

## IAVM LIBRARY OF RESEARCH PAPERS

During the last five years IAVM has drawn together many researchers of Vedic mathematics and we now have a significant body of research papers available that were presented at our international conferences and published in conference proceedings. For those interested in Vedic Maths this library is a useful source of the most up-to-date developments.

Here are listed almost 100 papers of original research on aspects of Vedic Mathematics, Its applications, Its use in education as well as on historical aspects of mathematics in India.

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The papers are divided into four sections: Vedic maths and its applications are coded with M, Vedic maths relating to education are coded with E, History of Indian maths with H, and applications of Vedic maths to digital technology with D.

For purposes of citations, the list of papers below is colour-coded as follows:

Colour	Publications
●	Proceedings 4 <sup>th</sup> International Vedic Mathematics Conference, 2020, IAVM Publishing
●	Proceedings 3 <sup>rd</sup> International Vedic Mathematics Conference, 2019, IAVM Publishing
●	Proceedings 2 <sup>nd</sup> International Vedic Mathematics Conference, 2018, IAVM Publishing
●	Proceedings 1 <sup>st</sup> International Vedic Mathematics Conference, 2017, IAVM Publishing
●	Vedic Mathematics Select Papers, Edited J.Glover, 2016, DK Publishers
●	Veda Vijnana Sudha, 2013, National Institute of Vedic Sciences

**NB** Date of publication is usually the year following the date of the conference.

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## VEDIC MATHEMATICS AND ITS APPLICATIONS

Title	Author/s	Ref	
Converting a Number to a Palindromic Number	Ramyaritharshini Balaji	M47	●
A Unique Way of Computing the Product of Two Numbers Ending in 5: An Application of Sub-Corollary Antyayordasake'pi	Raghavendra Prasad	M46	●
Factorisation and Differential Calculus	Kenneth Williams	M45	●

Evaluation of Permutations and Combinations	Kenneth Williams	M44	●
The Use of Vedic Mathematics in Modular Arithmetic and Prime Factorisation	Usha Sundararaman	M43	●
Binomial Expansions and the "Naughty" Calculus	James Glover	M42	●
By Mere Observation	James Glover	M41	●
Building Polynomials from Separate Roots: An Ultimate Vindication of Vertically and Crosswise	Nathan Annenberg	M40	●
Multiplication by Nines and its Astronomical Applications	Kennth Williams	M39	●
Sum and Difference of Squares	Kennth Williams	M38	●
Connection of Paravartya Sutra with Vedic and Non-Vedic Mathematics	Krishna Parajuli, et al	M37	●
Divisibility Checks using Osculation	Muthuselvi Prabhu	M36	●
Practical Mathematics	Kenneth Williams	M35	●
16 Division Devices mp4	Kenneth Williams	M34	●
Advaita and the Sutras of Vedic Mathematics	James Glover	M33	●
A New Approach to Solving Linear Equations	Ashwini Kale, Anant Vyawahare	M32	●
Connection of Vedic Mathematics to Modular Arithmetic	Usha Sundararaman	M31	●
Calculating Compound Interest Mentally	Kuldeep Singh	M30	
A Novel Approach to Squaring Technique using Vedic Mathematics applied with EdSIM51	S.Sarma, Dr G.D.Babu	M29	●
Finding Sums of Powers of Roots of Polynomials	Kenneth Williams	M28	●
The Ekadhikena Purvena sutra: generating patterns, symmetries and asymmetries in binary and decimal strings	Peter Greenwood, Marianne Fletcher	M27	●
Applying the Ekadhikena Purvena Sutra to Investigate Prime and Fermat Pseudoprime Numbers using a Multiple-precision Arithmetic Library in C/C++	Peter Greenwood	M26	●

