

# Webinar:- Unanswered questions in modern solar astronomy

Date:- September 25, 2023

Department of Physics

Shivaji College

On September 25, 2023, at 10:00 a.m. IST, Invenio, the physics society of Shivaji College, organized an online speaker session on the topic 'Unanswered questions in modern solar astronomy' with our speaker Dr Debi Prasad Chaudhary. This Webinar was conducted via the Google Meet platform.

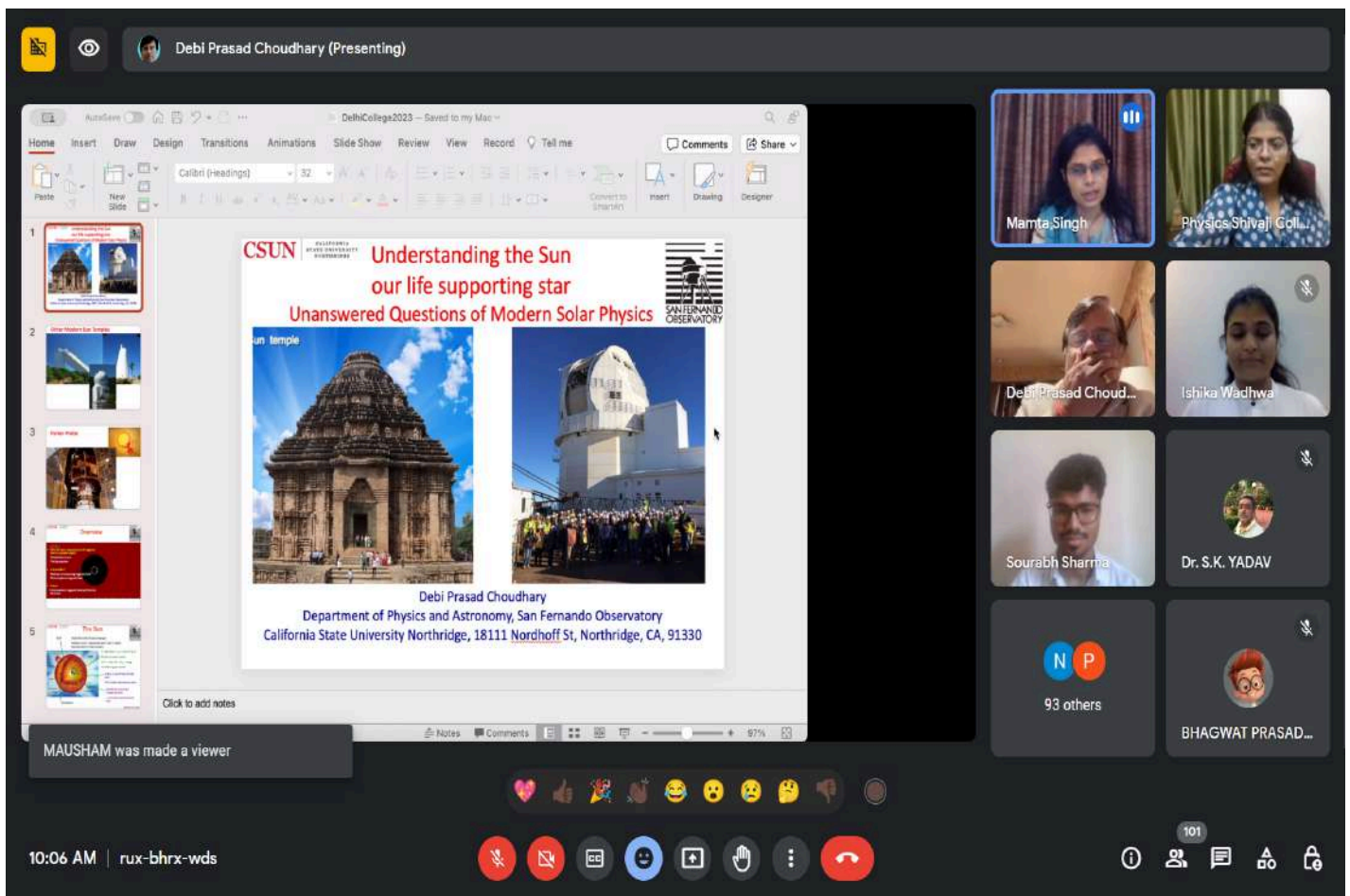


Fig 1:- A glimpse of the event

Many students from within the college and outside all together with teachers attended the session to get a great learning experience and knowledge. The event went smoothly and was very knowledgeable.

The screenshot displays a Zoom meeting in progress. The main window shows a presentation slide titled "Temperature and Density". The slide contains a graph with two y-axes: "Log Temperature (K)" on the left (ranging from 4 to 6) and "Log Density (cm<sup>-3</sup>)" on the right (ranging from 0 to 1). The x-axis is "Height above visible limb (Mm)" ranging from -1 to 3. The graph shows several curves: a blue curve for temperature in the photosphere, a red curve for temperature in the chromosphere, a green curve for density in the transition region, and a purple curve for density in the corona. Labels include "Photosphere", "Chromosphere", "Transition Region", and "Corona". There are also images of the sun's surface and corona. The meeting interface shows a video grid with participants: Debi Prasad Choudhary (Presenting), Physics Shriyeji Coll..., Rakesh Poonia, PARUL RATHEE, Dr. neeti Goel, and Niharika Chauhan. A notification says "Multiple people want to join this call". The bottom toolbar includes icons for mute, video, chat, and other functions.

