



Goa University
Discipline of Physics
School of Physical and Applied Sciences
Report on Preconvention workshop of National IAPT Convention

1. Title of the Event/Activity/program	Preconvention workshop of 39 th National IAPT convention
2. Date and Time	4 th October 2025, 10:00 am to 5:00 pm
3. Mode of conduct (Physical/Online)	Physical
4. School/ Directorate/ Section	School of Physical and Applied Sciences
5. Collaborating Agency/School/Directorate	Indian Association of Physica Teachers Goa RC 21
6. Detail of the Resource Person (Brief biodata)	1. Prof. Vandana Luthra, Professor Department of Physics Gargi College, New Delhi 2. Dr. Jayant Joshi, Engineer at Bhabha Atomic Research Centre, Mumbai 3. Prof. P. K. Ahluwalia, Professor of Physics at Himachal Pradesh University 4. Dr. Sapna Sharma, Associate Professor in department of Physics at St. Bede's College, Shimla, Himachal Pradesh.
7. Number of Faculty attended/participated	15
8. Number of Student attended / participated	37
9. No. of external students/faculty/other participants	89

10. The objectives of the *Program/activity/event	<ol style="list-style-type: none"> 1. To strengthened conceptual understanding and practical skills in quantum computing through hands-on sessions using Qiskit and virtual quantum tools. 2. Introduction to modern computational platforms and simulations to enhance effective teaching and learning of quantum mechanics. 3. To promote inquiry-based and experiential learning through captivating physics experiments designed to simplify complex scientific concepts. 4. To inspire scientific curiosity and creativity building a paper model of spectroscope and AstroSat, enhancing appreciation of optical spectroscopy and space science.
11. Description of the Program/activity/event	<p>The participants were introduced to the fundamentals of quantum computing, highlighting the distinction between classical bits and qubits. Dr. Luthra provided a detailed explanation of essential quantum gates, through the construction and analysis of simple quantum circuits using matrix formalism. The session also featured a live demonstration of Qiskit a powerful platform for quantum computation showcasing its use in designing and simulating quantum circuits</p> <p>In the parallel session on “Hands-on Virtual Tools for Learning Quantum Mechanics,” Prof. P. K. Ahluwalia and Dr. Sapna Sharma introduced participants to various virtual laboratories such as Vlab, PhET, QuVis, and the Amrita Virtual Lab. Dr. Sharma demonstrated interactive experiments including “Particle in a Box” and “Black Body Radiation,”</p> <p>The Experimental session showcased a variety of fascinating experiments demonstrating fundamental concepts of physics such as capillarity, density, centripetal force, work, energy, viscosity, gravity, surface tension, and friction. Common misconceptions associated with the concepts were clearly addressed.</p> <p>In DIY session Mr. Sameer Durde and Mr. Tushar Purohit guided participants through the fascinating concepts of light dispersion, spectroscopy, and the functioning of India’s first dedicated multi-wavelength space observatory, AstroSat. Constructed simple spectroscopes to observe and analyze the spectra of different light sources. The participants assembled a paper model of AstroSat, enabling them to visualize its structure and learn about its key instruments and scientific objectives. It provided a unique opportunity to explore the practical aspects of astronomy while celebrating India’s remarkable achievements in space research. All sessions were highly interactive.</p>

<p>1. Benefit/Key outcomes of the Program/activity/event.</p>	<p>1. Participants gained a deeper understanding of quantum computing, quantum mechanics, and core physics concepts through practical, interactive learning.</p> <p>2. Hands-on activities using Qiskit, virtual quantum tools, and experimental setups strengthened participants' computational, analytical, and experimental abilities.</p> <p>3. The workshops introduced advanced digital platforms and simulations, empowering participants to adopt innovative teaching and learning methods.</p> <p>4. DIY projects like building a spectroscope and AstroSat model fostered creativity, curiosity, and appreciation for optical instrumentation and space science.</p> <p>5. Engaging experiments promoted exploration, critical thinking, and a problem-solving mindset.</p>
<p>13. Enclosures with report</p>	<p>Photos and scanned copies of attendance attached</p>

Resha

Name of coordinator: Dr. Reshma Raut Dessai

Designation: Assistant Professor SPAS

Rm

Prof. Ramesh V. Pai

Dean SPAS

Seal of the School/Directorate/Univer.





