BRIEF REPORT of One Day Online National Conference on "Recent Trends in Mathematics"

A Conference on "**Recent Trends in Mathematics**", jointly organized by IQAC and Department of Mathematics was held on the 27th Aug., 2021, through video conferencing using the Zoom platform. The subject mathematics is the basic and core subject in all areas of Science, Commerce and Technology. Mathematics plays an important role in the all- round development in every branch of learning. World community has been experiencing rapid development in these areas of research. This conference highlights contemporary development in pure and Applied Mathematics. 163 participants from various states, comprising of students, academicians and professors attended the Conference. The Conference started at 10.00 a.m. Convener Conference, Shri. V. P. Sonalkar, briefly introduced the purpose and outcome of the conference. In charge Principal, Dr. S. A. Thakur, delivered welcome address. Shri. V. P. Sonalkar, welcomed and introduced the Resource Persons of the Conference, Dr. Jervin Zen Lobo, Dr. K. D. Kucche and Dr. Archana S. Morye.

The key note speaker, Dr. Jervin Zen Lobo, from Department of Mathematics, St. Xavier's College, Mapusa, Goa, delivered a talk on "Differential Equations from the Group stand point". Sir focused on how the Lie invariance condition is constructed to yield the Invariance equation and procedure of obtaining solutions to differential equations via Canonical coordinates.

The Resource Person, Dr. Kishor D. Kucche, from Department of Mathematics, Shivaji University, Kolhapur, spoke on "Differential Equations Involving Generalized Fractional Derivative". Sir has delivered brief review on Fractional Calculus, Concept of Fractional Derivative and FDEs involving Ψ – Hilfer Derivative.

Resource Person Dr. Archana S. Morye, from School of Mathematics and Statistics, University of Hyderabad spoke on "Differential Equations Involving Generalized Fractional Derivative". Madam gave an extensive information on **'The Serre Swan Theorem'** and it's importance and categorical equivalence between vector bundles in geometry and projective modules in Algebra.

In the Interactive Session, queries of the participants were addressed by the respective Resource Persons.

The conference was successful in achieving it's objectives due to the valuable guidance and support of our Principal Dr. D. L. Bharmal, IQAC Coordinator, Dr. B. N. Hiramani and our technical team.

The Conference concluded with the Vote of Thanks delivered by organizing secretary Miss. Rupali D. Bandekar.

PHOTO GALLERY



Shri. V. P. Sonalkar, introducing the purpose and outcome of the conference.



In charge Principal, Dr. S. A. Thakur, delivering welcome address.

Example of a Lie Group The rotation matrices for (under multiplication) of $SO(2, \mathbb{R})$. It is a Lie group the parameter, this group $SO(2, \mathbb{R}) =$	m a subgroup of	- 1) - # CH • + CH	R) which is the group lices, and is denoted by the rotation angle δ as follows: $\mathbb{R}/2\pi\mathbb{Z}$.	Addettes Tab A-
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Dr. Jervin Zen Lobo, delivering his key note address.



Dr. Kishor D. Kucche, addressing the participants during Session 1.

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Dr. Archana S. Morye, addressing the participants during Session 2.



Organizing Secretary, Miss. Rupali D. Bandekar giving vote of thanks.

Thanking you, With Regards, Coordinating Team.

REPORT of One Day Online National Workshop on "ORIGAMI"

One day Online National Workshop on "**ORIGAMI**" was jointly organized by IQAC and Department of Mathematics on 06 Oct., 2021, through video conferencing using the ZOOM and YOUTUBE live platform.

Origami is the ancient Japanese art of paper folding. About hundred years ago, people started to get interested in the geometry of paper folding. The questions of interest have been:

- What all angles can be realised by paper folding?
- Are there axioms of paper folding just like there are axioms of Euclidean geometry?
- How can origami be applied to real-life situations to improve existing structures or methods?

This workshop was helpful to explore these types of questions with firsthand paper folding. 209 participants from various states, comprising of students, academicians and professors attended the workshop. The Workshop started at 10.30 a.m. Organizing secretary, Shri. V. P. Sonalkar, introduced the purpose and expected outcome of the workshop. Convener, Principal Dr. D. L. Bharmal, delivered inaugural speech and gave his best wishes. Coordinator, Mrs. S. S. Ghadi, introduced the Resource Person Dr. Kavita Sutar.

The Resource Person, Dr. Kavita Sutar, Assistant Professor, Chennai Mathematical Institute, Chennai, spoke on "**ORIGAMI GEOMETRY**". Madam started her lecture right from the history and origin of Origami. She explained that Origami is based on theory of Geometry using Logic, abstract thinking and of course creativity. She further elaborated that these skills are very much useful for sharpening the brain and can be extremely useful to students of every age, professionals in art, advertising and also for the planners who need to develop strategies for future. Madam through practical examples and demonstrations enlightened the participants on how can origami be applied to real-life situations.

Dr. Archana Morye, Assistant Professor, School of Mathematics and Statistics, University of Hyderabad, assisted the resource person in giving demonstrations that gave deeper insights in gaining better understanding of the topic.

In the Interactive Session, queries of the participants were addressed by the Resource Person.

The workshop was successful in achieving its objectives due to the valuable guidance and support of our Principal Dr. D. L. Bharmal, IQAC Coordinator, Dr. B. N. Hiramani and our technical team.

The workshop concluded with the Vote of Thanks delivered by Miss. R. D. Bandekar.

PHOTO GALLERY



Shri. V. P. Sonalkar, introducing the purpose and outcome of the workshop.



Principal, Dr. D. L. Bharmal, delivering Inaugural speech.



Coordinator, Mrs. Sarika S. Ghadi introducing the Resource Person.



Dr. Kavita Sutar, addressing the participants.



Dr. Kavita Sutar, demonstrating the participants.



Miss. Rupali D. Bandekar giving vote of thanks.

Thanking you,

With Regards, Coordinating Team.