

**Report on**  
**Computer Interfaced Physics**  
**Experiments using ExpEyes-17/SeeLab 3**

**Organized jointly by**

Department of Physics  
Shri Shivaji Education Society Amravati's  
Science College,  
Congress Nagar, Nagpur



**&**

**Indian Association of Physics Teachers**  
Sub-Regional Council (Vidarbha)  
**Sub-RC 08E**



**28-29 August 2024**

# Invitation



WE CORDIALLY INVITE YOU FOR  
TWO DAYS WORKSHOP ON  
**Computer Interfaced Physics Experiments  
using ExpEyes-17/SeeLab 3**



ORGANIZED BY

**Shri Shivaji Education Society Amravati's  
Science College, Congress Nagar, Nagpur**

**Department of Physics** In association with

**Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)**

## CHIEF GUEST

**Dr Devram Nandanwar**  
Ex- BoS Chairman (Physics)  
Professor in Physics,  
S.M Mohata College of Science, Nagpur

**Presided by**  
**Dr O.S. Deshmukh, Principal**

WHEN : 28 AUGUST 2024 AT 10:30 AM

WHERE: DEPARTMENT OF PHYSICS

SSES, SCIENCE COLLEGE, CONGRESS NAGAR NAGPUR

### Coordinator

**Dr. R N Pathare**  
SSES's SCIENCE COLLEGE,  
Congress Nagar, Nagpur

### Convener

**Dr. S W Anwane**  
Professor & Head  
President, IAPT SRC-08E

**DR S V KHANGAR, MR B T KUMBHARE, DR SHAHIN SAYYED, DR G L JADHAV**

# DAY-1

## Report on the Invited Talk by VVV Satyanarayan: Teaching Science through Experimentation and Exploration

### Report of the Day-1 of the Workshop on Computer Interfaced Physics Experiments Using ExpEyes-17/SeeLab 3

**Organized by:** Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur in Association with the Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)

**Date:** August 28, 2024

**Venue:** Physics Department, Shri Shivaji Science College, Congress Nagar, Nagpur

#### Inaugural Session:

The first day of the workshop on "Computer Interfaced Physics Experiments Using ExpEyes-17/SeeLab 3" began with an inaugural session, setting a positive tone for the two-day event. The session started with a welcome address by Dr. Gajanan Jadhav, who emphasized the relevance of this workshop in the context of the updated syllabus introduced by RTMNU University, in alignment with the New Education Policy (NEP) 2020.

The Chief Guest for the event, Hon'ble Dr. Devram Nandanwar, highlighted the importance of integrating modern technology into physics experiments to enhance students' learning experiences. Principal Dr. O. S. Deshmukh, in his presidential address, emphasized the college's commitment to providing students with cutting-edge tools and methodologies in their academic pursuits.

Following the speeches, a felicitation ceremony was held. Hon'ble Dr. Devram Nandanwar was felicitated by Shri Bhupendra Kumbhare, while Dr. O. S. Deshmukh was honored by Dr. Shahin Sayyad. Prof. S. W. Anwane and Dr. Ragini Pathare were also felicitated for their roles in organizing the workshop.

#### Session-1

**Time:** 11:00 am – 12:30 pm

**Venue:** Department of Physics, Shri Shivaji Science College, Congress Nagar, Nagpur

**Organized by:** Department of Physics, Shri Shivaji Science College, Congress Nagar, Nagpur

**Speaker:** Er. VVV Satyanarayana, Inter-University Accelerator Centre, New Delhi

## **Introduction**

The Department of Physics at Shri Shivaji Science College, Congress Nagar, Nagpur, organized an insightful invited talk by **Er. VVV Satyanarayan**, an expert in educational technology and experimental physics, on the topic "**Teaching Science through Experimentation and Exploration**". The talk focused on the importance of hands-on learning in science education, with a detailed discussion on the use of ExpEyes-13, a versatile tool for conducting physics experiments.

## **The Essence of Experimentation and Exploration in Science Education**

Mr. Satyanarayan began the session by emphasizing the critical role of experimentation and exploration in the teaching and learning of science. He highlighted that while theoretical knowledge is essential, the true understanding of scientific concepts is achieved when students can see and experience these concepts in action. He advocated for a teaching approach that integrates experimental work with classroom learning, thereby making science more tangible and engaging for students.

## **Introduction to ExpEyes-13**

The speaker introduced ExpEyes-13 as a powerful tool that embodies the principles of teaching through experimentation and exploration. He explained that ExpEyes-13 is part of the ExpEYES (Experiments for Young Engineers and Scientists) project, designed to make learning science interactive and enjoyable. The device allows students to perform a wide variety of experiments, making it an ideal companion for both teachers and students in a physics laboratory.

## **Key Highlights: Specifications, Features, and Applications of ExpEyes-13**

### **1. Specifications of ExpEyes-13:**

Mr. Satyanarayan provided a detailed overview of the technical specifications of ExpEyes-13, including:

- **Microcontroller:** ATmega16U2, which provides the processing power for the device.
- **Analog Inputs:** Two 12-bit resolution channels for accurate measurement.
- **Digital Inputs/Outputs:** Multiple digital I/O ports that can be used for various experiments.
- **Sampling Rate:** Capable of sampling up to 1 million samples per second (MSPS).
- **Power Supply:** Operates via USB, making it portable and easy to use in different settings.

### **2. Features of ExpEyes-13:**

He then discussed the features that make ExpEyes-13 a standout tool for teaching science:

- **User-Friendly Interface:** The device comes with a simple and intuitive graphical user interface (GUI) that makes it easy to set up and conduct experiments.
- **Versatility:** ExpEyes-13 supports a wide range of physics experiments, from basic principles of mechanics to advanced studies in electromagnetism, optics, and thermodynamics.
- **Real-Time Data Analysis:** The device allows for real-time plotting and analysis, enabling students to visualize and interpret data as it is collected.
- **Customization and Flexibility:** Being open-source, the software for ExpEyes-13 can be customized to suit specific educational needs or research requirements.

### 3. Applications of ExpEyes-13:

The talk covered various applications of ExpEyes-13 in both educational and research contexts:

- **Educational Experiments:** Mr. Satyanarayan demonstrated how ExpEyes-13 can be used to conduct standard physics experiments, such as measuring the acceleration due to gravity, studying electrical circuits, and exploring the properties of waves and optics.
- **Research Applications:** He highlighted the device's potential in research, particularly in situations where precise measurements and data analysis are required. The flexibility of ExpEyes-13 makes it suitable for both simple classroom experiments and more complex research projects.

### Demonstrations and Interactive Session

To reinforce the theoretical discussion, Mr. Satyanarayan conducted live demonstrations of several experiments using ExpEyes-13. Participants were able to see firsthand how the device works and how it can be used to explore various scientific concepts. The interactive session allowed attendees to ask questions and engage with the material, making the talk highly educational and practical.

The invited talk by Mr. VVV Satyanarayan was a resounding success, providing valuable insights into the role of experimentation and exploration in science education. His thorough explanation of the basics, specifications, features, and applications of ExpEyes-13 showcased the device as a vital tool for enhancing the teaching and learning of physics. The session inspired participants to adopt a more hands-on approach in their teaching methodologies and to explore the endless possibilities offered by tools like ExpEyes-13.

## Session-2 (1:30 pm-5:00 pm)

### Experiments using ExpEyes (Demonstration & Hands-on)

The first technical session was conducted by Dr. Prashant Ambekar, Dr. Govind Lakhotiya, Ragini Pathare, Mr Pratik Gaiki who introduced the participants to the ExpEyes-17/SeeLab 3 platform. They provided an overview of the hardware and software components, demonstrating how these tools can be used to perform a wide range of physics experiments.

The session was interactive, with participants engaging in discussions and hands-on activities to familiarize themselves with the equipment.

### **Practical Session: Hands-on Experiments**

In the afternoon, participants were divided into small groups to engage in hands-on experiments using the ExpEyes-17/SeeLab 3 kits. Guided by experienced faculty members, the participants performed a series of experiments related to mechanics, electronics, and optics. The practical session was designed to give participants a comprehensive understanding of how to set up and conduct experiments, record data, and analyze results using the provided software.

### **Feedback and Interaction:**

The day concluded with a feedback session where participants shared their experiences from the day's activities. The feedback was overwhelmingly positive, with many participants expressing their appreciation for the practical exposure and the clarity of the explanations provided by the resource persons. Some suggestions for improvement were also noted, which will be addressed in the subsequent sessions.

The first day of the workshop was a resounding success, with participants gaining valuable insights into the use of computer-interfaced physics experiments. The combination of theoretical knowledge and practical application provided a well-rounded learning experience, preparing participants for more advanced experiments on the second day of the workshop.

# DAY-2

**Report on the Invited Talk by Dr Vandna Luthra: "Exploring Python for ExpEYES-17/SeeLab 3"**

**Report of the Day-2 of the Workshop on Computer Interfaced Physics Experiments Using ExpEyes-17/SeeLab 3**

**Organized by:** Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur in Association with the Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)

**Date:** August 29, 2024

**Venue:** Physics Department, Shri Shivaji Science College, Congress Nagar, Nagpur

**Speaker:** Dr. Vandna Luthra, Professor of Physics, Gargi College, New Delhi

**Date:** 29th August 2024

**Event:** Two-Day Workshop on "Computer Interfaced Physics Experiments using ExpEYES-17/SeeLab 3"

**Venue:** Room No. C4, Science College, Congress Nagar, Nagpur

## **Overview:**

As part of the two-day workshop on "Computer Interfaced Physics Experiments using ExpEYES-17/SeeLab 3," Dr. Vandna Luthra delivered an invited talk titled "Exploring Python for ExpEYES-17/SeeLab 3" on August 29, 2024. Dr. Luthra, a distinguished Professor of Physics from Gargi College, New Delhi, brought her extensive expertise in the intersection of physics and computational tools to the session, emphasizing the critical role of programming in modern experimental physics.

## **Talk Highlights:**

### **1. Introduction to Python and ExpEYES Integration:**

Dr. Luthra began by providing a brief overview of Python as a versatile programming language, particularly highlighting its application in scientific computing. She discussed the integration of Python with ExpEYES-17/SeeLab 3, an open-source hardware and software framework designed for conducting experiments and analyzing data in real-time.

### **2. Demonstration of Python for Experimentation:**

The talk included a live demonstration where Dr. Luthra showed how Python scripts could be used to control the ExpEYES hardware, perform measurements, and analyze results. She demonstrated writing Python code to execute experiments such as

generating signals, capturing data, and visualizing results using the ExpEYES interface.

### 3. **Hands-on Coding Session:**

Participants were encouraged to follow along with Dr. Luthra's coding examples, giving them a hands-on experience with Python programming in a physics laboratory setting. The session covered essential Python libraries for data analysis, such as NumPy and Matplotlib, which are crucial for processing and plotting experimental data.

### 4. **Applications in Physics Education:**

Dr. Luthra emphasized the importance of integrating computational tools like Python in the physics curriculum, as it enhances students' understanding of experimental concepts through simulation and real-time analysis. She discussed potential applications of Python-powered ExpEYES in various physics experiments, ranging from basic electronics to complex waveforms and signal processing.

### 5. **Encouraging Exploration and Innovation:**

The session concluded with Dr. Luthra encouraging participants to explore the vast possibilities offered by combining Python with ExpEYES-17/SeeLab 3. She highlighted the potential for innovation in experimental design, urging educators and students to develop custom experiments that push the boundaries of traditional physics labs.

### **Feedback and Interaction:**

- The session was highly interactive, with participants engaging in discussions, asking questions, and receiving immediate feedback from Dr. Luthra.
- Participants appreciated the practical approach of the talk, which not only introduced them to the theoretical aspects of Python programming but also provided them with the skills to apply these concepts in their own laboratories.

