



II VISHWA VIDYAPEETH II

GROUP OF SCHOOLS

In association with



18th to 22nd

December, 2023

Venue: Takshashila Campus

Honnenahalli, Yelahanka Hobli,

Bengaluru North Taluk, Karnataka,

India-560064



SRINIVASA RAMANUJAN

Srinivasa Ramanujan was one of India's greatest mathematical geniuses. He made substantial contributions to the analytical theory of numbers and worked on elliptic functions, continued fractions, and infinite series.



Ramanujan independently discovered results of Gauss, Kummer and others on hypergeometric series. Ramanujan's own work on partial sums and products of hypergeometric series have led to major development in the topic. Perhaps his most famous work was on the number $p(n)$ of partitions of an integer n into summands. MacMahon had produced tables of the value of $p(n)$ for small numbers n , and Ramanujan used this numerical data to conjecture some remarkable properties some of which he proved using elliptic functions.

International Mathematics Day was celebrated on 14th March this year and the theme is: Mathematics for π Everyone. It is celebrated by mathematics enthusiasts and educators around the world to recognise and appreciate the importance of mathematics in our lives.



ACTIVITIES

Come to the Ganitha Mela and get engaged in interesting mathematical activities.

Fun Games

- * Can you hide a treasure in a way that nobody can ever find it?
- * Protect your kings!



Hands on Activities

- * Can you keep walking straight without turning and come back to the same place?
- * Which is bigger - barfi or kaju katli?

Mind Boggling Puzzles and Magic Tricks

- * If you come across a cunning ghost, how will you trick it?
- * In a dark room, can you see what colour hats someone is wearing?
- ... and many more!

The Ganitha Mela offers a platform for you to explore connections between maths and other disciplines.

Maths in History, Art and Culture

- * Arjuna's Arrows - how did he hit the bird's eye?
- * How did the Egyptians make the pyramids?

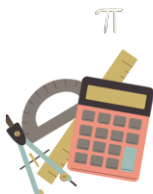


Maths in Daily Life and Sports

- * Patterns in Flowers
- * Why is a football like it is!

Maths in Astronomy

- * Why does the sun rise in west in Venus?
- * How big is the sun? Can we imagine it?
- ... and many more!



GANITHA MELA 2023




18 – 22 December 2023 (Monday to Friday)

@ Vishwa Vidyapeeth, Yelahanka

This year, to celebrate National Mathematics Day, Vishwa Vidyapeeth, the Academy Trust and Seed2Sapling Education are organising a week-long "Ganitha Mela" (Mathematics Fair) at Vishwa Vidyapeeth, Yelahanka, for school students and the general public from **18-22 December, 2023 (Monday to Friday)**.

Each day of the event will feature math-related activities and programs for all age groups, to explore the ubiquitous presence of mathematical phenomena in everyday life. Students of Vishwa Vidyapeeth and other educational institutions including government schools, will participate in the program. The evening cultural programs will be open to the general public as well.

PLANNED ACTIVITIES

- * Activity stalls featuring toys/puzzles/games, etc. 
- * Demos, film shows, exhibitions, books, storytelling zones 
- * Flashmobs, group choreography to illustrate concepts like Fibonacci sequence, Hilbert Hotel, etc.
- * Harates (non-formal discussions) with distinguished scientists and educators
- π * Cultural programs like classical and folk music, dance,  theatre
- * Entertainment programs like magic show, juggling, etc...



TIME TABLE (MONDAY - FRIDAY)

9:00 A.M. to 3:00 P.M. - Activities & Demos, Harates & Interactions

4.30 P.M. to 6:00 P.M. - Entertainment & Cultural programs

PARTICIPATING SCIENTISTS AND EDUCATORS

- | | |
|-------------------------------|----------------------|
| * Tirthankar Bhattacharyya | * Utpal Nath |
| * Parshuram Atmaram Gangavane | * Rajaram Nityananda |
| * Rohini Godbole | * Phoolan Prasad |
| * Amitabh Joshi | * Joseph Samuel |
| * AS Kiran Kumar | * VSS Sastry |
| * BS Krishnamurthy | * Kollegala Sharma |
| * MRN Murthy | * Supurna Sinha |
| * Nithin Nagaraj | * Basavaraj Umarani |