Prof. P. K. Ahluwalia sharing anecdotes on the origins of quantum mechanics



Dr. Vandana Luthra session on navigating quantum frontiers



Dr. Sapna Sharma Hands-on Virtual Tools to Learn Quantum Mechanics



Dr. Jayant Joshi demonstrating enthralling Physics experiments



Mr. Samir Durde and Mr. Tushar Purohit demonstrating DIY model of spectrograph

39th Annual National Convention of Indian Association of Physics Teachers

Preconvention workshop

Date : 4th October 2025

Talk : *Navigating the Quantum Frontiers: A hands on path from Qubits to Qiskit.*

Sr.No	Name	College	Year (F.Y, S.Y,Etc)	Signature
<u>1</u>	Durga Gaonkar	PES's RSN College of Arts and Science		
<u>2</u>	Jivita Naik	PES's RSN College of Arts and Science		
<u>3</u>	Kashvi Velingkar	PES's RSN College of Arts and Science		
<u>4</u>	Mayuresh Naik	PES's RSN College of Arts and Science		
<u>5</u>	Mrunmay Phadte	PES's RSN College of Arts and Science	TY BSc	<i>Phadte</i>
<u>6</u>	Neel Dalvi	PES's RSN College of Arts and Science	TY BSc	<i>Dalvi</i>
<u>7</u>	Nidhi Khedekar	PES's RSN College of Arts and Science		
<u>8</u>	Nitin R.	PES's RSN College of Arts and Science	TY BSc	<i>Nitin</i>
<u>9</u>	Omkar Kandekar	PES's RSN College of Arts and Science		
<u>10</u>	Viraj Bhole	PES's RSN College of Arts and Science		
<u>11</u>	Nikhil Dhamaskar	PES's RSN College of Arts and Science		
<u>12</u>	Dipasha Samant	Government College of Arts, Science & Commerce, Quepem		
<u>13</u>	Flavia Gomes	Government College of Arts, Science & Commerce, Quepem	TY BSc	<i>Gomes</i>
<u>14</u>	HrugvedKakodkar	Government College of Arts, Science & Commerce, Quepem	TY BSc	<i>Kakodkar</i>
<u>15</u>	Janice Fernandes	Government College of Arts, Science & Commerce, Quepem	TY BSc	<i>Fernandes</i>
<u>16</u>	Jasmina Travasso	Government College of Arts, Science & Commerce, Quepem		
<u>17</u>	Saurabh Gaonkar	Government College of Arts, Science & Commerce, Quepem	TY BSc	<i>Gaonkar</i>

18	SheshKhedekar	Government College of Arts, Science & Commerce, Quepem	TYBSc	<i>SheshKhedekar</i>
19	Sonam Sharma	Government College of Arts, Science & Commerce, Quepem		
20	SuhaniNaik	Government College of Arts, Science & Commerce, Quepem	TYBSc	<i>Naik</i>
21	Trisha Fernandes	Government College of Arts, Science & Commerce, Quepem	TYBSc	<i>Trisha</i>
22	Shourya sawant Dessai	Government College of Arts, Science & Commerce, Quepem	TYBSc	<i>Dessai</i>
X 23	Sneha Agarwal	Government College of Arts, Science & Commerce, Quepem		
24	Soham Kalsekar	Government College of Arts, Science & Commerce, Quepem	FYBSc	<i>Kalsekar</i>
X 25	Shravya Borkar	Goa University		
26	Marilyn Monte	Goa University		
27	Joshle Colaco	Goa University		
28	Adithya Krishna M	Goa University		
29	Rasmita Banaulikar	Goa University		
30	Vinita Diukar	Goa University		
31	Ranjita Patil	Goa University		
32	Tanaya Mahesh Talkar	Goa University		
33	KrupeshVelip	Goa University		
34	Hillsberg Fernandes	Porvathoi Chaugule College of Arts & Science	SY	<i>Hillsberg Fernandes</i>