Application of Vedic Sutras in Binary Arithmetic and Binary Logic	Muthuselvie Prabhu	M25	●
Totally Self-Reliant Trigonometry	Nathan Annenberg	M24	●
Reverse Osculation Process for Even Divisors	Geeta Ghormade, Anant Vyawahare	M23	●
A Deeper Look into Tirthji's Methods for Generating Recurring Decimal Strings	Marianne Fletcher	M22	●
Comparing Conventional Iterative Methods to the Vedic Method of Determining Roots of Cubic and Quartic Equations	Rick Blum	M21	●
Innovative Method of Multiplication (Advancement of Ekadhikena Purvena Sutra)	Shashikant.G. Chitnis	M20	●
Finding Cube Roots: Nepali and Vedic Method	Jayanta Acharya	M19	●
Calculating Compound Interest Mentally	Kuldeep Singh	M18	●
A Prime Number Investigation using Binary Strings Generated by using the Ekadhikena Sutra	Marianne Fletcher	M17	●
Solution of Right-Angled Triangles using Vertically and Crosswise	Kenneth Williams	M16	●
Vedic Mathematics Devices for Squaring	James Glover	M15	●
Implementing Vedic Maths into the Binary Number System	Kuldeep Singh	M14	●
A New Approach to the Teaching of Coordinate Geometry	James Glover	M13	●
How the Binomial Theorem Underlies the Working of the Anurupyena and Yavadunam Sutras in the Calculation of Successive Powers of a Number; Application of Power Triangles and Calculus	Marianne Fletcher, James Glover	M12	●
A Novel Approach of Multiplying Five Numbers near a Base	Pavitdeep Singh, Jatinder Kaur	M11	●
A Novel Approach of Multiplying Four Numbers near a Base	Pavitdeep Singh, Jatinder Kaur	M10	●
Bharati Krishna's Special Cases	Kenneth Williams	M9	●
Algebraic Patterns associated with Vedic Mathematics to Shorten Integration of Quadratic Formulae	Vasant V Shastri, Alex Hankey	M8	●

Vyashti Samashti – A Sutra from Sankaracarya Bharati Krishna Tirtha	James Glover	M7	●
The Magic of the Last Digit	Robert McNeil	M6	●
An Investigation into the Working of the Ekadhikena Purvena Sutra, and how it can be used to Identify Prime Numbers	Marianne Fletcher	M5	●
The Psychology of Vedic Mathematics –Examples of Universal Thought Patterns	James Glover	M4	●
Extending the Application of Vedic Maths Sutras	James Glover	M3	●
Teaching Calculus	Kenneth Williams	M2	
Swami Tirtha’s Crowning Gem	Kenneth Williams	M1	

## VEDIC MATHEMATICS IN EDUCATION

Equipping Engineering Students For Employment Through Vedic Mathematics	Anil A.R.	E19	●
Vedic Mathematics - Driven Approach for NCERT Prescribed Mathematics Curriculum	Nitika Gupta	E18	●
Sharing Experiences of Research Innovatons on Vedic Mathematics in the State of Kerala	Dr Smitha	E17	●
Vedic Maths methods on Cognitive skills - RCT	Dr Bhawna Sharma	E16	●
A Comparative Study on Teachers’ Consciousness Towards Vedic Mathematics in District Mohali and Barnala (Punjab)	Sukhwinder Kaur, Pooja Rani	E15	●
A Fuzzy Model for Analysing Vedic Mathematics	Ravi K M, R.G.Shivakumar	E14	●
Vedic Mathematics methods to Reduce Math Anxiety – A Randomized Control Trial	Shastri, Hankey, Sharma, Patra	E13	●
Vedic Maths – A Merit in management of competitive Examinations	Shastri, Hankey	E12	●
Ethnomathematics – An effective pedagogical tool to enrich math teaching	Swati Dave	E11	●
Aggrandizing Human Potential of Computation through Indian Intellectual Traditions of Vedic Algorithms	Dr. Smitha S	E10	●