*Fig 2:- Speaker explaining interesting concepts about temperature and density*

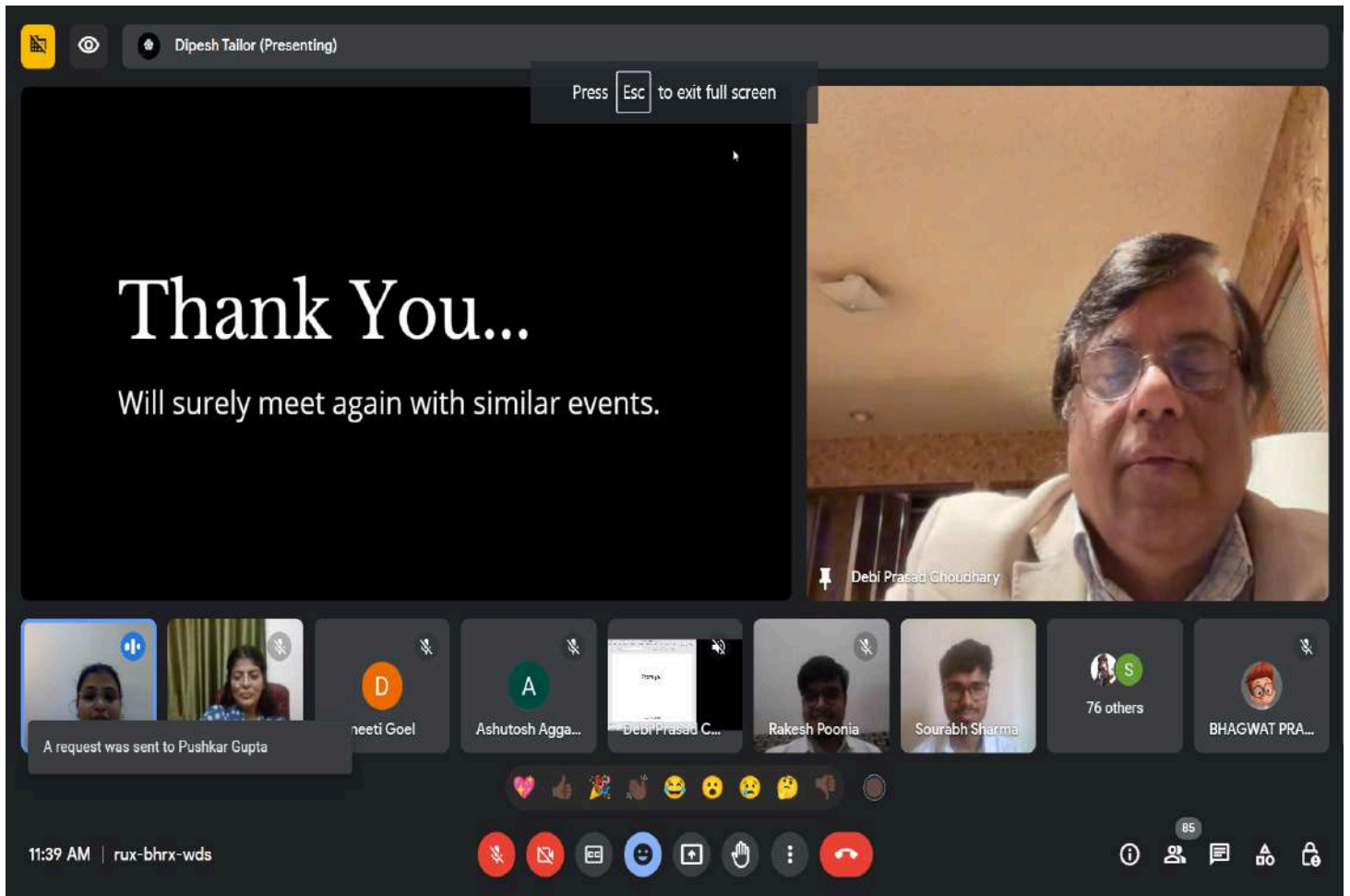
The session covered so many interesting concepts and facts related to modern solar astronomy . The major topics covered in the session were :

- Modern sun temples
- paker solar probe , Aaditya L1
- Nuclear fission on sun .
- Temprature and density of sun.
- Space wheather- coronal mass ejection.
- measuring magnetic field - zeeman effect.



*Fig 3:- Interaction with speaker*

**At last, question session was conducted students asked very interesting questions and all were answered by our speaker very enthusiastically. In this way, the event was conducted successfully.**



*Fig 4:- Valedictory session*

**Registrations:-**

[https://drive.google.com/drive/folders/1NC7YEpMq-aPos-bgIj1MMftQMilKPNbh?usp=drive\\_link](https://drive.google.com/drive/folders/1NC7YEpMq-aPos-bgIj1MMftQMilKPNbh?usp=drive_link)

**Feedback cum Attendance:-**

Around 100 participants attended the event (as can be seen from above pictures)

[https://drive.google.com/drive/folders/1cPiGMnfMXpOllGJ22TypzhBnT9byytfA?usp=drive\\_link](https://drive.google.com/drive/folders/1cPiGMnfMXpOllGJ22TypzhBnT9byytfA?usp=drive_link)

## **Visit to the National Physical Laboratory**

**Date: October 4, 2023**

On October 4, 2023, the Department of Physics at Shivaji College, accompanied by 37 selected students, had the privilege of visiting the National Physical Laboratory (NPL). The visit provided a unique opportunity for both students and faculty to gain insight into cutting-edge research and applications in the field of physics.



**Fig 1 :- Entire group at National Physical Laboratory**

Our visit commenced with a tour of the Cryogenic Liquification Plants at NPL. The guide led us through this facility, where we had the opportunity to witness the preparation of liquid nitrogen and liquid helium from atmospheric gases. A knowledgeable researcher explained the intricate processes involved in producing these cryogenic liquids, emphasizing their critical roles in various scientific and industrial applications. Additionally, several experiments involving liquid nitrogen were conducted, showcasing its remarkable properties and practical

applications.



**Fig 2 :- Students exploring physics throughout the visit at NPL**

The second part of The final part of our visit exposed us to a series of small, active research projects taking place at NPL. These projects covered a wide spectrum of topics, including crystal growth, UV luminous materials, white light generation through blue laser headlamp technology, nanotube-based sensitive movement tracking, and the development of a unique material stamp for enhancing the security of passports and government-authorized documents. Our interaction with the researchers involved in these projects was both enlightening and inspiring, leaving us with a sense of excitement about the future of science and technology. The visit led us to the Solar Department at NPL. Here, we encountered a diverse range of solar panels, each serving distinct purposes. A knowledgeable researcher enlightened us on the fascinating world of photovoltaics, discussing topics such as PN diodes,

silicon, fabrication processes, and the differences between commercial and satellite solar panels. One of the highlights of this segment was the demonstration of ultra-pure silicon solar panels, boasting an impressive efficiency rate of approximately 27% for converting solar energy. We also had the opportunity to observe a standard solar panel with an efficiency of around 22%. This demonstration emphasized the strides being made in the field of solar energy and its potential to revolutionize the renewable energy landscape.



