Free
E-BOOK!

A GUIDE TO
Vedic Maths

Explore innovative strategies and valuable insights to elevate your child's Maths skills

Aarti Kute's Vedic Maths Learning Academy

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ABOUT AARTI AND HER INCLINATION IN TEACHING

Her passion for teaching Maths and concept-based story telling inspired her in founding Aarti Kutes Vedic Maths Learning Academy in April 2023. Aarti's vision is to make sure that all her students use mental calculations and eradicate any fear related to mathematics.

Her Certification, Experience and Qualifications are mentioned below:

NSDC certified:
Vedic Maths Trainer for Primary, Basic & Advance level (Students & Teacher Training).

AVMT certified:
Advance Vedic Maths Trainer certified by Vedic Maths Forum.

CVMT certified:
Certified Vedic Maths Trainer from Roots Abacus Learning School.

ECM certified:
Elite club member of Vedic Maths Trainer from Indian Institute of Vedic Math's & Abacus.

She has done her **B.Sc & M.Sc in Microbiology followed by Master's in Marketing Management**, with an **overall Corporate experience of more than 16 years** associated with companies like GSK, Merisant, Sigma Laboratories, ICICI bank and finally last 10 years of her stint in Medical Life Underwriting with ICICI Prudential Life Insurance Company Limited.

She is also a Founder of the "Masti Ka Pitara" club, which provides fun-filled science-related story sessions. She is passionate about telling stories to young people, and also about coaching them to tell stories. **A Certified Storyteller from Edusaarthi & member of Indian Story telling network.**

INTRODUCTION TO VEDIC MATHS

Vedic Maths is a system of mathematics routed in ancient India scriptures known as Vedas, specifically the Atharva Veda. The term Vedic is derived from Veda meaning knowledge. Vedic Maths can be considered a scientific system in several ways due to its structured methods, predictability and logical reasoning.

Vedic Maths was introduced into the modern world through the work of Jagadguru Bharati Krishna Tirthaji Maharaj in the early 20th century.Vedic Maths involves a set of clearly defined principles and techniques (Sutras and sub-sutras) that are systematically applied to solve mathematical problems. It consists of 16 Sutras and 13 sub-sutras.

University Grants Commission (UGC) has ordered the introduction of courses based on Indian heritage and culture, such as 'Vedic' Mathematics, Sanskrit, Yoga, Ayurveda and Astrology.

India's, National Education Policy (NEP) 2020 aims to transform the education system by making it more holistic, flexible and multidisciplinary aligning it with the needs of 21st century. Hence integrating Vedic Maths into the curriculum aligns with several goals of the NEP. Integrating Vedic Maths into the education system as envisioned by the NEP can enrich the learning experience making mathematics more engaging, effective and culturally relevant.

Vedic Maths as a subject has been introduced in a phased manner from the academic year 2022-23 in Gujarat state to spread the Indian Knowledge System as envisioned in the National Education Policy. Himachal Pradesh government has also initiated the same in 2022 follow by Karnataka government allocating funds for teaching the subject and Assam government following the same.

EDUCATIONAL IMPACT OF LEARNING VEDIC MATHEMATICS

1. **Enhancing Cognitive Skill**: the practice of Vedic Maths enhances mental arithmetic skills, improves concentration and foster a deeper understanding of mathematical concepts.

2. **Alternative methods**: it provides alternative approaches in solving mathematical problems which can be scientifically evaluated against conventional methods for efficiency and effectiveness.

3. **Logical Reasoning**: the Sutras are based on logical reasoning and mathematical principles making the system intellectually rigorous.

4. **Practical Application**: the effectiveness of Vedic Maths techniques can be tested through practical application and observation.

ADVANCED APPLICATIONS

a) **Algebraic expressions** Vedic techniques simplify algebraic manipulations, focusing on part-whole relationships and transposition to handle complex expressions more easily.

b) **Geometry calculations** Simplified methods for geometry involve using specific sutras to handle area, perimeter, and volume calculations efficiently, reducing the need for extensive steps.

c) **Trigonometry simplifications** Techniques for simplifying trigonometric calculations focus on identifying patterns and relationships between angles and functions, making it easier to handle trigonometric identities and equations.

d) **Calculus basics** Applying Vedic methods to calculus involves focusing on differences and similarities to handle derivatives and integrals more efficiently, breaking down problems into simpler parts.

e) **Coordinate geometry** Simplified techniques for coordinate geometry involve handling distances, slopes, and equations of lines more efficiently, using transposition and part-whole relationships to streamline calculations.

HOW AARTI KUTES VEDIC MATHS TEACHING TECHNIQUES WILL HELP LEARNERS

- **Simplified Teaching Methodology:**
Concepts are taught using simplified methods, making them easier to understand and apply.

- **Application to Conventional Maths:**
Vedic Maths methods are applied to conventional math problems, enhancing problem-solving skills.

- **Efficiency and Accuracy:**
Among various Vedic Maths methods, students learn which ones are the fastest and accurate, improving their efficiency.

- **Personalized Solutions:**
The program focuses on understanding individual student problems and offering tailored solutions.