EVENING PERFORMANCES

- | | |
|-----------------------------|---|
| Monday, 18 th | Lilavathi, Kannada play on Bhaskara II |
| Tuesday, 19 th | Classical Dance Bharathnatyam and Kathak Jugalbandi by Keerthi Ramgopal & Sweekruth |
| Wednesday, 20 th | Soap films, soap bubbles and other fragile objects by Joseph Samuel & Supurna Sinha |
| Thursday, 21 st | Magic and mind reading by Magician Sanjay and Shadow puppet by Parashuram Gangavane |
| Friday, 22 nd | Classical Music Jugalbandi by Samyukth group |

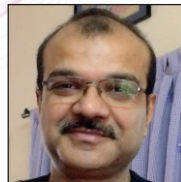
*** PERFORMANCE BY VVP STUDENTS ON ALL DAYS**



HARATE SCIENTISTS

Tirthankar Bhattacharyya

Tirthankar Bhattacharyya is Professor of Mathematics at IISc, and Fellow of all three Indian Science Academies: IASc, INSA and NASI. He did his PhD at ISI Delhi, followed by Post-Doctoral Fellowships at Calgary Univ., Victoria Univ., and ISI Bangalore. Among his various honours and awards are JC Bose Fellowship of SERB, IISc Alumni award for Excellence in Research, and Raja Ramanna Fellowship. He is an invited speaker at several prestigious mathematical conferences like IWOTA, the largest and most important annual international conference in Operator Theory.



Parshuram Atmaram Gangavane

Parshuram Atmaram Gangavane is a Folk Artist from Sindhudurg and he is famous for preserving 500-year-old art of Chitrakathi storytelling. He was conferred with Padma Shri in 2021 for his contribution.



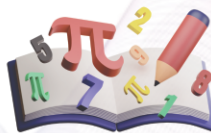
Rohini Godbole

Rohini Godbole is Professor at the Centre for High Energy Physics, IISc, and has worked extensively on different aspects of particle phenomenology, in particular on exploring different aspects of the Standard Model of Particle Physics and the physics beyond it. Her work regarding hadronic structure of high-energy photons has had implications for the design of next-generation electron positron colliders. She is a Fellow of all the three science academies of India and also the Science Academy of the Developing World (TWAS). She has been honoured with many awards and titles, chief among them: the SN Bose Medal, the Padma Shri by the Indian govt, and Ordre National du Mérite by the French govt. She is a popular science communicator, often delivering talks to young students, scholars and scientists on everything physics.



Amitabh Joshi

Amitabh Joshi is Professor of Evolutionary Biology at JNCASR. He did his PhD at Washington State University, and Postdoc at University of California. He is a Fellow of all 3 Indian science Academies: IASc, INSA and NASI, as well as Fellow of Indian Society of Evolutionary Biologists, and Institute of Advanced Studies, Berlin. Awards and honours include SS Bhatnagar Award in Biological Sciences, JC Bose National Fellowship. He is a poet in Urdu, English and Persian. His other interests include history, philosophy and military science.



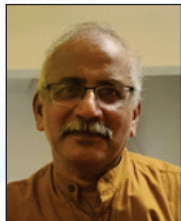
AS Kiran Kumar

AS Kiran Kumar currently holds, and has formerly occupied, key positions in several national and international bodies like Physical Research Laboratory, Govt. of India's Space Commission, Dept. of Space, and ISRO. He is a Fellow of various Science Academies and Engineering Societies across India and the world. He has been honoured with several awards and titles, notably: Padma Shri, ISRO Lifetime Achievement Award, International von Karman Wings Award, and the Chevalier de l'Ordre national de la Légion d'Honneur (France's highest civilian honour). He is widely recognised for his pivotal role in the success of the Indian space programme, mainly Chandrayaan-1 and the Mars Orbiter Mission.



BS Krishnamurthy

"GANITHA KUNITHA" Concept Founder (Dance with Maths) Program since 30 Years Innovative mathematical way of Art of Learning Mathematics. M.Sc(Theoretical Physics), from University Of Mysore 1986 PGDMCA(C-DAC, Govt. of INDIA), B.Sc in (Physics Electronics and Mathematics) from Yuvaraja College Mysore 1984, Certified Linux Administrator, MCSI(Computer society Of India Life Member), KRVP(MCSCI(Life Member), Motivational Technical Speaker on Maths, Physics, Science, Computer Science, Operational Research, Games and Puzzles etc..



