasha Da Costa	Drosto	Praita	Micasto.	Mosts.
15	Ms. Madhuri Mahadev Gaikwad	The driver	Waltieu	Midwell	Madrey
16	Ms. Disha F. Gauns	D.	0/	19/	10/
17	Ms. Sonali S. Gaonkar	Start	Option .	(X/Jay	Xerry.

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

2nd January 2023 to 9th January 2023 at SCS, Goa University

	Attendance: Da	ate 05 th January 2	023 (Day 4) Batch	2	
Sr. No	Name of Participant	Demonstrati on of sample analysis using SCXRD 9.00 am to	Session 4B Hands-on experience to perform SCXRD 11.15 am to 1.00		analysis.
		11.00 am	pm	2.00 pm to 3.30 pm	3.45 pm to 5.15 pm
1	Dr Chinmay Bhat	9:	S 1	Con	G.
2	Mrs. Navpreet Kaur	1) any more	Day 10 C	Dayra	Dunk
3	Dr. Varada S. Damare	Jan-	Say.	Var.	1Sec
4	Dr. Pranav Naik				
5	Miss Imrana Shaikh	Arreas	Arage	mese	Arro Cha
6	Shivam Kumar Kori	Skast	8 Kars	(Sleger)	(8)xax
7	Komal Kashyap	formed:	ternet.	Some?	done
8	Satyam Yadav	July un Jak	July au job	layour	Jan an
9	Mr. Rajiv kashyap	Pain	Payer	Paris	Patro
10	Dr. Sanket Gaonkar	Gream	(July	Gues	(sum)
11	Mrs Pooja Dattaram Gadekar	Que Ve	Padele-	Paule You	Padelar
12	Dr. Sudarshana D Mardolkar	45 andollar	Sa love		Mardona
13	Dr. Amrita R. Natekar	Apaletalas	pentitua	Achtha	Apulatelan
14	JaspreetSingh	Jashreet &	Jaspert Re	Jasmet (7-street is
15	Ms. Manasi A. Ugvekar	Wellstopen	NAN maken	MACHEREN	MANGEL
16	Ms. Apeksha H. Naik	Herie	Alenda	dail	Remb
17	Mr. Vignesh R. Naidu	0-,,d=	Orlida.	Denda	Pendy

Spedmy Mistake

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

Sr. No	Attendance: Date	Session 5A Demonstrati on of sample analysis using AES	Hands-on experience to perform AES	Session 5C Demonstratio n of sample analysis using HPLC	Session 5D Hands-on experience to perform HPLC
		9.00 am to 11.00 am	11.15 am to 1.00 pm	2.00 pm to 3.30 pm	3.45 pm to 5.15 pm
1	Ms K.Dhanavardhini	14	- Li	D	Ri.
2	Dr. Ansari Palliyarayil		\$	SC.	*
3	Mr Huidrom Mangalsana	M. Mayalan	H. Wyasan	1. Myalon	4. Majeda
4	Vikash	ailes	Others-	O leasy	Quero
5	Dr Umamaheshwari S	S. 1 = 1 1	8.1-1	s.int	8.1
6	Dr. Sindhu R	Chillun Bi	Lulhu R	Lindle R	lyllruk
7	Gautami Prakash Shinde	apshina	Cogulis	Cashin	Coquin
8	Dr. Kiran Dayaram Patil	Bills	Bue	18min	Jam.
9	Dr. Priyanka	Sul-	Sale (1 Sal	Sal
10	Isha Riyal	Isle	gsle	Spla	Tele
11	Dr. P. Senthilkumar	Flor	Dus	900	(D)=
12	Mr. Mahendra M	100=	Oole	Nale	100 ale
13	Kandukuri sravya	very	king	pay !	100-V
14	Ms Natasha Da Costa	Doots	Droging .	Sicosto	Diasta
15	Ms. Madhuri Mahadev Gaikwad	Maluel	Hadhun	Wadher	Valuu
16	Ms. Disha F. Gauns	-V-	· 10/.	W.	197-
17	Ms. Sonali S. Gaonkar	Dorot	X Barasi	Whow!	Decel.

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

Sr. No	Name of Participant	Attendance: Date 06 th January 20 Session 5A Demonstrati on of sample analysis using HPLC		Session 5C Demonstratio n of sample analysis using AES	Session 5D Hands-on experience to perform AES	
		9.00 am to 11.00 am	11.15 am to 1.00 pm	2.00 pm to 3.30 pm	3.45 pm to 5.15 pm	
1	Dr Chinmay Bhat	55-0	G		G -	
2	Mrs. Navpreet Kaur	Darple	Rapula	Naupa	Dun	
3	Dr. Varada S. Damare	100 -	18/2	Sen	182	
4	Dr. Pranav Naik		45		40	
5	Miss Imrana Shaikh	Anne	grossons.	Shrows	Smoore	
6	Shivam Kumar Kori	Skacij	8 Kair	8 Kail	(RKeis	
7	Komal Kashyap	James!	Fortal-	Homa	Homa	
8	Satyam Yadav	Julyan you	John Judas	Julyan yoda	Joseph y	
9	Mr. Rajiv kashyap	Down	Payre	Pare	Cerry	
10	Dr. Sanket Gaonkar	Guer	Con	Com	(8)	
11	Mrs Pooja Dattaram Gadekar	Rodelor	Fooder	Rodile	F.del-	
12	Dr. Sudarshana D Mardolkar	siendelles			Hardista	
	Dr. Amrita R. Natekar	palatelles	mulatilias	Mulatchan	opalatelar	
14 .	Jaspreet Singh _	Jas Russ	Jaspeet By	Tosyleet 8_	Instructs	
15	Ms. Manasi A. Ugvekar	MAC July	Morelen	William ,	Myhop	
16	Ms. Apeksha H. Naik	Start	Alvente	Phoi	Magie	
17 N	Mr. Vignesh R. Naidu	Brida (ands.	<i>-</i>	daidy.	

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

Sr. N	No Name of Participant	Session 6A Interpretatio n of data and doubts	Session 6B Keynote Speaker	Session 6C Demonstration of sample analysis Photoluminesce nce instrument	Session 6D Hands on experience of Photolumine scence instrument
		9.00 am to	11.15 am to 1.00	2.00 pm to 3.30	3.45 pm to
1	Ms K.Dhanavardhini	11,00 am	pm 0	pm o.	5.15 pm
2	Dr. Ansari Palliyarayil	H.	Ma	1	li-
3	Mr Huidrom Mangalsana	12	3	SL.	M
4	Vikash	11. Motale	H. Majohn	H. Nagalin	4. Mapal.
5	Dr Umamaheshwari S	الادن إلاء	(1) Colle	ar lais	013
6	Dr. Sindhu R	इ.मन्	3.127	e. 1 3.64	2/21
7	Dr Chinmay Bhat	Lather Ri	Lallin-RC	Leven St	401116
8	Gautami Prakash Shinde	E.	K-G-	13	H L
9	Dr. Kiron Dr.	60.92	98	1 620	· Cos
10	Dr. Kiran Dayaram Patil	Bair	1800 1	Jane 1	Su Part
11	Mrs. Navpreet Kaur	Nayurz	What I	DOLINE	The state of the s
12	Dr. Priyanka	Sel	Sal 1	mel.	Jague 1
13	Isha Riyal	ale	(15) de	48the	ALL.
14	Dr. P. Senthilkumar	308	00/8		000
15	Mr. Mahendra M	alas	00aly55	Calaire State	Jan 0
16	Dr. Varada S. Damare	Now.	Lay.	10	Mela
17	Dr. Pranav Naik	-		Youz.	Var-
18	Miss Imrana Shaikh	A various	AMERICA	dimag	1 -
19	Kandukuri sravya	my	16-1-	* 0	diagra
20	Shivam Kumar Kori	RHOSH,	8 Kares	8(1)	2.
10070	Komal Kashyap	12 -17	tomal.	Skan.	Brown,
21	Satyam Yadav	July mi byok-	Julya yar	T. T.	forte,
22	Mr. Rajiv kashyap	Par	Par	July ar you	July an In
23	Dr. Sanket Gaonkar	Ques	75.00	(V City	Part
24	Mrs Pooja Dattaram Gadekar	Dale	Boulder	Com	(Suis
25	Dr. Sudarshana D Mardolkar	1 1 1 1		(Biadelin "	Rodel
26	Dr. Amrita R. Natekar	PRILITIAN	Farlogo Falblelias	sandalas 4	Landoller
27	Jaspreet Singh	Tabras 6		polatelas	perlation
28	Ms Natasha Da Costa	Steads	123 120ct dy	Colorest B_ =	Spices &
29	Ms. Madhuri Mahadey Gaikwad	The opin	20 costs	Marie !	Micoslo
0	Ms. Disha F. Gauns	1	Hadiven	Haduul	Walni
1	Ms. Sonali S. Gaonkar	Devay	Others	7	-
2	Ms. Manasi A. Ugvekar	Marele	Steven	Degrad.	Carred .
3	Ms. Apeksha H. Naik	Hank	Williamel	Miller	MAUNCE
4	Mr. Vignesh R. Naidu	Pards	Quide	Kail	DRIE



Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF). Panjab University, Chandigarh under Synergistic Training Program Utilizingthe Scientific and Technological Infrastructure (STUTI)

From

-2010-1 ATT	Attendance: Date 09 th January 2023 (Day 7) Session 7B											
Sr. No	Name of Participant	samples for NMR and SCXRD	Analysis of participant's samples for AES, HPLC and Photoluminescen ce	Session 7C Valedictory function	Session 7D Certificates and memento distribution							
		9.00 am to	11.15 am to 1.00	2.00 pm to 3.30	3.45 pm to							
1	Mak Dhann III	11.90 am	pm	pm	5.15 pm							
2	Ms K.Dhanavardhini	M	M	top	·h							
3	Dr. Ansari Palliyarayil Mr Huidrom Mangalsana	2	1	028	83							
4	Vikash	H. Miyulan	1. Majoran.	M. raw	H. Major							
5	Dr Umamaheshwari S	دلسا الس	Willash -	(Juleally)	Celagolo							
6	Dr. Sindhu R	STAR	317	5.19mbl	- S. TATVL							
7	Dr Chinmay Bhat	Lille K	frille F	Celler L	- Erusting							
8	Gautami Prakash Shinde	00	14 (2)	100	05/							
9	Dr. Kiran Dayaram Patil	Jan	J GOSh	Cess	Josh							
10	Mrs. Navpreet Kaur	98cm	Sauce	Jau	Nill							
11	Dr. Priyanka	NaWW2	Naylus	Mayer	X ONTO							
12	Isha Riyal	- ente	Set 1	DW)	Sign							
13	Dr. P. Senthilkumar	Yele	John	Show	She							
14	Mr. Mahendra M	and I	JUS	(Class	Jerry							
15	Dr. Varada S. Damare	11000	Male	70000	Clare							
	Dr. Pranav Naik	1 Vay	(Xe)	idez	13/2							
	Miss Imrana Shaikh	A + ed			-							
18	Kandukuri sravya	Armees	ANTES	gmo	Times							
	Shivam Kumar Kori		le-y	how	Fav .							
20	Komal Kashyap	Shand	@Keep	(great	George							
	Satyam Yaday	Jonney!	tomer	Foral	compl							
	Mr. Rajiv kashyap	Jahry am Jak	Ampleior Lagar	Styrotyder	Solyan by							
23	Dr. Sanket Gaonkar	Carly 1	Paywi	Rah	Parlo							
24	Mrs Pooja Dattaram Gadekar	Fradition	Coular	Java	Jan							
25	Dr. Sudarshana D Mardolkar		Gather	Gadital	Gaditox							
26 1	Dr. Amrita R. Natekar	APUALION '	Fridores 1	Harrocio	Mordolles							
27]	aspreet Singh	The state of the s	negleteker	DAD TANCK CAR	Athenin							
28	Ms Natasha Da Costa	Approxio	lassect dy	Japlac 1	Jamiela							
29	Ms. Madhuri Mahadey Gaikwad	2 Visibilia	Droite.	theath	Micala							
30 N	Ms. Disha F. Gauns	12/	The Chill	CHEdhun	Trustinist							
31 N	As. Sonali S. Gaonkar	X Ind	Xeuri ·	2/0	70							
32 N	As. Manasi A. Ugvekar	Michel	NAUCUL	Marian	Office							
33 N	As. Apeksha H. Naik	Car X	N S	not meter	MARTOJneh							
34 N	4r. Vignesh R. Naidu	11000	Saider.	1 X 1	Altila							

Till the same of t





HANDS ON TRAINING PROGRAM

Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES) High Performance Liquid Chromatography (HPLC) & Photoluminescence instrument

02nd January 2023 - 09th January 2023

"STUTI" - Synergistic Training program Utilizing the Scientific and Technological Infrastructure

Certificate of Participation

Awarded to Ms. Manasi A. Ugvekan, Research Scholan, Goa University, for participating in the 7 days Hands on Training Program organized by the School of Chemical Sciences (SCS), Goa University, Goa in association with Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh.

Dr. P. S. Volvoikar STUTI Coordinator Goa University, Goa Assistant Prof. SCS

Prof. V. M. S. Verenkar

School of Chemical Sciences

Goa University, Goa

Prof. G. R. Chaudhary Director, SAIF/CIL

STUTI Coordinator (PMU)

Panjab University, Chandigarh

TO TO THE WORK OF THE PROPERTION OF THE PROPERTI







HANDS ON TRAINING PROGRAM

Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES)

High Performance Liquid Chromatography (HPLC) & Photoluminescence instrument

02nd January 2023 - 09th January 2023

"STUTI" - Synergistic Training program Utilizing the Scientific and Technological Infrastructure

Certificate of Participation

participating in the 7 days Hands on Training Program organized by the School of Chemical Sciences (SCS), Goa University, Goa in association with Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Awarded to Ms. Sonali S. Gasakan, Research Scholar, God Uninersity Chandigarh

Dr. P. S. Volvoikar

Assistant Prof. SCS Goa University, Goa STUTI Coordinator

Prof. V. M. S. Verenkar

Director, SAIF/CIL

Prof. G. R. Chaudhary STUTI Coordinator (PMU)

Panjab University, Chandigarh

i obido o oi

School of Chemical Sciences

Goa University, Goa

TO TO THE CONTRACT OF THE CONT Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), HANDS ON TRAINING PROGRAM Amrit Mahotsav

"STUTI" - Synergistic Training program Utilizing the Scientific and Technological Infrastructure

High Performance Liquid Chromatography (HPLC) & Photoluminescence instrument

Atomic Emission Spectroscopy (AES)

02nd January 2023 - 09th January 2023

Certificate of Participation

Awarded to Ms. Madhuri Gaikwad, Assistant Professor, PE.S's R.SN. College, for participating in the 7 days Hands on Training Program organized by the School of Chemical Sciences (SCS), Goa University, Goa in association with Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh

Dr. P. S. Volvoikar

Goa University, Goa Assistant Prof. SCS STUTI Coordinator

Director, SAIF/CIL

Prof. G. R. Chaudhary STUTI Coordinator (PMU)

Panjab University, Chandigarh

School of Chemical Sciences

Goa University, Goa

Prof. V. M. S. Verenkar

Title of the Training Programme: 7 Days moreshop on operation of NMR, XRD, RES, HPLI
Photolumineum by 51

Date and Duration of Training: 02-012023 to 09-01-2023

Name of the Institute where Training has been conducted: GOA UNIVERSITY, GOA

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	C					Rati	ing				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.					5				V	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									/	
3.	Overall grading of the faculty members conducting the training										/
4.	How do you rate the overall training methodology								/		
5.	How far the field visit is relevant and related to your research study								V		
6.	Usefulness of this training in your current role										V
7.	Usefulness of this training in future work/job you may handle								~		
8.	How far have you benefitted from interaction with the fellow participants of the training								V		
9.	How far the course material supplied relevant and related to the training curriculum								V		
10.	Overall grading of the process of training									V	177-1
11.	Your recommendation to your peers/ colleagues for the training Programme										/

Any other suggestions/ observations, if any-

I It will be better and more	catchy, enstead of iceoping all-ene theory throng classes, yet is like one theory class session on one was some instrument on the same
classes logether followed by.	throng classes, y it is like one energy class
followed by we technical	Session on the same instrument on the sam
o The diviation of the technic	al session som be (Name of the Participant)
schiduled based on the	complexe city of - une Dr. Amon 2 11
instrument or well are in	ompleseredy of the Dr. Anson Pallyanayil

Title of the Training Programme: STUTI TRAINING PROGRAMME

Date and Duration of Training: 2nd Jan to 9th Jan / 7 days

Name of the Institute where Training has been conducted: SCS, GOA UNIVERSITY

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rating 4 5 6 7 8					
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									~	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										
3.	Overall grading of the faculty members conducting the training									~	
4.	How do you rate the overall training methodology								~		
5.	How far the field visit is relevant and related to your research study									~	
6.	Usefulness of this training in your current role									_	
7.	Usefulness of this training in future work/job you may handle									~	
8.	How far have you benefitted from interaction with the fellow participants of the training										
9.	How far the course material supplied relevant and related to the training curriculum									_	
10.	Overall grading of the process of training								1/		
11.	Your recommendation to your peers/ colleagues for the training Programme								J	/	

Any other suggestions/ observations, if any-

(Name of the Participant)

Title of the Training Programme: 7 Days Workshop on Operation of NMR, XRD, AES, HPLC & Photoluminescence Instruments:

Date and Duration of Training: 2nd January 2023 - 9th January 2023

Name of the Institute where Training has been conducted: SCS, Goa University

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ng				
No	. Content	1	2	3	4	5	6	7	8	9	1(
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										/
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										/
3.	Overall grading of the faculty members conducting the training										~
4.	How do you rate the overall training methodology						i	1			/
5.	How far the field visit is relevant and related to your research study							1			
6.	Usefulness of this training in your current role										/
7.	Usefulness of this training in future work/job you may handle									1	/
8.	How far have you benefitted from interaction with the fellow participants of the training										
9.	How far the course material supplied relevant and related to the training curriculum										
0.	Overall grading of the process of training	\top	+	+		+	+	+	+	+	
1.	Your recommendation to your peers/ colleagues for the training Programme							+		,	7

Any other suggestions/ observations, if any-

(Name of the Participant)

Title of the Training Programme: 7 days evortshap on Operation of NMR, XRD, ACL

MPLC & Photolyminescence enstruments.

