ST ALOYSIUS COLLEGE (AUTONOMOUS)
MANGALURU, KARNATAKA - 575003
www.staloysius.edu.in

UG DEPARTMENT OF MATHEMATICS
OFFERS
AN ONLINE CERTIFICATE COURSE
IN

Magic of Sutras in Mathematics

COURSE HIGHLIGHTS

- Vedic Sutras • Addition • Subtraction •Division
- Multiplication • Squaring • Cubing •Mishrank
- Trignometry •Recurring decimals •Factorisation
- Highest Common Factor and many more ...

COURSE BENEFIT

E-Certificate on successful completion
Develop analytical thinking through Vedic Mathematics
Increases speed and accuracy
Proficiency in aptitude tests
Reduce dependency on calculators

COURSE DURATION: 30 HOURS   **COURSE FEE: ₹500**   **MODE OF STUDY: ONLINE**

Eligibility: Students of PUC and above
Course commencement: 04 October 2021

To Register log into: https://sac-elearning.com/courses/magic-of-sutras-in-mathematics

HURRY UP! ENROL NOW...

MS PRIYA MONTEIRO   **REV. DR PRAVEEN MARTIS SJ**   **DR JOHN E. DSILVA**
HOD   **PRINCIPAL**   **DIRECTOR**

COURSE COORDINATOR: MS MELVITA LEEMA BARETTO
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PROPOSAL FOR CERTIFICATE PROGRAM

ON

VEDIC MATHEMATICS

Submitted to

The Principal

&

Coordinator of Certificate ProgramsSt

Aloysius College(Autonomous)

Submitted by

Department of Mathematics (UG)

Course Instructor

Ms Melvita Leema Baretto

Course type: Certificate Program

Title: Vedic Mathematics

Course Goals:

➢ Develop analytical thinking through Vedic Mathematics.
➢ Increases speed and accuracy.
➢ Help students for competitive exams.
➢ Reduce dependency on calculators.

Course details:

➢ **Course duration:** 30 hours which comprises of video lectures, reading material and quizzes.
➢ **Course fee:** ₹1000
➢ **Target Audience:** Students currently in PUC and Above
➢ Enrolled students shall dedicate at least 2 hours towards the course per week.
➢ The course can be accessed through St Aloysius College e-learning platform: https://sac-elearning.com/dashboard/my-courses/
➢ E certificate will be provided on successful completion of the course.

Course syllabus:

1. **Introduction** (2 hours)
   • History of Vedic Mathematics
   • Myths of Vedic Mathematics
   • Vedic Sutras
   • Vedic Sub-sutras

2. **Addition and subtraction in Vedic Mathematics** (2 hours)
   • Introduction to Vedic Sutras of addition and subtraction
   • Addition and subtraction from left to right
   • Addition and subtraction using Base Method
   • Digit Separator method for subtraction

3. **Multiplications** (3 hours)
   • Vedic Sutras of multiplication and their meaning
   • Base method
   • Sub-base method
   • Multiplication of complementary numbers
   • Multiplication of numbers consisting all 9's
   • Multiplication of two numbers from right to left
   • Multiplication of 3 digit, 4 digit numbers from right to left

- Dot and stick method of Multiplication
- Multiplication of a number through 11, 111, 1111, 1111, 25, 125, etc.

4. Divisions   (3 hours)
- Introduction to Vedic Sutras of divisions and their meaning
- Base method for division
- Division by flag method
- Transpose and apply method
- Auxiliary Fractions: Divisors ending by 9,1,8,7,6 and other divisors.

5. Digit Sums   (2 hours)
- Adding digits
- Digit sum puzzles
- The digit sum check
- Multiplication check
- Digit sum check for division
- Subtraction check
- Vedic square

6. Squaring and square roots   (3 hours)
- Introducing Sutras of squaring
- Straight squaring
- Squaring: left to right
- Squaring of numbers ending in 5
- Squaring decimals and fractions
- Squaring numbers near to the base and sub base
- Number splitting method
- Sum and difference of squares
- Vedic sutra for square roots and its meaning
- Square roots of perfect squares
- Square roots of imperfect squares
- Cubing and find cube roots
- Finding the fourth power of a number

7. Algebra of polynomials   (4 hours)
- Multiplication and Division of Polynomials
- Factorization of quadratic equations
- Factorization of cubic equations
- Highest common factor
- Linear equations
- Simultaneous linear equations
- Cubic equations

8. **Mishrank or Vinculum**   **(2 hours)**
   - Conversion to Mishrank
   - Conversion from Mishrank
   - Application in addition
   - Application in subtraction
   - Application in multiplication
   - Application in division
   - Application in squares
   - Application in cubes

9. **Osculators**   **(1 hour)**
   - Positive Osculators
   - Negative Osculators

10. **Trigonometry**   **(2 hours)**
    - Triplet
    - Computing trigonometric ratios
    - Computing trigonometric ratios of twice the angle
    - Computing trigonometric ratios of half the angle
    - Sum and difference of Compound angles

11. **Applications of Vedic Mathematics**   **(2 hours)**

12. **Additional topics**   **(4 hours)**
    - Magic squares
    - Dates and calendars
    - Zeller's rule: To find day on any date
    - Differentiation
    - Integration

Scheme of Examination: Duration of Exam :45 minutes

Number of Questions: 30 (Each question carrying 1 mark)

Minimum passing grade: 50%

For more details, contact course co-ordinator:

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