Vedic Mathematics as a part of school curriculum- a Controversy	Sumita Bansal	E9	●
Vedic Mathematics: Its impact on Children with Special Needs	Pooja Rani, Sukhwinder Kaur	E8	●
Vedic Maths in Education	G. Sankaranarayanan, A. Subramaniam	E7	●
Vedic Maths in Education	Jayanthi Saravanan	E6	●
Teaching Vedic Math to Non-Traditional Audiences	Richard Blum	E5	●
Impact of Vedic Mathematics in Education	Samrudh J, R. Prasad	E4	●
Deeper Reasons Why Students Find Vedic Mathematics So Enjoyable	Alex Hankey, Vasanth Shastri	E3	●
Challenges to Assimilating Vedic Maths in the Maths Classroom	Swati Dave	E2	●
Vedic Maths as a Pedagogic Tool	James Glover, Kenneth Williams	E1	●

## VEDIC MATHEMATICS IN DIGITAL TECHNOLOGY

Application of Vedic Mathematics in High Speed Systems – A Survey	Raymond Austin	D6	●
Designing of Digital Circuits using Vedic Mathematics for Engineering Applications	G Sreelakshmi	D5	●
Design and implementation of 64-bit Vedic Multiplier for DSP Application	AP Chavan, Divya H, A.Prathibha	D4	●
Optimization of Total Reversible Logic Implementation Cost using Vedic mathematics	Dr S Praveen	D3	●
Comparative study of adders used in designing High speed Vedic Multipliers for VLSI applications	Raghavendra Prasad	D2	●
A Survey on Implementation of Vedic Mathematics Sutras in Information Technology	Anil AR	D1	●

## HISTORY

Mahaviracharya's Ganita Sangraha	P.Devaraj	H20	●
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The Analysis of Four Fundamental Mathematical Operations in Ancient Sanskrit Text	Daya Tiwari	H19	●
Exposition of the Chakrawal Method: A Gen of Bhaskara's Algebra	Ravi Asrani	H18	●
History of Multiplication: Classical Period in Indian Mathematics	Prabha S.Rastogi, Sandhya Nitin	H17	●
Squaring a Circle and Vice Versa Made Easy Up To Any Desired Approximation	Kasi Rao	H16	●
Two Approximations of the Sine Function: A Comparison	Anant Vyawahare, Sanjay Deshpade	H15	●
Study of Applications of Graph Theory in ancient Indian shlokas (scripts)	Prakash R, Aashish M, Raghavendra Prasad, Srinivasan G.N.	H14	●
Chhanda Shastra of Pingalacharya	Shaifali Joshi, Anant Vyawahare	H13	●
Myths and Facts about the Inventions by Ancient Scholars in the Vedic Mathematics Arena	Dr G.S.Babu, P.C.Reddy	H12	●
Indispensability of Numbers and Numerals of Indian Intellectual Traditions and their Scientific Role	Dr Daya Shankar Tiwary	H11	●
The Third Diagonal	Prof.A.Vyawahare, G.Ghormade	H10	●
Origin of 360 degrees	P. Devaraj	H9	●
Contributions of Kerala to Mathematics	P.Devaraj	H8	●
Bharathi Krishna Tirtha's Vedic Maths and early Indian mathematics: comparison of the fundamental arithmetic operations	Arvind Prasad	H7	●
Vedic Mathematics, Lilavati and Nepal	Jayanta Acharya	H6	●
Calculus rendered in verses and prose: Contribution of the Kerala School	Dr. Vanishri Bhat	H5	●
Relevance of Shulbasutras of the Yajurveda : Modern Context	Dr. Daya Shankar Tiwary	H4	●
The Side of a Regular Polygon – Lilawati Method	Dr. A.W. Vyawahare, Sanjay M. Deshpande	H3	●

Contribution of Indian Mathematics to the World

Daya Tiwari

H2



Multiplication Techniques: Ancient Indian Methods vis-à-vis  
Tirthaji's Methods in Vedic Maths

Arvind Prasad

H1