### Details

Name

IMG-20231004-WA0013

Time

10/4/23 3:47:36 PM

**Fig 3 :- learning through advanced experiments and apparatus**

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#### Details

Name

20231004\_103547

Time

10/4/23 10:35:47 AM

**Fig 4 :- The visit concluded as a very learning and knowledgeable experience**

[Attendance Link](#)



# Movie Screening of 'GRAVITY'

**Date:-November 30,2023**

**Department of Physics**

**Shivaji College**

On 30 november 2023, the physics department at shivaji college, held a film screening of 'Gravity' at jijabai new auditorium.

Students from physics department of all respective semester along with faculty members joined the film sceening at 11:30. Everyone at the screening was excited about the film and had shown great enthusiasm.

After every one sat ,the host welcomed them all with warm greetings and told us about the film and what are its scientific perspectives.'Gravity ' film is a sci fi and it depicts the life without gravity very beautifully. The movie was not only oriented towards science and technology, it teaches life lessons as well like how positive approach really could help in dealing with any difficult situation.

Gravity is a 2013 science fiction thriller film directed by Alfonso Cuarón, who also co-wrote, co-edited, and produced the film. It stars Sandra Bullock and George Clooney as American astronauts who attempt to return to Earth after the destruction of their Space Shuttle in orbit.

The Space Shuttle Explorer, commanded by veteran astronaut Matthew "Matt" Kowalski, is in Earth orbit to service the Hubble Space Telescope (HST). Dr. Ryan Stone is aboard on her first space mission, to perform a set of hardware upgrades on the Hubble. During a spacewalk, Mission Control in Houston warns Explorer's crew about a rapidly expanding cloud of space debris accidentally caused by the Russians having shot down a presumed defunct spy satellite (see Kessler syndrome) and orders the crew to return to Earth immediately. Communication with Mission Control is lost shortly after as more communication satellites are disabled by debris. The movie follows with how the astronauts struggle to save thier lives in such harsh enviornment with no Gravity.

At the end of the screening host concluded the program by giving us a warm speech and suggested us to fill the feedback form . The screening gave many experiences like educational, entertaining and learning as well.The film kept us at the edge of our seats and left us with many curiosity about space and science .

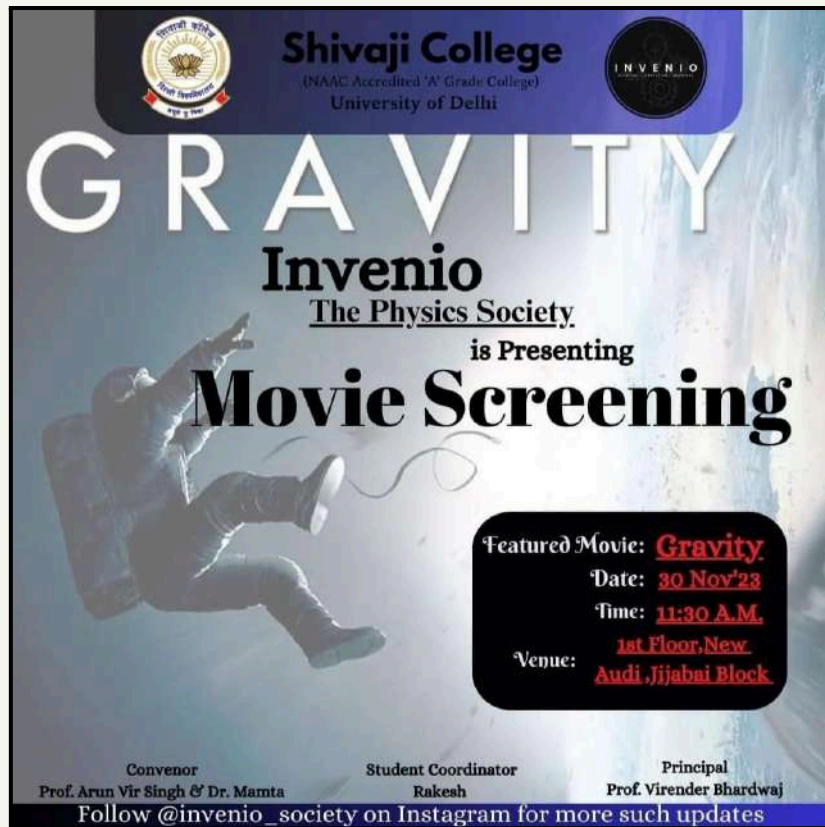


Fig1:- 'Gravity' movie screening poster



Details	
Name	IMG_20231130_114844
Time	11/30/23 11:48:44 AM

Fig2:- Event Introductory Speech



Fig3 :- Glimpses of the event.



Fig4:- Students enjoying movie

[Attendance Link](#)

## AN EDUCATIONAL VISIT TO RASHTRAPATI BHAVAN

DATE :- December 14, 2023

On 14 December 2023, The Physics Society of Shivaji College participated in an educational visit to Rashtrapati Bhawan . Students of Physics Department of 5th semester along with some faculty members visited the program. All the students and teachers were very excited for the visit.

After all reached the Rashtrapati Bhawan , the host there welcomed them with all warm greetings and told us about the motive of the visit. The visit was not only oriented towards physics theories but contained knowledge of some great upcoming programs which can help in growth of a student.

The agenda of this visit was to give knowledge about upcoming program launches and how we as a student can contribute . As a physics student we all have a dream to work with ISRO but it's not easy and as a student it's impossible, but now we students can also be involved in some upcoming projects. The host told us that ISRO is organizing some upcoming projects and it's a great honour that we can all be involved in it.

**The space station moon mission:-** Gateway is a vital component of the NASA-led Artemis missions to return to the Moon and chart a path for the first human missions to Mars. The small space station will be a multi-purpose outpost orbiting the Moon and providing essential support for lunar surface missions, a destination for science, and serving as a staging point for further deep space exploration. NASA is working with commercial and international partners to establish Gateway.

**Aditya L1:-**The Aditya-L1 mission aims to deepen our understanding of solar phenomena, including the solar corona, photosphere, and the impact of solar winds and related radiation. The spacecraft's instruments have been calibrated during its voyage, sending back X-ray images and particle counts, showcasing its healthy condition.

At the end the host concluded the program with a doubt session which went very well and all the students participated in it with great enthusiasm. The visit gave us experience of education, learning and motivation. We are honoured that we were a part of this.