Date and Duration of Training: 374 January 2023 - 9Th January 2023

Name of the Institute where Training has been conducted: SCS, GOOL UNINESTY

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										/
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										~
3.	Overall grading of the faculty members conducting the training										1
4.	How do you rate the overall training methodology										/
5.	How far the field visit is relevant and related to your research study										~
6.	Usefulness of this training in your current role										/
7.	Usefulness of this training in future work/job you may handle										/
8.	How far have you benefitted from interaction with the fellow participants of the training										/
9.	How far the course material supplied relevant and related to the training curriculum										/
10.	Overall grading of the process of training					1	1	1			/
11.	Your recommendation to your peers/ colleagues for the training Programme										/

Any other suggestions/ observations, if any-

APEKSHA HIRU NAK, (Name of the Participant)

Title of the Training Programme: 7 days coortehop on operation of MINIR, KRP, MS,
Date and Duration of Training: 201 January 2023 - 9 January 2023
Name of the Institute where Training has been conducted: SCS, Goa Converty.

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	C				Rating 4 5 6 7 8 9						
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										V
3.	Overall grading of the faculty members conducting the training									/	
4.	How do you rate the overall training methodology										/
5.	How far the field visit is relevant and related to your research study										
6.	Usefulness of this training in your current role										/
7.	Usefulness of this training in future work/job you may handle								,	/	
8.	How far have you benefitted from interaction with the fellow participants of the training										
9.	How far the course material supplied relevant and related to the training curriculum									/	
10.	Overall grading of the process of training										~
11.	Your recommendation to your peers/ colleagues for the training Programme										V

Any other suggestions/ observations, if any-

by - Sydow band B Mordolkar

(Name of the Participant)

Title of the Training Programme: 7 Days Workshop on operation of NMR, XRD, AES, HPLC an PL instruments.

Date and Duration of Training: 2nd to 9th January 2023

Name of the Institute where Training has been conducted: School of Chemical Sciences, Goa Universit

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content			Rating 3 4 5 6 7 8							
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									V	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									~	
3.	Overall grading of the faculty members conducting the training									/	
4.	How do you rate the overall training methodology									/	
5.	How far the field visit is relevant and related to your research study									1	
6.	Usefulness of this training in your current role									1	
7.	Usefulness of this training in future work/job you may handle									/	
8.	How far have you benefitted from interaction with the fellow participants of the training									/	
9.	How far the course material supplied relevant and related to the training curriculum									/	
10.	Overall grading of the process of training										
11.	Your recommendation to your peers/ colleagues for the training Programme									1	

Any other suggestions/ observations, if any-

(Name of the Participant)

DR. Amita R. Nateliai

Title of the Training Programme: + Days Horkshop on operation of HMR, XRD,

AES, HPLC and PL instruments

Date and Duration of Training: 2nd to 9th Jan., 2023

Name of the Institute where Training has been conducted: GOA UHINERSITY GOA

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	C					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										~
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										V
3.	Overall grading of the faculty members conducting the training									V	
4.	How do you rate the overall training methodology										V
5.	How far the field visit is relevant and related to your research study									V	
6.	Usefulness of this training in your current role									V	
7.	Usefulness of this training in future work/job you may handle								V		
8.	How far have you benefitted from interaction with the fellow participants of the training										
9.	How far the course material supplied relevant and related to the training curriculum									V	
10.	Overall grading of the process of training									V	•
11.	Your recommendation to your peers/ colleagues for the training Programme										/

Any other suggestions/ observations, if any-

I am very greatly influenced by the way
this Workshop is Conducted and soutold how these vanous
techniques are weful in different discipline research place
very good selection of all the rescarbine (Name of the Participant)
from different field and different designation. As well as a very
mire theory and Experimental demonstration given by Complete Academi
staff. Very thanks for giving to this Chance.

Title of the Training Programme: DST SPONSERED STUTI TRAINING WORKSHOP ORGANIZED BY

SCS, GOA UNIVERSITY IN ASSOCIATION WITH SHIF, PAJABUNIVA

Date and Duration of Training: 02/01/2023 to 09/01/2023

Name of the Institute where Training has been conducted: GOA UNIVERSITY

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	6					Rating 5 6 7 8					
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									9	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									9	
3.	Overall grading of the faculty members conducting the training										10
4.	How do you rate the overall training methodology										10
5.	How far the field visit is relevant and related to your research study									9	
6.	Usefulness of this training in your current role										10
7.	Usefulness of this training in future work/job you may handle										10
8.	How far have you benefitted from interaction with the fellow participants of the training										10
9.	How far the course material supplied relevant and related to the training curriculum									9	
10.	Overall grading of the process of training										10
11.	Your recommendation to your peers/ colleagues for the training Programme										10

Any other suggestions/ observations, if any-

(Name of the Participant)

Title of the Training Programme: 7 Days Workshop on operation of NIVIR. Single Crystal XRI.

AES, HPLC of Photoluminescence Instrument

Date and Duration of Training: 2nd Jan to 9th Jan 2023

Name of the Institute where Training has been conducted: School of Chemical Sciences

Gog University Gog.

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									V	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									~	
3.	Overall grading of the faculty members conducting the training										
4.	How do you rate the overall training methodology										
5.	How far the field visit is relevant and related to your research study								1		
6.	Usefulness of this training in your current role									-	
7.	Usefulness of this training in future work/job you may handle										
8.	How far have you benefitted from interaction with the fellow participants of the training										<u></u>
9.	How far the course material supplied relevant and related to the training curriculum										
10.	Overall grading of the process of training										
11.	Your recommendation to your peers/ colleagues for the training Programme									-	

Any ot	her suggestio	ns/ observation	s, if any-					
	Overall	Total nily	Pocquam	wa	900 d.	But the	122016	w
Rona di	a the	Section	T rate of	21	Iria 502	with trost	rift	8
2 Days	Demons	traky to	y to E	inspace	both 1	in same Day	7 1-	_
nal tra	to G	train to trainer	from	th !	Instrumed	. Mode U	Jan Jan	
						Mah	endro.	M
Compan	9					(Name of th		

NAUPREET KAUR.

FEEDBACK FORM FOR TRAINING PROGRAM

Title of the Training Programme: 7 days workshop by STUTI Date and Duration of Training: 02 1 23 to 59 1 23 Name of the Institute where Training has been conducted: School of chemical Sciences (SCS)

Please rate the Programme component

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating											
No.	Content	1	2	3	4	5	6	7	8	9	10		
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.												
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										V		
3.	Overall grading of the faculty members conducting the training										V		
4.	How do you rate the overall training methodology										V		
5.	How far the field visit is relevant and related to your research study										V		
6.	Usefulness of this training in your current role									V			
7.	Usefulness of this training in future work/job you may handle										V		
8.	How far have you benefitted from interaction with the fellow participants of the training										V		
9.	How far the course material supplied relevant and related to the training curriculum									1	/		
10.	Overall grading of the process of training						1						
11.	Your recommendation to your peers/ colleagues for the training Programme			1						,			

Any other suggestions/ observations, if any-

Title of the Training Programme: 7 days workshop an operation of NMR, RRP, MES	5
Date and Duration of Training: 2nd Jan vory 2023 - 4m January 2023	
Name of the Institute where Training has been conducted. 50, 900 onyonity.	

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ing				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.						100				V
3.	Overall grading of the faculty members conducting the training									V	
4.	How do you rate the overall training methodology										V
5.	How far the field visit is relevant and related to your research study										V
6.	Usefulness of this training in your current role									/	
7.	Usefulness of this training in future work/job you may handle										/
8.	How far have you benefitted from interaction with the fellow participants of the training									/	
9.	How far the course material supplied relevant and related to the training curriculum										
10.	Overall grading of the process of training	\top	+	1	1	\top	+	+	1		7
11.	Your recommendation to your peers/ colleagues for the training Programme										

Any other suggestions/ observations, if any-

Manasi or Uguekar.