MRN Murthy

MRN Murthy (Mattur Ramabhadraswamy Narasimha Murthy) was professor of molecular biophysics at IISc, and later at the Institute of Bioinformatics and Applied Biotechnology. He is a Fellow of all 3 science academies of India (IASc, INSA and NASI) as well as the Science Academy of the Developing World (TWAS). His chief contributions are in the area of X-ray crystallography. He was awarded the Shanti Swarup Bhatnagar award for outstanding contribution to physical sciences, the highest honour for a scientist in India, in 1992. Among other honours and distinctions, he is a JC Bose Fellow, INSA Senior Scientist, Astra-Zeneca Distinguished Professor at IBAB, and a Visiting Professor at IISER Thiruvantapuram. He is a multilingual and popular science communicator.



Dr. Nithin Nagaraj

Nithin Nagaraj is Associate Professor at NIAS, IISc, and has held positions at GE Global Research, IISER-Pune and Amrita University. His research areas include Brain-inspired machine learning, chaos and information theory, complexity theories of causality and consciousness. His research has been published in several national & international peer-reviewed journals, and he has delivered invited talks at various national and international forums.



Utpal Nath

Utpal Nath is Professor at the Department of Microbiology and Cell Biology, IISc. He is a Fellow of all the 3 science Academies of the country: Indian Academy of Sciences, Indian National Science Academy, and National Academy of Sciences, India. His research papers have been published in several reputed journals like Nature Plants, Plant Cell, Plant Physiology, and Science. Honours and awards include Dr. RB Ekbote Prize, membership of Guha Research Conference, and several grants from DBT, DST, CSIR, RC-UK, BBSRC Travel Grant, CEFIPRA and IISc. He is a popular science communicator.



Rajaram Nityananda

Rajaram Nityananda was Professor at Raman Research institute, and the Centre Director of NCRA-TIFR (National Centre for Radio Astrophysics of the Tata Institute of fundamental Research). He taught physics at IISER Pune and Azim Premji University, before moving to ICTS-TIFR, where he works on radio imaging and gravitational lensing. He is a Fellow of all 3 science academies of India (IASc, INSA and NASI), and has served as editor of journals of physics, astronomy, and science education. He is a veteran science communicator, and extremely popular with young students.



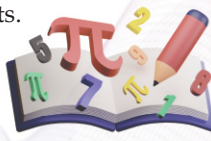
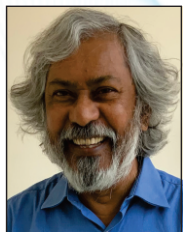
Phoolan Prasad

Phoolan Prasad was Professor of Mathematics at IISc. He was awarded in 1983 the Shanti Swarup Bhatnagar Prize for Science and Technology, the highest science award in India, in the mathematical sciences category. He is a senior Fellow of all three Indian science Academies: The National Academy of Sciences, India (NASI), Indian Academy of Sciences (IAS) and Indian National Science Academy (INSA).



Joseph Samuel

Joseph Samuel is a theoretical physicist with an interest in popularising Science. His interests are in geometry and topology in physics. He likes to keep in touch with mathematics as well as experiments. He studied physics at IIT Kanpur and at IISc, Bangalore and then joined the Raman Research Institute. He is now at the International Centre for Theoretical Sciences (ICTS), Bangalore and contributes to the outreach effort, teaching and research. He has delivered talks to school and college students on subjects ranging across Black holes, Topology, Cryptography and Magic squares. He has written several popular articles to take science to aspiring physics students. He was instrumental in setting up a "theorists' lab" at the theory group at RRI, which aims to kindle interest in physics in students.



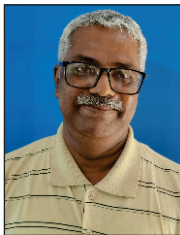
VSS Sastry

VSS Sastry is a popular math communicator and an origamian. He has his name featured in the Limca Book of Records for origami. He has conducted over 1000 workshops on mathematics and mathematics related themes. He is a recipient of the Karnataka award for math science communication. This Mela features 25 math projects designed by him. He has also published 37 books.



