Sonopant Dandekar Shikshan Mandali's
Sonopant Dandekar Arts, V.S. Apte Commerce
& M.H. Mehta Science College, Palghar

VALUE ADDED COURSE

IN

BASIC CHEMISTRY

(F.Y.B.Sc.)

Report 2022-2023

INDEX

Value Added Course

Duration: 32 hours

Aim: To study basic concepts in organic, inorganic and physical chemistry

Features of the course:

• Basic concepts of Physical, Inorganic and Organic chemistry

• Practice of important concepts.

• Delivered by faculty of department of chemistry.

Objectives:

- To acquaint learner with fundamental concept of physical chemistry.
- By the end of the course students will gain knowledge about basics of thermodynamics, kinetics, electrochemistry, nuclear chemistry, solid state chemistry.
- Understand the principles and rules of IUPAC nomenclature for organic compounds.
- Familiarize yourself with the various types of reagents used in organic synthesis and their applications.
- Comprehend the electronic effects and their influence on organic reactions and molecular properties.
- Gain knowledge of stereochemical principles and their significance in organic chemistry.
- Understand basic principles in inorganic chemistry.
- Develop understanding of periodic table and arrangement of elements.

Eligibility:

Any science students having chemistry as a subject.

Proposal

20th April, 2023

To,

The Principal,

Sonopant Dandekar Arts, V.S. Apte Commerce

and M.H. Mehta Science College,

Palghar

Subject: Approval for Value Added Course in Basic Chemistry (F.Y.B.Sc.)

Respected Sir,

For the strong foundation in S.Y.B.Sc, basic concepts in chemistry needs to be revised and cleared for students. We have designed a value-added course in basics of chemistry for the student's opting chemistry in their second year. The course is aimed at enhancing knowledge and revising some basic concepts of chemistry. This course will benefit the students opting chemistry in S.Y.B.Sc.The details are provided along with this letter.

I request you to kindly grant the permission to start this course and look forward to your positive response.

Thanking you,

Yours faithfully,

Dr. Suhas P. Janwadkar

Head, Department of Chemistry

Notice for students

Sonopant Dandekar Arts, V. S. Apte Commerce &
M. H. Mehta Science College, Palghar, Dist: Palghar
ACADEMIC YEAR 2022-23

Date : 02/05/2023

NOTICE

All the **F. Y. B. Sc.** students are hereby informed that their value-added course in basics of chemistry will begin from 16th May, 2023. Students opting chemistry in S.Y.B.Sc. are requested to join the following group,

https://chat.whatsapp.com/IEQV5d3nDxX2Y8969LdW15

The schedule of course is attached with this notice.

Dr. Suhas Janwadkar

Head ,Department of Chemistry

Syllabus

Syllabus: Inorganic Chemistry

Sr. No.	Topic	Content	Duration
1	Inorganic Chemistry	Introduction to Inorganic Chemistry	➢ 4 Hrs.
2	Electronic Configuration	Quantum Numbers	➢ 12 Hrs.
		Electronic Configuration, Aufbau Principle	
		Electronic Configuration	
		Pauli Exclusion Principle	
		Hund`s Rule	
3	Periodic Table	Introduction to Periodic Table	➢ 10 Hrs.
		Periodic Table	
		Classification	
		Periodicity	
		Periodicity	
4	Valency and Oxidation State	Valency and Oxidation State	➢ 4 Hrs.
	Total Duration		➢ 30 Hrs.

Syllabus: Organic Chemistry

	Content	Theoretical	Duration
1	➢ IUPAC nomenclature	➢ IUPAC of various functional group	➢ 10 Hrs.
2	➢ Basic reaction mechanism	➢ Nucleophile, Electrophile and Types of arrows ➢ Various effects ➢ Types of reactions ➢ Intermediates ➢ Hybridization of C, O, N	➢ 01 Hrs. ➢ 04 Hrs. ➢ 01 Hrs. ➢ 03 Hrs. ➢ 01 Hrs.
3	➢ Stereochemistry	➢ Conformational isomers ➢ Configurational isomers ➢ Optical isomers	➢ 02 Hrs. ➢ 02 Hrs. ➢ 02 Hrs.
4	➢ Internal test	➢	➢ 04 Hrs
	Total Duration		➢ **30 Hrs.**

