TEACHING OF VEDIC MATHEMATICS

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PREFACE

The root Vid, which means to know without bounds, is where the Sanskrit word "Veda" originates. All known Veda-sakhas are included under the term "Veda." The Veda is an infinite reservoir of wisdom that continually reveals itself as it is studied more.

From the Atharva Veda, Swami Bharati Krishna Tirtha (1884–1960), the former Jagadguru Sankaracharya of Puri, extracted a collection of 16 sutras (aphorisms) and 13 sub-sutras (corollaries). He created strategies and tactics for enhancing the ideas expressed in the aphorisms and their corollaries, which he named Vedic Mathematics.

He claims that the Veda-sakhas include a substantial amount of mathematical literature. Unfortunately, the most of it is currently lost to humanity. This is demonstrated by the fact that, in contrast to Patanjali's time, approximately 25 centuries ago, when 1131 Veda-sakhas were known to Vedic academics, just about 10 Veda-sakhas are currently known to Vedic scholars in the nation.

Nearly all areas of mathematics are covered and applied to by the Sutras. They hold true even for complex issues requiring numerous mathematical procedures. When compared to the formal approaches currently in style, applying the Sutras to a problem can save a lot of time and work. Although the solutions seem magical, the Sutras' application is entirely reasonable and sensible.

The Sutras' core ideas are somewhat followed by the calculation performed on computers. The Sutras offer math techniques as well as ways of thinking for their use.

With sharp observational and questioning skills, this book on Vedic mathematics aims to give a comprehensive method for learning the subject while avoiding the monotony of accepting theories and applying them mechanically. The learners can understand the processes thanks to the provided explanations. The Sutras' logical justification is explained in length in algebra, dispelling the myth that they are a jugglery. Application of the Sutras enhances students' computational abilities in a variety of issues, ensuring both speed and precision while strictly relying on logic and reason. With this information, teachers are better equipped to mould their students and foster their talent and originality. The Sutras must be applied to specific situations, requiring rational thought, which enhances intuition—the fundamental skill of

mathematical geniuses past and present like Aryabhatta, Bhaskaracharya, Srinivasa Ramanujan, etc.—in the process.

The Sutras and Sub-Sutras mentioned above are used in this book to explain how they might be applied to learning mathematics at the secondary school level in a way that is distinct from how it is now taught, while rigidly embodying the rules of algebra for empirical accuracy. The presentation's originality is the algebraic justification provided for each clarification of the Sutra or Sub-Sutra in question.

WHY VEDIC MATHEMATICS ?

Maths is a subject that many secondary school pupils in India find to be quite challenging. Some kids struggle with simple mathematical operations. Some pupils find it challenging to balance equations and manage symbols. In other words, their obstacle is abstract and logical reasoning.

If a teacher of mathematics with expertise compiles a large list of these learning challenges, the list is likely to be lengthy. Volumes have been written about the diagnosis of "math learning difficulties" and corrective methods. Some children find learning mathematics to be unpleasant, primarily because it requires mental effort.

Recently, several educators and academics have rekindled interest in Vedic Mathematics, a system created by Swami Bharati Krishna Tirthaji in the early 20th century as a system rooted from Vedic ideas.

From 1986 through 1989, Dr. Narinder Puri of the Roorke University created instructional materials based on Vedic mathematics. Following are some of his opinions:

- Mathematics, which is descended from the Vedas, offers one-line, mental, and extremely speedy methods in addition to rapid cross-checking systems.

- Vedic mathematics transforms a dull subject into one that is joyful and entertaining and that students learn while grinning.

- Vedic Mathematics, which is based on pattern recognition, offers a brand-new and completely different method for studying mathematics. It is easier to learn and allows students to constantly express their originality.

- In this approach, there is always one general technique that can be used in all situations and a number of unique pattern problems for each problem. Each stage's element of flexibility and choice keeps the mind active and awake to foster mental clarity and intuition, and as a result, the human brain develops in its entirety.

