



DEPARTMENT OF MATHEMATICS
GOVERNMENT COLLEGE CHITTUR
Palakkad, Kerala



Chakra - 75 | January – February 2023

PLATINUM JUBILEE EXHIBITION & PUBLIC LECTURES

Funded by Directorate of Collegiate Education, Government of Kerala



Exhibition

- Do you know the islands connected with bridges in such a way that returning to the starting island traversing all the islands without passing through atleast one island more than once is impossible?
- Do you know the math behind finding a fastest path between two points?
- Do you know that there is a math bridge that is unbreakable?
- Do you know the math behind barcode, passwords?
- Many more : History of Math (from ancient to modern), puzzles, math in nature, Powerful Women, Medals & Prices

Math Exhibition on 31st January, 1st February 2023 in the college.

Public lectures



Three lectures during January-February 2023. Any science enthusiasts may attend.

Visualizing Math

Shri. Ramanujam
(Government Higher Secondary School Kottayi) 18 January 2023
2 PM

Math in real life

Prof. Varadarajan Muruganndam
(IIT Palakkad) 13 February 2023
10.30 AM

Relevance of Math in the Information Age

Prof. A Vijayakumar
(Cochin University of Science and Technology) 16 February 2023
10.30 AM

Convergent Minds

Mathematics Exhibition & Public Lectures

January-February 2023

Department of Mathematics
Government College Chittur, Palakkad

A brief report of the activities

As a part of the Platinum Jubilee Exhibition titled **Chakra 75** organized by the Government College Chittur, the Department of Mathematics of the college organized a two day long exhibition and public lectures by three vibrant resource persons in the college under the name **Convergent Minds**. This programme was sponsored by the Department of Collegiate Education, Government of Kerala. The exhibition included displaying of posters, participation games, and demonstration of various working/ still models prepared by students. The objective of the exhibition and public lectures was to connect mathematics to layman which otherwise has the fame of being inaccessible to this group of people.

The programmes were publicized well by the college and the department mainly via online communication channels and newspapers. Most of the nearby academic institutions like schools and colleges were informed about the programme. The programme witnessed a good turn out of students and faculty members, from the college itself, nearby schools and colleges.

Lecture by Sri Ramanujan

The first programme in **Convergent Minds** was a couple of lectures on *Visualizing Mathematics* held on 18th January 2023. Resource person for this lecture was Sri. Ramanujan. He explained how to construct working and still models to demonstrate mathematics concepts. He also suggested a few games for including in the exhibition. More than 60 students attended the lecture, and it was well received by the participants.

Exhibition – Posters, Games, Models

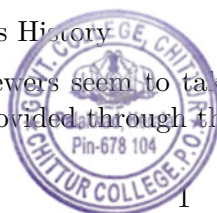
The Mathematics exhibition was a part of the college-wide exhibition organized by various departments on January 31 & February 1 2023 in the college.


Posters

More than 100 posters on topics like

1. History of Mathematics across various geographical areas
2. Women Mathematicians
3. International Mathematical organizations
4. Mathematics events
5. Mathematicians and their contributions
6. Indian Mathematics and its History

were displayed. Many of the viewers seem to take note of the facts displayed on the posters assuring that the information provided through them were very useful.




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Working/still models and games

The following were the items included in this section:

1. Konigsberg bridge problem – This was one of the items for the preparation of which the students and teachers spend most of their time. It made many to think and argue with the demonstrating students about a solution in the affirmative.
2. Mathematics Tree – an actual tree was transformed by the students to demonstrate the branches of Mathematicians and famous mathematicians
3. Surface of revolution – Showing how three dimensional solids can be viewed using two dimensional cross sections
4. Rubik's Cube – The theory behind solving it was interactively demonstrated by the students
5. Drystone(Trapezium) bridge - Visitors were challenged to construct a bridge using the trapezium blocks prepared by the students
6. Elliptical carrom board – you keep the coin and striker at the focii, hit anywhere using the coin and observe what happens!
7. Brachistochrone problem – *The fastest path problem* model demonstrated that the fastest path of descent is not a straight line, but a cycloid.
8. Rotor Machine – Connected Mathematics to secrecy
9. Ceaser Shift – One of the most primitive objects for encrypting messages
10. Barcode – What is the Mathematics theory behind this?
11. Sun dial – How to find time using the light and position of sun?
12. Clinometer – Finding height of a tower without climbing it up. A model of Eifel tower was prepared to demonstrate it
13. A finite volume object with infinite surface areas – The idea of infinity itself isnot very clear to the layman. But students succeeded in explaining this to the visitors
14. Soap thin film with unchanging mid point height
15. Tower of Hanoi game - The most attractive item in the games section. Chocholates were distributed to the participants who could complete the game problem within minimum number of moves.
16. Chessboard game
17. Magic Square game
18. Any-month Calendar
19. Number card game



Lecture by Prof. Ambat Vijayakumar

On 16/2/2023, Prof. Vijayakumar delivered a lecture on the topic *Relevance of Mathematics in the Information Age*. In this, he explained various areas in science and arts where mathematics plays a major, but unfamiliar roles.