Fig 1:- Students and faculty members at Rashtrapati bhavan

Details

Name  
20231214\_105325

Time  
12/14/23 10:53:26 AM



**Fig 2:- Everyone at Rashtrapati Bhavan Cultural Centre ( RBCC)**



Details

Name  
20231214\_105731

Time  
12/14/23 10:57:31 AM



**Fig 3:- Students and teachers attending India's Space Achievements event at RBCC.**

[Attendance Link](#)

## IIRS-ISRO Outreach Programme

Department of Physics, Shivaji College

University of Delhi

Report 2023-24

**Shivaji College (Physics Department) is now Network Institute of IIRS-ISRO Outreach Programme**

**IIRS-ISRO Outreach Programme**  
Live & Interactive courses  
Strengthening academia and user segment using online learning platforms

**1. Program 1034 – “Remote sensing based data analytics in Agriculture”** was conducted on 26 October, 2023

Registration – 4

Qualified Candidates – 1

202310342219566	Vijay kushwaha	infinitynumbers123456@gmail.com	Student	Pursuing Graduation	Maths, physics, computer science C++	2026
202310342225752	Aditi Sonal	aditisonal4872@gmail.com	Student	Pursuing Graduation	Physics , maths, computer science	2024
202310342217061	MRITTIKA MONDAL	siddhartha.mondal16@gmail.com	Student	Pursuing Graduation	GEOGRAPHY	2024
202310342203354	Yugal	yugalgalaxy@gmail.com	Student	Graduation	Computer Science, Physics, Maths	2026



भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING  
भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION  
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



कति: पारितार संकेत/ किरतार कार्यक्रम प्रमाण पत्र  
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

COR2023103414556

संस्थान की सहभागिता का प्रमाण पत्र  
CERTIFICATE OF PARTICIPATION OF INSTITUTE

यह प्रमाणित किया जाता है कि **शिवजी कॉलेज** ने भारतीय सुदूर संवेदन संस्थान, इसरो देहरादून द्वारा संचालित ऑनलाइन प्रशिक्षण पाठ्यक्रम **कृषि में सुदूर संवेदन आधारित आंकड़ों का विश्लेषण** में भाग लिया। इस ऑनलाइन पाठ्यक्रम का संचालन दिनांक 26 अक्टूबर, 2023 से 26 अक्टूबर, 2023 तक किया गया।

This is to certify that **Shivaji College**, has participated in online training programme conducted by Indian Institute of Remote Sensing, ISRO Dehradun on **Remote sensing based data analytics in Agriculture**. This online programme was conducted during October 26, 2023 to October 26, 2023

दिनांक/ Date: 28-11-2023  
देहरादून/ Dehradun

प्रमुख,  
विश्ववेब सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग  
Head, Geospatial Technologies, IT & Distance Learning Department, IIRS

समूह प्रमुख,  
भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह  
Group Head, Geospatial Technologies & Outreach Programme Group, IIRS



भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING  
भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION  
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



नामांकन सं./ Enrollment No. : 202310342225752

आई.आई.आर.एस. आउटरीच कार्यक्रम  
IIRS Outreach Programme

कार्यशाला में सहभागिता का प्रमाणपत्र/CERTIFICATE OF PARTICIPATION IN WORKSHOP

यह प्रमाणित किया जाता है कि **MS. ADITI SONAL** ने इस संस्थान द्वारा दिनांक 26 अक्टूबर, 2023 को आयोजित एक दिवसीय ऑनलाइन कार्यशाला, **कृषि में सुदूर संवेदन आधारित आंकड़ों का विश्लेषण** में भाग लिया।

(संबन्धित आई.आई.आर.एस. नोडल केंद्र- शिवजी कॉलेज )।

This is to certify that **MS. ADITI SONAL** has participated in one day online workshop titled **Remote sensing based data analytics in Agriculture** , conducted by this institute on **26-10-2023**.

(Concerned IIRS Nodal Centre- Shivaji College) .

Date: 28-11-2023  
Place: Dehradun

समन्वयक, विश्वविद्यालय/ संस्थान  
Coordinator, University/ Institution

निदेशक/ Director  
आई०आई०आर०एस, देहरादून/ IIRS, Dehradun

UID: 757c012a09bee43cb0ddab0fb2b386f9. This Certificate can be validated using URL: <https://certificate.iirs.gov.in>



## 2. Program 125 – “Overview of Space Technology (Course in Hindi)” was conducted

from September 14, 2023 to September 28, 2023

Registration – 6

Qualified Candidates – 2

S.No.	RegNo.	Name	Email ID	Profession	Qualification	Subjects	Passing Year	ID Proof
1	20231252181415	Sukriti Sharma	sukritis714@gmail.com	Student	Pursuing Graduation	Physics	2026	<a href="#">View</a>
2	20231252178871	Keshav	keshavjangra075@gmail.com	Student	Pursuing Graduation	Physical science with computer science	2026	<a href="#">View</a>
3	20231252179216	Ayush Kumar Sharma	ayushkumar95705489@gmail.com	Student	Pursuing Graduation	Physics, computer science, mathematics	2026	<a href="#">View</a>
4	20231252179264	Yugal	yugalgalaxy@gmail.com	Student	Graduation	Computer Science, Physics, Maths	2026	<a href="#">View</a>
5	20231252179792	samarth kumar	samarthjais07@gmail.com	Student	Graduation	Physics honors	2026	<a href="#">View</a>
6	20231252180981	Sandhya Nayak	sendhyanayak7723@gmail.com	Student	Graduation	Physics	2026	<a href="#">View</a>

	<b>भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING</b> <b>भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION</b> <b>अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA</b>	
	वर्ग : पॉपुलर संघर्ष/ विस्तार कार्यक्रम प्रमाण पत्र <b>OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME</b>	COR202312514556
	संस्थान की सहभागिता का प्रमाण पत्र <b>CERTIFICATE OF PARTICIPATION OF INSTITUTE</b>	
<p>यह प्रमाणित किया जाता है कि <b>शिवाजी कॉलेज</b> ने भारतीय सुदूर संवेदन संस्थान, इसरो देहारादून द्वारा संचालित ऑनलाइन प्रशिक्षण पाठ्यक्रम <b>अंतरिक्ष प्रौद्योगिकी का अवलोकन</b> में भाग लिया। इस ऑनलाइन पाठ्यक्रम का संचालन दिनांक 14 सितंबर, 2023 से 28 सितंबर, 2023 तक किया गया।</p>		
<p>This is to certify that <b>Shivaji College</b>, has participated in online training programme conducted by Indian Institute of Remote Sensing, ISRO Dehradun on <b>Overview of Space Technology (course in hindi)</b>. This online programme was conducted during September 14, 2023 to September 28, 2023</p>		
दिनांक/ Date: 18-12-2023 देहारादून/ Dehradun	प्रमुख, बिरोकेव सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग Head, Geoweb Services, IT & Distance Learning Department, IIRS	समूह प्रमुख, भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह Group Head, Geospatial Technologies & Outreach Programme Group, IIRS