## **Valedictory Ceremony Program:**

### **1. Welcome of Guests**

The valedictory function commenced with a warm welcome extended to the esteemed guests, including:

- **Hon'ble Dr. O. S. Deshmukh, Principal, Science College, Congress Nagar, Nagpur**
- **Hon'ble Prof. P. K. Ahluwalia, President, IAPT**
- **Hon'ble Dr. Prashant Ambekar, Vice-Principal, Dharampeth Science College, Nagpur**
- **Hon'ble Shri V. V. V. Satyanarayana, Inter-University Accelerator Centre, New Delhi**
- **Hon'ble Dr. Vandana Luthra, Professor of Physics, Gargi College, New Delhi**
- **Hon'ble Prof. S. W. Anwane, Convener of the Workshop**
- **Hon'ble Dr. Ragini Pathare, Coordinator of the Workshop**



## 2. Introductory Speech:

Dr. Ragini Pathare, the Workshop Coordinator, delivered the introductory speech. She recapped the objectives of the workshop, emphasizing the importance of hands-on training in modern physics education. Dr. Pathare expressed her gratitude to the participants, resource persons, and supporting staff for their active involvement in making the workshop a success.

## 3. Felicitation of Resource Persons:

In recognition of their invaluable contributions to the workshop, the following resource persons were felicitated:

- **Dr. Prashant Ambekar**
- **Dr. Govind Lakhotiya**
- **Mr. Pratik Gaiki**
- **Dr. Ragini Pathare**

Each of these individuals played a crucial role in the success of the workshop by sharing their expertise and guiding participants through the experiments.

## 4. Participants' Feedback:

The feedback session featured reflections from the workshop participants:

- **Dr. Vijay Warhate** from S N Mor College of Science TUMSAR praised the workshop's practical approach and its relevance to current academic needs.
- **Dr. V. G. Asolkar** from LAD College NAGPUR appreciated the detailed demonstrations and the opportunity to engage with the ExpEYES system hands-on.
- **Miss Namrata Pradnyakar** from Dr Babasaheb Ambedkar College NAGPUR shared her insights on the integration of Python programming with physical experiments, which enhanced her learning experience.
- **Dr. Shradhha Pande** from LAD College NAGPUR highlighted the collaborative spirit of the workshop, which fostered a productive learning environment.

## 5. Guest of Honour Address:

Hon'ble **Prof. P. K. Ahluwalia**, President of Central IAPT could not join the meeting virtually as he was travelling but passed on inspiring message. He underscored the significance of integrating technology and experimentation in physics education. Prof. Ahluwalia commended the efforts of the Science College and the IAPT for organizing such a meaningful workshop, which aligns with the New Education Policy (NEP) 2020's goals. **Dr Prashant Ambekar** shared his experiences as a (i) resource person in the workshop and (ii) member of Board of Studies PHYSICS in getting these Expeyes kits in the syllabus and putting them in NEP-2020 format. He expressed satisfaction over the participation from 28 colleges by 37 persons. He also guided the participants to be innovative in exploring this Expeyes kit for more experiments.

## 6. Presidential Address:

Hon'ble Principal Dr. O. S. Deshmukh provided the presidential address, acknowledging the hard work of the organizing team and the active participation of the attendees. He expressed

his vision for future workshops that continue to enhance the practical knowledge and skills of students and educators alike in view of National Education Policy 2020.

### **7. Vote of Thanks:**

The valedictory ceremony concluded with a vote of thanks by Miss Chanda Jatgade. She extended her gratitude to all the guests, resource persons, participants, and organizing committee members for their contributions, which made the workshop a resounding success.

The valedictory function marked the successful conclusion of the two-day workshop on "Computer Interface Physics Experiments using ExpEyes-17/SeeLab 3." The event not only provided participants with valuable practical skills but also fostered a collaborative spirit among educators and learners, paving the way for future advancements in physics education.

## News Item- Short Report

### Science College, Congress Nagar, Nagpur, Hosts Two-Day Workshop on "Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3."

On behalf of this Department and college at large, and also being President of IAPT – Sub Regional Council for VIDARBHA SRC-08 E I take this opportunity to Welcome you all here for a TWO DAYS WORKSHOP **Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3.**

#### NEP Relevance

In alignment with NEP 2020, RTMNU has revamped and introduced a new syllabus for all courses, incorporating various proposed elements. For the B.Sc. Semester-I Physics major, the Vocational Skill Course VSC-1 (Electronics and Electrical Components) includes a modern tool developed by the PHOENIX project at the Inter-University Accelerator Centre, New Delhi. This tool, ExpEYES-17/SeeLab 3, integrates the real-time control and measurement capabilities of microcontrollers with the flexibility of Python programming for data analysis and visualization. Recognizing that this innovative tool may be new to educators, we are organizing a "Training-of-Teachers" workshop to bridge the gap and ensure effective implementation.

#### RESOURCE PERSON

**Mr. V V V Satyanarayana**, Inter-University Accelerator Centre, New Delhi

**Prof. Vandna Luthra**, Gargi College, New Delhi

**Dr Prashant Ambekar**, Associate Professor, Dharampeth Science College, Nagpur

**Dr Govind Lakhotia**, Assistant Professor, Bajaj Science College, Wardha

**Mr. Pratik Gaiki**, Asst Prof., Shri Shivaji Arts, Commerce & Science College, Motala (Buldana)

Were our resource persons to train us during this 2 days workshop

We have conducted meeting with resource person to plan the fine details of the workshop.

**Nagpur, August 28, 2024** – The Department of Physics at Shri Shivaji Science College, Congress Nagar, Nagpur, in association with the Indian Association of Physics Teachers (IAPT) SRC-08E (Vidarbha), successfully inaugurated a two-day workshop on "Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3." This workshop aligns with the updated syllabus introduced by RTMNU University under the New Education Policy (NEP) 2020.

The workshop is centered around the modern tool ExpEYES-17, developed under the PHOENIX project at the Inter-University Accelerator Centre, New Delhi. ExpEYES-17 combines microcontroller control with Python programming, enabling real-time data analysis and visualization. This tool is now a part of the Vocational Skill Course for B.Sc. Physics students. The workshop aims to equip educators with the practical skills necessary to implement the updated curriculum effectively.

The event was graced by several esteemed guests, including, **Chief Guest** Dr. Devram Nandanwar, Ex-BOS Chairman (Physics) and Professor of Physics, S. M. Mohata College of Science, Nagpur, **President of the Event** Principal, Dr. O. S. Deshmukh, Shivaji Science College, Nagpur., **Convener** Prof. S. W. Anwane, Professor and Head of the Department of Physics, and President of IAPT SRC-08E. **Special Guest** Dr. Prashant Ambekar, Vice Principal, Dharampeth Science College, Nagpur.

The inaugural function commenced with the ceremonial lighting of the lamp by the dignitaries, symbolizing the spread of knowledge and wisdom. The ceremony was followed by a formal felicitation of the esteemed guests, acknowledging their valuable presence and contributions.

The Department of Physics at Shivaji Science College remains committed to fostering educational excellence and innovation through such initiatives, ensuring that students and educators alike are well-equipped to meet the challenges of modern science education said by the principal Dr. O. S. Deshmukh while addressing as a president of an inaugural function.

In his introductory speech, Convener Prof. S. W. Anwane provided an overview of the objectives and scope of the workshop. Prof. Anwane highlighted the significance of this workshop in fostering learning, exploration, and innovation in the realm of physics experiments and technology.

The Chief Guest, Dr. Devram Nandanwar, also addressed the gathering, offering insights and encouragement to the participants. Dr. Prashant Ambekar, Dr. Govind Lakhotiya, and Mr. Pratik Gayki were present as a resource person. The inaugural session concluded with a vote of thanks by the Co-ordinator, Dr. Ragini Pathare, expressing gratitude to all the guests, participants, and organizers for their contributions to the success of the event.

The workshop promises to be an enriching experience, offering hands-on sessions guided by expert resource persons, including Hon'ble Mr. V. Satyanarayana from the Inter-University Accelerator Centre, New Delhi, and Hon'ble Prof. Vandna Luthra from Gargi College, New Delhi. Dr. Gajanan Jadhav opened the inaugural session by paying homage to the founder president of Shri Shivaji Education Society, Amravati, and warmly welcomed

all the esteemed guests, dignitaries, and participants. Shri. Bhupendra Kumbhare, Dr Sugandha Khangar and Dr. Shahin Sayyad faculties of the department along with the 40 participants were present during the workshop.

## शिवाजी विज्ञान महाविद्यालय नागपूर येथे ExpEyes-17/SeeLab 3 सह दोन दिवसीय कार्यशाळेचे आयोजन

श्री शिवाजी शिक्षण संस्था अमरावती द्वारा संचालित विज्ञान महाविद्यालय, काँग्रेस नगर, नागपूर, भौतिकशास्त्र विभाग आणि इंडियन असोसिएशन ऑफ फिजिक्स टीचर्स (IAPT) SRC 08E (विदर्भ) यांच्या संयुक्त विद्यमाने दिनांक 28 आणि 29 ऑगस्ट 2024 रोजी दोन दिवसीय कार्यशाळेचे आयोजन केलेले होता. ExpEyes-17/SeeLab 3 वापरून संगणक इंटरफेस केलेले भौतिकशास्त्र प्रयोग ज्याचा समावेश RTMNU विद्यापीठाने नवीन शैक्षणिक धोरण (NEP) 2020 च्या अनुषंगाने सादर केलेल्या अभ्यासक्रमातील समावेशाला प्रतिसाद म्हणून दोन दिवसीय कार्यशाळेचे आयोजन केले होते. आंतर-विद्यापीठ प्रवेगक केंद्र, नवी दिल्ली येथे PHOENIX प्रकल्पांतर्गत विकसित करण्यात आलेले आधुनिक साधन ExpEYES-17/SeeLab 3 वापरून शिक्षकांच्या ज्ञानातील अंतर भरून काढणे हा या कार्यशाळेचा उद्देश होता. हे B.Sc साठी व्होकेशनल स्किल कोर्स (VSC-1) मध्ये समाविष्ट केले होते. सेमेस्टर-1 भौतिकशास्त्राचे प्रमुख आणि वर्धित डेटा विश्लेषण आणि व्हिज्युअलायझेशनसाठी पायथन प्रोग्रामिंगच्या लवचिकतेसह मायक्रोकंट्रोलरच्या नियंत्रण आणि मापन क्षमता एकत्रित करते. या कार्यशाळेत श्री व्ही. सत्यनारायण, आंतर-विद्यापीठ प्रवेगक केंद्र, नवी दिल्ली आणि प्रा. वंदना लुथरा, गार्गी कॉलेज, नवी दिल्ली हे नामांकित प्राध्यापक मार्गदर्शन लाभले. या प्रख्यात संसाधन व्यक्तींच्या वतीने शिक्षक, संशोधक आणि विद्यार्थ्यांना प्रशिक्षण दिले. अद्ययावत अभ्यासक्रम प्रभावीपणे अंमलात आणण्यासाठी ExpEYES-17/SeeLab 3 वापरण्यात सहभागीनी व्यावहारिक कौशल्ये प्राप्त करून देणे याची खात्री करण्यावर या कार्यशाळेचा भर राहणार होता. या कार्यशाळेचे संयोजक डॉ. आर. एन. पाथरे आणि समन्वयक प्रा. एस. डब्ल्यू. अनवणे (भौतिकशास्त्र विभाग) सहकार्याने पार झाला. या कार्यक्रमाला प्रमुख पाहुणे डॉ. देवराम नंदनवार, माजी बीओएस अध्यक्ष (भौतिकशास्त्र) आणि भौतिकशास्त्राचे प्राध्यापक, एस.एम. मोहता कॉलेज ऑफ सायन्स, नागपूर, कार्यक्रमाचे अध्यक्ष प्राचार्य डॉ. ओ.एस. देशमुख, शिवाजी आर्दीसह अनेक मान्यवर पाहुणे उपस्थित होते. सायन्स कॉलेज, नागपूर., निमंत्रक प्रा. एस. डब्ल्यू. अनवणे, भौतिकशास्त्र विभागाचे प्राध्यापक आणि प्रमुख आणि IAPT SRC-08E चे अध्यक्ष. विशेष अतिथी डॉ. प्रशांत अंबेकर, उपप्राचार्य, धरमपेठ विज्ञान महाविद्यालय, नागपूर.