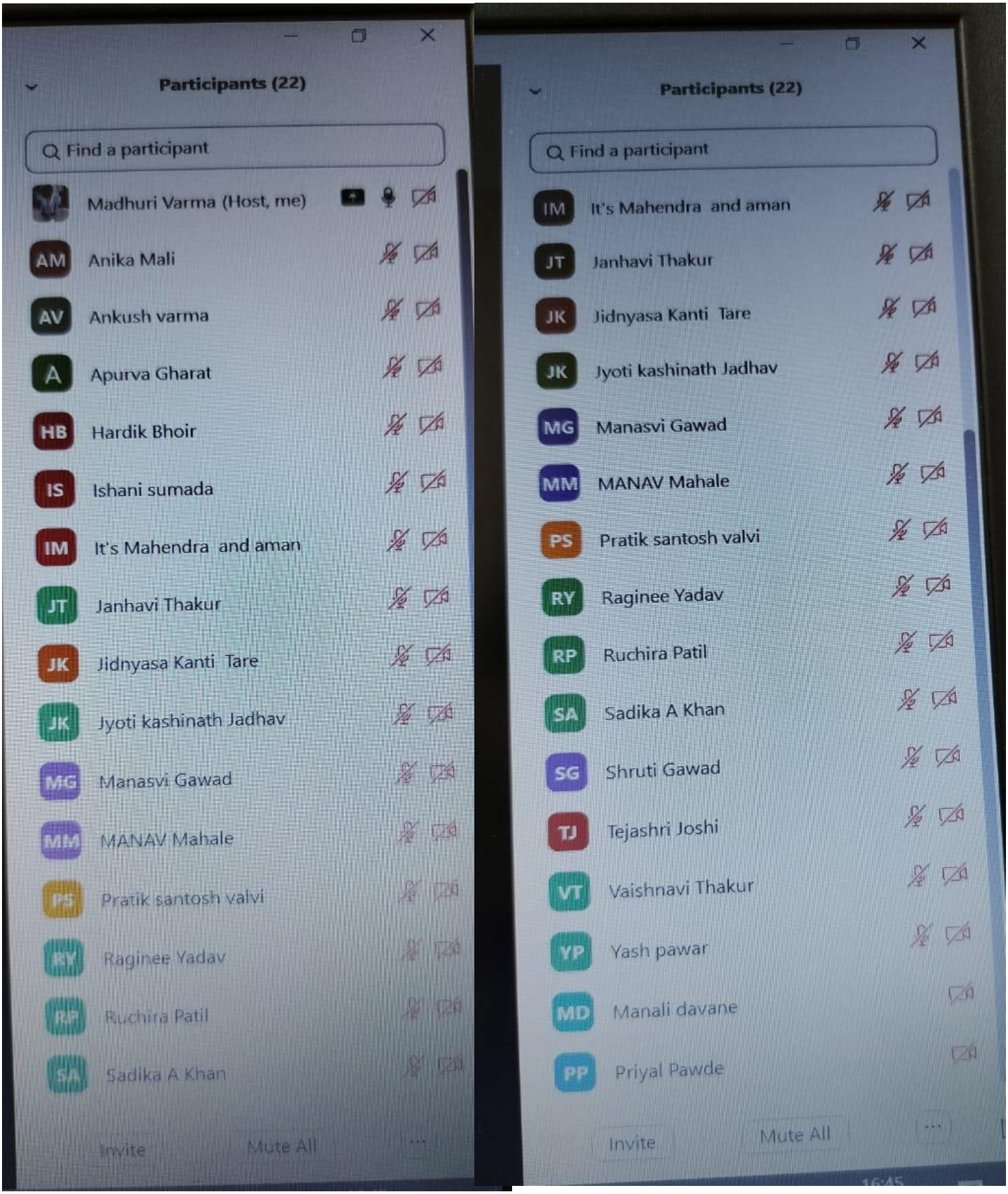
Syllabus

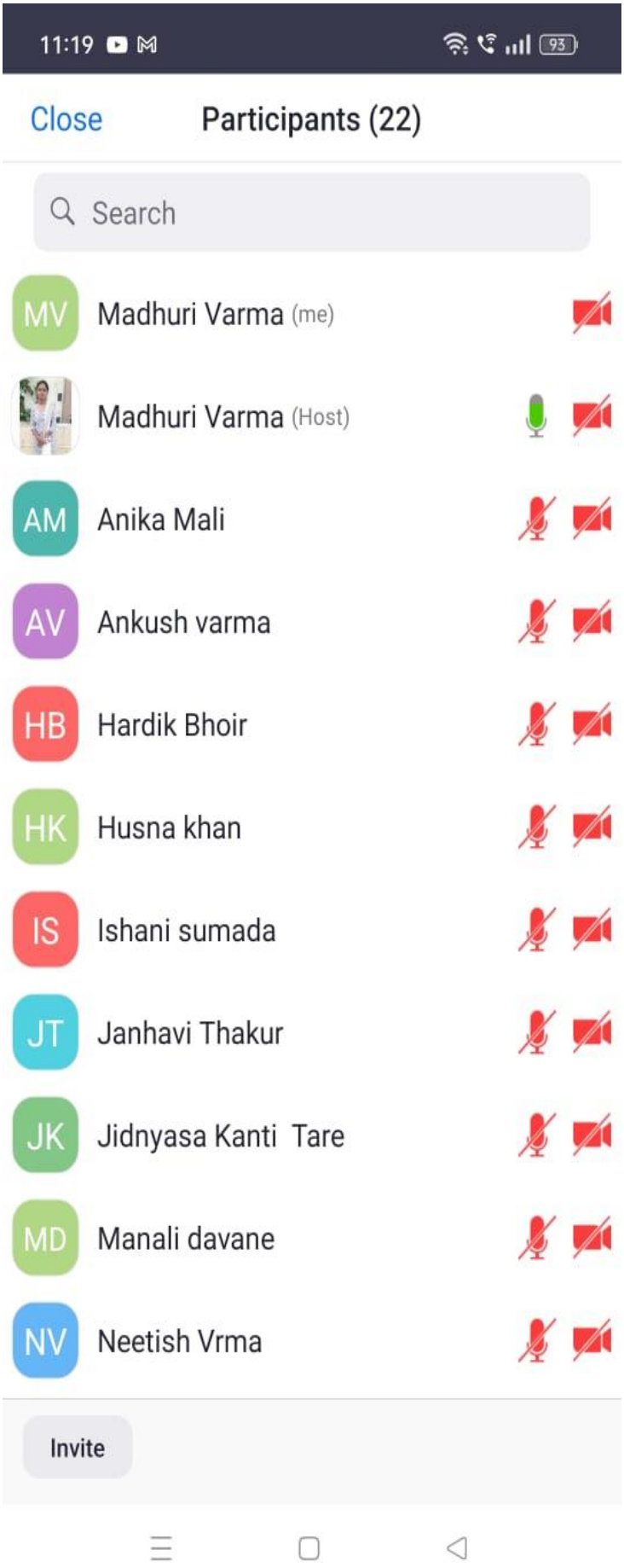
Syllabus: Physical Chemistry

	Content	Theoretical	Durations
1	➢ Chemical calculations	➢ Mole Concept ➢ Normality ➢ Molarity ➢ Formality ➢ Molality ➢ Mole Fraction ➢ PPM ➢ PPB	➢ 4 hours
2	➢ Chemical Kinetics	➢ Rate of Reaction ➢ Molecularity ➢ Order of reaction ➢ First Order reactions ➢ Second order reaction (Derivations)	➢ 4 hours
3	➢ Chemical Thermodynamics	➢ Extensive and intensive Properties ➢ Basic terms involved in thermodynamics ➢ First and second law of thermodynamics ➢ Enthalpy ➢ Entropy ➢ Gibbs free energy	➢ 5 hours
4	➢ Electrochemistry	➢ Electrolytic and Galvanic cells ➢ Electrodes and electrolytes ➢ Faraday's law ➢ Kohlrauch Law ➢ Type of cells ➢ Use of salt bridge	➢ 5 hours
5	➢ Solutions	➢ Types of solutions ➢ Raoult's law	➢ 4 hours

		➢ Vapour pressure of Solutions ➢ Deviations from Raoult's law ➢ Colligative properties	
6	➢ Nuclear Chemistry	➢ Nuclear Radioactivity ➢ Nuclear Transmutation reaction ➢ Nuclear fission ➢ Nuclear fusion	➢ 4 hours
7	➢ Solid State Chemistry	➢ Law's of Crystallography ➢ Crystal Lattice ➢ Body centered Cubic lattice ➢ Face centered Cubic lattice ➢ Miller indices ➢ Numericals	➢ 4 hours