Kollegala Sharma

Kollegala Sharma is a senior science communicator and popular science writer in Kannada. Former chief scientist in CSIR-Central Food Technological Research Institute Mysore, he has contributed more than 3500 popular science articles, scripted 200 science radio dramas in Kannada for All India Radio and various community radios, and published popular science books, translations for children, and science fiction stories. He pioneered and produced a Kannada Science podcast, the first of its kind in India, that was a finalist in the famous Breaking Wall competition of Germany. He has spearheaded scripting and production of Science Plays in Kannada, and is editor of Kutuhali, the monthly Kannada science magazine of Vigyan Prasara. He is a recipient of Best Science Communicator award of Vision Group on S&T, Government of Karnataka, and Best Writer award by Karnataka Science and Technology Academy.



Supurna Sinha

Supurna Sinha recently retired as Professor of Theoretical Physics at the Raman Research Institute. Her areas of research are Non-equilibrium Statistical Mechanics and Quantum Information. She has applied Statistical Mechanics to the context of Soft Matter and studied DNA elasticity and active particle dynamics. Her work in the area of Quantum Brownian motion has led to predictions testable in ultra cold atom labs. She also has a passionate interest in science popularisation and enjoys doing art in her leisure time.



Basavaraj Umarani

Basavaraj Umarani has overall 11 Years of IT experience with 9+ Years of hands-on executive with record of leading the Performance Engineering of products & applications, improving processes to drive quality and efficiency & 1.5 year of product functional testing. Specialist in requirement analysis, workload model, performance measurement strategy, assessing and tuning of products & applications in especially in performance. Vast expertise in web application, multi-media [chat] application, web service, API & batch.



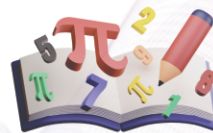
EVENING PERFORMANCES

DAY 1 - 18/12/2023

Lilavathi [Kannada play on Bhaskara II]

Bhaskaracharya 2, who lived during 12th Century AD is a renowned Indian mathematician. He has authored classical mathematical texts such as Siddantha Shiromani. It is believed that the Indian mathematical tradition that began with Aryabhata reached a pinnacle during the time of Bhaskaracharya 2, and subsequently declined. Lilavathi is one of the four parts of Siddantha Shiromani written by Bhaskaracharya. The voluminous critiques by subsequent authors on Lilavathi stands testimony for its popularity. The text which is taught even today in Sanskrit colleges was translated to Persian by Faizi, a scholar in Akbar's court, and in 18th Century by HT Colebrook to English. The translations have helped Indian mathematics spread far and beyond Europe. It is considered that Bhaskaracharya was a significant milestone in mathematical research of ancient times. That studies are still on his contributions is a proof for his contributions.

The play Lilavathi besides dramatically introducing parts of Bhaskaracharya's treatise to the audience, explores the contribution of Indian mathematics with a historical perspective. The play is originally written in Kannada by Sri Shashidhara Dongre, a Engineer by profession, and a playwright and litterateur in Kannada by passion. Prof. HS Umesh, a well known theatre personality in Karnataka and the Nataka Academy award winner has directed the play. The play is of about 100 minutes duration.

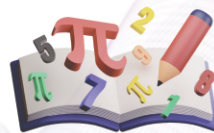


DAY 2 - 19/12/2023

Classical Dance Bharathnatyam and Kathak Jugalbandi

[By Keerthi Ramgopal and Sweekruth]

The performance is a Jugalbandhi of two Indian classical dance styles- the South Indian classical dance form Bharathanatyam and the Northern Indian classical dance form Kathak. Celebrating the contrasts and parallels in styles and exploring the beauty of Mathematics (in tandem with the spirit of the festival) that is present through symmetry, geometry, calculations, permutations, progressions, speed and so much more, this presentation is a beautiful amalgamation of art and science.