39th Annual National Convention of Indian Association of Physics Teachers

Preconvention workshop

Date : 4th October 2025

Talk-1 :

Sr.No	Name	College	Year (F.Y, S.Y,Etc)	Signature
1	Chrysander Perpetual Goes	Parvatibai Chowgule College Arts And Science		
2	Surendra Ram Velip	Parvatibai Chowgule College Arts And Science		
3	Harsh Abhijit Volvoikar	Parvatibai Chowgule College Arts And Science		
4	Pradyut Ghosh	Parvatibai Chowgule College Arts And Science		
5	Aaron Jeremiah Ignatius Moraes	Parvatibai Chowgule College Arts And Science	SY	
6	Velino Derick Fernandes	Parvatibai Chowgule College Arts And Science	SY	
7	Dhiraj Girjesh Rajbhar	Parvatibai Chowgule College Arts And Science	SY	
8	Gururaj Prasad Tilve	Parvatibai Chowgule College Arts And Science	SY	
9	Sourav Shukla	Parvatibai Chowgule College Arts And Science	SY	
10	Chaitra Vinayak Kamble,	Dhempe College Of Arts & Science	TYBSc	
11	Prachi Nitin Chopdenkar	Dhempe College Of Arts & Science		
12	Gayatri Ramchandra Satardekar	Dhempe College Of Arts & Science	TYBSc	
13	Harish Kallari	Dhempe College Of Arts & Science		
14	Sonal Uday Rane	Dhempe College Of Arts & Science	TYBSc	
15	Abhishek Kumar Verma	Dhempe College Of Arts & Science		
16	Ojaswi Durbhatkar	Dhempe College Of Arts & Science		
17	Omkar Dhuri	Dhempe College Of Arts & Science	TY	
18	Rishab Sawant	Dhempe College Of Arts & Science		
19	Rishab Jivani	Dhempe College Of Arts & Science		
20	Ronit Raj	Dhempe College Of Arts & Science		
21	Sumukh Yogesh Kamat	Dhempe College Of Arts & Science	T.Y	

22	Saloni Gupta	Dhempe College Of Arts & Science	FY	
23	Piyusha Tari	Dhempe College Of Arts & Science	FY	
24	Kavita Sahani	Dhempe College Of Arts & Science	FY	
25	Shashi Lal Bahadur Pal	Dhempe College Of Arts & Science	FY	
26	Raja Pandit	Dhempe College Of Arts & Science	FY	
27	Anjali Sahani	Dhempe College Of Arts & Science		
28	Shubham Uday Rane	Dhempe College Of Arts & Science	FY	
29	Suhani Naik	Dhempe College Of Arts & Science		
30	Ziya Muskan	Dhempe College Of Arts & Science		
1.	Pranjali Gad	Goa University	Msc Part I	
2.	Sayjal Kalangutkar	SPAS	"	
3.	Chanda Prajapati	"	"	
4.	Siddharth Khedekar	"	"	
5.	Rusy Parab	"	"	
6.	Bibhy Nayak	"	"	
7.	Manasvi Desai	"	"	
8.	Anurag Kumar	SPAS	SC	

8. Gopal Haldankar

9. Shweta Bhosle

39th Annual National Convention of Indian Association of Physics Teachers

Preconvention workshop

Date : 4th October 2025

Talk : *Hands on virtual tools for learning Quantum mechanics.*

Sr.No	Name	College	Year (F.Y, S.Y,Etc)	Signature
1	Durga Gaonkar	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
2	Jivita Naik	PES's RSN College of Arts and Science	TY BSC	<i>[Signature]</i>
3	Kashvi Velingkar	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
4	Mayuresh Naik	PES's RSN College of Arts and Science		
5	Mrunmay Phadte	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
6	Neel Dalvi	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
7	Nidhi Khedekar	PES's RSN College of Arts and Science		
8	Nitin R.	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
9	Omkar Kandekar	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
10	Viraj Bhola	PES's RSN College of Arts and Science	TYBSC	<i>[Signature]</i>
11	Nikhil Dhamaskar	PES's RSN College of Arts and Science		
12	Dipasha Samant	Government College of Arts, Science & Commerce, Quepem	TYBSC	<i>[Signature]</i>
13	Flavia Gomes	Government College of Arts, Science & Commerce, Quepem	TY BSC	<i>[Signature]</i>
14	HrugvedKakodkar	Government College of Arts, Science & Commerce, Quepem	TYBSC	<i>[Signature]</i>
15	Janice Fernandes	Government College of Arts, Science & Commerce, Quepem	TYBSC	<i>[Signature]</i>
16	Jasmina Travasso	Government College of Arts, Science & Commerce, Quepem	TYBSC	<i>[Signature]</i>
17	Saurabh Gaonkar	Government College of Arts, Science & Commerce, Quepem	TYBSC	<i>[Signature]</i>