- Vedic Mathematics has the capacity to address the anxiety-related psychological issue in mathematics because of its unique properties.

According to J.T.Glover (London, 1995), teaching children using the methodology of Vedic mathematics has demonstrated that even young children can develop high levels of mathematical aptitude while appreciating the subject on its own terms.

 The Vedic Mathematics system is referred regarded be "one of the most delightful chapters of 20th-century mathematical history" by A.P. Nicholas (1984).

The Sutras contain methods for carrying out some simple mathematical operations, and results are obtained rapidly, according to Prof. R.C. Gupta (1994), who claims that the system has considerable instructional value.

According to Prof. J.N. Kapur, "Vedic Mathematics can be taught to (school) children as enrichment material along with other high speed methods" and "can be used to remove math-phobia."

According to Dr. Michael Weinless, the head of the mathematics department at M.I.U. in Iowa, "Vedic Mathematics is easier to learn, faster to use, and less error-prone than conventional methods." Additionally, Vedic Mathematics methodologies help students not only solve certain mathematical issues but also foster creativity, logical reasoning, and intuition.

Let's enter Vedic mathematics as taught by Sri Bharati Krishna Tirthaji (1884–1960), Sankaracharya of Govardhana Math, Puri, keeping the aforementioned considerations in mind. One can understand the significance and applicability of the many equations (Sutras) and methodologies by engaging with the procedures and approaches.

UNIQUE FEATURES OF VEDIC MATHEMATICS

Credibility

To make understanding easier, links between each of the sixteen sutras have been established. Numerous mathematical issues can be resolved by a single sutra using just one rule. Such is the Vedic Maths' purity.

Minimalist techniques

Simplification is the most distinctive strategy to reduce effort and boost efficiency in the fast-paced world of today. The uniqueness of Vedic mathematics is that our ancestors came up with a method for resolving multiplication problems that need more than five steps in a single, simple step.

Originality

Examining all ideas that call for creative thinking and realising that there are numerous ways to approach a problem are the recommended approaches to solving any problem. Vedic Maths evidently inspires the students to develop a novel answer.

Rapid and Accurate Results

Vedic Maths' main method is cognitive computation; whenever a problem is solved using a straightforward algorithm and calculations in mind, productivity increases. In comparison, there are far less steps to take. Furthermore, compared to conventional methods, the possibility of correctness is higher.

OTHER PROPERTIES OF VEDIC MATHS

Innate abilities

It is clear from the aforementioned traits that Vedic Maths yields speedier and more accurate results; generally speaking, this quality aids the learner in becoming more confident and proficient, hence enhancing his intuitive abilities.

Improve your memory and focus

Because all equations demand cognitive skills, learners may confidently memorize the principles with just a few simple steps, increasing their focus and memory retention abilities.

Linkage in Algebra

When one practises these mathematical methods, it becomes easier to apply them to any algebraic problem, from elementary arithmetic calculations based on the Vedic Maths' method of study.

Implementation theory

Vedic Maths Sutras include all aspect of arithmetic, including arithmetic operations, geometrical operations, trigonometry, analytical astronomy, calculus, differential equations, integrals, and more.

The list goes on and on, suggesting countless potential uses in numerous mathematical disciplines.

Room for Innovation and Creativity

Many academics and mathematicians are urged to employ Vedic Maths, utilize those methods more creatively, and develop novel mathematical strategies in modern mathematics.

CONCLUSION

Vedic Math may help you alter your perspective on how to approach challenging difficulties in the first place if you are currently having trouble solving arithmetic problems on a daily basis. Vedic Math has a good possibility of winning someone over if they can easily grasp the advantages of knowledge fusion.

It has the power to make people mathematical geniuses. It makes use of a number of succinct strategies and techniques to enhance mental math's skills. Additionally, it is employed in all branches of mathematics and is not just for arithmetic operations. Algebra, geometry, and other advanced concepts are made simple by Vedic mathematics. It has also been crucial to the development of technology.

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