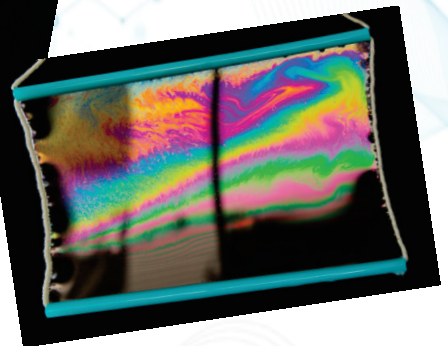
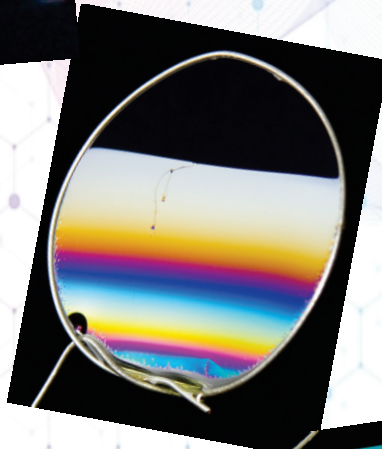
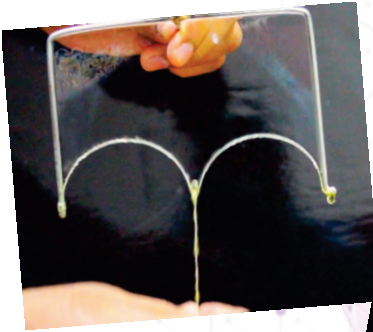


DAY 3 - 20/12/2023

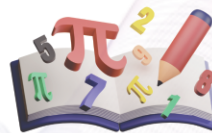
Soap films, soap bubbles and other fragile objects

[By Samuel Joseph and Supurna]

Simple experiments illustrating mathematical and physical ideas using soap films.



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DAY 4 - 21/12/2023

Magic and Mind Reading [By Magician Sanjay]

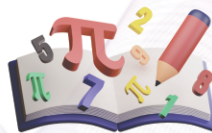
Magic and mind reading will be performed by Magician Sanjay who will connect it to Math.



Shadow Puppet [By Parashuram Gangavane]

The Thakar tribal artists not only create paintings, but also narrate stories through paintings by composing songs around it and using music in the background.

"I did not have sufficient money to spend on this project, but I had the determination to preserve this art form. That is when I decided to convert my cowshed, next to my house, into a museum." - Parashuram Gangavane



DAY 5 - 22/12/2023

Classical Music Jugalbandi

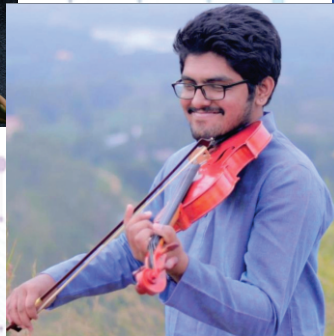
[By Samyukth group]

SamYukth, is a collaborative concept of melody -rhythm This is a music template where all the respective instruments will have utmost freedom to express their art and virtuosity, bringing out the best possible instrumental music dynamics in Indian Classical system. In this music concert they have their own set of music compositions which are specially composed to highlight the capability of each instrument along with the kritis and other traditional compositions. This is a 3 member music team with violin, mridangam and ghatam.

Mridangam: Sai Shiv

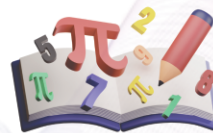
Violin : Keshav Mohankumar

Ghatam : ShamithSGowda



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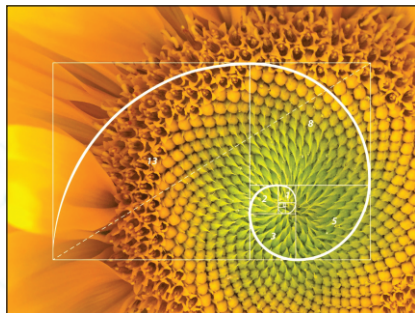
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STELLAR PERFORMANCES BY STUDENTS OF VVP

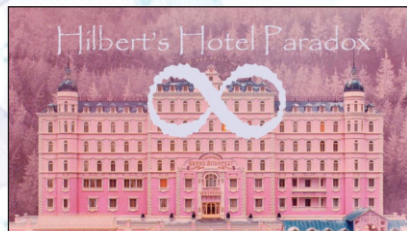
Fibonacci Dance

Amidst the vast expanse of nature, with its splendor and complexity, the Fibonacci Sequence stands out- a numerical masterpiece that seamlessly merges simplicity with profound implications. Our students of Vishwa Vidyapeeth will perform the dance form with enthusiasm and high spirits which represents the fibonacci sequence.



Hilbert Hotel

The Hilbert Hotel will be demonstrated by VVP students where a fully occupied hotel with infinitely many rooms may still accommodate infinite guests and this process may be repeated infinite times.



