

### Advisory Committee:

Dr. K. Behera, Asst. Prof. of Odia  
Dr. B.B. Malik, Asst. Prof. of Sanskrit  
Dr. Ashutosh Kumar Jha, Asst. Prof. of Comm.  
Dr. Gagan Bihari Pradhan, Asst. Prof. of Physics  
Sri. Garudesawar Das, Asst. Prof. of TE  
Sri P.K. Sahoo, Asst. Prof. of Economics

### Organizing Committee:

Dr. Pradeep Samantaroy, Asst. Prof. of Chemistry  
Dr. Arjun Behera, Asst. Prof. of Chemistry  
Dr. Sakir Hussain, Asst. Prof. of History  
Mr. K. Buda, Asst. Prof. of Mathematics  
Dr. S. K. Mohanta, Lecturer of Mathematics  
Miss J. Patel, Lecturer in Mathematics  
Mr Narendra Karmi, Lecturer in Computer Sc.  
Mrs. Sangita Patel, Lecturer in Computer Science  
Mr. Sonu Nigam Naik, Lecturer in Mathematics

### List of Speakers :

Dr. Shishir Kumar Sahoo, Ex-Registrar, IMA, BBSR  
(Keynote Speaker)  
Dr. Abhijit Pal, IIT, Kanpur (Online Mode)  
Dr. K.C. Pati, NIT, Rourkela (Online)  
Dr. Ajit Kumar Patel, LNMU, Jaipur  
Dr. M.K. Jena, VSSUT, Burla  
Dr. P.K. Parida, CU, Jharkhand  
Dr. Uma Charan Pati, Dy. Registrar, GMU, Sambalpur  
Dr. Tushar Kanta Naik, NISER, BBSR  
Dr. Kamalakshya Mahatab, IIT, KGP  
Dr. Ajay Kumar Tripathy, GMU, Sambalpur  
Dr. Suet Millon Sahoo, SOA, University, BBSR  
Dr. Ashutosh Kainthola, BHU, (Online)  
Dr. Hari Ram Prajapati, BHU (Online)  
Dr. R. L. Behera, BHU (Online)  
Dr. D. Rout, Govt. College, Sundargarh  
Dr. Pratyush Mishra, WFU, USA (Online)  
Dr. Prithwiraj Sahu, Scientist, Rungta Mines

### About the College:

Established in 1958 by the then Collector and District Magistrate of Sundargarh Shri A.L. Nair, Government College, Sundargarh, stands as a beacon of education in western Odisha. Beginning as a modest science college with 64 ISC students at Nari Kalyan Kendra, it later got relocated near the river IB, spreading over a sprawling campus of 154 acres of land. The takeover by the Government of Odisha in 1962 propelled rapid growth, transforming the institution into a prominent center of learning. Today, the college offers 18 UG and 14 PG courses. It adapts to the evolving educational needs with the introduction of a self-financing course in Teacher Education and distance education through IGNOU and Odisha State Open University since 2017-18. Situated in the tribal-dominated district of Sundargarh, the college plays a pivotal role in catering to diverse student populations. Its commitment to inclusivity and accessibility underscores its significance in shaping the academic landscape and fostering intellectual growth in the region. As the district of Sundargarh borders the states of Jharkhand and Chhattisgarh, the College attracts the meritorious students from these neighboring states as well. The institution's rich history, geographical location, diverse academic offerings and adaptability reflect its dedication to providing a holistic and quality education to students from this region and beyond.

### How to reach:

Govt. College, Sundargarh is situated on the outskirts of Sundargarh town on the bank of the river IB. It is located at a distance of 30 kilometers away from Jharsuguda which is well connected by railway and air services.

### About the Seminar:

This seminar highlights the transformative role of mathematics across diverse disciplines. In machine learning and data analytics, mathematics provides algorithms for pattern recognition, predictive modeling, and data decomposition. In quantum computing, it underpins quantum algorithms, encryption methods, and the development of quantum mechanics. Fourier transforms, a mathematical cornerstone, are essential in signal processing, molecular vibration studies in chemistry, and artificial intelligence applications. Mathematics is crucial in image processing, where it enables techniques for enhancing, compressing, and analyzing images, playing a key role in fields like medical imaging, remote sensing, and historical artifact restoration. For example, image processing aided by mathematical algorithms has been used to decipher ancient manuscripts, reconstruct damaged artifacts, and analyze historical patterns.