Lecture/Interactive session by Shri. Venkitasubramanian PV

On the same day, Shri. Venkitasubramanian PV, an alumni of the department gave a motivational talk and shared his experiences helping the participants to understand the prospects available in the USA for the science students. The theme of the talk was *Career prospects for Science Students in the USA*.

Feedback

Feedback was collected the programmes. Though there was a heavy rush of visitors to the exhibition, we could record the feedback of only around 300 visitors. All of them made very good comments about the programmes. Some suggested that the programme should have been kept on Friday and Saturday. Most of them rated the models like Konigzberg bridge, Drystone bridge, Brachistochrone problem, and games like Tower of Hanoi, Chessboard game, and magic square games very highly.

The public lectures were also received well by the participants as per the feedback collected. The first set of lectures (by Shri. Ramanujan) was attended by more than 60 participants, where as the second set (Prof. A Vijayakumar and Shri. Venkitasubramanian PV) was attended by 65 students. These numbers are in addition to the department faculty.

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Convergent Minds

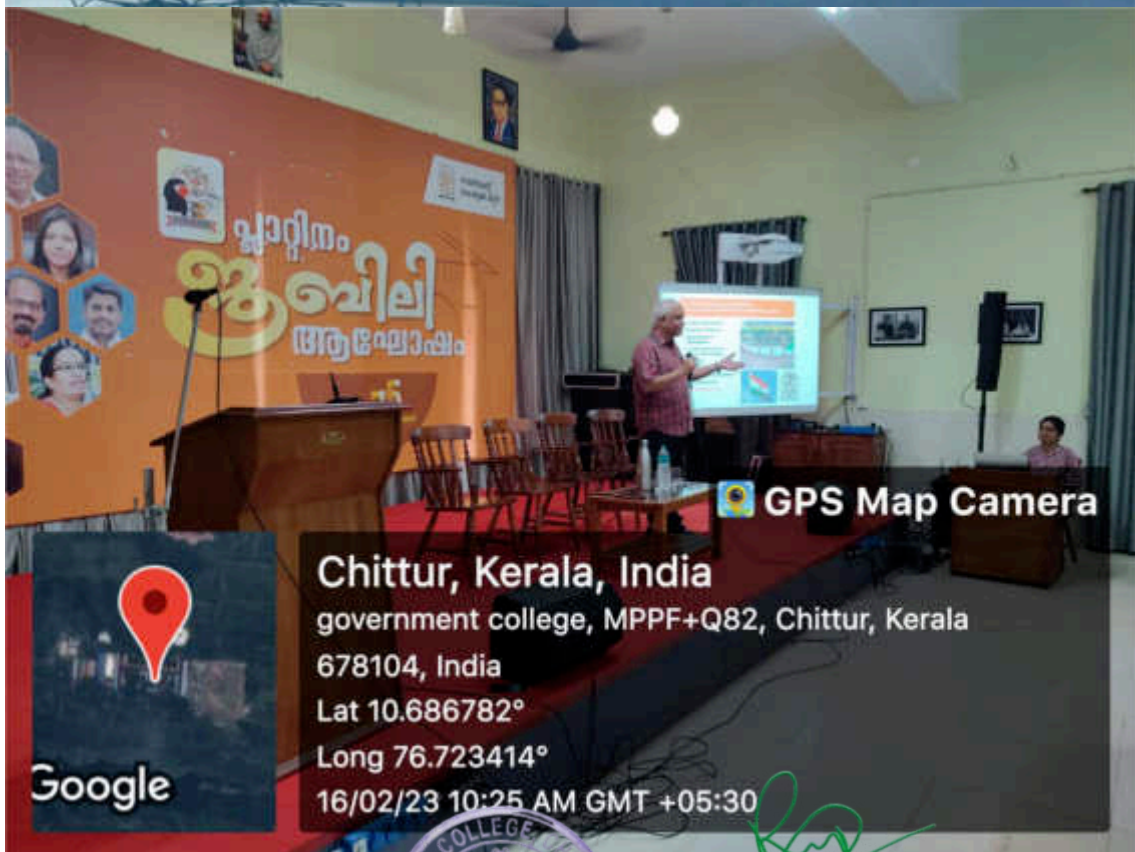
Platinum Jubilee Exhibition & Public Talks
Government College Chittur
Department of Mathematics