आपल्या प्रास्ताविकात संयोजक प्रा. एस. डब्ल्यू. अनवणे यांनी कार्यशाळेची उद्दिष्टे आणि व्याप्ती याविषयी माहिती दिली. प्रा. अनवणे यांनी या कार्यशाळेचे भौतिकशास्त्रातील प्रयोग आणि तंत्रज्ञानाच्या क्षेत्रात शिक्षण, शोध आणि नाविन्यपूर्णतेला चालना देण्यासाठी या कार्यशाळेचे महत्त्व अधोरेखित केले. कार्यशाळेच्या समन्वयक डॉ. रागिनी पाथरे यांनी प्रास्ताविक केले. त्यांनी कार्यशाळेच्या उद्दिष्टांचा आढावा घेतला व आधुनिक भौतिकशास्त्र शिक्षणात हाताळणी प्रशिक्षणाचे महत्त्व अधोरेखित केले. डॉ. पाथरे यांनी कार्यशाळेच्या यशस्वितेसाठी सहभागी, तज्ञ व्यक्ती आणि सहायक कर्मचाऱ्यांचे आभार मानले. या सत्रात कार्यशाळेच्या सहभागींच्या प्रतिक्रिया सादर करण्यात आल्या. डॉ. विजय व्हट्टे यांनी कार्यशाळेच्या व्यावहारिक दृष्टिकोनाची प्रशंसा केली व ते सध्याच्या शैक्षणिक गरजांना किती योग्य आहे हे सांगितले. डॉ व्ही. जी. असोलकर यांनी सविस्तर प्रात्यक्षिकांचे कौतुक केले आणि ExpEYES प्रणालीसह प्रत्यक्ष सहभागाची संधी मिळाल्याबद्दल समाधान व्यक्त केले. डॉ नम्रता प्रजाकर यांनी फिजिक्स प्रयोगांमध्ये पायथन प्रोग्रामिंगच्या एकत्रीकरणाबद्दल आपली शिकवण समृद्ध झाल्याचे विचार मांडले. डॉ. श्रद्धा पांडे यांनी कार्यशाळा एक फलदायी झाली आणि शिकण्यासाठी एक वातावरण निर्माण झाले अशी भावना व्यक्त केली. कार्यशाळेतील अमूल्य योगदानासाठी डॉ. प्रशांत अंबेकर, डॉ. गोविंद लखोटिया, श्री. प्रतीक गाईकी, डॉ. रागिनी पाथरे या सर्व तज्ञ व्यक्तींचा सन्मान करण्यात आला. या सर्व तज्ञांनी आपले ज्ञान व मार्गदर्शन प्रदान करून कार्यशाळेच्या यशात अत्यंत महत्त्वाची भूमिका बजावली.

मा. प्राचार्य डॉ. ओ. एस. देशमुख यांनी अध्यक्षीय भाषण दिले, ज्यात त्यांनी आयोजक टीमच्या मेहनतीचे व उपस्थितांचे सक्रिय सहभागाचे कौतुक केले. त्यांनी भविष्यकाळातील कार्यशाळांसाठी आपली दृष्टिकोन व्यक्त केली, जी विद्यार्थ्यांचे व शिक्षकांचे व्यावहारिक ज्ञान व कौशल्ये वृद्धिंगत करेल. या कार्यक्रमांमध्ये सूत्रसंचालनाचे काम डॉ. गजानन जाधव यांनी केले. समारोप समारंभाचे आभार प्रदर्शन कृ. चंदा जातगडे यांनी केले. त्यांनी सर्व मान्यवर, तज्ञ व्यक्ती, सहभागी व आयोजन समिती सदस्यांचे त्यांच्या योगदानाबद्दल आभार मानले, ज्यामुळे कार्यशाळा यशस्वी झाली. या कार्यक्रमांमुळे सहभागींच्या व्यावहारिक कौशल्यांचा विकास झाला तसेच शिक्षक व विद्यार्थ्यांमधील सहकार्याची भावना निर्माण झाली, ज्यामुळे भौतिकशास्त्र शिक्षणाच्या भविष्यातील प्रगतीसाठी मार्ग मोकळा झाला.



Head, Dept of Physics

(Dr.S.W.ANWANE)

**Dr. S. W. Anwane**

Associate Professor & Head

Department of Physics

Shri Shivaji Education Society Amravati's

SCIENCE COLLEGE

Congress Nagar, NAGPUR.



# Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur Department of Physics



In association with  
Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)

## 2 Days Workshop on **Computer Interfaced Physics Experiments** using **ExpEyes-17/SeeLab 3**

In alignment with **NEP 2020**, RTMNU has revamped and introduced a new syllabus for all courses, incorporating various proposed elements. For the **B.Sc. Semester-I Physics** major, the **Vocational Skill Course VSC-1** (Electronics and Electrical Components) includes a modern tool developed by the PHOENIX project at the Inter-University Accelerator Centre, New Delhi. This tool, **ExpEYES-17/SeeLab 3**, integrates the real-time control and measurement capabilities of microcontrollers with the flexibility of Python programming for data analysis and visualization. Recognizing that this innovative tool may be new to educators, we are organizing a "*Training-of-Teachers*" workshop to bridge the gap and ensure effective implementation.

### IMPORTANT

#### Registration:

On first come basis for 30 participants  
Registration Fees **Rs 400/-**  
Enroll through QR Code  
Upload Payment Acknowledgement



**28-29**  
**August**  
**2024**



#### Resource Persons:

Mr. V V V Satyanarayana, Inter-University Accelerator Centre, New Delhi  
Prof. Vandna Luthra, Gargi College, New Delhi  
Dr Prashant Ambekar, Associate Professor, Dharampeth Science College, Nagpur  
Dr Govind Lakhotia, Assistant Professor, Bajaj Science College, Wardha  
Mr. Pratik Gaiki, Asst Prof., Shri Shivaji Arts, Commerce & Science College , Motala (Buldana)

#### Coordinator

Dr. R N Pathare  
SSEA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur  
9011084356

#### Convener

Dr. S W Anwane  
Professor & Head  
President, IAPT SRC-08E  
9422122711

#### Principal

Dr. O S Deshmukh  
SSEA's SCIENCE COLLEGE,  
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**Shri Harshvardhan P. Deshmukh**  
President

**Dr. Omraj S. Deshmukh**  
Principal

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- An ISO 21001 : 2018 Certified Institution



**Dr. Panjabrao alias Bhausaheb Deshmukh**  
Founder President

No. Sc./EST/7884/2024

Invitation Letter

Date : 17/08/2024

To,  
Dr. Vandna Luthra  
Professor  
Department of Physics  
Gargi College, Siri Fort Road, ND-49.

Dear Madam,

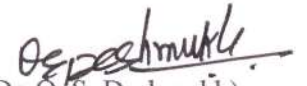
We are pleased to invite you to be a distinguished resource person at our upcoming Two-Day Workshop titled **Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3** to be held during 28-29 August 2024. In the workshop, your session is scheduled to take place online on 29 Aug 2024 at 2:30am.

This workshop aims to give participants a comprehensive understanding of Python programming through hands-on sessions and practical applications. We look forward to your presence and enthusiastic participation. Should you have any questions or need further information, please do not hesitate to reach out.

We understand you may have other engagements, but we sincerely hope you will consider accepting our invitation. Your expertise would be priceless to our workshop and would provide substantial learning opportunities for all involved.

We look forward to the opportunity of listening to you through this workshop.

Warm regards,

  
(Dr. O. S. Deshmukh)  
Principal



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**Dr. Panjabrao alias Bhausaheb Deshmukh**  
Founder President

No. Sc. /ESTT/7883/2024

Date : 17/08/2024

**Invitation Letter**

To,  
Mr V.V.V. Satyanarayana  
Engineer, Inter-University Accelerator Centre (IUAC)  
New Delhi.

Sub: Your Talk on *Teaching Science through Experimentation and Exploration*

Dear Sir,

We are pleased to invite you to be a distinguished resource person at our upcoming Two-Day Workshop titled **Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3** to be held during 28-29 August 2024. In the workshop, your session is scheduled to take place online on 28 Aug 2024 at 11:30am.

The primary objective of this workshop is to provide participants with hands-on experience and in-depth knowledge about computer-interfaced experiments in physics using the ExpEyes-17 and SeeLab 3 systems. Given your expertise and significant contributions in the field of experimental physics and educational technology, we believe your involvement would greatly benefit the attendees.

We understand you may have other engagements, but we sincerely hope you will consider accepting our invitation. Your expertise would be priceless to our workshop and would provide substantial learning opportunities for all involved.

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Warm regards,

  
(Dr. O. S. Deshmukh)  
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**Dr. Panjabrao alias Bhausaheb Deshmukh**  
Founder President

No. Sc. 1/EST/17885/2024

Invitation Letter

Date : 17/08/2024

To,  
**Dr. Prashant Ambekar**  
Associate Professor  
Department of Physics  
Dharampeth Science College,  
Nagpur

Dear Sir,


We are pleased to invite you to be a distinguished resource person at our upcoming Two-Day Workshop titled **Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3** to be held during 28-29 August 2024. In the workshop, your session **HANDS ON EXPERIENCE** is scheduled to take place on both the days that is 28<sup>th</sup> and 29<sup>th</sup> Aug 2024.

This workshop aims to give participants a comprehensive understanding of Python programming through hands-on sessions and practical applications. We look forward to your presence and enthusiastic participation.