(Name of the Participant)

Title of the Training Programme: DST STUTS Training Program by GOA University in Association with Punjab University Date and Duration of Training: 2nd Jan to 9th Jan (7 Days)

Name of the Institute where Training has been conducted: 3chool of Chemical Science Got University

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										~
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										~
3.	Overall grading of the faculty members conducting the training										V
4.	How do you rate the overall training methodology										<u></u>
5.	How far the field visit is relevant and related to your research study										
6.	Usefulness of this training in your current role										L
7.	Usefulness of this training in future work/job you may handle			1						-	<u></u>
8.	How far have you benefitted from interaction with the fellow participants of the training						1			,	
9.	How far the course material supplied relevant and related to the training curriculum										L-
0.	Overall grading of the process of training	+				+		-	1	-	
1.	Your recommendation to your peers/ colleagues for the training Programme								1	-	

Any other suggestions/ observations, if any-

Dr. Kiran D. Poli)
(Name of the Participant)

Title of the Training Programme: 7 days washeshop on aperational, NMR, XRD, ASS. MPLC and PL instrument

Date and Duration of Training: 02nd January 2023 to 05th January 2023

Name of the Institute where Training has been conducted: School chemical science Croa University

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										
3.	Overall grading of the faculty members conducting the training										
4.	How do you rate the overall training methodology										
5.	How far the field visit is relevant and related to your research study										_
6.	Usefulness of this training in your current role								1		_
7.	Usefulness of this training in future work/job you may handle								1		
8.	How far have you benefitted from interaction with the fellow participants of the training						1				/
9.	How far the course material supplied relevant and related to the training curriculum									1	/
0.	Overall grading of the process of training					1		+	+	-	
1	Your recommendation to your peers/ colleagues for the training Programme						+				1

Any other suggestions/ observations, if any-

Shivam Kumar Kosi (Name of the Participant)

Title of the Training Programme:	DST STOTZ	7 Days -	- Training	Proggran	u
Date and Duration of Training:	a. Jan 8033	- 9 Tan	2032	= 3	
Name of the Institute where Train	ing has been conducte	ed: School Of	Chemical	Sciences	Gora Luwrisit

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	C					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										~
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										V
3.	Overall grading of the faculty members conducting the training										V
4.	How do you rate the overall training methodology										سا
5.	How far the field visit is relevant and related to your research study										~
6.	Usefulness of this training in your current role										~
7.	Usefulness of this training in future work/job you may handle										V
8.	How far have you benefitted from interaction with the fellow participants of the training										~
9.	How far the course material supplied relevant and related to the training curriculum								1		~
10.	Overall grading of the process of training						T				V
11.	Your recommendation to your peers/ colleagues for the training Programme										~

Any other suggestions/ observations, if any-

SATYAM YADAV
(Name of the Participant)

Title of the Training Programme: 7 DAYS WORKSHOP ON OPERATION OF NOR, XRD, ARS, MPLCE
PHOTOLUMINESCENCE INSTRUMENTS UNDER STUTI

Date and Duration of Training: 02/01/2023 - 09/01/2023

Name of the Institute where Training has been conducted: SCHOOL OF CHEMICAL SCIENCES

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating											
No.	Content	1	2	3	4	5	6	7	8	9	10		
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									~			
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									~			
3.	Overall grading of the faculty members conducting the training									~			
4.	How do you rate the overall training methodology								~				
5.	How far the field visit is relevant and related to your research study									~			
6.	Usefulness of this training in your current role									~			
7.	Usefulness of this training in future work/job you may handle									~			
8.	How far have you benefitted from interaction with the fellow participants of the training								~				
9.	How far the course material supplied relevant and related to the training curriculum									/			
10.	Overall grading of the process of training									V			
11.	Your recommendation to your peers/ colleagues for the training Programme										~		

Any other suggestions/ observations, if any-

More time on the hands on training sessions with lesser participants per batch would have been a better aption.

HUIDROM MANGALSANA
CSIR-CLRI, CHENNAI
(Name of the Participant)

Title of the Training Programme: STUTI werkshop on operation of NMR, XRD, AES, HPLC and Photohermines cance instruments.

Date and Duration of Training: Y days from 02/01/2023 to 09/01/2023

Name of the Institute where Training has been conducted: School of Chemical sources Goa Zenivers by

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating											
No.	Content	1	2	3	4	5	6	7	8	9	10		
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										/		
3.	Overall grading of the faculty members conducting the training										~		
4.	How do you rate the overall training methodology										0		
5.	How far the field visit is relevant and related to your research study												
6.	Usefulness of this training in your current role									/			
7.	Usefulness of this training in future work/job you may handle										V		
8.	How far have you benefitted from interaction with the fellow participants of the training									V			
9.	How far the course material supplied relevant and related to the training curriculum										/		
10.	Overall grading of the process of training										/		
11.	Your recommendation to your peers/ colleagues for the training Programme										V		

Any other suggestions/ observations, if any-

Draine

IMRANA SHAIKH

(Name of the Participant)

Title of the Training Programme: OPERATION OF NMR, XRD, AES, HPLL & PHOTOLUMINESCENCE INSTRUMENTS

Date and Duration of Training: 02-09 January 2023, 7 days

Name of the Institute where Training has been conducted: School of Chemical Sciences,

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating											
No.	Content	1	2	3	4	5	6	7	8	9	10		
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										/		
3.	Overall grading of the faculty members conducting the training										V		
4.	How do you rate the overall training methodology										V		
5.	How far the field visit is relevant and related to your research study									/	1		
6.	Usefulness of this training in your current role										V		
7.	Usefulness of this training in future work/job you may handle										V		
8.	How far have you benefitted from interaction with the fellow participants of the training									/			
9.	How far the course material supplied relevant and related to the training curriculum									/			
10.	Overall grading of the process of training										~		
11.	Your recommendation to your peers/ colleagues for the training Programme										V		

Any other suggestions/ observations, if any-

Dr. Varada S. Damare (Name of the Participant)

Title of the Training Programme: 7 days workshop on operation of MMD, XRD, AET HPLC and Photoluminescence instruments. Date and Duration of Training: 2nd January 2023 to 9th January 2023

Name of the Institute where Training has been conducted: Gra University

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S. No.	Content	Rating										
		1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										レ	
3.	Overall grading of the faculty members conducting the training								~			
4.	How do you rate the overall training methodology									V		
5.	How far the field visit is relevant and related to your research study										1	
6.	Usefulness of this training in your current role									1		
7.	Usefulness of this training in future work/job you may handle									レ		
8.	How far have you benefitted from interaction with the fellow participants of the training									1		
9.	How far the course material supplied relevant and related to the training curriculum										1	
10.	Overall grading of the process of training									1		
11.	Your recommendation to your peers/ colleagues for the training Programme										1	

Any other suggestions/ observations, if any-

Any other suggestions/ observations, it anysome other instruments like GC-Ms, LC-Ms.

Powder XRD would also be included from in training

Paragram if any fraining parasom for future. Plan.

(Name of the Participant)

KOMAL KASHYAPI

Title of the Training Programme: 7 days workshop on operation of NINK, Att.
Date and Duration of Training: 4 od squvery words - grandy words
Name of the Institute where Training has been conducted: 500, God Conversity.

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S. No.	Content	Rating										
		1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										v	
3.	Overall grading of the faculty members conducting the training										V	
4.	How do you rate the overall training methodology									V		
5.	How far the field visit is relevant and related to your research study										V	
6.	Usefulness of this training in your current role									V		
7.	Usefulness of this training in future work/job you may handle										~	
8.	How far have you benefitted from interaction with the fellow participants of the training									~		
9.	How far the course material supplied relevant and related to the training curriculum										V	
10.	Overall grading of the process of training										/	
11.	Your recommendation to your peers/ colleagues for the training Programme										1	

Any other suggestions/ observations, if any-

Disha L. Goyos .

(Name of the Participant)

Title of the Training Programme: 7 days workshop on Operation of NMK, XRD, AES
HPLC & Photoluminescence Prytruments

Date and Duration of Training: 02/01 to 09/01/2023 (7 days)

Name of the Institute where Training has been conducted: Goa University

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Contont	Rating										
No.	Content	1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									V		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										~	
3.	Overall grading of the faculty members conducting the training										V	
4.	How do you rate the overall training methodology									V		
5.	How far the field visit is relevant and related to your research study										~	
6.	Usefulness of this training in your current role										~	
7.	Usefulness of this training in future work/job you may handle										~	
8.	How far have you benefitted from interaction with the fellow participants of the training											
9.	How far the course material supplied relevant and related to the training curriculum										V	
10.	Overall grading of the process of training										V	
11.	Your recommendation to your peers/ colleagues for the training Programme										V	

Any other suggestions/ observations, if any-	member
Any other suggestions observations, if any- (1) Please make smaller groups (4-5 graps) so that everyone
	(O))
of place conduct examina	lion of the end of the
(3) Kind Privide some assign	ments to the participant)
so that everyone will be more	attentive . C
so that everyone con	3
	(n chenna, Thi

Title of the Training Programme: DST-STUTI 7 days Horkshop
Date and Duration of Training: 02-01-23 to 09-01-23 (7 days)
Name of the Institute where Training has been conducted: School of Chemical Sciences, Goa University
Places note the Decomposition of the first of the 1 (10 indicates three light Most

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	C	Rating										
No.	Content	1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										/	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										/	
3.	Overall grading of the faculty members conducting the training										/	
4.	How do you rate the overall training methodology										1	
5.	How far the field visit is relevant and related to your research study										/	
6.	Usefulness of this training in your current role										/	
7.	Usefulness of this training in future work/job you may handle										/	
8.	How far have you benefitted from interaction with the fellow participants of the training										/	
9.	How far the course material supplied relevant and related to the training curriculum									1		
10.	Overall grading of the process of training									/		
11.	Your recommendation to your peers/ colleagues for the training Programme										/	

Any other suggestions/ observations, if any- Very Well Daganized.