Programme Details

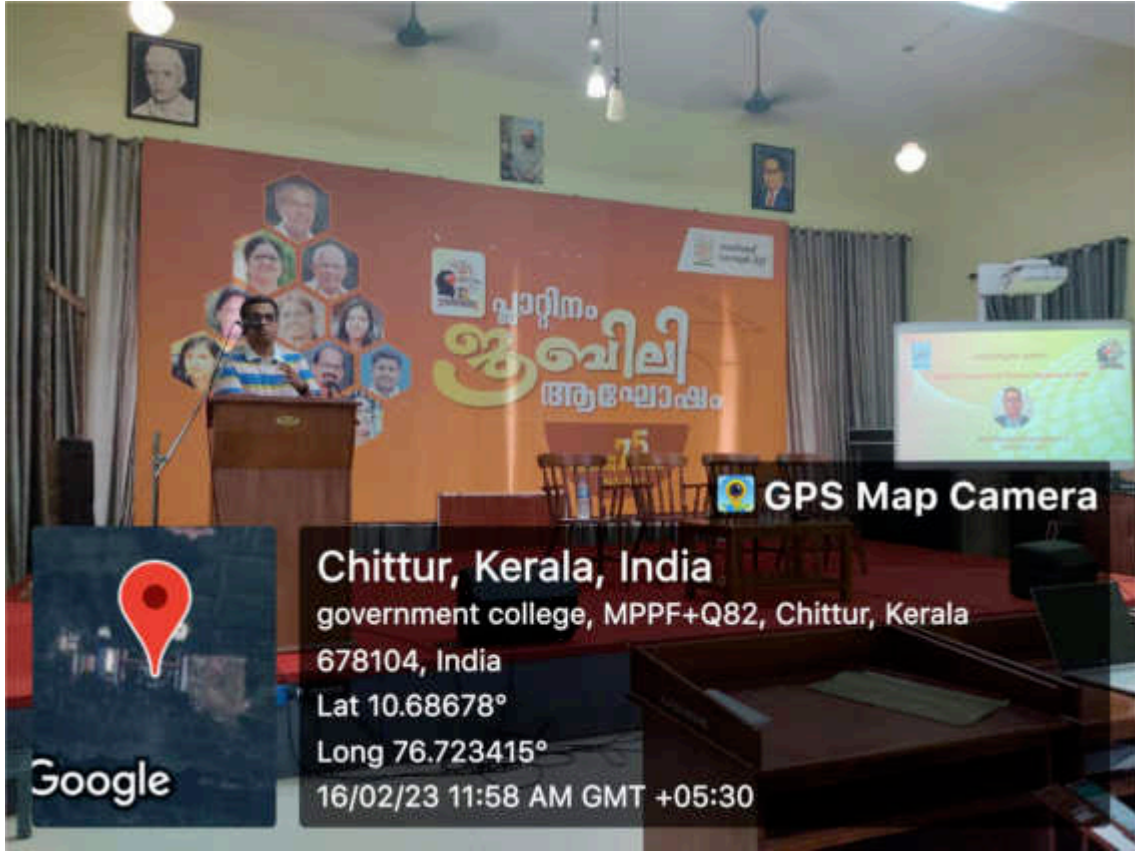
SL	Date & Time	Resource person	Title of talk	Duration (in hours)
1	18/1/2023 1:30PM – 3:00PM	Shri. Ramanujan N HSST MN KMM GHSS Palakkad	Visualizing Mathematics – Shapes and figures	1.5
2	18/1/2023 3:30PM – 5:00PM	Shri. Ramanujan N HSST MN KMM GHSS Palakkad	Visualizing Mathematics – Games for thought	1.5
3. Platinum Jubilee Exhibition – on 31/1/2023 and 1/2/2023				
4	16/2/2023 10:00AM-11:30PM	Prof. Ambat Vijayakumar Emeritus Professor, Cochin University of Science and Technology	Relevance of Mathematics in the Information Age – Artificial Intelligence	1.5
5	16/2/2023 11:30 PM-1:00PM	Shri. Venkitasubramani an PV Cognizant, USA	Career Prospects of Science Students in USA	1.5
5	16/2/2023 2:00PM-3:30PM	Prof. Ambat Vijayakumar Emeritus Professor, Cochin University of Science and Technology	Relevance of Mathematics in the Information Age – Various branches of science	1.5



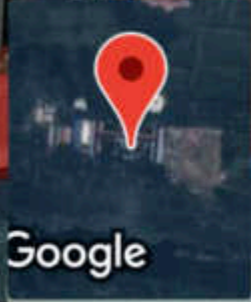

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