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Warm regards,

  
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Principal



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**Dr. Panjabrao alias  
Bhausaheb Deshmukh**  
Founder President

No. Sc. ESTT/7886/2024

Invitation Letter

Date : 17/08/2024

To,  
**Dr Govind Lakhota**  
Assistant Professor,  
Department of Physics  
Bajaj Science College, Wardha

Dear Sir,

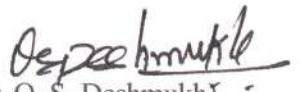
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**Dr. Panjabrao alias Bhausaheb Deshmukh**  
Founder President

No. Sc. 1ESTT/7887/2024

**Invitation Letter**

Date : 17/08/2024

To,  
**Mr. Pratik Gaiki**  
Assistant Professor  
Department of Physics  
Shri Shivaji Arts, Commerce & Science College,  
Motala (Buldana)

Dear Madam,


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Principal

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**Science college Congress Nagar, Nagpur**

Department of physics

in association with **Indian association of physics teachers (IAPT) SRC 08E  
(Vidarbha)**

**2 days' workshop on computer interface physics  
experiments using ExpEyes-17/SeeLab 3**

28 August 2024

Table Program: Day

Sr. No.	Inaugural Function of Workshop ExpEyes Shivaji Science Nagpur	Time
1	Arrivals of Guests	9:55 am – 10:00 am
2	Lighting of Lamp	10:00 am-10:02 am
3	Welcome of Guest and Principal	10:02 am-10:05 am
4	Introductory Speech: <b>Prof. and HOD of Physics S. W. Anwane</b>	10:05 am-10:10 am
5	Adress by Chief Guest: <b>Prof. Sunil Pande/Deorao Nandanwar</b>	10:10 am-10:20 am
6	Presidential Speech: <b>Principal, Dr. O. S. Deshmukh</b>	10:20 am-10:25 am
7	Vote of Thanks: <b>Dr. Ragini Pathare</b>	10:25 am-11:00 am

Shri Shivaji Education Society Amravati  
Science College Congress Nagar, Nagpur  
Department of Physics in association with  
Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)

**2 Days' Workshop on Computer Interface Physics Experiments  
using ExpEyes-17/ SeeLab 3**

29 August 2024

**Valedictory Ceremony**

**Day 2 Table Program**

Sr. No.	Program	Time
1	<b>Welcome of Guests</b> 1. Hon'ble Dr. O. S. Deshmukh – Shri. Bhupendra Kumbhare 2. Hon'ble Prof. P. K. Ahluwalia 3. Hon'ble Shri. V. V. V. Satyanarayana 4. Hon'ble Dr. Vandana Luthra 5. Hon'ble Prof. S. W. Anwane – Dr. Shahin Sayyad 6. Hon'ble Dr. Ragini Pathare – Dr. Sugnadh Khangar	4:00 pm-4:05 pm
2	<b>Introductory Speech – Dr. Ragini Pathare</b>	4:05 pm -4:10 pm
3	<b>Participants Feedback</b> 1. Dr. Vijay Warhate 2. Miss. V. G. Asolkar 3. Miss. Namrata Pradnyakar 4. Dr. Shradhha Pande	4:10 pm – 4:30 pm
4	<b>Felicitation Resource Person</b> 1. Dr. Prashant Ambekar 2. Dr. Govind Lakhotiya 3. Mr. Pratik Gayki 4. Dr. Ragini Pathare	4:30 pm -4 :35 pm
5	<b>Guest of Honour – Hon'ble Prof. P. K. Ahluwalia (President, IAPT)</b>	4:35 pm – 4:50 pm
6	<b>Presidential Address – Hon'ble Principal, Dr. O. S. Deshmukh</b>	4:50 pm – 4:55 pm
7	<b>Vote of Thanks – Miss. Chanda Jatgade</b>	4:55 pm – 5:00 pm



Dr Panjabrao alias  
Bhausaheb Deshmukh  
Founder President

**Department of Physics**  
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**Dr. S. W. Anwane**  
Professor & Head (Physics)

**Dr O.S. Deshmukh**  
PRINCIPAL

23-08-2024

To,

\_\_\_\_\_

Your registration to attend the *Two Day Workshop on Computer Interfaced Physics Experiments Using ExpEYES-17/Seelab 3* at SSES Amt's SCIENCE COLLEGE, Congress Nagar Nagpur from from 28<sup>th</sup> and 29<sup>th</sup> Aug, 2024, has been accepted.

As the workshop will involve Hands-on Training, you are required to **bring your laptops** with ExpEYES software installed for the program. The latest software is available for both Ubuntu and Windows in the link provided here-

<https://expeyes.in/software.html>

If you have any questions or need assistance with the software installation, feel free to contact Dr Ragini Pathare (Contact No. -9011084356).

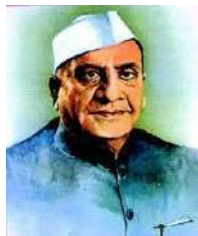
We look forward to your active participation and hope you have a valuable learning experience.

Yours sincerely,

**Dr. S. W. Anwane**  
Professor and Head  
Department of Physics  
Shri Shivaji Education Society Amravati's  
SCIENCE COLLEGE  
Congress Nagar, Nagpur.

Mobile No +91-9422122711  
Email ID:swanwane2000@yahoo.com

Pl find enclosed herewith Programme Schedule



Dr Panjabrao alias  
Bhausaheb Deshmukh  
Founder President

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**Dr. S. W. Anwane**  
Professor & Head (Physics)

**Dr O.S. Deshmukh**  
PRINCIPAL

## Two-Day Workshop on

### “Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3”

#### Program Schedule

#### Day 1: 28 Aug 2024

10:00 am	<b>Registration</b>	
10:30 am	<b>Inaugural Function</b> In Room No C4	Presided over by the Principal Dr O S Deshmukh
10:50am to 11:00am	Tea	
11:00am to 12:30pm	<b>Session-1</b> Invited talk on <b>Teaching Science through Experimentation and Exploration</b>	<b>Er. V.V.V.Satyanarayana</b> <b>Inter-University Accelerator Centre, New Delhi</b>
12:30 pm to 1:30 pm	Group Photograph & Lunch	
1:30 pm to 3:00 pm	<b>Session-2</b> Experiments using ExpEYES (Demonstration & Hands-on)	Dr Prashant Ambekar Dr Govind Lakhotia Dr Ragini Pathare Mr Pratik Gaiki
3:00pm to 3:15pm	Tea	
3:15pm to 5:00pm	<b>Session-3</b> Hands-on Experiments (Continued)	

#### Day 2:- 29 Aug 2024

10:30am to 1:00pm	<b>Session-4</b> Hands-on Experiments (Continued)	Dr Prashant Ambekar Dr Govind Lakhotia Dr Ragini Pathare Mr Pratik Gaiki
1:00pm to 2:00pm	Lunch	
2:30 pm to 3:45pm	<b>Session-5</b> Invited talk on <b>Exploring Python for ExpEYES- 17/ SeeLab 3</b>	<b>Dr. Vandna Luthra</b> <b>Professor in Physics,</b> <b>Gargi College</b> <b>New Delhi</b>
3:45pm to 4:00pm	Tea	
4:00pm to 5:00pm	<b>Session-6</b> Valedictory Function, Feedback Session & Distribution of Participation Certificates	Presided over by the Principal Dr O S Deshmukh



**Professor Vandna Luthra,  
Department of Physics,  
Gargi College, Siri Fort Road, ND-49.**

Dr. Vandna Luthra is working as Professor in Physics at Gargi College. She has availed prestigious BOYSCAST Fellowship (DST) to work on gas sensing materials at University College London, UK and RAMAN Fellowship (UGC) at State University of New York, Binghamton on the development of nanomaterials for energy applications. She has been a visiting researcher at UCL, UK.

A Physics Research Laboratory at Gargi College has been set-up which is being used for the supervision of Ph.D. students as well as UG students under various schemes and summer projects. Five students have awarded Ph.D. under her supervision.

She has been a recipient of the Meritorious Teacher Award by NCT, Govt. of Delhi (2012), One of the four digital literacy champions by Campus of open learning (COL), University of Delhi and Edinburgh College, Scotland and visited Edinburgh College, UK as a part of the program. She is a recipient of the Indian Association of Physics Teachers Dinabandhu Sahu Memorial (IAPT DSM) award for the year 2017.

She has completed research projects funded by DST, UGC, three innovation projects by University of Delhi. She has received Teaching Excellence Award for Innovation and Best Innovative Idea by University of Delhi for one of the innovative project GC-204. She has completed UGC-UKIERI Thematic Partnership Award which facilitated exchange of faculty members and four Ph.D. scholars from India and UK on the development of nanomaterials based gas sensors.



She has completed three levels of trainings by COESME, IISER Pune in joint collaboration with PMMMNMTT, MHRD, Newton Bhabha Fund, British Council and later served as a resource person for regional workshops on “Research Based Pedagogical Tools” in different parts of India. She has acted as resource person for mentoring and guiding UG students selected nationally by PTTS (Physics Training and Talent Search). She has been incorporating many approaches of active learning for Physics. She has published more than 36 papers in International journals of repute, 7 book chapters, e-lessons, reviewer with the reputed international journals, editorial board member, Physics co-ordinator for Star College Scheme in her college. She has acted as Session Judge, Chair, panellist, and Invited and keynote speaker at International conferences. She is a member of Indian Association of Physics Teachers (IAPT) and Institute of Physics, (IOP) UK. She has been constantly encouraging students to own-a-mug scheme and awareness about e-Waste collection and disposal amongst many others. Recently, she has contributed a lesson plan for climate change to TROP ICSU and is keenly involved in trainings on effective pedagogical and digital literacy tools in various fields and is nominated to participate as master trainer for effective pedagogy for Delhi Science & Technology Cluster under the office Principal Scientific Officer to Govt. of India. She is also engaged in organizing a range of activities under a Science-Society grant under the aegis of National Academy of Sciences, India Science-Society Program. Currently, she has mentored students under DRIIV-Effective Education, Cluster Innovation Centre in association with Blue Planet for awareness and advocacy towards waste reduction.

She has worked as Star Scheme Coordinator for Physics for 9 years, Member, NAAC Steering Committee, Convener, Recruitment, Sciences, Superintendent exams, amongst many assignments.

Research Areas : Material Science, Electronics, Nanotechnology, Sensors, Computational Physics and Pedagogy.



V.V.V. Satyanarayana is working an engineer at the Inter-University Accelerator Centre (IUAC) in New Delhi. He holds a Bachelor of Engineering Degree in Electronics and Communication Engineering (ECE) with a Gold Medal.

He joined IUAC in 2000 and has worked in a number of areas, including the Computer Automated Measurement and Control (CAMAC) based data acquisition system, Nuclear Instrumentation, and Analog electronics. He currently works in IUAC's RF Group, where he is responsible for the Pelletron Beam Pulsing system operations, and development of Radio Frequency (RF) controls. He has made major contributions to the Instrumentation development, Drift Tube Linac (DTL) system setup, and RF controls development for IUAC High Current Injector project. Few of his developments were taken to other universities and academic institutions, such as the Institute of Physics in Bhubaneswar, Amity University in Noida, etc.

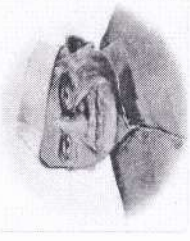
He is a co-founder of the **PHOENIX** project (Physics with Home-made Equipment and Innovative Experiments), which began in 2005 by setting up the Teaching Lab at IUAC with the goal of improving science teaching at Indian institutions by developing low-cost laboratory equipment and training teachers in this area. This effort resulted in the development of variety of equipment versions, including the most recent, ExpEYES (Experiments for Young Engineers and Scientists). The **Alpha Spectrometer** developed under the PHOENIX project had a considerable impact on M.Sc Physics experiments at Indian universities.

He now organizes one-week teacher training programs at IUAC for the teaching community twice a year, as well as one-day programs/talks/demonstrations outside of IUAC. He teaches the **Signal Processing** Course Module to M.Sc. and Ph.D. students at IUAC and the Central University of Himachal Pradesh in Dharamsala.