अंतरिक्ष विभाग / DEPARTMENT OF SPACE  
भारत सरकार / GOVERNMENT OF INDIA  
भारतीय अंतरिक्ष अनुसंधान संगठन / INDIAN SPACE RESEARCH ORGANISATION  
भारतीय सुदूर संवेदन संस्थान, देहरादून / INDIAN INSTITUTE OF REMOTE SENSING, DEHRADUN



नामांकन सं. / Enrolment No. : 20231252178871



## CERTIFICATE OF MERIT ONLINE COURSE

यह प्रमाणपत्र

**Mr. Keshav**

को “अंतरिक्ष प्रौद्योगिकी का अवलोकन”

में ऑनलाइन पाठ्यक्रम में भाग लेने पर प्रदान किया जाता है।

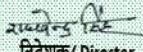
इस ऑनलाइन पाठ्यक्रम का आयोजन 14 सितंबर, 2023 से 28 सितंबर, 2023 (कुल पाठ्यक्रम की अवधि = 27 घंटे) के दौरान किया गया।

(संबन्धित आई.आई.आर.एस. नोडल केंद्र- शिवाजी कॉलेज)

Online Exam Grade: **B**  
Attendance: **72 %**

Date: 19-12-2023  
Place: Dehradun

  
समन्वयक, विश्वविद्यालय/संस्थान  
Coordinator, University/ Institution

  
निदेशक/ Director  
आई.आई.आर.एस., देहरादून/ IIRS, Dehradun

UID: 9b529f3b7fe5f9e5a64e1ae525610ded. This Certificate can be validated using URL: <https://certificate.iirs.gov.in>

\* >80% - (A+), 70-80% - (A), 60-70% - (B+), 40-60% - (B)

**3. Program 126 – “Outreach Program on Overview of Global Navigation Satellite System.”** was conducted from September 25 – October 06, 2023

Registration – 9

Qualified Candidates – 2

S.No.	RegNo.	Name	Email ID	Profession	Qualification	Subjects	Passing Year
1	20231262178835	ANKIT SAGAR	ankitsagar.s@gmail.com	Student	Pursuing Graduation	COMPUTER SCIENCE, MATHEMATICS, PHYSICS	2025
2	20231262183977	Saksham	saksham4906@gmail.com	Student	Graduation	Physics, computer science, math	2025
3	20231262192683	ASHISH KUMAR MEHTA	harilalmeha1891@gmail.com	Student	Pursuing Graduation	PHYSICS	2026
4	20231262184550	Naman Verma	nbsverma@gmail.com	Student	Pursuing Graduation	Physics	2026
5	20231262179758	Yugal	yugalgalaxy@gmail.com	Student	Graduation	Computer Science, Physics, Maths	2026
6	20231262179771	Shubham Sanjay	shubhamsanjay8910@gmail.com	Student	Pursuing Graduation	Physics honours	2026
7	20231262179786	samarth kumar	samarthjais07@gmail.com	Student	Graduation	Physics hone	2026
8	20231262178781	Vjay kushwaha	infinitynumbers123456@gmail.com	Student	Pursuing Graduation	Maths, physics, computer science C++	2026
9	20231262180602	Sandhya Nayak	sandhyanayak7723@gmail.com	Student	Graduation	Physics	2026



भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING  
भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION  
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



बहिः परिसर संस्कार/ विस्तार कार्यक्रम प्रमाण पत्र  
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

COR202412614556

संस्थान की सहभागिता का प्रमाण पत्र  
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This is to certify that **Shivaji College**, has participated in online training programme conducted by Indian Institute of Remote Sensing, ISRO Dehradun on **Overview of Global Navigation Satellite System**. This online programme was conducted during September 25, 2023 to October 06, 2023

दिनांक/ Date: 06-01-2024  
देहरादून/ Dehradun

प्रमुख,  
नियोजन सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग  
Head, Geospatial Services, IT & Distance Learning Department, IIRS

समूह प्रमुख,  
भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह  
Group Head, Geospatial Technologies & Outreach Programme Group, IIRS



अंतरिक्ष विभाग /DEPARTMENT OF SPACE  
भारत सरकार/GOVERNMENT OF INDIA  
भारतीय अंतरिक्ष अनुसंधान संगठन /INDIAN SPACE RESEARCH ORGANISATION  
भारतीय सुदूर संवेदन संस्थान, देहरादून / INDIAN INSTITUTE OF REMOTE SENSING, DEHRADUN



नामांकन सं./ Enrolment No. : 20231262179738



**CERTIFICATE OF COMPLETION**  
**ONLINE COURSE**

यह प्रमाणपत्र  
**MR. YUGAL**

को " वैश्विक नौवहन उपग्रह प्रणाली का अवलोकन " में ऑनलाइन पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। इस ऑनलाइन पाठ्यक्रम का आयोजन 25 सितंबर, 2023 से 06 अक्टूबर, 2023 ( कुल पाठ्यक्रम की अवधि = 12 घंटे ) के दौरान किया गया।  
(सम्बन्धित आई आई आर एस नोडल केन्द्र- शिवाजी कॉलेज )

**THIS CERTIFICATE IS**

AWARDED TO

**MR. YUGAL**

ON COMPLETION OF THE ONLINE COURSE ON

**"Overview of Global Navigation Satellite System"**

THIS ONLINE COURSE WAS CONDUCTED DURING **25-09-2023 to 06-10-2023** ( Total course duration = 12 hrs ).

