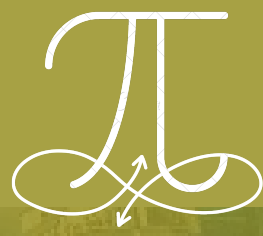




संख्या



Sankhya

NEWSLETTER



July-Dec 2022 Volume 2 Issue 2

Department of Mathematics

Jaypee Institute of Information Technology, Noida

(Deemed to be University under Section 3 of UGC Act 1956)

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Message from the Head of Department

Jaypee Institute of Information Technology, Noida, along with Department of Mathematics commenced their journeys in 2001, marking more than 20 years. JIIT is unwaveringly committed and entirely dedicated for cultivating the versatility required to adhere to demanding academic requirements and professional pursuits in order to confront the difficulties of the modern day.

It pleases me to see that the Department of Mathematics has published its newsletter for A.Y. 2022-23 Semester I, which lists the numerous endeavours and successes of our faculty and students. The department aims to generate competent professionals who are aware of the realities of the workplace. The department provides a top-notch learning environment with a group of highly competent professors to encourage students to advance their technical knowledge and foster a spirit of cooperation among them.

I hope you enjoy reading this issue.

With Best Wishes



Prof. Alka Tripathi
Head of Department

Message from the Editorial Team



Dr. Amita Bhagat
(Editor)

Editorial team of “SANKHYA” proudly presents to you Issue 2, Volume 2 of the Department of Mathematics Newsletter.

The dissemination of knowledge, information, and accomplishments through newsletters also serves to inspire readers to strive for greater success. By bridging the gap between JIIT and our alumni, this newsletter provides information on all departmental activities. The Department of Mathematics' journey to success is documented on SANKHYA, a platform where we may proudly share our accomplishments, activities, and updates. We're hoping it'll stand up to readers' expectations.

Best Regards



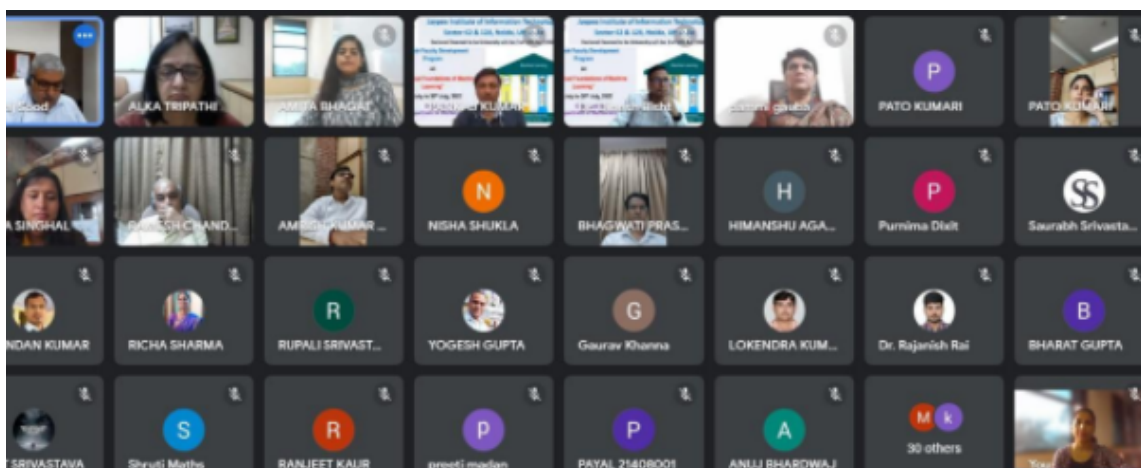
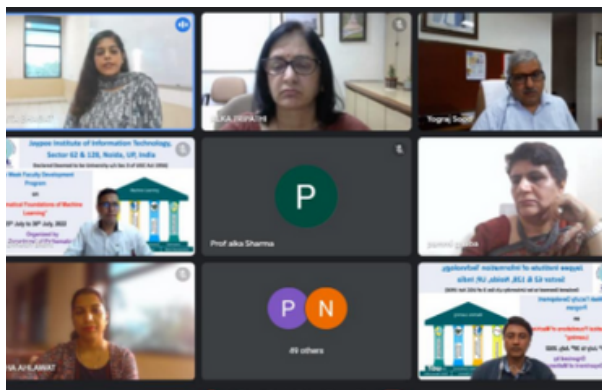
Dr. Shikha Pandey
(Editor)

Events Organised



Faculty Development Program (FDP) on Mathematical foundations of Machine learning (July 25-30, 2022)

The Department of Mathematics, Jaypee Institute of Information Technology, Noida organised one week FDP on Mathematical Foundations of Machine Learning from July 25-30, 2022 with an aim to introduce to the participants the mathematical foundations behind machine learning and provide the hands-on experience, enabling them to apply the mathematics in their respective fields.