18	SheshKhedekar	Government College of Arts, Science & Commerce, Quepem	TYBSc	<u>SheshKhedekar</u>
19	Sonam Sharma	Government College of Arts, Science & Commerce, Quepem	TYBSc	<u>Sonam</u>
20	SuhaniNaik	Government College of Arts, Science & Commerce, Quepem	TYBSc	<u>Naik</u>
21	Trisha Fernandes	Government College of Arts, Science & Commerce, Quepem	TYBSc	<u>Fernandes</u>
22	Shourya sawant Dessai	Government College of Arts, Science & Commerce, Quepem	TYBSc	<u>Sawant</u>
23	Sneha Agarwal	Government College of Arts, Science & Commerce, Quepem		
24	Soham Kalsekar	Government College of Arts, Science & Commerce, Quepem	FYBSc	<u>Kalsekar</u>
25	Shravya Borkar	Goa University		
26	Marilyn Monte	Goa University	MSc Part II	<u>Monte</u>
27	Joshle Colaco	Goa University		
28	Adithya Krishna M	Goa University	MSc-Part II	<u>Adithya</u>
29	Rasmita Banaulikar	Goa University	MSc Part II	<u>Banaulikar</u>
30	Vinita Diukar	Goa University	MSc-Part II	<u>Diukar</u>
31	Ranjita Patil	Goa University		
32	Tanaya Mahesh Talkar	Goa University	MSc-Part II	<u>Talkar</u>
33	KrupeshVelip	Goa University		
34	Shaikh Ibrahim	P.E.S. College of Arts & Science, Gort College of Arts, Science and Com. Quepem	Faculty	<u>Ibrahim</u>
35	Shravanam Sheikh	Presentacion Convent Higher Secondary School	Faculty	<u>Shravanam</u>
36	Rajashree S. Thakur	Goa University	Ms. Part I	<u>Thakur</u>
37	Shweta Phosle	Goa University	Ms. Part I	<u>Phosle</u>

39th Annual National Convention of Indian Association of Physics Teachers

Preconvention workshop

Date : 4th October 2025

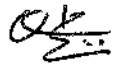








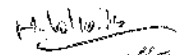
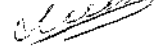

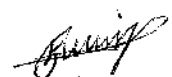

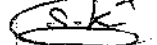
Talk-1 : *Hands on virtual tools for learning Quantum mechanics.*

Sr.No	Name	College	Year (F.Y, S.Y, Etc)	Signature
1	Chrysander Perpetual Goes	Parvatibai Chowgule College Arts And Science		
2	Surendra Ram Velip	Parvatibai Chowgule College Arts And Science		
3	Harsh Abhijit Volvoikar	Parvatibai Chowgule College Arts And Science		
4	Pradyut Ghosh	Parvatibai Chowgule College Arts And Science		
5	Aaron Jeremiah Ignatius Moraes	Parvatibai Chowgule College Arts And Science	SY	
6	Velino Derick Fernandes	Parvatibai Chowgule College Arts And Science	SY	
7	Dhiraj Girjesh Rajbhar	Parvatibai Chowgule College Arts And Science	SY	
8	Gururaj Prasad Tilve	Parvatibai Chowgule College Arts And Science	SY	
9	Sourav Shukla	Parvatibai Chowgule College Arts And Science	SY	
→ 10	Hillsberg Fernandes Chaitra Vinayak Kamble,	Dhempe College Of Arts & Science	SY TY Bsc	
11	Prachi Nitin Chopdenkar	Dhempe College Of Arts & Science		
12	Gayatri Ramchandra Satardekar	Dhempe College Of Arts & Science	TY BSC	
13	Harish Kallari	Dhempe College Of Arts & Science	TY BSC	
14	Sonal Uday Rane	Dhempe College Of Arts & Science	TY BSC	
15	Abhishek Kumar Verma	Dhempe College Of Arts & Science	TY BSC	
16	Ojaswi Durbhatkar	Dhempe College Of Arts & Science		
17	Omkar Dhuri	Dhempe College Of Arts & Science	TY BSC	
18	Rishab Sawant	Dhempe College Of Arts & Science		
19	Rishab Jivani	Dhempe College Of Arts & Science		
20	Ronit Raj	Dhempe College Of Arts & Science		
21	Sumukh Yogesh Kamat	Dhempe College Of Arts & Science	TY	

