

**Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College, Vashi
(Autonomous)**

**National Workshop On
Interdisciplinary Mathematics**

13th -14th March 2021@ 10:00 am

Organized by

Department of Mathematics

Under the aegis of

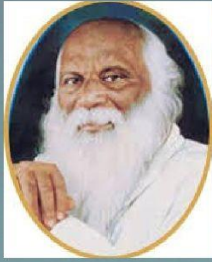
Rashtriya Uchchatar Shiksha Abhiyan (RUSA)

Convener: Mr. S. G. Jakkewad

Coordinator: Dr. G. A. Dhanorkar

Platform: Google Meet and YouTube Live

BROCHURE



RAYAT SHIKSHAN SANSTA'S

KARMAVEER BHURAO PATIL COLLEGE

VASHI, NAVI MUMBAI

{AUTONOMOUS}

DEPARTMENT OF MATHEMATICS

ORGANIZES

NATIONAL WORKSHOP

ON

INTERDISCIPLINARY

MATHEMATICS

UNDER THE AEGIS OF

RUSA

ON 13TH - 14TH MARCH 2021

Objectives of the Workshop:

1. How Mathematics can be made easy and interesting among all the people?
2. Applied way of Mathematics to other disciplines such as Engineering, Economics, Biology, Medicine etc.
3. The role of mathematics in the development of science and technology.

Workshop focused on:

Interdisciplinary approach in mathematics.

Who can apply?

Anyone who wish to know connection of other subject with Mathematics.

Registration:

- Registration is free
- For registration click on this link:
<https://forms.gle/eHhSN8mjHwuSE9GR8>

Important Instructions:

1. The certificates will be provided to all participants after filling the “feedback form” successfully. The link of feedback form will be provided in chat box during the session.
2. The workshop will be held on “Google Meet”, ID and password will be provided before an hour of the workshop.
3. The participants will receive link of WhatsApp group after the submission of registration form.

SCHEDULE OF THE WORKSHOP:

SN	DATE	TIME	RESOURCE PERSON	TOPIC
1.	13/03/2021	10.00-12.00	Dr. Dhanraj Shinde	- The role of Mathematics in the - Development of science and Technology.
2.	14/03/2021	10.00-12.30	Dr. B. Sury	- Mathematics is Fun and Games.

RESOURCE PERSONS:

1. Dr. Dhanraj Shinde,
Research Scientist, New Mexico State University (USA),
Ramanujan Fellow.
2. Dr. B. Sury,
Indian Statistical Institute, Bangalore.

Dr. Shubhada Nayak

I/C Principal,

Karmaveer Bhaurao Patil College Vashi, Navi Mumbai.

Dr. G. A. Dhanorkar

Coordinator & Head, Department of Mathematics

Mr. S. G. Jakkewad

Convener

(shrikantjakkewad@kbpcollegevashi.edu.in , Mo. No. 8329767219)

Organising Committee:

Mr. N. B. Nalawade (Mo. No. 9730372457)

Mr. D. J. Bhosale (Mo. No. 9702860040)

Ms. S. A. Phadtare

MS. S. Revathy

REPORT:

The Workshop on “Interdisciplinary Mathematics” was organized on 13th & 14th March 2021 by the Department of Mathematics of Karmaveer Bhaurao Patil College, Vashi.

Around **308** participants from various institutes registered for the workshop.

Objective of workshop

- 1) Interdisciplinary connection of Mathematics to other subjects.
- 2) To Motivate the participants for research in Abroad with funding agencies.
- 3) Creating interest in Mathematics in school/college level students.

Topic of workshop as follows:

On 13th March 2021

Session 1:

Topic: The role of Mathematics in the development of Science and Technology.

Resource Person: Dr Dhanraj Shinde, Research Scientist, New Mexico State University (USA), Ramanujan Fellow.

Time: 10.00 am to 01.00 pm

On 14th March 2021

Session 2:

Topic: Mathematics is Fun and Games

Resource Person: Dr B. Sury, Indian Statistical Institute, Bangalore.