Organizers:

Dr. Pankaj K. Srivastava & Dr. Dinesh C. Bisht





Invited talk : Dr. Praful Pai, Education Technical Evangelist,
MathWorks India (September 16, 2022)
(September 16, 2022)

Mathematical modelling is significant for any project that need to be solved. In this talk, the different ways in which MATLAB can be used to develop mathematical models to understand system behaviour were discussed.

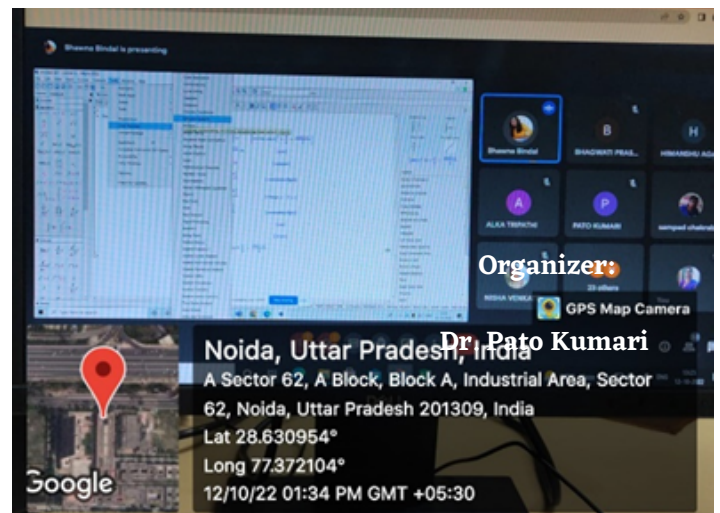
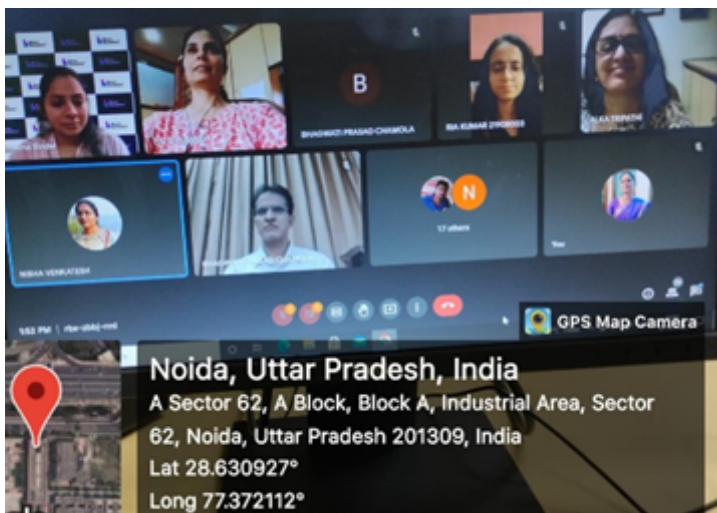


 Organizer:
Dr. Pato Kumari



Invited talk : Ms. Bhawna Bindal,
Product Expert, Binary Semantics Ltd.
(October 12, 2022)
Title : Introducing Maple for Education and Research

The objective of the talk was to impart important concepts and tools to participants that will help to get started with Maple. Maple is a user-friendly interface which create symbolic and numeric computing environment.