(Name of the Participant)

5.1-7-

(Dr. Umamaheshwati)

Title of the Training Programme: $DST-STU$	TI Training Program	
Date and Duration of Training: 02/1/23		
Name of the Institute where Training has been condu	cted: School of Chemical Science)	60

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating										
No.	Content	1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										V	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										V	
3.	Overall grading of the faculty members conducting the training										V	
4.	How do you rate the overall training methodology										V	
5.	How far the field visit is relevant and related to your research study							v/				
6.	Usefulness of this training in your current role								V			
7.	Usefulness of this training in future work/job you may handle									~	-	
8.	How far have you benefitted from interaction with the fellow participants of the training									V		
9.	How far the course material supplied relevant and related to the training curriculum									V	/	
10.	Overall grading of the process of training					1				~		
11.	Your recommendation to your peers/ colleagues for the training Programme										V	

Any other suggestions/ observations, if any-

(Name of the Participant)

Title of the Training Programme:	fdays workshop on operation o	NMR, AES, HPLC &
Date and Duration of Training:	02/01/2023 to 09/01/2023.	

Name of the Institute where Training has been conducted: You wivestity, Goa

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating										
No.	Content	1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.						*			~		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										V	
3.	Overall grading of the faculty members conducting the training										/	
4.	How do you rate the overall training methodology											
5.	How far the field visit is relevant and related to your research study									~		
6.	Usefulness of this training in your current role											
7.	Usefulness of this training in future work/job you may handle										~	
8.	How far have you benefitted from interaction with the fellow participants of the training											
9.	How far the course material supplied relevant and related to the training curriculum											
10.	Overall grading of the process of training							1			V	
11.	Your recommendation to your peers/ colleagues for the training Programme											

Any other suggestions/ observations, if any-

Lor Sindhu R, JSS-AHER

(Name of the Participant)

Title of the Training Programme: 7 days work	Schop on operation of NIMP YOU A:
Title of the Training Programme: 7 days work HPLC Date and Duration of Training: 2 Jan. 2023 to	1 2an. 2022
Name of the Institute where Training has been conducted:	SCS, GOG UNIVERSITY

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating										
No.	Content	1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									~		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										<u></u>	
3.	Overall grading of the faculty members conducting the training										V	
4.	How do you rate the overall training methodology									~		
5.	How far the field visit is relevant and related to your research study								~			
6.	Usefulness of this training in your current role								/			
7.	Usefulness of this training in future work/job you may handle								/			
8.	How far have you benefitted from interaction with the fellow participants of the training											
9.	How far the course material supplied relevant and related to the training curriculum									/		
10.	Overall grading of the process of training				T							
11.	Your recommendation to your peers/ colleagues for the training Programme											

Any other suggestions/ observations, if any-

(Name of the Participant)

Dr. Priyanka Doon University

Title of the Training Programme: I down workshop on operation of NMR, SC, AES, HALC and Photoluminescence Instruments
Date and Duration of Training: 2 Jan, 2023 to 9 Jan, 2023

Name of the Institute where Training has been conducted: SCS, Goa University

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content					Rati	ng				
No.	Content	1	2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									v	
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									~	
3.	Overall grading of the faculty members conducting the training										~
4.	How do you rate the overall training methodology										~
5.	How far the field visit is relevant and related to your research study										~
6.	Usefulness of this training in your current role										v
7.	Usefulness of this training in future work/job you may handle	1									V
8.	How far have you benefitted from interaction with the fellow participants of the training										\ \
9.	How far the course material supplied relevant and related to the training curriculum										<i>_</i>
0.	Overall grading of the process of training	+			+			+		-	
1.	Your recommendation to your peers/ colleagues for the training Programme				1		1			,	

Any other suggestions/ observations, if any-

(Name of the Participant)

Title of the Training Programme: DST, STUTI WOOKShop

Date and Duration of Training: 2 Jan to 9 Jan 2023

Name of the Institute where Training has been conducted: School of Chemical Science Goa.

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most." University.

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Contont	Rating										
No.	Content	1	2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									~		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										~	
3.	Overall grading of the faculty members conducting the training									~		
4.	How do you rate the overall training methodology										~	
5.	How far the field visit is relevant and related to your research study									~		
6.	Usefulness of this training in your current role										\forall	
7.	Usefulness of this training in future work/job you may handle										~	
8.	How far have you benefitted from interaction with the fellow participants of the training										V	
9.	How far the course material supplied relevant and related to the training curriculum									~		
10.	Overall grading of the process of training										V	
11.	Your recommendation to your peers/ colleagues for the training Programme									V		

Any other suggestions/ observations, if any-

GAVTAMI PRAKASH SHINDE (Name of the Participant)

Title of the Training Programme: STUTT TRAINING PROGRAM

Date and Duration of Training: 7 DAYS - 02.01.2023 to 09.01.2023.

Name of the Institute where Training has been conducted: SCHOOL OF CHEMICAL SCIENCES,

GDA UNIVERSITY.

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating									
No.	Content		2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										/
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										~
3.	Overall grading of the faculty members conducting the training										V
4.	How do you rate the overall training methodology										/
5.	How far the field visit is relevant and related to your research study										V
6.	Usefulness of this training in your current role							1			V
7.	Usefulness of this training in future work/job you may handle										V
8.	How far have you benefitted from interaction with the fellow participants of the training										✓
9.	How far the course material supplied relevant and related to the training curriculum										/
10.	Overall grading of the process of training				1	7		1			/
11.	Your recommendation to your peers/ colleagues for the training Programme										~

any other suggestions/ ob	servations, if any-	ا د	tracklant	anuldn't
The Training	program wa	s organized	excuser,	scourant
The Tgaining figure out	any issue	with the	Mistar Germen	*

(Name of the Participant)
(K. DhanaVardhini).

Title of the Training Programme: 7 days workshop on Operation of NMR, XRD, AES,

Date and Duration of Training: HPLC & Photoluminescence instruments

and January 2023 - 9th January 2023

Name of the Institute where Training has been conducted: 3chool of Chemical Sciences, Good Unive

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating									
No.	Content		2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.										~
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.										/
3.	Overall grading of the faculty members conducting the training										V
4.	How do you rate the overall training methodology										·-
5.	How far the field visit is relevant and related to your research study										~
6.	Usefulness of this training in your current role										~
7.	Usefulness of this training in future work/job you may handle										
8.	How far have you benefitted from interaction with the fellow participants of the training						The state of the s				V
9.	How far the course material supplied relevant and related to the training curriculum										V
10.	Overall grading of the process of training					1	1				
11.	Your recommendation to your peers/ colleagues for the training Programme										

Any other suggestions/ observations, if any-

(Name of the Participant)

Title of the Training Programme: 7 DAYS WORKSHOP BY STUTI

Date and Duration of Training: 02-01-2023 to 09-01-2023

Name of the Institute where Training has been conducted: SCHOOL OF CHEMICAL SCIENCES (SCS GCA UNIVERSITY

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	C	Rating									
No.	Content		2	3	4	5	6	7	8	9	10
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									1	~
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									~	
3.	Overall grading of the faculty members conducting the training										1
4.	How do you rate the overall training methodology										V
5.	How far the field visit is relevant and related to your research study										~
6.	Usefulness of this training in your current role										V
7.	Usefulness of this training in future work/job you may handle										V
8.	How far have you benefitted from interaction with the fellow participants of the training									V	
9.	How far the course material supplied relevant and related to the training curriculum										V
10.	Overall grading of the process of training										~
11.	Your recommendation to your peers/ colleagues for the training Programme										V

Any other suggestions/ observations, if any-

The interaction with the sheater/faculty greatly inhulcened me. The way of talking is very Good. The demonstration of instruments with usruing principle and handon trainings were very well explained. Here one kind sygristion for future blance provide hand on trainings will be on sany same day of ASPREET SINGH demonstration and chance Talpret by Thanking for your goodination and chance

Title of the Training Programme: STUTI WORKSHOP

Date and Duration of Training: 2 Jan - 9 Jan 2023

Name of the Institute where Training has been conducted: God University, God

Please rate the Programme components on a scale of 10 to 1 (10 indicates 'Excellent/Most Effective' and 1 indicates 'Poor/ Least Effective') wherever necessary.