Time: 09.00 am to 12.00 noon

The workshop was inaugurated by our honourable Coordinator and Head of the department, Dr. G. A. Dhanorkar in the presence of convener Mr. S. G. Jakkewad and other faculty members of the department and teacher and student participants.

The inaugural function started with the welcome speech and introductory speech about the Workshop by Ms. S. A. Phadtare. Head of the Department, Dr. G. A. Dhanorkar, briefed about our institute and extended a warm welcome to all the resource persons, Dr Dhanraj Shinde, Research Scientist, New Mexico University (USA), Ramanujan Fellow, Dr B. Sury, Indian Statistical Institute, Bangalore.

He also welcomed Dr Shubhada Nayak, Principal, Karmaveer Bhaurao Patil College, Vashi. (Autonomous) and the participants to the two day's National workshop and briefed about the importance of Interdisciplinary approach in Mathematics.

The First session on ‘The role of Mathematics in the development of Science and Technology’ was delivered by Dr Dhanraj Shinde, Research Scientist, New Mexico State University (USA), Ramanujan Fellow.

He Focused on Applied way of mathematics to other discipline biochemistry, medicine etc and its applicable examples with diagrams. How mathematicians modulate data of chemistry in graphical ways by using tools like python, MATLAB etc. Using of Group theory, Graph Theory and Number Theory how this is applicable to organic chemistry and nanomaterial synthesis.

The Second session on ‘Mathematics is Fun and Games’ was delivered by Dr B. Sury, Indian Statistical Institute, Bangalore. He focused on Application Oriented examples, Puzzles. Particularly he focused on Geometrical approach of problem solving, Magic square by using number theory technique i.e. Chinese remainder theorem, diagnosis of disease by using red and blue spot technique. This session was highly useful to school students for creating interest of mathematics and all participants enjoyed this session.

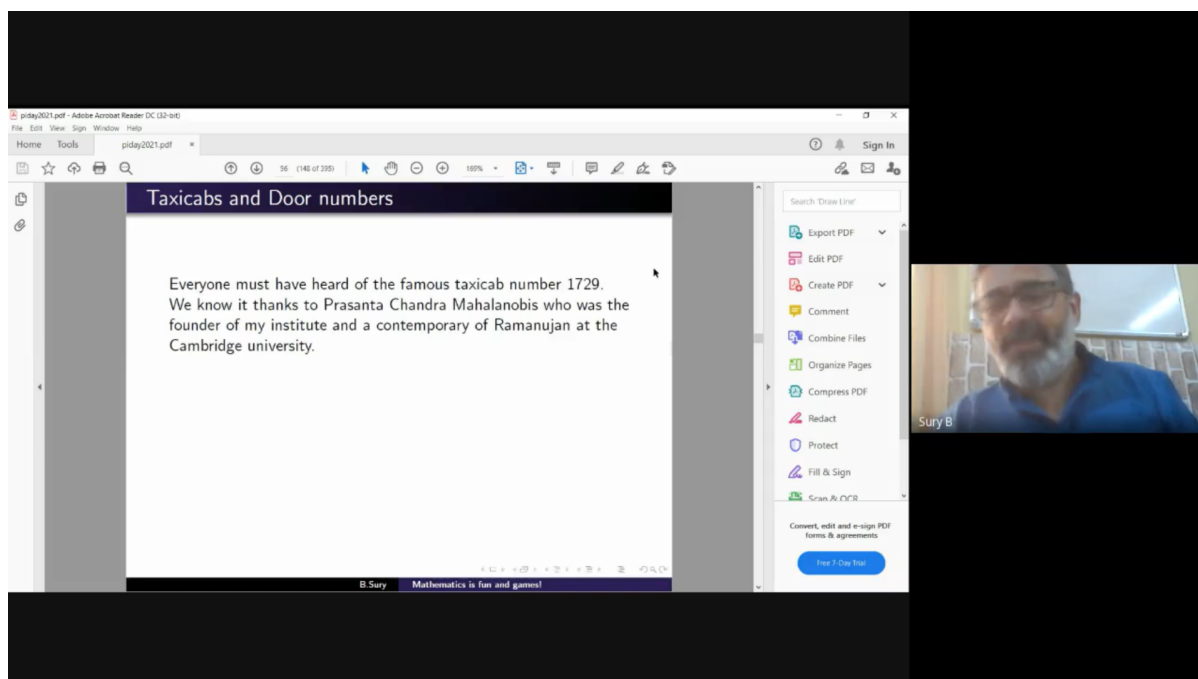
At the end of each Session, the clarifications and queries of the participants regarding various aspects of the Interdisciplinary approach in mathematics were addressed by the Resource Persons.