Geometry and Alignment in YOGA

Just as in mathematics, where foundational equations and geometric figures keep the discipline grounded, the human body conducting yoga asanas aligns with geometric symmetry. Students will showcase yoga and math through this display.



STELLAR PERFORMANCES BY STUDENTS OF VVP

Classical Dance

A mega performance bringing in Barathanatayam, Kuchupudi, Mohiniattam and Kathak - Come lets learn what is Alaripu, Taala and Melas and understand Math through it



Folk Dance

Popular folk dance forms are high on energy, uses numeracy and the counting of beats, accents, syncopated time patterns and other rhythm and time structures. The students will be performing various folk dances like dollu kunitha, pattada Kubota, veeragase and more.



Rhythm & Percussion

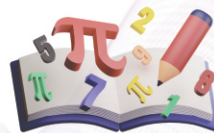
A percussion instrument is a musical instrument that is sounded by being struck or scraped by a beater including attached or enclosed beaters or rattles struck, scraped or rubbed by hand or struck against another similar instrument. Students of VVP will be giving a musical performance using various instruments.



STELLAR PERFORMANCES BY STUDENTS OF VVP

Pre- Primary Performances

The tiny tots of the Pre- Primary section will be showing us various concepts in Math through their dance performance. It is a proud moment for all pre primary students to be an integral part of the Math Fest. Our students will give an exclusive dance performance based on the Math concepts that they are learning like shapes, rhythm based on count, number names and so on.



BEHIND THE SCENES.....



ORGANISERS



Seed2Sapling Education is founded by alumni of Indian Institute of Science, Bengaluru, with the core focus of nurturing the inner potential of a child. Our aim is to create an enriched, joyful and experiential learning environment where a child enjoys and actively participates to become knowledge creator and not merely being knowledge consumer.

We work closely with the school management with an extensive teacher support on aspects of curriculum, pedagogy, assessments and TLMs while also addressing aspects of school environment and processes. Our scope of collaboration spans schools, government bodies, social organisations, NGOs and edutainment spaces. In our experience of the past five years, we have worked with about 35+ schools/organisations, 1000+ teachers and 12000+ students directly through our various programs and have seen extremely positive outcomes.



The Academy Trust (tAcT) was set up in August 2014 as a registered public charitable body under the aegis of the Indian Academy of Sciences, which was founded by Sir CV Raman and includes some of the most distinguished scientists from India and abroad among its Fellowship.

tAcT aims to bring about a tangible change in the way science is taught and implemented in the educational system and society in general. Its core programs are:

- A) Science Education Outreach
- B) Academia-Industry Partnership
- C) Endowment Chair Professorship

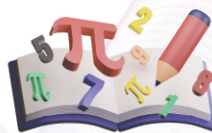
Some of tAcT's unique outreach programs include Vijnana Harate (informal interactive sessions with distinguished scientists and educators), Vijnana Yuvati (to benefit young women), Vijnana Nataka (science theatre) and Vijnana Aranya (for remote rural and tribal areas). Many programs are undertaken in collaboration with schools, colleges and organisations that have similar objectives to

the Trust.

SUPPORTED BY



KSCST
KARNATAKA STATE COUNCIL
FOR SCIENCE AND TECHNOLOGY



HOSTED BY



II VISHWA VIDYAPEETH II

GROUP OF SCHOOLS



VIKRAMASHILA CAMPUS, YELAHANKA



TAKSHASHILA CAMPUS, YELAHANKA



MAGADHA CAMPUS, VARTHUR

At Vishwa Vidyapeeth, we believe that every child has the potential to reach 'perfection' provided he/she has the right motivation and guidance. Established in the year 2012, Vishwa Vidyapeeth is managed by Trust - C. S. Education Trust. We impart education of the highest standard keeping intact our Indian values and establishing Vishwa Vidyapeeth as the place where children achieve all-around growth and excellence. Presently the group caters to **ICSE, CBSE and IGCSE** curriculum at its various schools spread across Bangalore.

REGISTRATION
FORM



OR <http://tiny.cc/ganithamela>



ENQUIRY FORM



FOR MORE DETAILS CONTACT US ON
Yelahanka - 7022009731 / 54
Varthur - 7022009757

WEBSITE