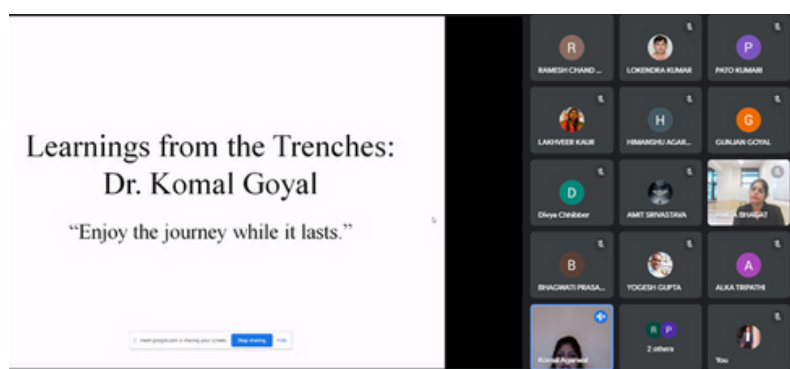
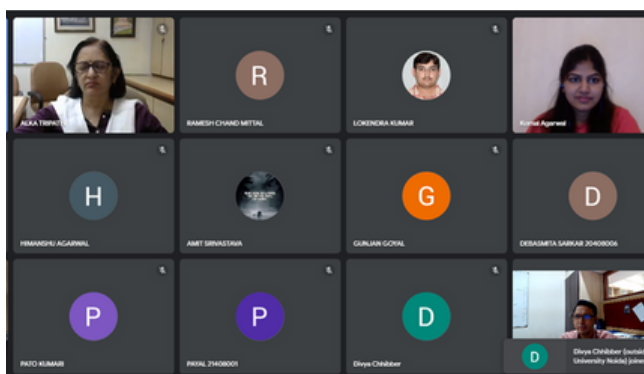
 Organizer:
Dr. Pato Kumari



Alumni Talk: Dr. Komal Goyal
(September 15, 2022)

Title : Learning from the trenches: Dr. Komal Goyal,
“Enjoy the journey while it lasts”

Alumni have always been the greatest supporters of any Department and Institution. A strong alumni community can give a tremendous boost to the careers of students and growth to their Alma mater. The Department of Mathematics organised Alumni Talk on October 15, 2022 with Dr. Komal Goyal (Alumni).



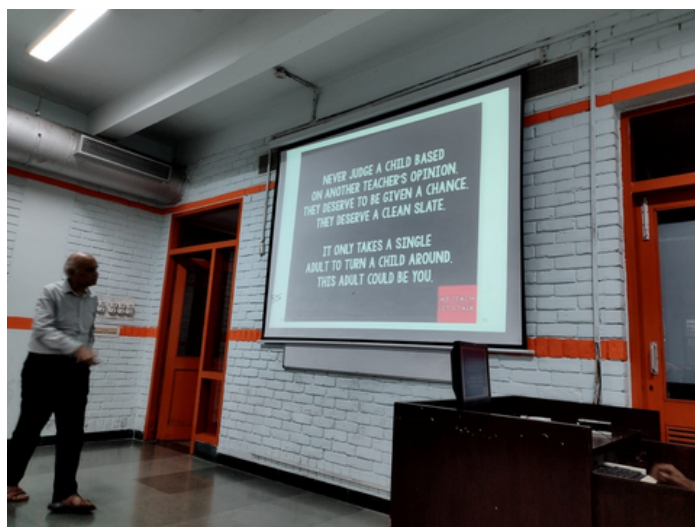
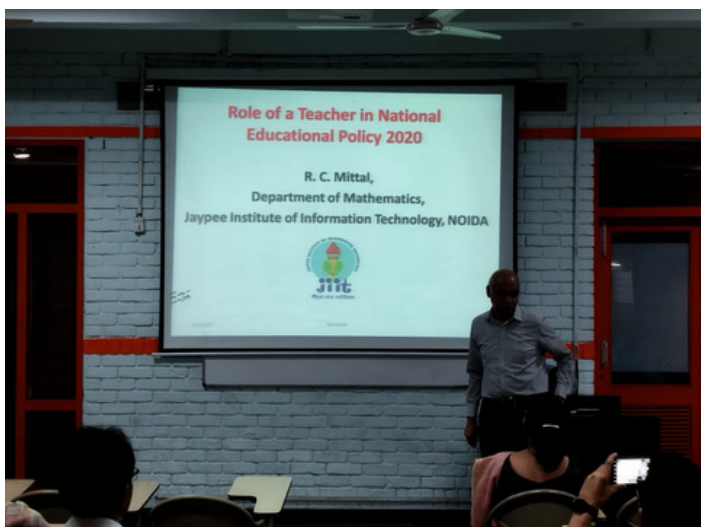
Organizers:
Dr. Dinesh C. Bisht & Dr. Amita Bhagat



Eminent Speaker: Prof. R.C.Mittal
Shikshak Parv (Teacher’s Day) Celebration
(September 06, 2022)

Title of the Talk: Role of a Teacher in National Educational Policy 2020

The Department of Mathematics celebrated Shikshak Parv (Teacher’s Day) on September 06, 2022. In this regard Department organised a lecture on “Role of a Teacher in National Educational Policy 2020”.