Concluding Remarks and Vote of Thanks was delivered by Mr. S. G. Jakkewad.

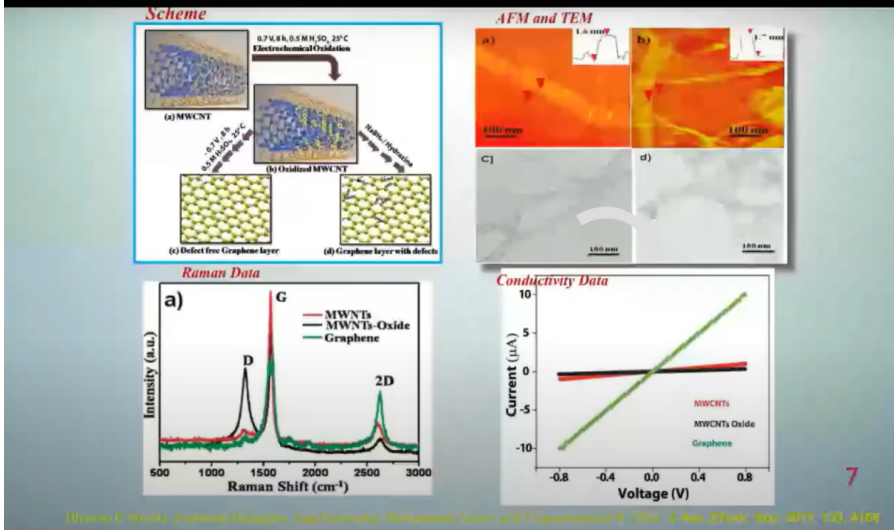
Dr. G.A. Dhanorkar

Head Of the Department

PHOTOS



INTERDISCIPLINARY MATHEMATICS WORKSHOP MORNING SESSION(DAY1) (2021-03-12 at 20:38 GM...



(Bhavan T. Shinde, Pradipk Delekar, Rajkumar, Maheshwar, Naren and Vijayaraman K. (2011) J. Am. Chem. Soc. 2011, 133, 4164)



DHANRAJ SHINDE

29:53 / 1:26:25



INTERDISCIPLINARY MATHEMATICS WORKSHOP MORNING SESSION (DAY2) (2021-03-13 at 20:37 G...

Here is a trick that the magician in you can perform with an associate (we used this in the Regional Math Olympiad in Delhi).

A deck of 52 cards is given. There are four suites each having cards numbered 1 to 13. The audience chooses some five cards with distinct numbers written on them. The associate of the magician comes by, looks at the five cards and turns exactly one of them face down and arranges all five cards in some order. Then the magician enters and with an agreement made beforehand with the associate, she determines the face down card - both suite and number without touching anything!

The solution is:



Sury B

1:01:56 / 2:07:41



INTERDISCIPLINARY MATHEMATICS WORKSHOP MORNING SESSION (DAY2) (2021-03-13 at 20:37 G...

The screenshot shows the Adobe Acrobat Reader interface. The main document area displays the text: "What about a 42×18 rectangle? Or a general $m \times n$ rectangle?!" The sidebar on the right contains a search bar and a list of tools: Export PDF, Edit PDF, Create PDF, Comment, Combine Files, Organize Pages, Compress PDF, Redact, Protect, Fill & Sign, and Scan & OCR. At the bottom of the sidebar, there is a section for "Comment, edit and e-sign PDF forms & agreements" with a "Free 7-Day Trial" button. The status bar at the bottom of the window shows "B. Sury" and "Mathematics is fun and games!".



Video player controls including a play button, a progress bar showing 22:26 / 2:07:41, and icons for closed captions, settings, and full screen.