(Concerned IIRS Nodal Centre- Shivaji College)

Online Exam Grade: **B+**  
Attendance: **88 %**

Date: **06-01-2024**  
Place: Dehradun

समन्वयक, विश्वविद्यालय/संस्थान  
Coordinator, University/ Institution

निदेशक/ Director  
आई.आई.आर.एस, देहरादून/ IIRS, Dehradun

UJD\_ 17d0c72d8b85cdd521540b6bfa3b55 .This Certificate can be validated using URL- <https://certificate.iirs.gov.in>

\*>80%-(A+), 70-80%-(A), 60-70%-(B+), 40-60%-(B)



#### 4. Program 127 – “Overview of Geographical Information System.” was conducted from

October 09- October 20, 2023

Registration – 5

Qualified Candidates – 1

S.No.	RegNo.	Name	Email ID	Profession	Qualification	Subjects	Passing Year
1	20231272187007	MRITTIKA MONDAL	siddhartha.mondal16@gmail.com	Student	Pursuing Graduation	GEOGRAPHY	2024
2	20231272191636	Triambika Singh	khushisingh9431090009@gmail.com	Student	Pursuing Graduation	Physics	2023
3	20231272197789	Vivesh	viveshkumarpathak15@gmail.com	Student	Pursuing Graduation	Computer Science, Physics, Mathematics	2025
4	20231272190481	Yugal	yugalgalaxy@gmail.com	Student	Graduation	Computer Science, Physics, Maths	2026
5	20231272197714	siddhant rawat	siddhant2k05@gmail.com	Student	Pursuing Graduation	physics	2027

	<b>भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING</b> <b>भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION</b> <b>अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA</b>	
	बहिः परिसर संपर्क/ विस्तार कार्यक्रम प्रमाण पत्र OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME	COR202412714556
	संस्थान की सहभागिता का प्रमाण पत्र CERTIFICATE OF PARTICIPATION OF INSTITUTE	
<p>यह प्रमाणित किया जाता है कि <b>शिवाजी कॉलेज</b> ने भारतीय सुदूर संवेदन संस्थान, इसरो देहरादून द्वारा संचालित ऑनलाइन प्रशिक्षण पाठ्यक्रम <b>भौगोलिक सूचना प्रणाली का अवलोकन</b> में भाग लिया। इस ऑनलाइन पाठ्यक्रम का संचालन दिनांक 09 अक्टूबर, 2023 से 27 अक्टूबर, 2023 तक किया गया।</p> <p>This is to certify that <b>Shivaji College</b>, has participated in online training programme conducted by Indian Institute of Remote Sensing, ISRO Dehradun on <b>Overview of Geographical Information System</b>. This online programme was conducted during October 09, 2023 to October 27, 2023</p>		
दिनांक/ Date: 06-01-2024 देहरादून/ Dehradun	प्रमुख, विश्वेव सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग Head, Geoweb Services, IT & Distance Learning Department, IIRS	समूह प्रमुख, भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह Group Head, Geospatial Technologies & Outreach Programme Group, IIRS



अंतरिक्ष विभाग /DEPARTMENT OF SPACE  
 भारत सरकार/GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन /INDIAN SPACE RESEARCH ORGANISATION  
 भारतीय सुदूर संवेदन संस्थान, देहरादून /INDIAN INSTITUTE OF REMOTE SENSING, DEHRADUN



नामांकन सं. / Enrolment No. : 20231272187007



## CERTIFICATE OF COMPLETION ONLINE COURSE

यह प्रमाणपत्र

**MS. MRITTIKA MONDAL**

को " भौगोलिक सूचना प्रणाली का अवलोकन "

में ऑनलाइन पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है।

इस ऑनलाइन पाठ्यक्रम का आयोजन 09 अक्टूबर, 2023 से 27 अक्टूबर, 2023 ( कुल पाठ्यक्रम की अवधि = 21 घंटे ) के दौरान किया गया।

(सम्बन्धित आई.आई.आर.एम नोडल केंद्र- शिवाजी कॉलेज )

**THIS CERTIFICATE IS**

AWARDED TO

**MS. MRITTIKA MONDAL**

ON COMPLETION OF THE ONLINE COURSE ON

**"Overview of Geographical Information System"**

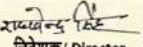
THIS ONLINE COURSE WAS CONDUCTED DURING **09-10-2023 to 27-10-2023** ( Total course duration = 21 hrs ).

(Concerned IIRS Nodal Centre- Shivaji College)

Online Exam Grade: **B**  
 Attendance: **71 %**

Date: **06-01-2024**  
 Place: Dehradun

  
 समन्वयक, विश्वविद्यालय/संस्थान  
 Coordinator, University/Institution

  
 निदेशक/ Director  
 आई.आई.आर.एस, देहरादून/ IIRS, Dehradun

UID- dda71a2bc4dd632f0a38e5b1d72c3614 , This Certificate can be validated using URL- <https://certificate.iirs.gov.in>

\* >80% -(A+), 70-80% -(A), 60-70% -(B+), 40-60% -(B)

**5. Program 128 – “Overview of Geo-computation and Geo-web services”** was conducted from October 30 – November 03, 2023

Registration – 6

Qualified Candidates – 2

20231282228482	Kamini	kaminisaini5104@gmail.com	Student	Pursuing Graduation	Physics , Mathematics, Computer Science	2024
20231282219554	Vijay kushwaha	infinitynumbers123456@gmail.com	Student	Pursuing Graduation	Maths, physics, computer science C++	2026
20231282210344	Keshav	keshavjangra075@gmail.com	Student	Pursuing Graduation	Physics,maths, computer science	2026
20231282225728	Aditi Sonel	aditisonal4872@gmail.com	Student	Pursuing Graduation	Physics , maths, computer science	2024
20231282205625	MRITTIKA MONDAL	siddhartha.mondal16@gmail.com	Student	Pursuing Graduation	GEOGRAPHY	2024
20231282205403	Yugal	yugalgalaxy@gmail.com	Student	Graduation	Computer Science, Physics, Maths	2026



भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING  
भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION  
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



वर्ष: पॉस्टर सार्क/ विस्तार कार्यक्रम प्रमाण पत्र  
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

COR202412814556

संस्थान की सहभागिता का प्रमाण पत्र  
CERTIFICATE OF PARTICIPATION OF INSTITUTE

यह प्रमाणित किया जाता है कि **शिवाजी कॉलेज** ने भारतीय सुदूर संवेदन संस्थान, इसरो देहरादून द्वारा संचालित ऑनलाइन प्रशिक्षण पाठ्यक्रम **जियोकम्प्यूटेशन एवं जियोवेब सर्विसेस का अवलोकन** में भाग लिया। इस ऑनलाइन पाठ्यक्रम का संचालन दिनांक 30 अक्टूबर, 2023 से 03 नवंबर, 2023 तक किया गया।

This is to certify that **Shivaji College**, has participated in online training programme conducted by Indian Institute of Remote Sensing, ISRO Dehradun on **Overview of Geocomputation and Geo-web services**. This online programme was conducted during October 30, 2023 to November 03, 2023