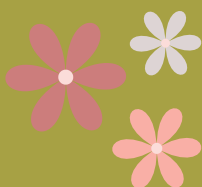


Organizer:
Prof. Lokendra Kumar



**6th International Conference on
Recent Advances in Mathematical Sciences and its Applications
(RAMSA-2022)
(December 08-10, 2022)**

The Department of Mathematics, Jaypee Institute of Information Technology organized 6th International conference on Recent Advances in Mathematical Sciences and its Applications from December 8-10, 2022 with an aim to bring together learned mathematicians, scientists, engineers, researchers from industry and research scholars working in the different areas of mathematics at a common platform. The Conference was a big success with worthy Keynote speakers, researchers and participants across the globe. The event provided a forum for the discussion of recent innovations in mathematics and research for potential implementation in sciences and engineering.



Convener: Prof. Alka Tripathi

**Organizers:
Dr. Yogesh Gupta & Dr. Lakhveer Kaur**



National Mathematics Day (December 22, 2022)

The Department of Mathematics, Jaypee Institute of Information Technology, Noida celebrated National Mathematics Day on 22 December 2022. This day is marked as the birth anniversary of Prof. Srinivasa Ramanujan, a legendary Indian mathematician.

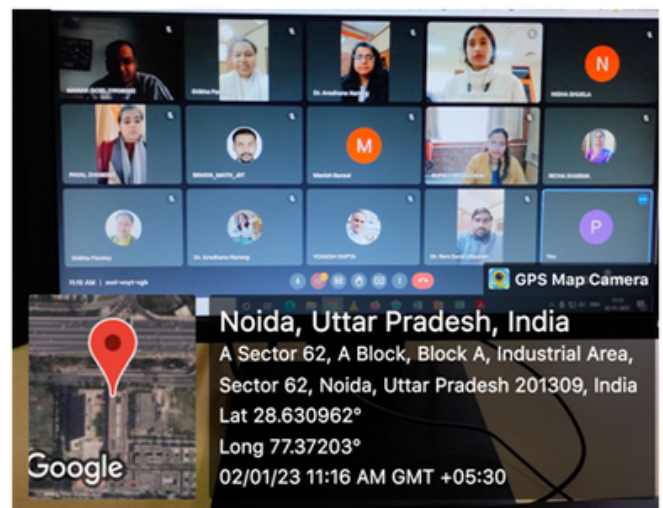
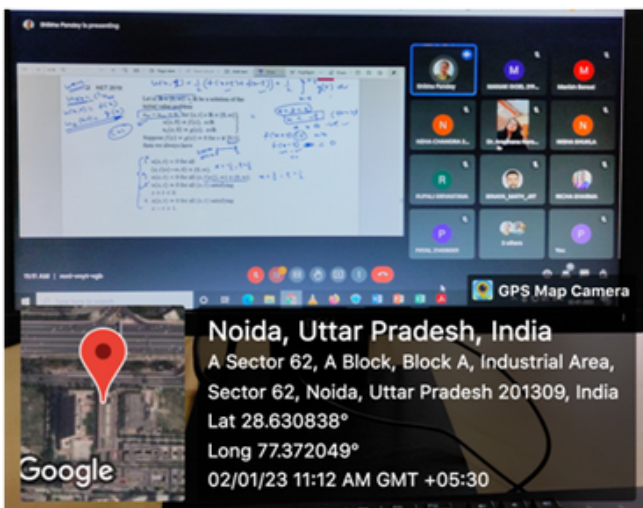


Organizer:
Dr. Himanshu Agarwal



Career Guidance Session (December 26-31, 2022)

Six-day interactive session on Career Guidance for M.Sc. students was conducted by the Department of Mathematics in online mode through Google meet from December 26-31, 2022. The faculty members of our department shared their views and experiences as well as provided tips to crack CSIR-UGC-NET/GATE/NBHM and other competitive exams with the students.