S.	Content	Rating										
No.	Content		2	3	4	5	6	7	8	9	10	
1.	Overall grading of the Programme with reference to relevance of course, module/content etc.									~		
2.	Overall grading of the facilities provided by the institute, i.e., Hostel, Mess, Class Rooms, Transport/infrastructure etc.									4		
3.	Overall grading of the faculty members conducting the training										V	
4.	How do you rate the overall training methodology									V		
5.	How far the field visit is relevant and related to your research study										~	
6.	Usefulness of this training in your current role									1		
7.	Usefulness of this training in future work/job you may handle										V	
8.	How far have you benefitted from interaction with the fellow participants of the training										V	
9.	How far the course material supplied relevant and related to the training curriculum									√		
10.	Overall grading of the process of training							_		V		
11.	Your recommendation to your peers/ colleagues for the training Programme									,	V	

Any other suggestions/ observations, if any-

K. Suavya (Name of the Participant)

PROCEEDINGS

HANDS ON TRAINING PROGRAM

on

Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES), High Performance liquid Chromatography (HPLC) & Photoluminescence Instruments

2nd January 2023 to 9th January 2023 at SCS, Goa University



400 MHz NMR



SCXRD



AES HPLC



Photoluminescence

Organised by

School of Chemical Sciences (SCS), Goa University

in association with

Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University,

Chandigarh under Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI)



Professor Harilal B. Menon
Vice Chancellor



Goa University Goa India-403206

MESSAGE

A warm welcome to all the participants of the Training program on "Operation of Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES), High Pressure liquid Chromatography (HPLC) & Photoluminescence Instruments" organized by School of Chemical Sciences (SCS), in association with Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI) initiative of Department of Science and Technology (DST) at Goa University. This is truly a platform which aims to sensitize the young generation about the state-of-the-art equipments through open access Science and Technology infrastructure across the country.

My heartiest Congratulations to the Sophisticated Analytical Facility (SAIF)/Central Instrumentation Laboratory (CIL), Panjab University, Chandigarh for being selected as the Project Management Unit (PMU) and exquisitely executing their role as the hub manager for the STUTI program in the region. The School of Chemical Sciences (SCS), Goa University deserves an applause for taking the initiative of hosting this hands-on training program. It is heartening to see an interdisciplinary consolidation which is the need of the hour.

The facilities of NMR, AES, HPLC and photoluminescence techniques are extensively used by researchers, for academics and industrial applications in Goa and elsewhere. The programme enables hands-on training for separation, identification, and purification of the components.

The endeavor of the organizing committee will certainly result in a fruitful accomplishment. I wish the event a great success.

(Prof. H. B. Menon)



Prof. V. M. S. Verenkar Dean, School of Chemical Sciences



Goa University Goa India-403206

MESSAGE

It is a matter of honour for me to extend a very warm welcome to all the dignitaries who are gathered here for the Hands on Training Program on "Operation of Nuclear Magnetic Resonance (NMR), Single Crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES), High Pressure liquid Chromatography (HPLC) & Photoluminescence Instruments" being organized by School of Chemical Sciences, Goa University, Goa in association with Sophisticated Analytical Instrumentation Facility (SAIF), Panjab University, Chandigarh under Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI).

High end research in chemical science is the need of the hour in developing novel drug molecules for the treatments of numerous outrageous diseases. The training aims at creating the significantly needed perspectives and expertise in constantly progressing trends and practices in NMR, X-ray Diffraction (XRD) and Chromatography based techniques. The current hands-on training program could be another milestone in DST's initiative towards building human resources through STUTI.

These 7 days training program will also encourage the researchers and industry to provide suitable solutions and interface for future scientific ventures. During this training program, attendees will have the opportunity to visit facilities available at the School of Chemical Sciences (SCS). This will also provide tremendous opportunities for all the stakeholders to come together, collaborate and complement each other.

I congratulate the Coordinators and the Organizing Committee for having worked hard to ensure the success of the 7-day training program at the Goa University campus.

I wish you all a fruitful and successful training program.

(Prof. V. M. S. Verenkar)



Dr. Prajesh VolvoikarWorkshop Convenor
School of Chemical Sciences,



Goa University Goa India- 403206

MESSAGE

On behalf of the organizing Committee, it is an honour and pleasure to officially welcome you to the Training Program. The Training program encompasses key aspects NMR spectroscopy, SC-XRD, HPLC, and Photoluminescence techniques that are employed extensively in modern day new molecules discovery, research and development and diagnostics. This training program will primarily help the participants who are seeking basic and advanced level training in these techniques to get insight into their research and other industrial based technical operations. The training program enhances the working horizon among faculty, post-doc fellow, PhD Fellow. The scope of the training program is also extended to the industrial persons who are extensively involved in new molecules production and their detailed qualitative and quantitative descriptions. This training program will play a vital role in understanding formations, actions, and regulations of various novel molecules that can be used to efficiently target new drugs.

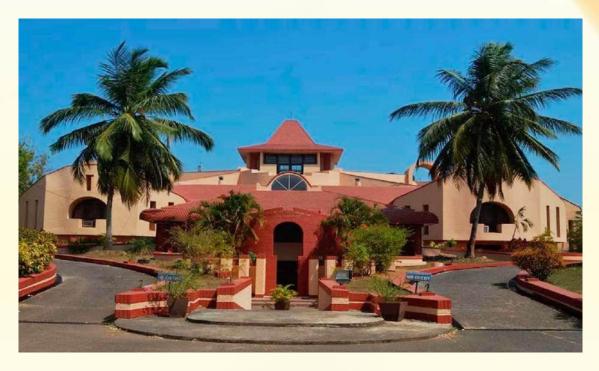
This puts light on the increasing importance of on the hands-on training on NMR spectroscopy, SC-XRD, HPLC, Photoluminescence, etc. techniques for the qualitative and quantitative analysis. The programme enables participants to acquire the basic NMR techniques required for success in scientific research in chemical sciences. During this training program, attendees will have the opportunity to visit facilities available at SCS and provide basic introduction of other instrumental facilities like BET, AFM, VSM TG-DTA etc. Additionally, the attendees will have an opportunity to closely interact with eminent scientists of Goa University.

We hope that this training program will stimulate new ideas and approaches for promoting chemistry and enhance skills in the field. We wish all delegates a fruitful attendance and involvement in the excellent event and hope that this training program is productive. Thank you for your participation and we wish you a very enjoyable stay in Goa.

(Dr. Prajesh Volvoikar)

GOA UNIVERSITY, GOA

Goa University was established under the Goa University Act of 1984 (Act No. 7 of 1984) and commenced operations on 1 June 1985. The university provides higher education in the Indian state of Goa. It is located on Taleigao Plateau overlooking Zuari estuary on a picturesque campus spread over 402 acres with state-of-the-art infrastructure such as faculty blocks, administrative building, library, sports facilities, student hostels, bank, post-office, staff quarters, etc. Campus-Wide Internet connectivity with strong bandwidth is available for all 24 hours a day.



The University took over the enhanced role of Centre of Post-Graduate Instruction and Research (CPIR) which was set after the liberation of Goa by India in December 1961, by the University of Bombay (now Mumbai), in June 1962. Since 1985 Goa University offers graduate and post-graduate studies and research programmes. It is currently (2014-19) accredited to the National Assessment and Accreditation Council (NAAC) in India with A Grade. The National Institutional Ranking Framework (NIRF) (an organ of Ministry of Human Resources and Development, Govt. of India) has currently (2022) ranked the University at Rank-band 101-150. Among the QS World University Rankings for 'BRICS countries 2019', Goa University is among the group of 241-250 universities. There are about 9000 universities in BRICS countries. QS University rankings - a World University rankings agency - has ranked Goa University in the range of 61-65 among Indian Universities for the year 2022 and among the QS World University Rankings for 'QS Asia University Rankings 2022', Goa University is among the group of 501-550 universities. Over the past 35 years, the University has steadily expanded its reach, both in terms of the number

of affiliated colleges - professional and general education numbering to 61, as well as the diversity of courses offered. These colleges offer various courses leading to a degree at graduate, post-graduate level. 7 of them are also recognized as research centres to offer Ph.D. programmes. The University, on its campus, has 10 schools (Table 1). The formation of schools has been done at the start of the academic year 2019-20 with amalgamation of traditional departments to allow organic evolution of new courses. They offer programmes leading to Undergraduate degree (3), Master's degree (35) and Ph.D. degree (25) in various disciplines. In addition, 7 recognised institutions in various disciplines situated in the state of Goa are also recognised for research programmes leading to Ph.D. degree by the University.