- **Class Updates:**
Students receive updates after each class, detailing the topics covered, which helps them keep track of their progress.

- **Healthy Competition:**
Regular test series foster a sense of healthy competition, motivating students to strive for speed and accuracy.

- **Accuracy Verification:**
Cross-checking methods are practiced with each sum, ensuring clarity and accuracy in calculations.

These techniques ensure a comprehensive and effective learning experience, empowering students to excel in both Vedic and conventional mathematics.

MODUS OPERANDI FOR VEDIC MATHS BASIC AND ADVANCE LEVEL STUDENT COURSE

- **Alignment with School Curriculum:** The syllabus is designed by me to align with the school curriculum, ensuring relevance and ease of integration with regular studies.

- **Comprehensive Modules:** It includes 5 modules with 27 chapters covering a wide range of topics such as Addition, Subtraction, Multiplication, Division, Squares, Square Roots, Cubes, Cube Roots, and Fractions.

- **E-books Provided:** Students receive eBooks containing content and practice sums, facilitating both learning and practice.

- **Online Sessions:** There are 32 online sessions dedicated to explanation and practice, providing structured learning and ample practice opportunities.

- **Batch size:** To optimise personal attention we have restricted the online session batch size to maximum 20 students per batch. It helps in one to one interaction and quick query resolution.

- **Regular Test Series:** Tests are conducted at regular intervals to assess understanding and progress.

- **Retests for Low Performers:** Students scoring less than 85% are given retests to ensure mastery of the material.

- **Doubt Clearing Sessions:** Regular sessions are held to address any doubts, ensuring no student is left behind.

- **Post-Course Monthly Tests:** After course completion, monthly tests on all 27 chapters are conducted as part of ongoing revision to reinforce learning.

These teaching techniques and process flowed by Aarti Kutes Vedic Maths learning Academy collectively ensure a thorough understanding and mastery of Vedic Maths concepts, making the course highly effective, inclusive and easy for students.

OUTPUT OF VEDIC MATHS BASIC AND ADVANCE LEVEL STUDENT COURSE

1. Quick Problem Solving: Students can efficiently solve sums with up to 5 digits in less than a minute.

2. Enhanced Calculation Speed: The program significantly improves calculation speed, making students more confident in their math skills.

3. Improved Accuracy: Through practice and cross-checking methods, students achieve higher accuracy in their solutions.

4. Stronger Conceptual Understanding: Simplified teaching methodologies ensure a deep understanding of mathematical concepts.

5. Adaptability to Conventional Maths: The application of Vedic Maths to conventional problems helps in better understanding and solving of regular math problems.

6. Regular Feedback: Updates after each class and regular test series provide continuous feedback and opportunities for improvement.

7. Personalized Attention: Understanding individual student problems and providing tailored solutions ensure personalized learning.

8. Healthy Competition: Test series promote healthy competition, encouraging students to improve their performance continuously.

9. Ongoing Revision: Monthly tests after course completion ensure that students retain and understand the material thoroughly.

These benefits collectively enhance students' math skills, making them more efficient, accurate, and confident in their mathematical abilities.

MODUS OPERANDI FOR VEDIC MATHS TEACHER TRAINING COURSE

Vedic Maths Teacher Training course by Aarti Kute offers comprehensive training for aspiring Vedic Maths educators and entrepreneurs.

a) Explanation of Sutras & Sub-sutras:
Detailed explanations are provided for each sutra and sub-sutra, covering their meanings, pronunciations, and techniques.

b) Application in Problem Solving:
The course teaches how to apply sutras and sub-sutras effectively in solving mathematical problems, enhancing problem-solving skills.

c) Structured Course Design:
The course is divided into 4 levels, consisting of a total of 50 sessions. Both physical copies and eBooks are provided for thorough learning.

d) Mock & Final Tests:
After each level, mock and final tests are conducted according to NSDC guidelines, ensuring rigorous assessment and preparation.

e) Viva Preparation:
The course includes preparation for viva exams, aligned with NSDC guidelines, to ensure comprehensive readiness.

f) NSDC Certification:
Upon completion, participants receive NSDC certification, adding credibility and recognition to their qualifications.

This structured and detailed approach ensures that participants gain a deep understanding of Vedic Maths and are well-prepared to teach it effectively.

OUTPUT OF VEDIC MATHS TEACHER TRAINING COURSE

The Vedic Maths Teacher Training course by Aarti Kute helps educators and entrepreneurs in several key ways.

1. Accurate and Effective Teaching:
Teachers learn to instruct students more accurately and effectively, enhancing overall student performance.

2. Personalized Approach:
Problem solving with multiple methods available for problem-solving, teachers can personalize their approach to meet individual student needs.

3. Addressing Parent Queries:
Teachers are better equipped to handle parent queries related to Vedic Maths, providing clear and informed responses.

4. Curriculum Design:
The training enables teachers to design a Vedic Maths curriculum tailored for their own institutes.

5. NSDC Certification credibility:
The certification can be presented in schools as a credential, and it also acts as a license for teachers to run their own Vedic Maths institutes.