दिनांक/Date: 06-01-2024  
देहरादून/Dehradun

प्रमुख,  
जियोवेब सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग  
Head, Geospatial Technologies, IT & Distance Learning Department, IIRS

समूह प्रमुख,  
भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह  
Group Head, Geospatial Technologies & Outreach Programme Group, IIRS



अंतरिक्ष विभाग /DEPARTMENT OF SPACE  
भारत सरकार/GOVERNMENT OF INDIA  
भारतीय अंतरिक्ष अनुसंधान संगठन /INDIAN SPACE RESEARCH ORGANISATION  
भारतीय सुदूर संवेदन संस्थान, देहरादून / INDIAN INSTITUTE OF REMOTE SENSING, DEHRADUN



नामांकन सं. / Enrolment No.: 20231282228482



**CERTIFICATE OF COMPLETION**  
**ONLINE COURSE**

यह प्रमाणपत्र  
**MS. KAMINI**

को "जियोकम्प्यूटेशन एवं जियोवेब सर्विसेस का अवलोकन"

में ऑनलाइन पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है।

इस ऑनलाइन पाठ्यक्रम का आयोजन 30 अक्टूबर, 2023 से 03 नवंबर, 2023 (कुल पाठ्यक्रम की अवधि = 7 घंटे 30 मिनट) के दौरान किया गया।

(संबन्धित आई.आई.आर.एस. नोडल केंद्र- शिवाजी कॉलेज)

**THIS CERTIFICATE IS**  
**AWARDED TO**

**MS. KAMINI**

ON COMPLETION OF THE ONLINE COURSE ON

**"Overview of Geocomputation and Geo-web services"**

THIS ONLINE COURSE WAS CONDUCTED DURING **30-10-2023 to 03-11-2023** ( Total course duration = 7 hrs & 30 minutes ).

(Concerned IIRS Nodal Centre- Shivaji College)

Online Exam Grade: **B**  
Attendance: **80 %**

Date: 06-01-2024  
Place: Dehradun

समन्वयक, विश्वविद्यालय/संस्थान  
Coordinator, University/Institution

निदेशक/ Director  
आई.आई.आर.एस, देहरादून/ IIRS, Dehradun

UID: 2b4a7052238b3081de008eb45d45147d .This Certificate can be validated using URL- <https://certificate.iirs.gov.in>



\*>80%-(A+), 70-80%-(A), 60-70%-(B+), 40-60%-(B)

6. Program 129 – “RS & GIS Applications in Natural Resource Management” was conducted from November 06- November 17, 2023

Registration – 5

Qualified Candidates – 4

S.No.	RegNo.	Name	Email ID	Profession	Qualification	Subjects	Passing Year
1	20231292228485	Kamini	kaminisaini5104@gmail.com	Student	Pursuing Graduation	Physics , Mathematics, Computer Science	2024
2	20231292232646	Deep Shikha	deepshikha03303@gmail.com	Student	Pursuing Graduation	Geography	2026
3	20231292225746	Aditi Sonal	aditisonal4872@gmail.com	Student	Pursuing Graduation	Physics , maths, computer science	2024
4	20231292217052	MRITTIKA MONDAL	siddhartha.mondal16@gmail.com	Student	Pursuing Graduation	GEOGRAPHY	2024
5	20231292247778	Simran	simranid2022@gmail.com	Student	Graduation	Physics, Maths, Computer Science	2024

	<p>भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA</p>	
	<p>बहिः परिसर संपर्क/ विस्तार कार्यक्रम प्रभाग पर OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME</p>	<p>COR202412914556</p>
	<p>संस्थान की सहभागिता का प्रमाण पत्र CERTIFICATE OF PARTICIPATION OF INSTITUTE</p>	
<p>यह प्रमाणित किया जाता है कि <b>शिवाजी कॉलेज</b> ने भारतीय सुदूर संवेदन संस्थान, इसरो देहारादून द्वारा संचालित ऑनलाइन प्रशिक्षण पाठ्यक्रम <b>प्राकृतिक संसाधन प्रबंधन में सुदूर संवेदन और जीआईएस के अनुप्रयोग</b> में भाग लिया। इस ऑनलाइन पाठ्यक्रम का संचालन दिनांक 06 नवंबर, 2023 से 17 नवंबर, 2023 तक किया गया।</p>		
<p>This is to certify that <b>Shivaji College</b>, has participated in online training programme conducted by Indian Institute of Remote Sensing, ISRO Dehardun on <b>RS &amp; GIS Applications in Natural Resource Management</b>. This online programme was conducted during November 06, 2023 to November 17, 2023</p>		
<p>दिनांक/ Date: 06-01-2024 देहरादून/ Dehradun</p>	<p>प्रमुख, जियोवेब सर्विसेस, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग Hrsd, Geoweb Services, IT &amp; Distance Learning Department, IIRS</p>	<p>समूह प्रमुख, भू-स्थानिक प्रौद्योगिकी एवं आउटरीच कार्यक्रम समूह Group Head, Geospatial Technologies &amp; Outreach Programme Group, IIRS</p>



**7. Program 1036 – “One day workshop on Monitoring Forest Disturbances using Geospatial Technology”** was conducted on October 4, 2023

Registration – 2

Qualified Candidates – Result Awaited

S.No.	RegNo.	Name	Email ID	Profession	Qualification	Subjects	Passing Year
1	202310362197792	Vivesh	viveshkumarpathak15@gmail.com	Student	Pursuing Graduation	Computer Science, Physics, Mathematics	2025
2	202310362190487	Yugal	yugalgalaxy@gmail.com	Student	Graduation	Computer Science, Physics, Maths	2026

Dr. Nidhi Tyagi

Co-Ordinator (IIRS-ISRO Outreach Program)

## Educational Visit

Science is a continuous journey; there is always something new and exciting to discover. In India, to honour the discovery of the “Raman Effect” by Indian Physicist **Sir Chandrasekhara Venkata Raman**, on 28 February 1928, **National Science Day** is Celebrated.