Over 30000 youth from all talukas of Goa are studying in affiliated colleges and over 2000 are enrolled for post-graduate programmes at the University campus. The percentage of women (over 60%) outnumber men (about 40%).

The University has made a significant impact at the national level in various areas of specialization and draws students in select disciplines from across the country. Geographically, Goa is located in an ecologically sensitive region along the Western Ghats and the Arabian Sea. Goa University has appropriately emerged as an important resource centre for research in the field of flora and fauna endemic to this region, as well as the marine environment. The Ministry of Earth Sciences has recognized Goa University's significant contribution in this domain, as a consequence of which a Centre of Excellence was established in Marine Microbiology. The Departments at the University have developed excellent research facilities. Large funding for research is received from Central Government agencies such as University Grants Commission, Department of Science & Technology, Ministry of Earth Sciences, Ministry of Environmental Sciences and Climate Change, Department of Biotechnology, etc. For a relatively small university, Goa University attracts generous funding of research projects from national funding agencies which reflects upon the high quality of research undertaken at the University. The research outcomes (over 6500) in the form of papers, theses, etc., have been made available to the public over the university website in its publication's repository. The Web of Science® reports about 1400 items on their database accruing over 16000 citations. The University publications have an h-index of 54.







In addition to the conventional graduate and postgraduate programmes, Goa University has also taken initiatives to provide innovative programmes. Some noteworthy initiatives are the National Resource Centre in Marine Science under the Ministry of Human Resource Development (MHRD) for the professional development of higher education using the MOOCs platform SWAYAM, the State Resource Centre for Women funded by Ministry of Women and Child Development, Govt. of India as well as Dept. of Women and Child, Govt. of Goa, the Study India Programme with Nihon University of Japan, etc. Goa University launched the Visiting Research Professors Programme (VRPP) from the year 2013-14 to bring luminaries in the field of liberal arts & literature, social and natural sciences, and other fields. The visiting professors interact with students, deliver lectures, offer courses, and work on collaborative research projects, or stimulate the creation of art installations and music performances with faculty and students. These visiting professors are found to generate a creative environment in learning and contemporary knowledge production practices with their intellectual and aesthetic endeavours. The programme is being supported by Directorate of Art and Culture, Government of Goa through generous grants and open to the general public too.

School of Chemical Sciences

The establishment of the School of Chemical Sciences took place by transforming one of the existing and oldest (established in 1965 as a part of Centre for Post-Graduate Instruction and Research of the then Bombay University) department (of Chemistry) into a School. The School is currently located in the faculty block E since April 2013, with modern infrastructure, conducive for quality education and research in Chemistry. The School (formerly Department of Chemistry) earlier had Organic, Inorganic, Physical and Analytical Chemistry as distinct streams and since AY 2019-20, the Biochemistry has been added as its fifth stream. The establishment of this School is in line with the reorganization of the institutional architecture that allows us to rebrand and showcase our strengths in research and teaching in various Chemistry streams. The research at this School has been recognized by the award of projects to the individual faculty members and also receiving handsome grants from the University Grants Commission (UGC) and the

Department of Science & Technology (DST), Govt. of India in their prestigious programs like UGC-SAP and DST-FIST. The School of Chemical Sciences has various modern sophisticated instruments required for state-of-the-arts research viz., single crystal X-Ray diffractometer, 400 MHz NMR spectrometer, AFM, VSM, Thermal analysers, Ball mill, Microwave reactor, LCMS, HPLC, Surface area analyser, UV-Visible, PL and Infra-Red spectrophotometers, CHN analyser, Atomic emission spectrometer, Gas chromatography etc. which has attracted many DST-Inspire Fellows and Kothari Fellowship holders to our school. The school has a rich tradition of excellent research output and the culture of performing better which has resulted, over the years, in the contribution of 30-40 percent of research publications of Goa University, annually.





The school offers two-year M.Sc. (64 credits) program in Organic, Physical, Inorganic, Analytical Chemistry as well as in Biochemistry. The research work leading to Ph.D. degree in the above subjects encompasses various domains of chemical research with emphasis on synthesis of natural products, developments of reagents for organic synthesis, synthesis and application of polymers and nanocomposites, synthesis of pure and mixed metal oxide nanoparticles and their applications as gas sensors/supercapacitors etc. The research extends further into computational and theoretical chemistry, synthesis of coordination compounds as models for biological systems, development of catalysts/electrocatalysts and their use in kinetics evaluation for various fundamental processes related to energy and environment.

HIGHLIGHTS PROGRAM OF THE TRAINING

The aim of this 7-day training is to provide skills to participants with the basic knowledge required to handle sophisticated instruments like Nuclear magnetic resonance (NMR), Single crystal X-Ray Diffraction (XRD), Atomic Emission Spectroscopy (AES), High Performance liquid Chromatography (HPLC) & Photoluminescence Instruments. This hands-on training program is intended for participants who are seeking basic and advanced-level insight and hand on training on these instruments. This includes Faculty/Scientists/Post-Doc Fellows/Ph.D. Fellows who are actively involved in Research and Development (R&D) and require knowledge of instrumentation technique.

It will enable participants acquire the basic NMR techniques required for success in scientific research in chemical sciences. Participants will experience hands-on training on, NMR, Single crystal XRD, HPLC, AES, Photoluminescence etc. During this training program, attendees will have the opportunity to visit facilities available at School of Chemical Sciences (SCS) facility and provide basic introduction of other instrumental facilities like BET, AFM, VSM TG-DTA etc. Additionally, the attendees will have an opportunity to closely interact with eminent scientists of Goa University.

LEARNING OUTCOMES OF THE PROGRAM

At the end of the training, participants will be aware and will have practical knowledge on using and operation of following:

- Basic and advanced information on Nuclear magnetic resonance (NMR) technique
- Handling of samples and spectra interpretation of ¹H NMR and ¹³C NMR
- Basic, advanced information, handling of samples and spectra interpretation of single crystal X-ray technique
- HPLC techniques
- Atomic emission spectroscopic (AES) technique
- Photoluminescence Instrument
- Data interpretations of these techniques

RESOURCE PERSONS



Prof. Vishnu S. Nadkarni

Registrar and Senior Professor in Organic Chemistry Goa University



Prof. Ganga Ram Chaudhary,

Director, SAIF, Panjab University



Prof. Vidyadatta M. S. Verenkar

Dean, SCS Professor in Inorganic Chemistry Goa University



Dr. Pratishtha Pandey

Head, DST Infrastructure Division, Government of India



Prof. Sundar N. Dhuri

Vice Dean, Research, SCS Professor in Inorganic Chemistry Goa University



Dr. Yogesh Nagpal

Managing Director
Winsom IP

RESOURCE PERSONS



Dr. Rupesh E. Patre Associate Professor in Analytical Chemistry Goa University



Dr. Sandesh T. Bugde
Assistant Professor in
Organic Chemistry
Goa University



Dr. Venkatesha R. Hathwar UGC - Assistant Professor of Physics Goa University



Dr. Hari K. Kadam Assistant Professor in Analytical Chemistry Goa University



Dr. Prajesh S. Volvoikar
Assistant Professor in
Analytical Chemistry
Goa University

Day 1. 02.01.2023

Dr. Prachi Torney, Assistant Professor School of Chemical Sciences welcomed the Chief guests and guest of honour. She further gave a formal welcome to dignitaries and participants. She also highlighted the diversity of participants in the STUTI program ranging from Haryana to Tamil Nadu.



Guest of honour Prof. Ganga Ram Chaudhary Director SAIF/CIL and Punjab University and Coordinator of the STUTI-PMU, PU, Chandigarh focused on integrating technology for transforming waste into valuables. He also shared the details of the state-of-the-art equipment's and facilities that SAIF/CIL offers. Along with this, he highlighted the contributions made department by innovating and donating air-purifies and UV currency sanitizers to hospitals

and offices in and the previously held STUTI training and awareness programs.

Dr. Yogesh Nagpal, Managing Director, Winsom IP delivered lecture on Importance of Patents in Designing and Conducting Scientific Research focusing on types of Intellectual Property Rights. Patents, Copyright, Trade Marks, Registered designs, and trade secrets were discussed in detail. He further briefed about IP rights, Protects and How to acquire these intellectual property rights. Sir mentioned Stages of Designing Research which includes defining the topic,narrow, gather, creative, develop, find, design experimental, compile and write. Evening session included visit to the laboratories of School of Chemical Sciences where instruments like NMR, SCXRD, VSM, TG-DTA, PL, HPLC, AES etc facilities were available and a brief overview of each instrument was given to the participants.