Organizer:
Dr. Pato Kumari

Research Publications



Journal Publications

- **U. K. Sharma, G.Varshney, V. C. Dubey and M. Kumar, "Anisotropic effect on barrow holographic dark energy", International Journal of Geometric Methods in Modern Physics, vol 19, no. 10, pp. 2250146-144 , 2022.**
- **A. Srivastava, P. Tanwar, "Retainment and Redistribution - An Information Theoretical Approach", Bulletin of the Transilvania University of Brasov, Series III: Mathematics and Computer Science, 64(1), pp. 209-218, 2022.**
- **G. Arora, V. Joshi and R. C. Mittal, "A spline-based Differential Quadrature Approach to solve sine gordan equation in one and two dimension" Fractals, World Scientific Publishing Company, pp. 2250153 , 2022.**
- **G. Goyal and D. C. S. Bisht, "Adaptive hybrid fuzzy time series forecasting technique based on particle swarm optimization", Vol. 8, pp. 373-390, Granul. Comput., 2022.**
- **R. Kaur and A. Tripathi, A, "General fuzzy multiset grammar and language", Matheamtics in Engineering, Science and Aerospace (MESA), Vol. 13, pp. 593-605, 2022.**
- **P. Nagar, A.Srivastava, P. K. Srivastava, "New weighted measures of diversity" Non Linear Studies, Vol. 29, pp. 1-14, 2022.**
- **M.K. Sharma, Sadhna, A.K. Bhargava, S. Kumar, L. Rathour, L. N. Mishra and S. Pandey, A Fermatean Fuzzy Ranking Function in Optimization of Intuitionistic Fuzzy Transportation Problems, Advanced Mathematical Models & Applications, Vol 7, pp. 191-204, 2022.**
- **D. Chhibber, P. K. Srivastava, and D. C. S. Bisht, "Optimization of a transportation problem under Pythagorean fuzzy environment" Mathematics in Engineering, Science and Aerospace, Vol. 13, pp. 769-776, 2022.**
- **K. Lavanya, L. Edukondalu, M. M. Raju, A. Naresh, D. C. S. Bisht, and Harish Gupta, "Temperature and air velocity distribution in ripening chamber of fruits by CFD model" Mathematics in Engineering, Science and Aerospace, Vol. 13, pp. 581-592, 2022.**



Journal Publications

- **D. Chhibber, Pankaj Kumar Srivastava and D. C. S. Bisht** “Intuitionistic fuzzy TOPSIS for non-linear multi-objective intuitionistic fuzzy programming problem”, *Expert Systems with Applications*, Vol. 210, pp. 118357, 2022.
- **D. Sarkar and P. K. Srivastava**, “A dynamic optimization approach for multi-item multi-objective fixed-charge neutrosophic fuzzy inventory and green management system” *Mathematics in Engineering, Science and Aerospace*, Vol. 13, pp. 671-701, 2022.
- **Kuldeep, L. Kaur**, “Exact Solution of (2+1)-Dimensional Variable Coefficients Potential Kadomstev-Petviashvili (VCKP) Equation”, *Nonlinear Studies*, Vol. 29, No. 3, pp. 757-766, 2022.
- **Amit Srivastava**, “New Weighted Dissimilarity Function between Two Probability Distributions”, *International Journal of Scientific Research and Engineering Development*, vol. 5, no.5, pp. 275-277, 2022.
- **P. K. Srivastava, D. C. S. Bisht, D. Chhibber, M. Ram**, “An ingenious approach to optimize a special class of transportation problem in uncertain environment”, *International Journal of System Assurance Engineering and Management*, pp. 1-11, 2022.
- **L. Kaur, A. M. Wazwaz**, “Optical soliton solutions of variable coefficient Biswas–Milovic (BM) model comprising Kerr law and damping effect”, *Optik*, Vol. 266, pp. 169617, 2022.
- **L.Kaur, Kuldeep**, “Exact Solutions of (2+1) Dimensional Cubic Klein-Gordon (cKG) Equation”, *International Journal of Mathematical, Engineering and Management Sciences*, Vol. 7, pp. 613-623, 2022.
- **Mahendra Pratap Pal, Lokendra Kumar**, “A numerical investigation of turbulent forced convection through a TCC (trapezoidal) and SCC (Semicircle) corrugated tube”, *Neuro Quantology*, Vol. 20, pp 1411-1422, 2022.
- **M. Kaur, A. Srivastava**, “A note on negation of a probability distribution”, *Soft Computing*, Vol. 27, pp. 667–676, 2022.
- **M. Kaur, A. Srivastava** , “A new divergence measure for belief functions and its applications”, <https://doi.org/10.1080/03081079.2022.2151006>, *International Journal of General Systems*, November, 2022.