# Registration Counter Document











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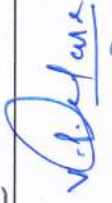











## Two-Day Workshop on

### "Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3"

Sr.N	Names of Candidates	Name of College	Mobile. No.	Sign for Registration	Sign for Certificate
0.					
1.	Dr. Vijay V. Warhate	S. N. Mor College of Arts and Commerce and Smt G D Saraf Science College, Tumsar	9822919088		
2.	Dr. Smita Chandar Tolani	ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING AND TECHNOLOGY	9823937372		
3.	Dr. D. L. Chaudhari	Shivprasad Sadanand Jaiswal College Arjuni/Mor. Dist-Gondia, Maharashtra	9923399834		
4.	Dr Neeraja Haridas	Santaji Mahavidyalaya Nagpur	9921283397		
5.	Sunil Anandrao Pandey	Corolla Public School Multai	9970788433		
6.	Dr Namrata Pradnyakar - Wakde	Dr. Ambedkar College Deekshabhoomi Nagpur	7775023857		

7.	Dr. Jyotsna K Jumale	R. S. Bidkar Arts, Comm. and Science College, Hinganghat	9730222144		
8.	Dr. Akash Deshmukh	VMV Commerce, JMT Arts, JJP Science College Wardhaman Nagar, Nagpur.	9175477696		
9.	Dr. Kishor Y Rokde	Dr. Ambedkar College Nagpur	8055214670		
10.	Dr. Gajanan D. Zade	Jawaharlal Nehru Arts, Commerce and Science College Wadi Nagpur	9511680857		
11.	Dr. Pranita C. Deshpande	Dr. Ambedkar College, Deekshabhoomi, Nagpur	8007863417		
12.	Ganesh Chirkutji Vandile	Shri Mathuradas Mohota College of Science, Nagpur	9326035583		
13.	Priya Bhiwaji Khune	Sevasadan Arts, Commerce and Science Senior College Nagpur	8975442656		
14.	Nishant Zode	Dharampeth Science College	9049474994		
15.	Nikhil Somkule	Dharampeth Science College Nagpur	8446430590		

16.	Amrapali Kailash Meshram	Dharmapeth M. P. Deo Memorial Science college , Nagpur	9049799507		
17.	Payaswinee Dhoke	Dharampeth M.P. Deo Memorial Science College, Nagpur	9420566070		
18.	Dr. Avish Kewal Patil	Dada Ramchand Bakhru Sindhu Mahavidyalay	7588888199		
19.	Vivekanand Gondane	DRB Sindhu Mahavidyalaya Nagpur	9834643970		
20.	Dr Anagha Ajay Pathak	Dharampeth M P Deo Memorial Science College	9422533420		
21.	Dr. Vajjayanti G. Asolkar	L. A. D. &Smt. R. P. College for Women, Nagpur	9975229224		
22.	Dr. Shradhdha Pande	L.A.D. & Smt R.P. College for Women Nagpur	9637793898		
23.	Dr . Nita Bharat Shinde	L.A.D. and SMT. R.P. College for Women, Nagpur	9049994178		
24.	Dr.Priyanka Devidas Virutkar	Shivaji Science College	9011445754		
25.	Dr. Gaurav Krushna Sukhadeve	Dharampeth M. P. Deo Memorial Science College, Nagpur	9689817192		
26.	Ms. Amrapali Bhaurao Patil	Mahatma Fule Arts Commerce and Sitaramji	8408051212		

		Chaudhari Science Mahavidyalaya Warud dist. Amravati		
27.	Dr. Halim Ahamad	SFS College, Nagpur	9372233844	
28.	Mr. Roshan Pustode	VMV ,JJP science college Nagpur	9049681627	
29.	Dr. Shyamkant Wasudeorao Anwane	SSESA'S Science College Congress Nagar, Nagpur	9422122711	
30.	Dr. Ragini N. Pathare	SSESA'S Science College Congress Nagar, Nagpur	9011084356	
31.	Dr. Sugandha V. Khangar	SSESA'S Science College Congress Nagar, Nagpur	9975768840	
32.	Bhupendra Tikaram Kumbhare	SSESA'S Science College Congress Nagar, Nagpur	9028195613	
33.	Dr. Shahin K. Sayyad	SSESA'S Science College Congress Nagar, Nagpur	9922901201	
34.	Dr Gajanan Lalsing Jadhav	SSESA'S Science College Congress Nagar, Nagpur	9765583480	
35.	Dr. Sarang Ravindra Daf	SSESA'S Science College Congress Nagar, Nagpur	9673767709	
36.	Miss Kanchan B. Jivnapurkar	SSESA'S Science College Congress Nagar, Nagpur	9146036447	

37.	Ms. Chanda Prakash Jatgade	SSESA'S Science College Congress Nagar, Nagpur	9403703967	Jatgade	
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45.					



Dr Panjabrao alias  
Bhausaheb Deshmukh  
Founder President

**Department of Physics**  
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- A College with Potential For Excellence identified by UG, New Delhi



**Dr. S. W. Anwane**  
Professor & Head (Physics)

**Dr O.S. Deshmukh**  
PRINCIPAL

Ref: Phy/Estt/2024/353

23-8-2024

To,  
Dr Prashant Ambekar  
Associate Professor & Head  
Department of Physics,  
Dharampeth Science College  
Nagpur-440010

Sub: request for 4-kits ExpEyes-17 / SeeLab 3 for 2 days workshop

Dear sir,

You are aware of **Two Day Workshop on Computer Interfaced Physics Experiments Using ExpEYES-17/Seelab 3** at SSES Amt's SCIENCE COLLEGE, Congress Nagar Nagpur from from 28<sup>th</sup> and 29<sup>th</sup> Aug, 2024.

We would like to request you to kindly issue us 4 kits for training purpose. We shall carefully use the kits along with all components and return back to you.

As you are a resource person for this event, we are looking forward to see you on these dates.

Thanking you in advance!

REGARDS!

Yours Faithfully,

**Dr. S. W. Anwane**  
Professor and Head  
Department of Physics  
Shri Shivaji Education Society Amravati's  
**SCIENCE COLLEGE**  
Congress Nagar, Nagpur.





Dr Panjabrao alias  
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Founder President

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PRINCIPAL



**Shri Shivaji Education Society Amravati's**  
**Science College, Congress Nagar, Nagpur**  
**Department of Physics** In association with



**Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)**

**2 Days Workshop on Computer Interfaced Physics Experiments**  
**using ExpEyes-17/SeeLab 3**

In alignment with **NEP 2020**, RTMNU has revamped and introduced a new syllabus for all courses, incorporating various proposed elements. For the **B.Sc. Semester-I Physics** major, the **Vocational Skill Course VSC-1** (Electronics and Electrical Components) includes a modern tool developed by the PHOENIX project at the Inter-University Accelerator Centre, New Delhi. This tool, **ExpEYES-17/SeeLab 3**, integrates the real-time control and measurement capabilities of microcontrollers with the flexibility of Python programming for data analysis and visualization. Recognizing that this innovative tool may be new to educators, we are organizing a "**Training-of-Teachers**" workshop to bridge the gap and ensure effective implementation.

**IMPORTANT**

**Registration:**  
On first come basis for 30 participants  
Registration Fees **Rs 400/-**  
Enroll through QR Code  
Upload Payment Acknowledgement



**28-29**  
**August**  
**2024**



**Resource Persons:**

Mr. V V V Satyanarayana, Inter-University Accelerator Centre, New Delhi  
Prof. Vandna Luthra, Gargi College, New Delhi  
Dr Prashant Ambekar, Associate Professor, Dharampeth Science College, Nagpur  
Dr Govind Lakhota, Assistant Professor, Bajaj Science College, Wardha  
Mr. Pratik Gaiki, Asst Prof., Shri Shivaji Arts, Commerce & Science College , Motala (Buldana)



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11571520@cbin

**Coordinator**  
**Dr. R N Pathare**  
SSESA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur  
9011084356

**Convener**  
**Dr. S W Anwane**  
Professor & Head  
President, IAPT SRC-08E  
9422122711

**Principal**  
**Dr. O S Deshmukh**  
SSESA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur  
9403398704



Dr Panjabrao alias  
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Founder President

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Professor & Head (Physics)

**Dr O.S. Deshmukh**  
PRINCIPAL

Ref: Phy/Estt/2024/354

23-8-2024

To,  
Dr Seema Ubale  
Prof Rajendra Singh Science Exploratory  
Tarkunde Dharampeth High School,  
Near Alankar Talkies, North Ambazari Road, Nagpur-440010.

Sub: request for 4-kits ExpEyes-17 / SeeLab 3 for 2 days workshop

Dear Madam,

We are conducting a **Two Day Workshop on Computer Interfaced Physics Experiments Using ExpEYES-17/Seelab 3** at SSES Amt's SCIENCE COLLEGE, Congress Nagar Nagpur from from 28<sup>th</sup> and 29<sup>th</sup> Aug, 2024.

We would like to request you to kindly issue us 4 kits for training purpose during workshop. We shall carefully use the kits along with all components and return back to you.

As you are Dr Govinda Lakhotiya is one of our resource person for this event.

Thanking you in advance!

REGARDS!

Yours Faithfully,

**Dr. S. W. Anwane**  
Professor and Head  
Department of Physics  
Shri Shivaji Education Society Amravati's  
**SCIENCE COLLEGE**  
Congress Nagar, Nagpur.



Dr Panjabrao alias  
Bhausaheb Deshmukh  
Founder President

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**Dr. S. W. Anwane**  
Professor & Head (Physics)

**Dr O.S. Deshmukh**  
PRINCIPAL



**Shri Shivaji Education Society Amravati's**  
**Science College, Congress Nagar, Nagpur**  
**Department of Physics** In association with



**Indian Association of Physics Teachers (IAPT) SRC 08E (Vidarbha)**

**2 Days Workshop on Computer Interfaced Physics Experiments**  
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**IMPORTANT**

**Registration:**

- On first come basis for 30 participants
- Registration Fees **Rs 400/-**
- Enroll through QR Code
- Upload Payment Acknowledgement



**28-29**  
**August**  
**2024**



**Resource Persons:**

- Mr. V V V Satyanarayana, Inter-University Accelerator Centre, New Delhi
- Prof. Vandna Luthra, Gargi College, New Delhi
- Dr Prashant Ambekar, Associate Professor, Dharampeth Science College, Nagpur
- Dr Govind Lakhotia, Assistant Professor, Bajaj Science College, Wardha
- Mr. Pratik Gaiki, Asst Prof., Shri Shivaji Arts, Commerce & Science College , Motala (Buldana)

**Coordinator**

**Dr. R N Pathare**  
SSESA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur  
9011084356

**Convener**

**Dr. S W Anwane**  
Professor & Head  
President, IAPT SRC-08E  
9422122711

**Principal**

**Dr. O S Deshmukh**  
SSESA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur  
9403398704



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9422122711                      9579194076                      9372233844                      9765583480

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President RC-08  
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**Dr. Lata D. Jadhav**  
Secretary RC-08  
98906 94409

**Mr. S. J. Patil**  
Treasurer RC-08  
98507 85615

## Letter of Appreciation

29-08-2024

To

### Core Team and Stake Holders

Two-Day Workshop on "Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3." (28-29 August 2024)

Organized at Department of Physics, Shri Shivaji Education Society Amravati's SCIENCE COLLEGE, Nagpur

### Subject: Heartfelt Appreciation for Your Outstanding Efforts

Dear Team,

I want to extend my gratitude to our resource persons who took time from their busy schedules to engage with our participants, enriching their learning experience. A special thank you to:

- Er. V.V.V. Satyanarayana from Inter University Accelerator Centre, New Delhi
- Prof. Vandana Luthra from Gargi College, New Delhi

Your insightful sessions and engaging presentations were instrumental in making the workshop a remarkable experience.

I am equally grateful to:

- Dr. Prashant Ambekar, Associate Professor of Physics and Vice Principal, Dharampeth Science College, Nagpur
- Dr. Govind Lakhotiya, Assistant Professor, Bajaj Science College, Wardha
- Mr. Pratik Gayki, Assistant Professor, Shivaji Science College, Motala

Their contributions were invaluable and highly appreciated.

I am writing to express my deepest gratitude for the exceptional effort and dedication you all demonstrated during our recent two-day workshop, guided so effectively by Dr. Mrs. Ragini N. Pathare.