These benefits ensure that teachers are well-prepared, versatile, and recognized in their field, making them more effective educators.

16 SUTRAS EXPLAINED WITH ITS APPLICATION

1. Ekadhikena Purvena : By one more than the previous one.
   Sutra applied in below calculation
   - Vinculum
   - Addition using base method
   - Addition using Complements

2. Purnapuranabhyam : By the completion or non-completion.
   Sutra applied in below calculation
   - Addition using complements

3. Nikhilam Navatascarmam Dasatah : All from 9 and last from 10.
   Sutra applied in below calculation
   - Subtraction
   - Devinculum

4. Ekanyunena Purvena : By one less than the previous one.
   Sutra applied in below calculation
   - Devinculum
   - Subtraction using Base method

5. Sopantyadvayamantyam : Ultimate and twice the penultimate.
   Sutra applied in below calculation
   - Multiplication by 12 to 19
   - Multiplication by 112 to 119
   - Multiplication by 1112 to 1119

6. Urdhava Triyagbhyam : Vertically and crosswise.
   Sutra applied in below calculation
   - 2 digit * 2 digits
   - 3 digit * 3 digits
   - 4 digit * 4 digits and so on.....

16 SUTRAS CONTINUED

7. Yavadunam : By deficiency
  Sutra applied in below calculation
  • Cubes

8. Paravartya Yojayet : Transpose and Apply.
  Sutra applied in below calculation
  • Division – General Method
  • Simple Equations

9. Gunakasamuccayah : All the multipliers.
  Sutra applied in below calculation
  • Approximations – Multiplication with decimals

10. Sunyam Samyasamuccaye : When the sum is the same, that sum is zero.
  Sutra applied in below calculation
  • Simple Equations

11. Sankalana Vyavakalanabhyam : By addition and by subtraction.
  Sutra applied in below calculation
  • Pythagoras theorem

12. Anurupye Sunayamanyat : If one is the ratio, the other is Zero.
  Sutra applied in below calculation
  • Linear equation

13. Calana Kalanabhyam : Differential Calculus.
  Sutra applied in below calculation
  • Roots of a quadratic equations

14. Vyastisamastih : Specific and general.

Sutra applied in below calculation

- To find the average
- HCF
- LCM

15. Sesanyankena Caramena : The remainders by the last digit.

Sutra applied in below calculation

- Fractions & Decimals

16. Gunitasamuccayah : The product of the sum.

Sutra applied in below calculation

- It's used for verification of equations

13 SUB SUTRAS EXPLAINED WITH ITS APPLICATION

1. Anurupyena – Proportionately.

Sutra applied in below calculation

- Multiplication by base method
- Multiplication by 11, 111, 1111 and its multiples
- Factorization
- Pythagoras theorem (Proof)

2. Antyayordasake pi – last totalling 10

Sutra applied in below calculation

- If the sum of unit's digit is 10 and the ten's place digits are same.
- If the sum of ten's place digit is 10 and one's place digits are same.

13 SUB SUTRAS CONTINUED

3. Yavadunam Tavadunikritya Varganca Yojayet – Whatever may be the deficiency less on by that amount and set up the square of the deficiency.
Sutra applied in below calculation
- Squares using base method

4. Dwandwayogah – Duplex combination.
Sutra applied in below calculation
- Squares using duplex method

5. Vilokanam – By observation
Sutra applied in below calculation
- Cube roots

6. Vestanam – By osculation.
Sutra applied in below calculation
- Divisibility by 7,13,17,23,27.....so on

7. Lopanasthapanabhyam – By alternate Elimination and Retention.
Sutra applied in below calculation
- Factorization

8. Adyamadyenantyamantyena – The first by first and the last by last.
Sutra applied in below calculation
- Factorization

9. Sisyate Sesasmjnah – The remainder remains constant.
Sutra applied in below calculation
- Multiplication above base method

10. Kevalaih Saptakam Gunyat – For 7 the multiplier is 143.
Sutra applied in below calculation
- Fractions with denominator as 7

13 SUB SUTRAS CONTINUED

11. Antyayoreva – Only the last terms.
   Sutra applied in below calculation
   - Multiplication by 11, 111, 1111 and its multiples

12. Samuccayagunitha – The sum of the products.
   Sutra applied in below calculation
   - Factorization of quadratic equations

13. Gunitasmuccayah Samuccayagunitah – The product of the sum is the sum of the product.
   Sutra applied in below calculation
   - Factorization of quadratic equations

Conclusion

My objective by this Handbook is to bridge the gap between Vedic methods and conventional learning methods by combining text with interactive examples, exercises, and online tutorials. It caters to diverse learning styles, making mathematical learning engaging and accessible to learners of all ages and backgrounds.

In conclusion, the Vedic Maths Handbook represents a valuable resource in the realm of mathematical education, offering timeless wisdom in a contemporary package. Its potential to empower learners with practical skills and a deeper appreciation for mathematics underscores its significance in today's educational landscape.

As we continue to explore innovative ways to teach and learn mathematics, Vedic Mathmatics stands out as a beacon of ancient wisdom adapted for the digital age.

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