Attendance


Participants (22)
Find a participant
Madhuri Varma (Host, me)
Anika Mali
Ankush varma
Apurva Gharat
Hardik Bhoir
Ishani sumada
It's Mahendra and aman
Janhavi Thakur
Jidnyasa Kanti Tare
Jyoti kashinath Jadhav
Manasvi Gawad
MANAV Mahale
Pratik santosh valvi
Raginee Yadav
Ruchira Patil
Sadika A Khan
Invite
Mute All
Participants (22)
Find a participant
It's Mahendra and aman
Janhavi Thakur
Jidnyasa Kanti Tare
Jyoti kashinath Jadhav
Manasvi Gawad
MANAV Mahale
Pratik santosh valvi
Raginee Yadav
Ruchira Patil
Sadika A Khan
Shruti Gawad
Tejashri Joshi
Vaishnavi Thakur
Yash pawar
Manali davane
Priyal Pawde
Invite
Mute All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Participants (22)
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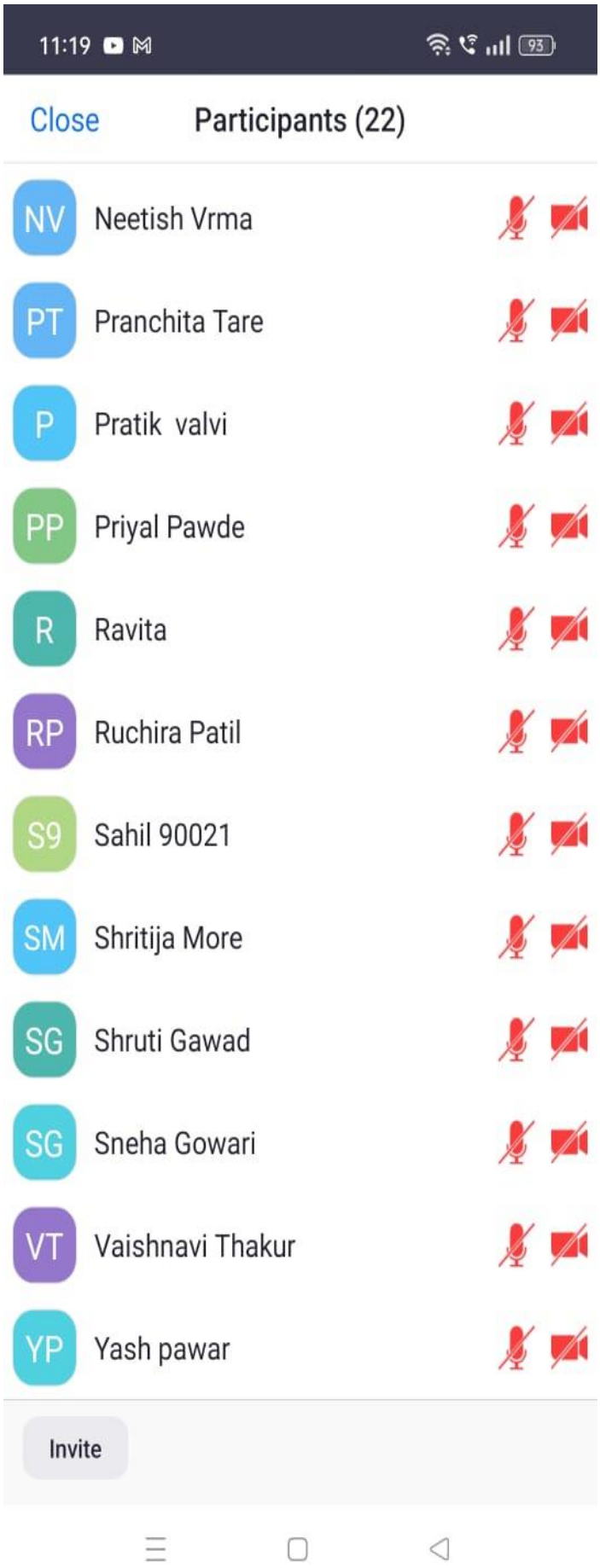
MV Madhuri Varma (me)
Madhuri Varma (Host)
AM Anika Mali
AV Ankush varma
HB Hardik Bhoir
HK Husna khan
IS Ishani sumada
JT Janhavi Thakur
JK Jidnyasa Kanti Tare
MD Manali davane
NV Neetish Vrma
Invite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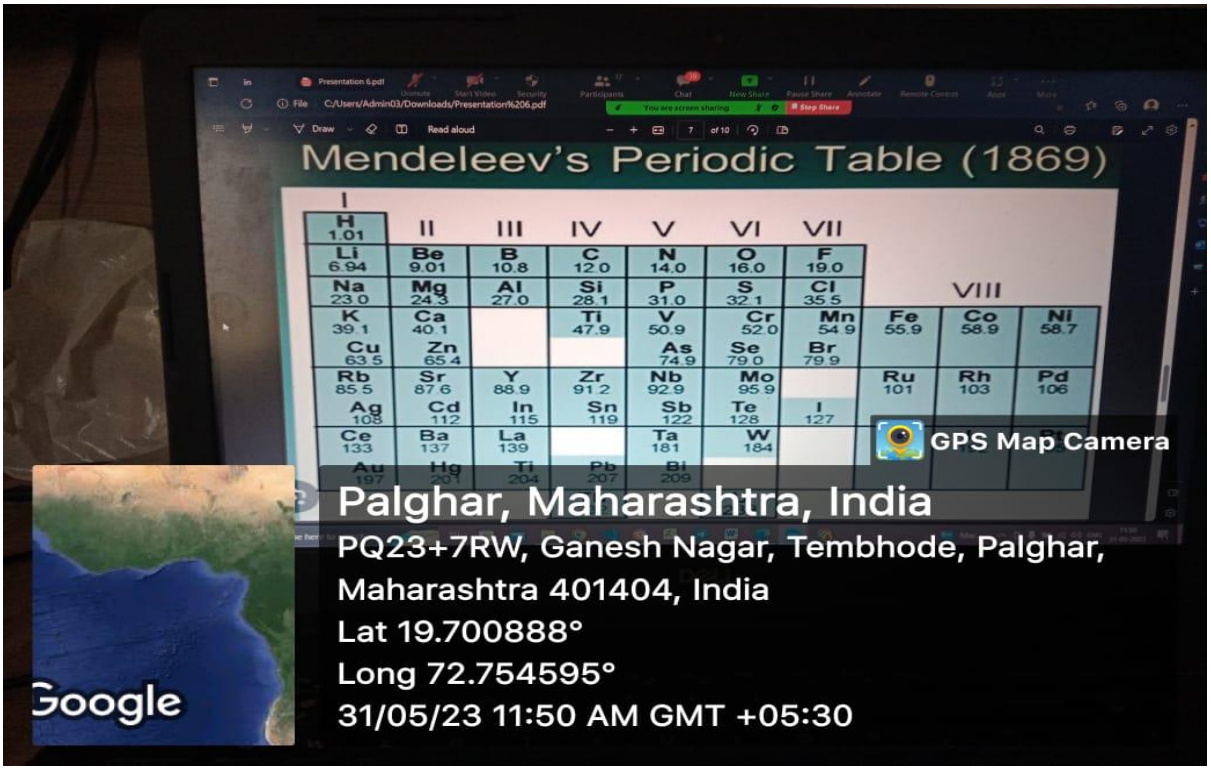
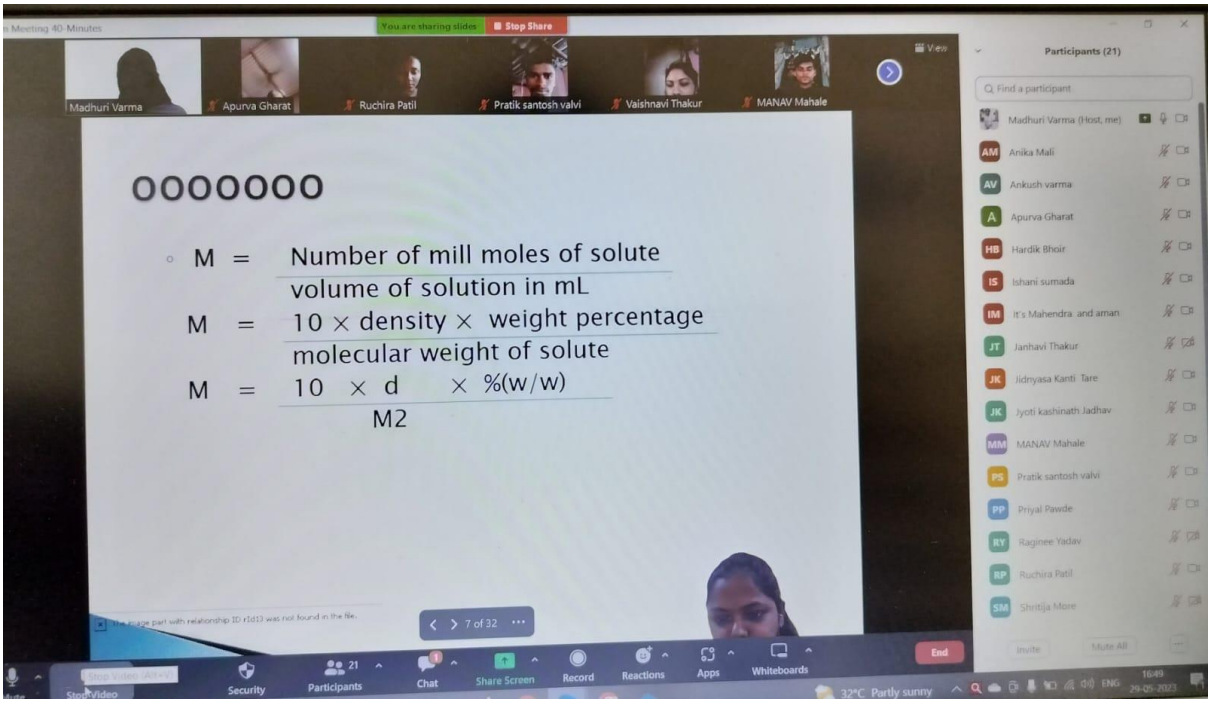
Participants (22)
NV Neetish Vrma
PT Pranchita Tare
P Pratik valvi
PP Priyal Pawde
R Ravita
RP Ruchira Patil
S9 Sahil 90021
SM Shritija More
SG Shruti Gawad
SG Sneha Gowari
VT Vaishnavi Thakur
YP Yash pawar
Invite