Day 2. 03.01.2023

Prof. V. M. S. Verenkar, Dean of Goa University, School of chemical sciences briefed the participants about the campus of Goa University, the projects being carried out, credentials of faculty and the overall history of the Goa University. Further he added about the various DST sponsored schemes. After this address by the dean of the school there was introduction of the participants. Dr. Hari kadam delivered a talk on various DST sponsored scheme regarding

R&D infrastructure. He also encouraged the participants and the faculty members to avail the opportunities through the STUTI programme to build human resources and its knowledge capacity.





In the second half of the morning session began with Dr. Hari kadam delivered a lecture on NMR briefing the instrument and its parts, basic principle of NMR, interpretation of data, the standard, solvents used, and he further concluded his lecture mentioning the various applications of NMR. This was followed by Dr. Rupesh Patre who discussed an overview of HPLC, he use of HPLC and principle behind it. He further spoke on various points like why separation is needed, two types of elution, normal and reverse phase, stated the difference between GC and HPLC. A detailed schematic diagram was also shown stating the working principle. Later Sundar Dhuri briefed about single crystal XRD and differentiated the powder XRD and single crystal XRD. SCXRD talk was followed by talk on photoluminescence which was delivered by Dr. Sandesh Budge. His lecture began with definition of spectroscopy and also explained on how Pl can be used to differentiate real and artificial diamonds. Jablonski diagram, different types of luminescence etc were also discussed

Afternoon session began with talk by Sundar Dhuri who gave an overview of single crystal XRD, its importance in structure determination and also showed various crystals synthesized by him and his PhD students in his laboratory. Sir mentioned that if crystal structure changes, then the phase changes and he also added that the simplest method of formation of crystal is by simple evaporation.





Venkatesh Hatwar explained in detailed the working of single crystal XRD instrument and also a comparison between powder XRD thus briefing their importance.









Day 3. 04.01.2023

Morning lecture was regarding NMR, which was delivered by Dr. Vishnu Nadkarni. This lecture included the principle, instrumentation and the working of NMR. Processional frequency, chemical shift value, gyromagnetic ratio, different functional group signal.

Second lecture was delivered by Dr. Rupesh Patre explaining working and principle of HPLC And detail with a schematic block diagram. He further different names of HPLC, types of detectors, mobile phase, problems involved in general elution, reason for band broadening, pump, precolumn. Sir further explained about the column temperature where heaters are used to control the temperature, elution trends of solute, retention time, peak width, resolution etc

During afternoon session Dr. Sandesh Bugde discussed photo luminescence. He explained different types of electronic transition processes including excitation, vibrational relaxation, fluorescence, internal conversion, intersystem crossing, phosphorescence and photosensitization. Sir further briefed about the light source, monochromators, light detectors used in the instruments. excitation, emission, fluorophores was explained in the session.









Day 4. 05.01.2023

The session started with the demonstration of the sample analysis by research scholar Mr. Dinesh Nadimetla. He gave a brief introduction to all the participants about the spectroscopy, EMR spectrum and explained the basic principles of spectroscopic techniques such as ¹HNMR and ¹³CNMR. He also explained the identification of different peaks and its interpretation in the spectra obtained using the software. Later he helped the participants with the injection of the sample and also the precautions and safety measures to be followed while handling the instrument.











In the second session, the demonstration and hands on training of the Single Crystal X-Ray Diffractometer (SCXRD) was given by a research scholar Ms. Nikita Harmalkar. She gave a detailed overview of the instrument including its basic principle and the working of the instrument. She also demonstrated all the participants with the selection of the best crystal appropriate for the SCXRD using a microscope. she even showed different types of tools used

to separate a crystal from the bulk sample. Later on, she gave a proper demo of the software to analyse the crystal structure data obtained from the instrument. She mentioned the safety measures to be followed during handling of the instrument.







Day 5. 06.01.2023

The morning session included a detailed demonstration of atomic emission spectroscopy (AES) by Dr. Prajesh Volvoikar. After briefing the participants about the important applications of AES in research studies. He explained the working of the AES instrument and covered up all the theory portion of the technique. Later on, the demonstration and hands on training of the AES instrument was given by the research scholar Ms. Luen Dsouza, wherein she introduced the AES instrument and its working to all the participants. She guided the participants regarding

all the parts of the instrument and its functions, later on how to upload the sample and software operation.









The afternoon session started with the demonstration and hands on training of the high-performance liquid chromatography (HPLC) instrument which was handled by the expert Ms. Siddhi Salgaonkar, a research scholar. She demonstrated the sample analysis to all the participants and explained the working of each component of the instrument. The data interpretation was explained by her wherein she covered the stepwise operation of software.









Day 6. 07.01.2023

The morning session started with the lecture by Dr. Hari K. Kadam on interpretation of data and solved the doubts on NMR spectroscopy. He gave the detailed explanation on spectra solving. He even provided the participants with some unsolved spectra for practice.

The other half of the session started with the demonstration and hands on training of photoluminescence (PL) instrument by Dr. Sandesh T. Bugde. The trainees were acquainted with the importance of the instrument and its application in research related work. He gave a detailed explanation and demonstration starting from sample loading till data interpretation on the software











KEYNOTE SPEAKER

Day 6 we had a talk by Dr. Pratishtha T. Pandey, Head (R & D Infrastructure Division) DST, GOI on various DST scheme to participants and faculty members of university. It was a interactive session where participants and faculty members has good discussion with keynote speaker.











Day 7. 09.01.2023

Participants analysed their samples on AES, HPLC, Single crystal XRD and NMR with the help of research scholar of host institution. Participant could have actual feel of instrument as they operated these DST funded instrument to add to their knowledge.

SAMPLE ANALYSIS BY THE PARTICIPANTS





VALEDICTION & MOMENTO AND CERTIFICATE DISTRIBUTION





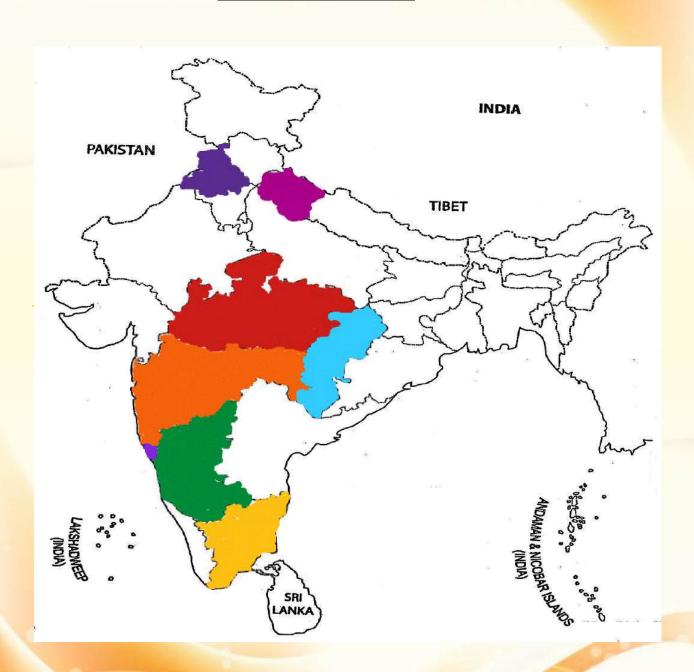


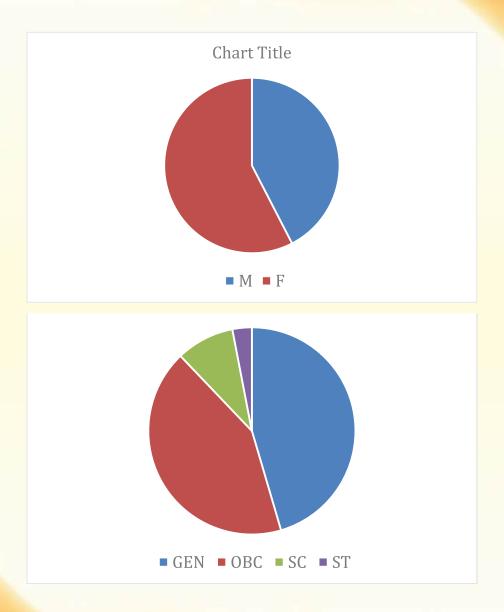


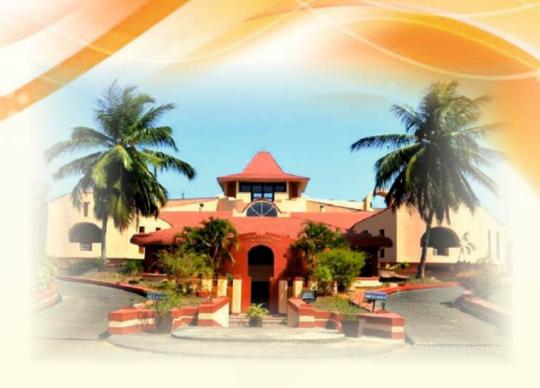




PARTICIPATION SUMMARY









School of Chemical Sciences, Goa University 403 206, India

Prepared By:

Dr. Prajesh S. Volvoikar & Dr. Diptesh G. Naik