Book

- **D. C. S. Bisht and M. Ram**, “Computational Intelligence-based Time Series Analysis”, *River Publishers, IEEE Xplore*. [E ISBN: 9788770224161]



Book Chapter

- **M. Harini Reddy, N. Manikumari, M. Mohan Raju, Dinesh. C. S. Bisht, A. Naresh, Harish Gupta, M. Gopal Naik**, “Neural Networks Analysis of Suspended Sediment Transport Time Series Modeling in a River System”, *Computational Intelligence based Time Series Analysis*, *River Publishers*, pp. 81-97, 2022.

Ph.D Awarded



Name: Rekha Panchal
E.No.: 12408409
Awarded: July 20, 2022

**Title: Stress Analysis
of some Anisotropic
Materials**



Name: Anjali Wadhwa
E.No.: 17408002
**Awarded: August 31,
2022**
**Title: Study of Image
Enhancement and
Segmentation Techniques
for Brain Tumor MRI
Images**

From the Desk of New Joinees



Dr. Aradhana Narang

After completing my Ph.D in Mathematics from IIT Madras, I joined here at the position of Assistant Professor . I am learning a lot while teaching the students of IIIT and along the way from my seniors and colleagues here. I am enjoying this new journey.



Dr. Ram Surat Chauhan

I completed my Ph.D in Mathematics from IIT (BHU), Varanasi and I joined here as an Assistant Professor to impart knowledge to the students. Its a nice learning and enriching experience while teaching students at IIIT. I am really enjoying this experience here at IIIT.



Penned by Faculty Member



महिमा जीरो की

जीरो कहता सब संख्याओं से।
नहीं कोई बड़ा है मुझसे॥
मैं चाहूं उसका भाव बढ़ा दूं।
मैं चाहूं तो भाव घटा दूं ॥
अगर किसी के आगे लग जाऊं।
तो उसका मान बढ़ जाता है॥
जिसका साथ छोड़ दूं हमेशा।
उसका मान घट जाता है॥
मुझसे गुणा किया तो।
तुमको कर दूंगा मैं नष्ट ॥
अगर मुझसे भाग किया तो।
तुमको बना दूंगा अनंत ॥
भारत ने किया आविष्कार मेरा।
फिर दुनिया ने अपनाया है ॥
जीरो ने अपनी भाषा में।
अपना गीत गाया है॥



Penning by Research scholar



We all are striving to become the most efficient versions of ourselves. This law is applicable for flowers as well as plants. Flowers and plants have adopted the Fibonacci pattern to guarantee maximum effectiveness, efficient use of the available area, and maximum availability of sunlight to all parts and structures.

Fibonacci numbers are said to be "never-ending sequence of numbers", discovered by the Italian mathematician, Leonardo Fibonacci, in the 13th century. Later, it was observed that the sequence could be found in the formation of many plants, flowers and natural forms.

The numbers in the Fibonacci Sequence don't equate to a specific formula, however, it starts 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377... and continues like this indefinitely. Rose, lilies, daisies and buttercups are all Fibonacci flowers. Fibonacci can be seen in their stems and veins when they are developing off the branch. The Fibonacci sequence is visible higher as they expand outward.

Fibonacci numbers maximise the space for each leaf and can be found in the closely packed leaves of succulents as well as cabbage. The Fibonacci effect can be applied to a variety of flower species because the growth of a flower's petals follows the Fibonacci sequence.



**Mathematical code
of flowers**



Upcoming Events



Teacher's Enrichment Workshop

On

“Mathematical Foundations of Data Science”

(March 20-April 1, 2023)

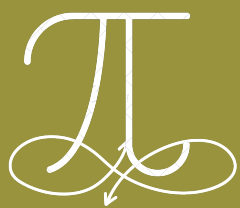
The Department of Mathematics is organizing Teacher's Enrichment Workshop on “Mathematical Foundations of Data Science” from March 20, 2023 to April 1, 2023 in online mode via Google Meet. The primary focus of this Workshop is to explore multidimensional significance of mathematics as backbone to Data Science that enhances the beauty of research and science. There is a massive data explosion that has resulted in the culmination of new technologies and smarter products.

- Link for registration: <https://forms.gle/SRR7c2cc8C8GwoTL8>
- Last date for Registration : 28th February 2023
- Display of List of Selected Participants : 10th March 2023



Convener
Prof. Alka Tripathi

Program Coordinators
Dr. Amita Bhagat & Dr. Mohd. Sarfaraz



Sankhya

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Feedback Link :

<https://forms.gle/7doNrHJDqJRtSWa68>