Glimpse of event






KINI NAGAR
किनी नगर
JUNA PALGHAR
जुना पालघर
VEVOOR
वावुर
Palghar
पालघर
VISHNU NAGAR
विष्णु नगर
PALGHAR WEST
Google
Palghar Bhaji Market, Juna Palghar, Palghar, Maharashtra 401404, India
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Maharashtra
India
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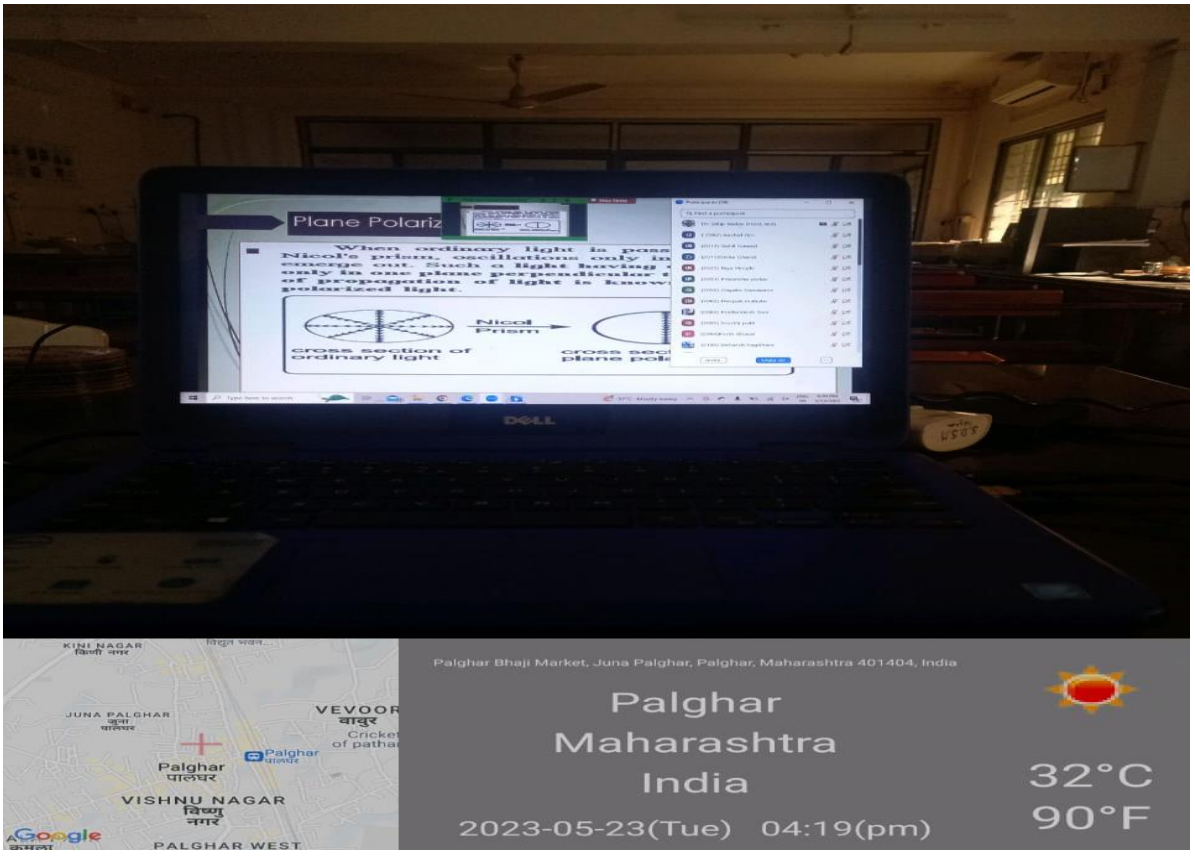
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KINI NAGAR
किनी नगर
JUNA PALGHAR
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VEVOOR
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Palghar
पालघर
VISHNU NAGAR
विष्णु नगर
PALGHAR WEST
Google
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India
