

Department of Mathematics

Duration: 30 Hours

GE: Vedic Mathematics

Credits: 2

Course Objectives:

- Foster the love for mathematics by creating a positive attitude through Vedic and Ancient Indian Mathematics
- Help students appreciate ancient Indian Mathematics and its contribution to the world.
- Develop conceptual knowledge of mathematical concepts
- Appreciate the need of conceptual knowledge over procedural processes

Learning Outcomes:

After completion of the course, students shall be able to

- Appreciate the Mathematical advancements of Ancient India.
- Perform better in everyday calculations and exams
- Think critically and Increase Speed as well as Accuracy

Unit 1: Contribution of Indian Mathematicians: Varahmihir, Brahmagupta, Srinivasa, Ramanujan, Neelkanth Somayya, Bharti Krishna Tirtha.

High Speed Addition and Subtraction: Addition in Vedic Maths: Without carrying, Dot Method, Subtraction in Vedic Maths: *Nikhilam Navatashcaramam Dashatah*(All from 9 last from 10)

Finding remainder when any digit number is divided by 9.

Unit 2: Multiplication: Multiplication by Nikhilam Sutra, Multiplication using Technique "By one more than one before": Finding squares of numbers ending with 5, when numbers add up to ten in unit place and ten's place digits are same. The Base technique of Multiplication, Multiplying any digit number by series of 9; 99; 999; 99999, Multiplication by Urdhva-Tiryak Sutra(Vertically and Crosswise). Division by *Urdhva Tiryak Sutra* (Vinculum method)

Factoring Quadratic equation: *Anurupyena, AdyamadyenantyamantyaSutra*

References:

1. The Essential of Vedic Mathematics, Rajesh Kumar Thakur, *Rupa Publications*, NewDelhi 2019.
2. Vedic Mathematics Made Easy, Dahaval Bathia, *Jaico Publishing*, New Delhi 2011
3. Vedic Mathematics: Sixteen Simple Mathematical formulae from the Vedas, JagadguruSwami Sri Bharati Krishna Trithaji, *Motilal Banarasidas*, New Delhi 2015.
4. Learn Vedic Speed Mathematics Systematically, Chaitnaya A. Patil 2018.

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