On 28 February 2024 Shivaji College, Department of Physics organised an educational visit to the Inter-University Accelerator Centre (IUAC), New Delhi under the guidance of Dr. Mamta. Inter-University Accelerator Centre celebrated the day as the National Science Day Programme. The Director of IUAC **Professor A.C Pandey** interacted with everyone and introduced about IUAC campus and faculty. Then, the Chief Guest **Professor K. Rama Subramaniam** (IIT Mumbai) enlightened us with “The Maths and Astronomy of Aryabhata”. Further, we were enlightened by “Different Dimensions of Vigyan Bharti” and we were addressed on “Indigenous Technologies for Viksit Bharat 2047”. Then, we had a tour of IUAC laboratories, and they provided premier information about the Beam Transport System, Liquid Nitrogen Refrigeration Plant, Liquid Helium Refrigeration Plant under the Cryogenic group, High Current Injector, Free Electron Laser, Positive and negative ion beam facilities. Then, they provided us with the participation certificate and travel allowance.

To sum up, our visit to IUAC on National Science Day was a journey full of Inspiration that left a permanent impression on each one of us.





# QUANTA'24

Date:-March 19,2024

The College Annual Physics Fest QUANTA'24 , held on 19 March, marked a celebration of scientific inquiry, innovation, and collaboration within the realm of physics. Organized by the Physics Society INVENIO . The event aimed to foster a deeper appreciation for physics among students while providing a platform for showcasing their talents.

Event Highlights:

1. Guest Lecture:

On this occasion the Physics Department had the esteemed privilege of hosting Prof. Devki Nandan Gupta to deliver a speaker session on PLASMA : Decoding the Hidden Reality. This lecture sparked intellectual curiosity and encouraged students to delve deeper into the subject. The lecture was meticulously curated to showcase his thoughts on the topic of Plasma. During the lecture, he discussed various aspects of Plasma, providing insightful perspectives and real-world examples. At the end of the lecture audience got allowance for asking questions . They actively participated in the session,posing thought provoking questions and engaging in discussions with the speaker. This interaction enriched the learning experience, allowing attendees to gain further insights and clarify any doubts they had regarding the topic.

2. play:

Student of Physics Department presented a captivating theatrical drama titled "Homi J. Bhabha" This play paid homage to the life and achievements of one of India's most eminent scientists, Homi Jehangir Bhabha.The cast skillfully portrayed the characters central to Dr. Bhabha's life, including his colleagues and mentors. The lead actor's portrayal of Dr. Bhabha captured his intellect, passion for science, and unwavering commitment to India's scientific development, drawing the audience into his world and struggles. Through its compelling narrative and stellar performances, the play celebrated Dr. Bhabha's legacy while inspiring future generations to pursue scientific inquiry and innovation.

3. Competitions:

(a) Kalakriti: The Poster Making Competition - Many students joined us for the competition to unleash thier potential and creativity . Everyone thier was filled with enthusiasm and once the theme got released they painted their canvas with the same enthusiasm and creativity.Theme for this year's poster was Sustainable Development: Digital India and participants amazingly showcased the theme through thier posters .

(b) Quizenia : The Quiz - For this event as well many Physics enthusiast joined us for the competions.The event aimed to foster intellectual engagement, teamwork, and friendly competition among participants while testing their knowledge across the subject of Physics. The quiz competition followed a structured format, with rounds consisting of a mix of multiple-choice questions and rapid-fire rounds. Each round tested participants' knowledge across a wide range of topics related to Physics, During the competition four teams were made with two members each and every team handled the question meticulously.

At the conclusion of the event the winners of both Kalakriti and Quizenia were announced and rewarded.The certificates were also awarded to the students of physics department who participated and volunteered for the annual physics fest.



Fig1. Prof. Devki Nandan Gupta taking lecture on plasma

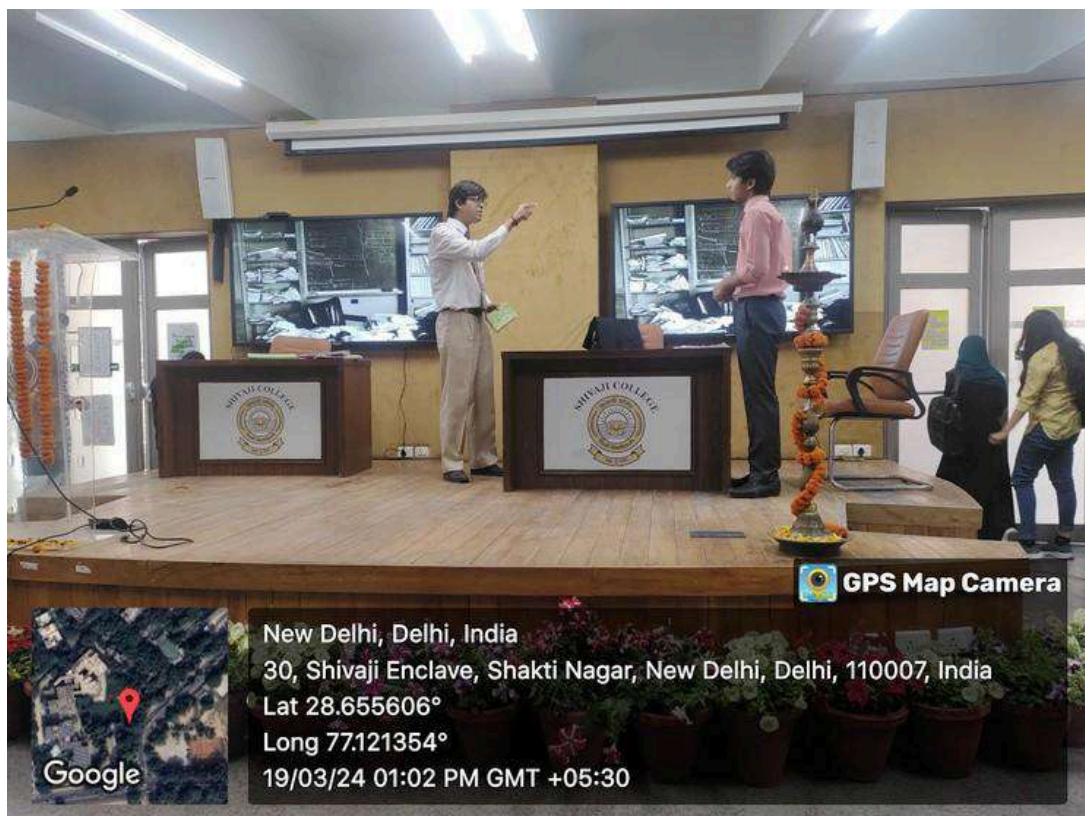


Fig2 . A scene from the play on Homi J. Bhabha



Fig3. Students were awarded certificates for participation and volunteering



Fig4. Everyone posed happily after the successful conclusion of the event