The seminar also explores how mathematics advances engineering geology, supporting geological stability assessments, resource optimization, and infrastructure design. It is central to addressing climate change, enabling predictive models for temperature trends, carbon cycles, and extreme weather patterns. Drawing on the Indian Knowledge System, the seminar reflects on the contributions of ancient Indian mathematicians like Aryabhata and Bhaskara, whose work on zero, algebra, and infinite series continues to shape modern science. This seminar emphasizes the interdisciplinary nature of mathematics, bridging historical wisdom, theoretical exploration, and practical applications to inspire innovation and solve global challenges.



# Government College Sundargarh

“Enter Here To Learn Go Forth To Sarve”

## National Seminar

on

## “MATHEMATICS ACROSS DISCIPLINES: THEORETICAL AND APPLIED CONTRIBUTIONS”

21st-23rd December, 2024



**PATRON,**  
**Mr. B.K. Patel,**  
**Principal**



**CONVENER,**  
**Mr. Alok Kumar Naik,**  
**HOD, Mathematics**

Organised by,

Department of Mathematics,

Under the aegis of IQAC and RDC,

Government College, Sundargarh

<http://www.govtcollegesundargarh.ac.in>

The paper presenters may submit the full paper with abstract which should not exceed three thousand words. The paper must be in word format and in APA style. The exception of paper shall be communicated in your mail/ WhatsApp after a review by the organiser.

The abstract of the paper needs to be sent to the mail id - math.govcolsng@gmail.com on or before 20th December -2024

## REGISTRATION FORM

1. Name:.....

2. Category of participant: (attach proof)

Student  Teacher  Research Scholar

3. Designation and Department:.....

4. Name of the Institute/College/University:.....

5. Phone/Mobile No. : .....

6. E-mail Id. : .....

7. Do you want to present paper: Yes.  No.

If Yes

(i) Title of the paper .....

Date .....

Signature

## Time Schedule

### Day-1

10.00 AM-11.00 AM- Registration

11.00 AM-11.30AM- Inaugural session

11.30 AM-11.45AM- High-Tea

11.45 AM-01.00 PM- Technical session-I

01.00 PM-02.00 PM- Lunch

02.00 PM -03.00 PM- Technical session-II

03.00 PM-03.15 PM- Tea

03.15 PM -04.15 PM- Poster Presentation

## Registration Fees

Faculty-

Rs. 400/-

Research Scholars (M.Phil & Ph.D.)-

Rs. 350/-

Students (UG & PG)-

Rs.- 250/-

The registration fees includes high tea, working lunch on seminar day, certificate & seminar kit.

## Account Details

Account No-

50100281789518

IFSC Code-

HDFC0002429

Bank Name-

HDFC BANK LTD.

Branch-

SUNDARGARH

Contact No-

7696592052

Email id-

govcolsng@gmail.com

### Day-2

10.00 AM-11.00 AM- Technical session-I

11.00AM-11.15 AM- Tea

11.15 AM-12.15 PM- Technical session-II

12.15 PM-01.15 PM- Technical session-III (VC)

01.15 PM-02.15 PM- Lunch

02.15 PM -03.15 PM- Paper Presentation

03.15 PM -03.30 PM- Tea

03.30 PM -04.00 PM- Technical session-IV

04.00 PM -05.00 PM- Paper Presentation

### Day-3

10.00 AM-11.00 AM- Technical session-I

11.00AM-11.15 AM- Tea

11.15 AM-12.15 PM- Technical session-II

12.15 PM-01.15 PM- Technical session-III (VC)

01.15 PM-02.15 PM- Lunch

02.15 PM -03.15 PM- Paper Presentation

03.15 PM -03.30 PM- Valedictory session