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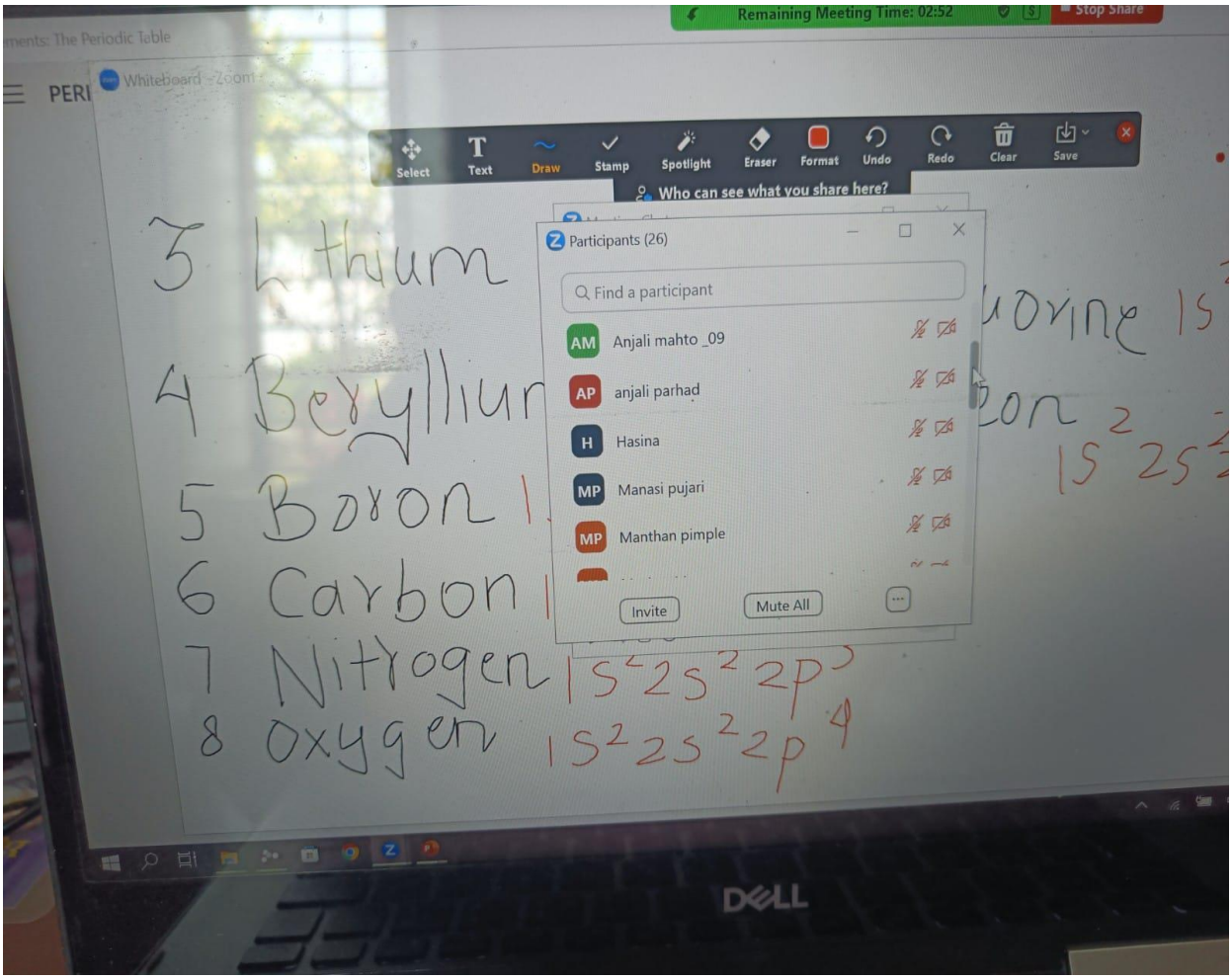
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Stop Share
Whiteboard - Zoom
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Text
Draw
Stamp
Spotlight
Eraser
Format
Undo
Redo
Clear
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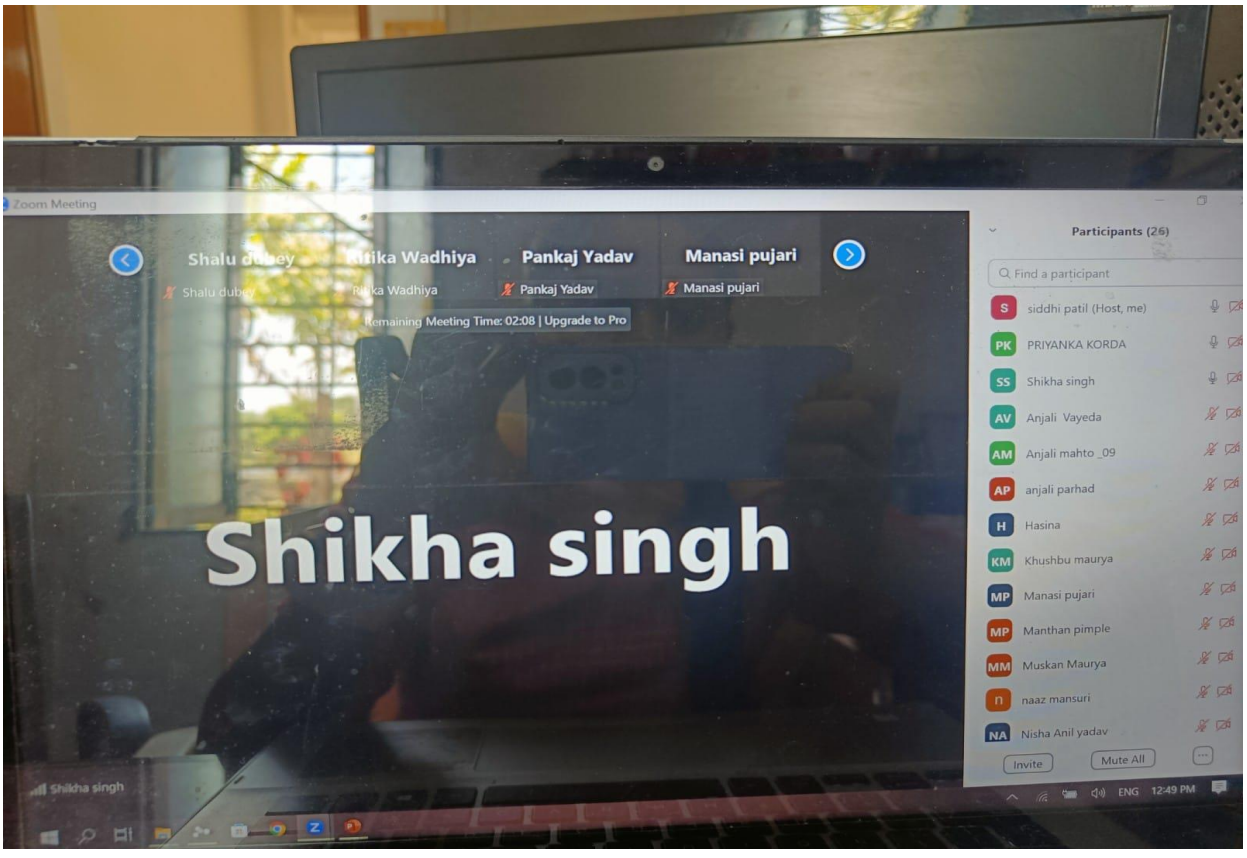
Who can see what you share here?
3 Lithium
4 Beryllium
5 Boron
6 Carbon
7 Nitrogen
8 oxygen
Participants (26)
Find a participant
AM Anjali mahto _09
AP anjali parhad
H Hasina
MP Manasi pujari
MP Manthan pimple
Invite
Mute All
DELL


Zoom Meeting
Shalu dubey
Pankaj Yadav
Manasi pujari
Remaining Meeting Time: 02:08 | Upgrade to Pro
Shikha singh
Participants (26)
Find a participant
siddhi patil (Host, me)
PRIYANKA KORDA
Shikha singh
Anjali Vayeda
Anjali mahto _09
anjali parhad
Hasina
Khushbu maurya
Manasi pujari
Manthan pimple
Muskan Maurya
naaz mansuri
Nisha Anil yadav
Invite
Mute All
ENG
12:49 PM

Course Summary

The Value Added Course in Chemistry, offered over a span of 32 hours, aimed to provide students with a comprehensive understanding of fundamental concepts across physical, inorganic, and organic chemistry. Delivered by the experienced faculty of the Department of Chemistry, the course was structured to blend theoretical knowledge with practical insights, ensuring a holistic learning experience.