The success of this event was largely due to the hard work of our Organizing Committee, which included:

- Dr. (Miss) Sugandha V. Khangar
- Mr. Bhupendra T. Kumbhare
- Dr. (Miss) Shahin K. Sayyad



# Indian Association of Physics Teachers

Registered under section XXI of Societies Act 1860, Reg. No. K-1448

**Sub-Regional Council of Maharashtra SRC-08 E (Vidarbha)**

<b>Prof S. W. Anwane</b> <i>President</i> 9422122711	<b>Dr G. Lakhotiya</b> <i>Vice-President</i> 9579194076	<b>Dr Halim Ahamad</b> <i>Secretary</i> 9372233844	<b>Dr G. L. Jadhav</b> <i>Treasurer</i> 9765583480
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## Executive Council Members SRC-08 E (Vidarbha)

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- Dr. Gajanan L. Jadhav
- Dr. Sarang Daf
- Ms. Kanchan Jivnapurkar
- Ms. Chanda Jatgade
- Dr. Priyanka Virutkar

Your collaborative spirit and commitment to working together have been truly inspiring. The synergy within the team and your ability to connect with colleagues exemplify essential skills for overall success.

Our student coordinators, Mr. Yugansh Kanoje and Mr. Jatin Karade, also deserve commendation for their dedication and crucial support, which significantly contributed to the smooth execution of the event.

I would also like to recognize the efforts of our non-teaching staff, who overcame last-minute challenges such as power outages and internet connectivity issues with remarkable efficiency. Special thanks to:

- Mr. Dhanraj Wankhede
- Mr. Dhanraj Fuke
- Mr. Roshan Naik
- Mr. Akshy Kangali
- Mr. Prashant Kundalkar
- Mr. Rohit Sikkalwar
- Mr. Ankit Shende

Your collective hard work and commitment have garnered national recognition from esteemed educators, including Professor P.K. Ahluwalia. This acknowledgment is a testament to the high standard of excellence we strive for, especially as we are still in the early stages of our development. **Dr. Ahluwalia**, President of IAPT (Central) appreciated the support of **Dr O S Deshmukh**, Principal Shri Shivaji Education Society Amravati's SCIENCE COLLEGE, Nagpur and both forms a source of inspiration and unity for us.

Bravo to each one of you for your outstanding teamwork and dedication!

Warm regards,

Yours Faithfully,

**Prof. S. W. Anwane**  
President  
IAPT SRC-08 E



Dr Panjabrao alias  
Bhausaheb Deshmukh  
Founder President

**Department of Physics**  
Shri Shivaji Education Society Amravati's  
**SCIENCE COLLEGE**  
CONGRESS NAGAR, NAGPUR

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**Dr. S. W. Anwane**  
Professor & Head (Physics)

**Dr O.S. Deshmukh**  
PRINCIPAL

Ref: Phy/Estt/2024/360

28-8-2024

To,  
Dr Govinda Lakhotiya  
Bajaj College of Science  
WARDHA

Sub: Expression of Gratitude

Dear sir,

On behalf of our institution, we appreciate you for readily accepting our invitation and your deliberation in the capacity of Resource Person in the **Workshop on Computer Interfaced Physics Experiments Using ExpEYES-17/Seelab 3** at SSES Amt's SCIENCE COLLEGE, Congress Nagar Nagpur on 28<sup>th</sup> Aug, 2024. With your profound knowledge, vast experience and excellent communication skills you have mesmerized our participants in this activity of Training of Teachers (ToT) and guided them on a variety of aspects that can propel mend them for VSC element under NEP-2020.

Looking forward to keeping association with you and with best wishes to your social commitment.

Thank you, sir!

REGARDS!

Yours Faithfully,

**Dr. S. W. Anwane**  
Professor and Head  
Department of Physics  
Shri Shivaji Education Society Amravati's  
SCIENCE COLLEGE  
Congress Nagar, Nagpur.

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

Congress Nagar, Nagpur  
In Association with

**IAPT Vidarbha SRC08 E**

Certificate of Participation

This is to certify that

*Prof S W Anwane*



Faculty \_\_\_\_\_ from \_\_\_\_\_ Shri Shivaji Education Society Amravati's SCIENCE COLLEGE  
Nagpur

has successfully participated in the Two-Day Workshop on "**Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3**" held on 28th - 29th August 2024, organized by Shri Shivaji Education Society, Amravati's **Science College**, Congress Nagar, Nagpur in association with **IAPT Vidarbha SRC08 E**.

*NPathare*

Coordinator

Dr. R N Pathare

SSEA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur

*S.W. Anwane*

Convener

Dr. S W Anwane

Professor & Head  
President, IAPT SRC-08E

*O.S. Deshmukh*

Principal

Dr. O S Deshmukh

SSEA's SCIENCE COLLEGE,  
Congress Nagar, Nagpur

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

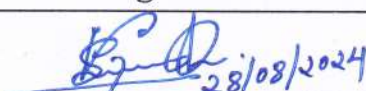

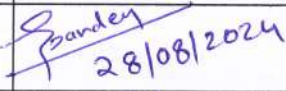
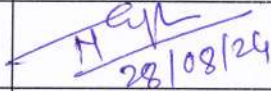
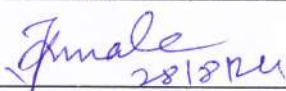
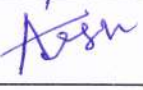
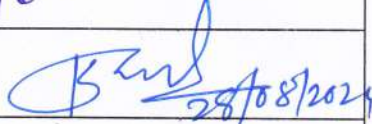
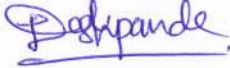


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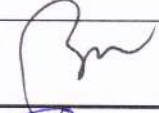
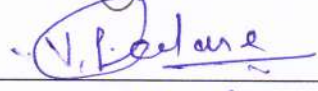
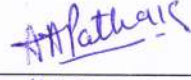
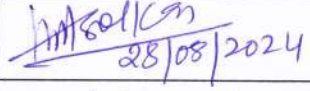
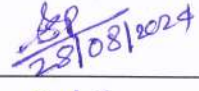
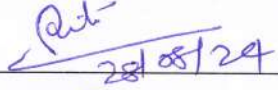


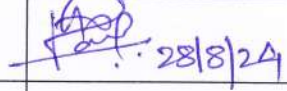
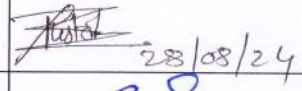
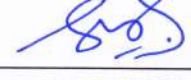

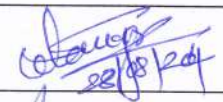

**Two-Day Workshop on**



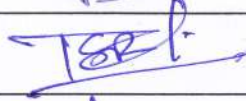


**“Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3”**

**Attendance Sheet (Day-1)**

Sr. No.	Names	Signature
1.	Dr. Vijay V. Warhate	 28/08/2024
2.	Dr. Smita Chandar Tolani	
3.	Dr. D. L. Chaudhari	
4.	Dr Neerja Haridas	
5.	Sunil Anandrao Pandey	 28/08/2024
6.	Dr Namrata Pradnyakar -Wakde	 28/08/24
7.	Dr. Jyotsna K Jumale	 28/08/24
8.	Dr. Akash Deshmukh	
9.	Dr. Kishor Y Rokde	 28/08/2024
10.	Dr. Gajanan D. Zade	
11.	Dr. Pranita C. Deshpande	
12.	Ganesh Chirkutji Vandile	
13.	Priya Bhiwaji Khune	



14.	Nishant Zode	
15.	Nikhil Somkule	
16.	Amrapali Kailash Meshram	
17.	Payaswinee Dhoke	
18.	Dr. Avish Kewal Patil	
19.	Vivekanand Gondane	
20.	Dr Anagha Ajay Pathak	
21.	Dr. Vaijayanti G. Asolkar	 28/08/2024
22.	Dr. Shraddha Pande	 28/08/2024
23.	Dr . Nita Bharat Shinde	 28/08/24
24.	Dr.Priyanka Devidas Virutkar	
25.	Dr. Gaurav Krushna Sukhadeve	
26.	Ms. Amrapali Bhaurao Patil	 28/8/24
27.	Dr. Halim Ahamad	
28.	Mr. Roshan Pustode	 28/08/24
29.	Dr. Shyamkant Wasudeorao Anwane	
30.	Dr. Ragini N. Pathare	
31.	Dr. Sugandha V. Khangar	 28/08/24
32.	Bhupendra Tikaram Kumbhare	

33.	Dr. Shahin K. Sayyad	
34.	Dr Gajanan Lalsing Jadhav	
35.	Dr. Sarang Ravindra Daf	
36.	Miss Kanchan B. Jivnapurkar	
37.	Ms. Chanda Prakash Jatgade	
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Shri Shivaji Education Society Amravati's  
**Science College**



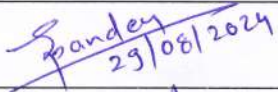
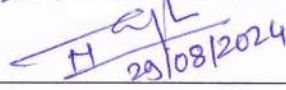

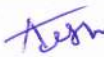
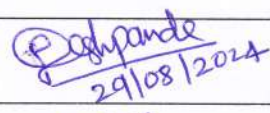

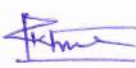
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
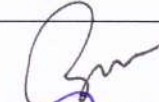
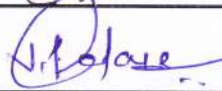

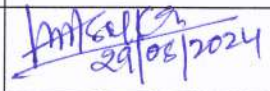
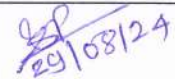
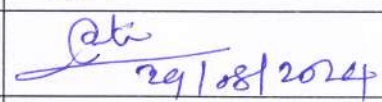

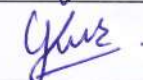
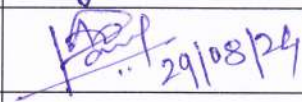
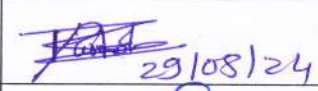










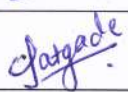
**Two-Day Workshop on**

**“Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3”**

**Attendance Sheet (Day-2)**

Sr. No.	Names	Signature
1.	Dr. Vijay V. Warhate	 29/08/2024
2.	Dr. Smita Chandar Tolani	 29/08/2024
3.	Dr. D. L. Chaudhari	
4.	Dr Neerja Haridas	
5.	Sunil Anandrao Pandey	 29/08/2024
6.	Dr Namrata Pradnyakar -Wakde	 29/08/2024
7.	Dr. Jyotsna K Jumale	 29/08/2024
8.	Dr. Akash Deshmukh	
9.	Dr. Kishor Y Rokde	
10.	Dr. Gajanan D. Zade	
11.	Dr. Pranita C. Deshpande	 29/08/2024
12.	Ganesh Chirkutji Vandile	
13.	Priya Bhiwaji Khune	

14.	Nishant Zode	
15.	Nikhil Somkule	
16.	Amrapali Kailash Meshram	
17.	Payaswinee Dhoke	
18.	Dr. Avish Kewal Patil	
19.	Vivekanand Gondane	
20.	Dr Anagha Ajay Pathak	
21.	Dr. Vaijayanti G. Asolkar	 29/08/2024
22.	Dr. Shraddha Pande	 29/08/24
23.	Dr . Nita Bharat Shinde	 29/08/2024
24.	Dr.Priyanka Devidas Virutkar	
25.	Dr. Gaurav Krushna Sukhadeve	
26.	Ms. Amrapali Bhaurao Patil	 29/08/24
27.	Dr. Halim Ahamad	
28.	Mr. Roshan Pustode	 29/08/24
29.	Dr. Shyamkant Wasudeorao Anwane	
30.	Dr. Ragini N. Pathare	 NIP
31.	Dr. Sugandha V. Khangar	
32.	Bhupendra Tikaram Kumbhare	