22	Saloni Gupta	Dhempe College Of Arts & Science	FY BSc.	<i>Sal</i>
23	Piyusha Tari	Dhempe College Of Arts & Science	FY BSc.	<i>Piy</i>
24	Kavita Sahani	Dhempe College Of Arts & Science	FY BSc	<i>Kavita</i>
25	Shashi Lal Bahadur Pal	Dhempe College Of Arts & Science	FY BSc	<i>Shashi</i>
26	Raja Pandit	Dhempe College Of Arts & Science	FY BSc	<i>Raja</i>
27	Anjali Sahani	Dhempe College Of Arts & Science	FY BSc	<i>Anjali</i>
28	Shubham Uday Rane	Dhempe College Of Arts & Science	FY BSc	<i>Shub</i>
29	Suhani Naik	Dhempe College Of Arts & Science		
30	Ziya Muskan	Dhempe College Of Arts & Science		
31	Nitesh Patel	The Riverside School Ahmedabad	Teach	<i>Nitesh</i>
32	Kushal Jhunjhunwala	The Riverside School	Grade 11	<i>Kushal</i>
33	Paraj Jain	The Riverside School	Grade 11	<i>Paraj</i>
34	Pranav Gupta	St. Xavier's School	Grade 11	Pranav
35	Madhvi Mehta	Coast University	Marketing II	Madhvi

Theory lecture (workshop)

①

Sr.No	Name	College	Signature
1.	Omkar N. Kandelkar	PES RSN College Science	
2.	Dusqa S. Gaonkar	PES RSN College of Arts & Science Farmagudi Goa	
3.	Jivita A. Naik	PES RSN College of Arts and Science Farmagudi Goa	
4]	Kashvi Velinko	PES RSN College of Arts & Science Farmagudi - Goa	
5	Viraj .N. Bhola	PES RSN College of Arts & Science Farmagudi Goa	
6.	Krupesh Velip	Goa University	
7	Joshle Colaco	GOA University	
8	Marilyn Monte	Goa University	
9	Vinita Diukar	Goa University	
10	Harsh Velvaker	Changude College (PCCAS)	
11	Chingender P. G. Desai	Farmagudi Goa Changude College	
12	Pradyut Ghosh	PCCAS	
13.	Surendra Velip	PCCAS	
14	Tanay Gavekar	-	
15	Sumabh Kamat	Dhempe College	

Theory Workshop (Lecture)

(2)

No.	Name	College	Signature
1.	Omkar Dhuri	Dhemp College of Arts & Science	<u>Om</u>
2.	Harish Walasi	Dhemp College	Har
3.	Ranit Raj	Dhemp College	<u>Ranit</u>
4.	Abhishek Verma	Dhemp College	<u>Abh</u>
	Anjali Sahani	Dhemp College of Arts & Science	<u>A Sahani</u>
5.	Aditya Krishna . M	MSc physics (SPAS)	<u>Aditya</u>
6.	Krupesh Velip	Goa University	<u>Krupesh</u>
7.	Tanaya M. Talkatz	Goa University	<u>T</u>
8.	Ranjita Patil	Goa University	<u>Raj</u>
9.	Ramita Bamaulikar	Goa University	<u>Ramita</u>
10.	Shweta Bhosle	Goa University	<u>Shweta</u>