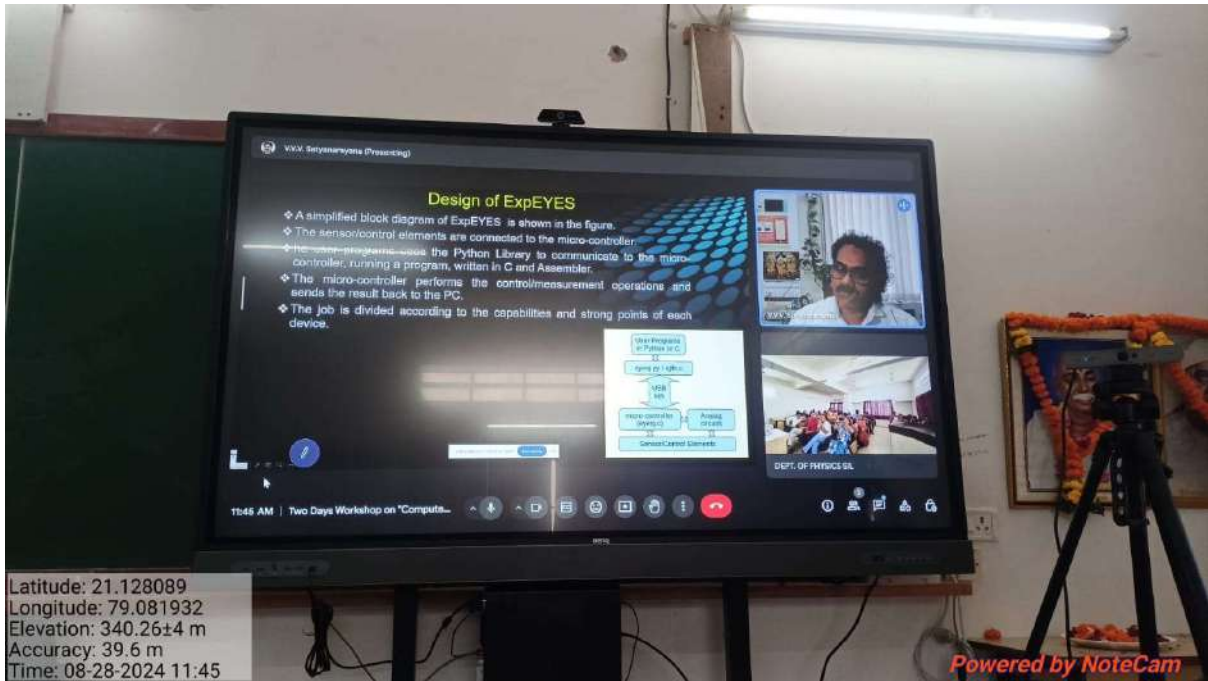
33.	Dr. Shahin K. Sayyad	
34.	Dr Gajanan Lalsing Jadhav	
35.	Dr. Sarang Ravindra Daf	
36.	Miss Kanchan B. Jivnapurkar	
37.	Ms. Chanda Prakash Jatgade	
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**Memories**

**28.08.2024 12:12**

**@ Shivaji Science NA NAGPUR**



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Elevation: 340.26±4 m  
Accuracy: 39.6 m  
Time: 08-28-2024 11:45







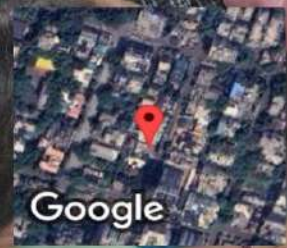






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Accuracy: 11.1 m  
Time: 08-29-2024 15:13

Powered by NotsCam



Nagpur, Maharashtra, India  
30/3, Sathe Marg, Dhantoli, Nagpur, Maharashtra 440  
Lat 21.133276°  
Long 79.081871°  
29/08/24 12:54 PM GMT +05:30































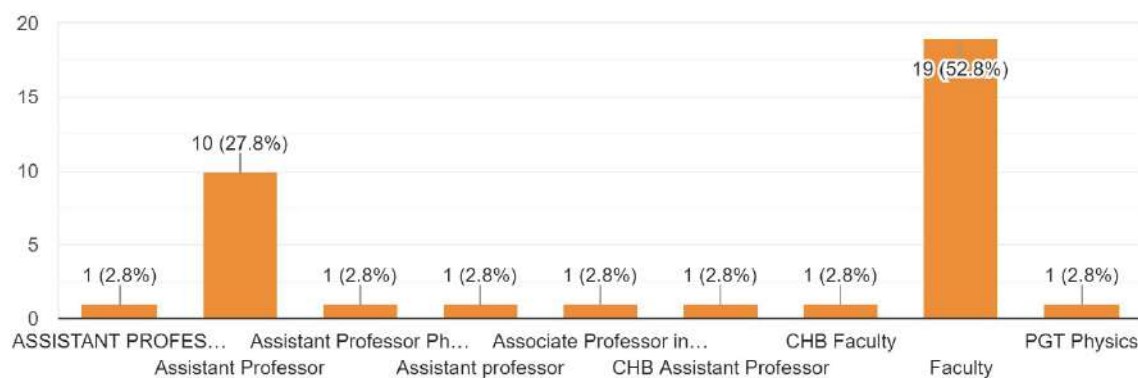




**The 36 Participants from 21 colleges participated in the workshop, filled the feedback which is analysed as following:**

Designation (Student\Research Scholar\Faculty):

36 responses



**Name of the College / Institute/ University / Organization (to be printed on the certificate): 21 DISTINCT responses**

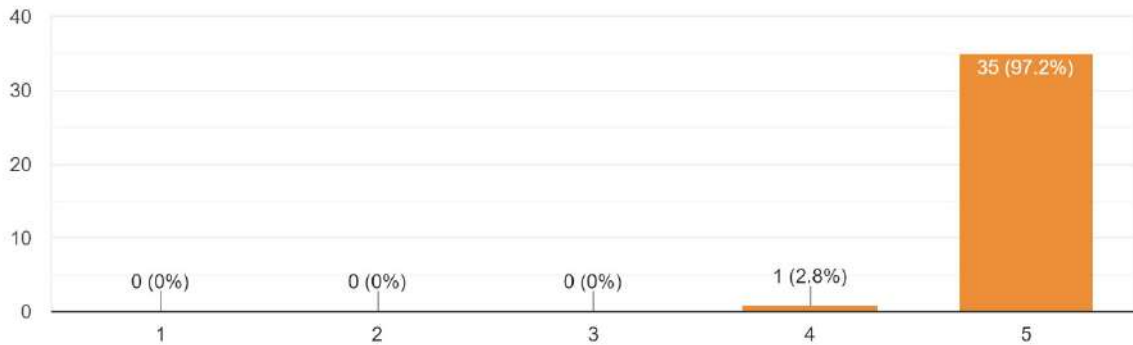
- Shri Shivaji Education Society Amravati's SCIENCE COLLEGE Nagpur
- Dr. Ambedkar college, Dikshbhoomi, Nagpur
- L.A.D. & Smt R.P. College for Women Nagpur
- Dharampeth M P Dro Memorial Science College, Nagpur
- Dr. Ambedkar College, Nagpur
- S. N. Mor College of Arts and Commerce and Smt G D Saraf Science College, Tumsar
- Corolla Public School, Multai, District Betul, Madhya Pradesh
- L. A. D. & Smt. R. P. College for Women, Nagpur
- VMV COMMERCE JMT ARTS & JJP SCIENCE COLLEGE
- DEPARTMENT OF PHYSICS DADA RAMCHAND BAKHRU SINDHU MAHAVIDYALAYA PANCHAPAOLI NAGPUR
- Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur
- St. Vincent Pallotti College of Engineering and Technology
- Shri Mathuradas Mohota College of Science, Nagpur
- Shivprasad Sadanand Jaiswal College Arjuni/Mor. Dist-Gondia, Maharashtra

- Santaji Mahavidyalaya Nagpur
- Sevasadan Arts, Commerce and Science Senior College, Nagpur
- R. S. Bidkar Arts, Comm. & Science College, Hinganghat
- Mahatma Fule Arts Commerce and Sitaramji Chaudhari Science Mahavidyalaya Warud
- Vmv commerce, Jmt arts and Jjp Science college
- S.F.S. College, Nagpur
- Shri Shivaji Arts, Commerce and Science College, Motala, Dist. Buldana

## News Items Published in Local Daily

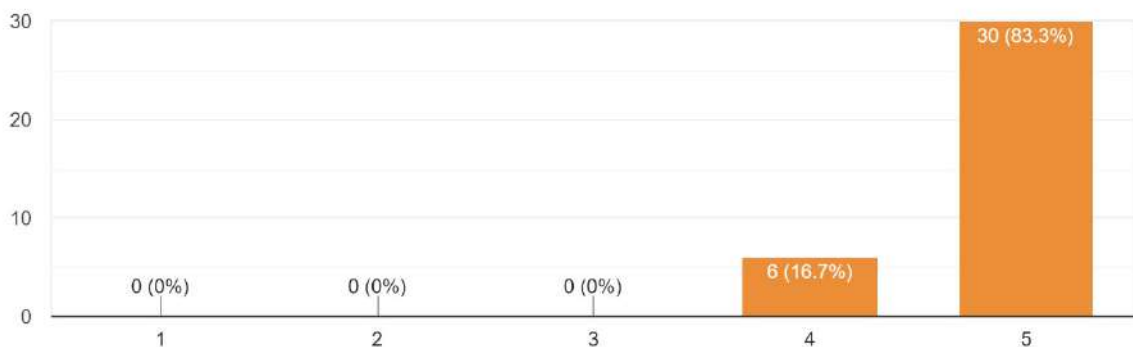
Overall Rating Two-Day Workshop on "Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3" ? (1- POOR , 5- EXCELLENT)

36 responses



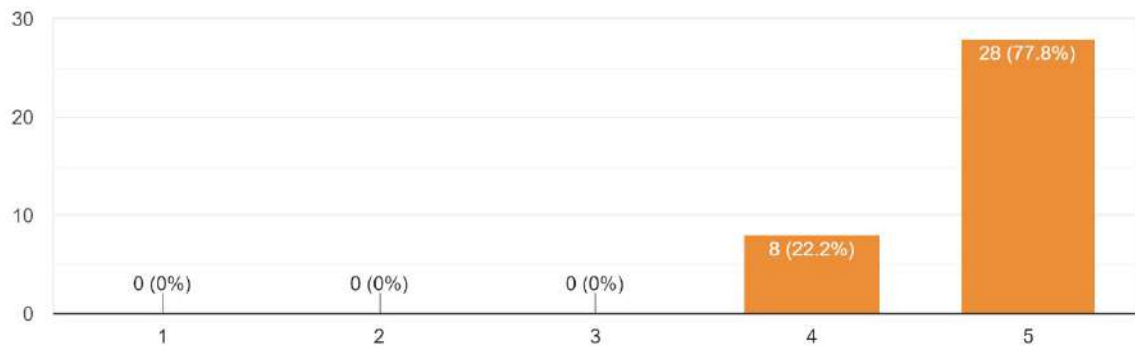
Was the content relevant to your interests?

36 responses



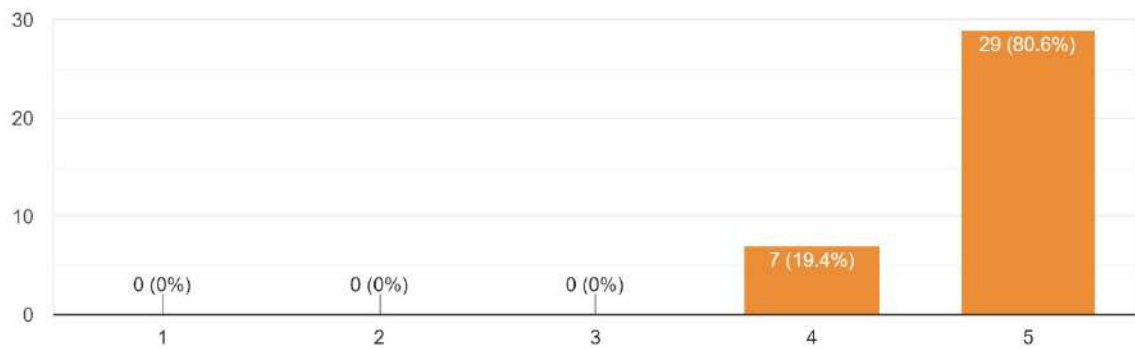
Were the topics covered in-depth and informative? (1- POOR , 5- EXCELLENT)

36 responses



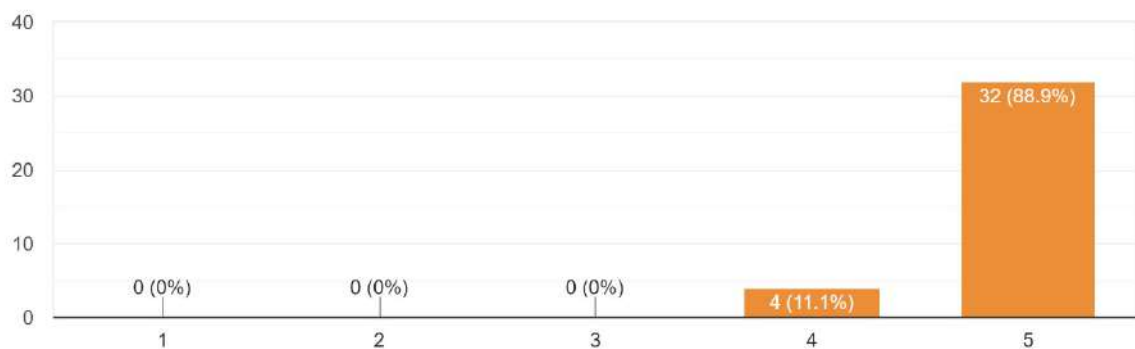
Rate the quality of the speakers. (1- POOR , 5- EXCELLENT)

36 responses



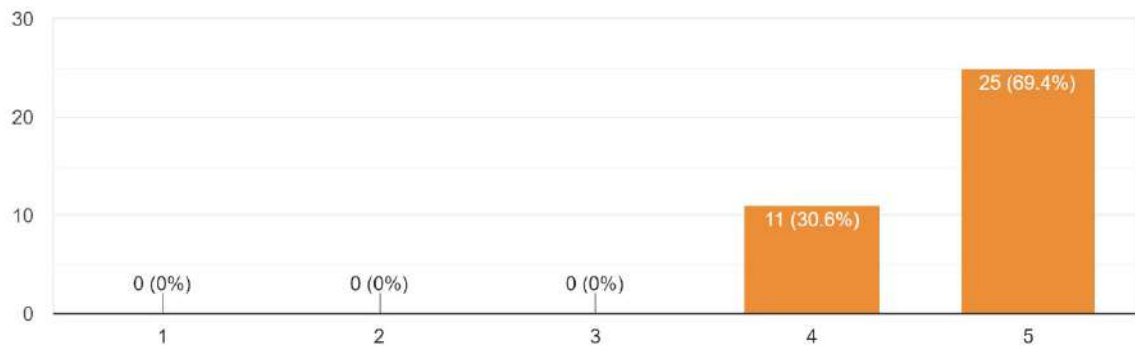
Were the speakers engaging and knowledgeable? (1- POOR , 5- EXCELLENT)

36 responses



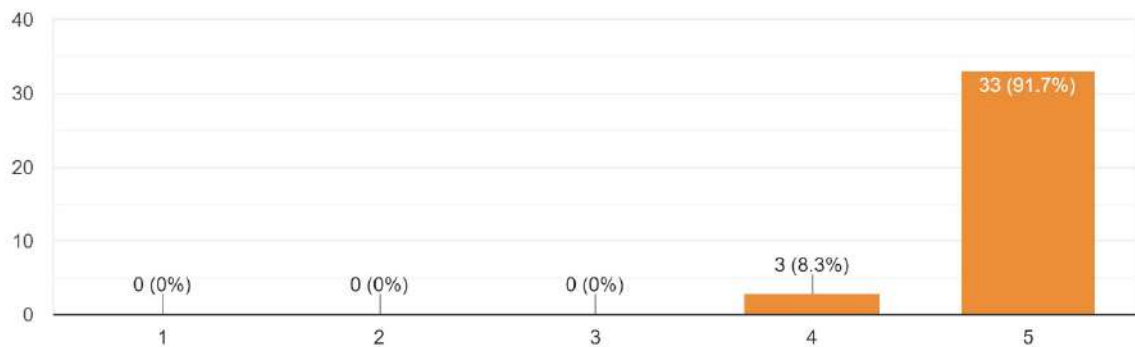
How easy was it to access the App?

36 responses



How would you rate overall organization of the Two-Day Workshop on "Computer Interfaced Physics Experiments using ExpEyes-17/SeeLab 3"...NCE COLLEGE, Nagpur? (1- POOR , 5- EXCELLENT)

36 responses



*Any suggestion or comment you want to give for improvements of such activity? 18 responses*

- 1. No*
- 2. Advanced level backup programming session should be arranged*
- 3. Congratulations for successful conduction of the workshop*
- 4. Nil*
- 5. No such any*
- 6. Very Nice workshop.*
- 7. Optics, Friction, Rotational Dynamics must be covered by kit again many more experiments must be in it related to physics*
- 8. Further refresher sessions would be welcome.*

9. *Two days are very less. It would be good to attend 1 week long workshop.*
10. *Nice workshop*
11. *Best wishes*
12. *Add more optics related experiments*
13. *No of days of workshop if possible are extended upto one week in vacations.*
14. *Workshop was so nice*
15. *Nothing*

### शिवाजी विज्ञान महाविद्यालय



नागपूर : काँग्रेस नगर येथील शिवाजी विज्ञान महाविद्यालयात दोन दिवसीय राष्ट्रीय कार्यशाळेचे आयोजन करण्यात आले होते. 'कॉम्प्युटर इंटरफेज फिजिक्स एक्सपेरिमेंट्स युझिंग एक्सआईज १७/ सीलॅब्स' या विषयावर ही कार्यशाळा होती. महाविद्यालयातील भौतिकशास्त्र विभाग व इंडियन असोसिएशन ऑफ फिजिक्स टीचर्स यांच्या संयुक्त विद्यमाने याचे आयोजन करण्यात आले होते. राष्ट्रीय शैक्षणिक धोरणांतर्गत हे आयोजन झाले. नवी दिल्लीतील इंटर युनिव्हर्सिटी अॅसिलेटर सेंटरच्या माध्यमातून विकसित करण्यात आलेल्या एक्सआईज-१७ वर या कार्यशाळेत प्रकाश टाकण्यात आला. याचा भौतिकशास्त्र विद्यार्थ्यांच्या व्यावसायिक प्रशिक्षणातही उपयोग होत आहे. अभ्यास मंडळाचे माजी अध्यक्ष डॉ.देवराम नंदनवार हे या कार्यशाळेचे प्रमुख पाहुणे होते. याशिवाय प्राचार्य डॉ.ओ.एस. देशमुख, संयोजक व विभागप्रमुख प्रा.श्याम अनवाने, डॉ.प्रशांत आंबेकर हेही प्रामुख्याने उपस्थित होते.

नागपूर

## अवतीभवती

### 'शिवाजी सायन्स'मध्ये भौतिकशास्त्रावर कार्यशाळा

नागपूर : श्री शिवाजी शिक्षण संस्थेच्या कॉंग्रेसनगर येथील विज्ञान महाविद्यालयात भौतिकशास्त्र शिक्षक संघाच्या विदर्भ शाखेच्या सहकायनि दोन दिवसीय विशेष कार्यशाळा घेण्यात आली. 'कॉम्प्युटर इंटरफेस फिजिक्स' या विषयावरील कार्यशाळेचा समारोप समारंभ महाविद्यालयात नुकताच पार पडला. यावेळी व्यासपीठावर प्राचार्य डॉ. ओ. एस. देशमुख, दिल्लीच्या इंटर-युनिव्हर्सिटी एक्सेलरेटर सेंटरचे सत्यनारायण, गार्गी कॉलेजच्या प्रा. डॉ. वंदना लुथरा, कार्यशाळा संयोजक प्रा. एस. डब्ल्यू. अनवणे, डॉ. प्रशांत आंबेकर, समन्वयक डॉ. रागिणी पाथरे यांची उपस्थिती होती. कार्यशाळेतील योगदानासाठी डॉ. प्रशांत आंबेकर, डॉ. गोविंद लखोटिया, प्रतीक गायकी, डॉ. रागिणी पाथरे यांचा सन्मान करण्यात आला.

**TODAY**

नागपूर, रविवार, १ सप्टेंबर २०२४



# TODAY

नागपूर, रविवार, १ सप्टेंबर २०२४

## श्री शिवाजी विज्ञान में भौतिकी पर कार्यशाला

संवाददाता

नागपुर। श्री शिवाजी शिक्षण संस्थान, अमरावती द्वारा संचालित श्री शिवाजी साइंस कॉलेज, कांग्रेसनगर के भौतिकी विभाग द्वारा फिजिक्स टीचर्स एसोसिएशन ऑफ इंडिया (विदभं) के सहयोग से दो दिवसीय विशेष कार्यशाला का आयोजन किया गया।

कार्यशाला का विषय 'कंप्यूटर इंटरफ़ेस भौतिकी प्रयोग एक्स-१७/सीलैब ३' था। कार्यशाला का समापन समारोह २९ अगस्त को महाविद्यालय में आयोजित किया गया। इस समारोह में कार्यशाला के प्रदर्शन की समीक्षा की गयी। आयोजकों, विशेषज्ञों एवं प्रतिभागियों को भी सम्मानित किया गया।

मंच पर प्राचार्य डॉ. ओ.एस. देशमुख, इंटर-यूनिवर्सिटी



एक्सेलेरेटर सेंटर, नई दिल्ली, सत्यनारायण, प्रोफेसर, गार्गी कॉलेज, नई दिल्ली, डॉ. वंदना लुथरा, कार्यशाला संयोजक प्रो. एस. डब्ल्यू. अनवाने, डॉ. प्रशांत अम्बेकर, कार्यशाला समन्वयक डॉ. रागिनी पठारे उपस्थित रहीं। डॉ. पठारे ने अपने परिचय में कार्यशाला के उद्देश्यों की समीक्षा की और आधुनिक भौतिकी शिक्षा में व्यावहारिक

प्रशिक्षण के महत्व पर प्रकाश डाला। उन्होंने कार्यशाला की सफलता के लिए प्रतिभागियों, विशेषज्ञों और सहयोगी स्टाफ को भी धन्यवाद दिया।

इस सत्र में कार्यशाला प्रतिभागियों की प्रतिक्रिया प्रस्तुत की गई। डॉ. विजय बरहाटे ने कार्यशाला के व्यावहारिक दृष्टिकोण की सराहना की। डॉ. वी.जी. असोलकर ने विस्तृत प्रदर्शनों की सराहना की। डॉ.

नम्रता प्रजाकर ने कहा कि ऐसी कार्यशालाओं से शिक्षण समृद्ध होता है। डॉ. श्रद्धा पाण्डे ने कार्यशाला के सार्थक होने की भावना व्यक्त की। कार्यशाला में उनके योगदान के लिए डॉ. प्रशांत अम्बेकर, डॉ. गोविंद लाखोटिया, प्रतीक गायकी, डॉ. रागिनी पठारे का सम्मान किया गया। समापन समारोह का धन्यवाद ज्ञापन चंदा जटगड़े ने किया।