

SRI SARADA COLLEGE FOR WOMEN (AUTONOMOUS)

Reaccredited with B++ Grade by NAAC

(Affiliated to Periyar University)

Salem – 636 016.

PG & RESEARCH DEPARTMENT OF MATHEMATICS



ADVANCED DIPLOMA COURSE

IN

VEDIC MATHEMATICS

Syllabi

I Year	Certificate Course	VEDIC MATHEMATICS I
II Year	Diploma Course	VEDIC MATHEMATICS II
III Year	Advanced Diploma Course	VEDIC MATHEMATICS III

**ADVANCED DIPLOMA COURSE IN
VEDIC MATHEMATICS**

CERTIFICATE COURSE : VEDIC MATHEMATICS I

Total Hours : 100

Syllabus

Objectives:

Students will be able to

1. discuss the concepts of simple arithmetic, arithmetical computations and multiplications using vedic sutras with appropriate examples.
2. develop the ability to reflect critically on the methods they have chosen to solve problems.
3. gain the knowledge of applications of Arithmetic Multiplication and Division.

UNIT I:

Hours: 20

Name of sixteen sutras, Actual applications of the vedic sutras to concrete mathematical problems. Arithmetical computations – Multiplication, Multiples and Sub - multiples.

Chap 1 (Page No. XVII and XVIII, 1 to 10) and Chap 2 (Page No. 11-24)

UNIT-II:

Hours: 20

Arithmetical computations – The first corollary, The Second corollary and the third corollary. Multiplication – Urdhva - Tiryak sutra, The vinculum method.

Chap 2 (Page No. 24-32) and Chap 3 (Page No. 33-37)

UNIT - III:

Hours:20

Miscellaneous examples, The Nikhilam method and the Yavadunam method, Practical applications in finding square measure and cubic measure.

Chap 3 (Page No. 37-41)

UNIT IV:**Hours:20**

Division -Nikhilam Method. Division - The Paravartya Method – The Remainder theorems, Arithmetical applications.

Chapter 4 (Page No. 45 - 51) and Chapter 5 (Page No. 53 - 65)

UNIT V:**Hours: 20**

Applications of Arithmetical Multiplications and Division

Books for study and reference

Tirthaji B.K. (1965) Vedic Mathematics, Motilal Banarsidass

DIPLOMA COURSE : VEDIC MATHEMATICS II

Total Hours : 100

Syllabus

Objectives:

Students will be able to

1. understand the concepts of division and factorisation.
2. discuss the concepts of highest common factor and simple equations using vedic sutras with appropriate examples.
3. develop the ability to reflect critically on the methods they have chosen to solve problems.
4. gain knowledge on the applications of Division, Factorisation and Equations.

UNIT I:

Hours: 20

Argumental division – The Urdhva Tiryak Sutra. Factorisation -Factorisation of Simple quadratics- Factorisation of Harder quadratics.

Chapter 6 (Page No. 67 - 72) , Chapter 7(Page No.73 - 76) and Chapter (Page No.77 - 79)

UNIT-II:

Hours: 20

Factorisation of Cubics - Simple arguments - Corollaries. Highest common factor, Simple equations (Second general type, Third general type and Fourth general type).

Chapter 9 (Page No. 81 - 85), Chapter 10 (Page No: 87-91) and Chapter 11(Page No: 93-96)

UNIT - III:

Hours:20

Simple equations (Sutra Sunyam, First meaning and application, Second meaning and application, Third meaning and application, Fourth meaning and application, Fifth meaning and

application for quadratics, Sixth meaning and application, Thin disguises, Medium disguises, Thicker disguises).

Chapter 12(Page No: 97-105)

UNIT IV:

Hours:20

Merger type of easy simple equations, The Paravartya method, Disguises, Extension of Merger method, Complex mergers.

Chapter 13 (Page No: 114-122) Chapter 14(Page No: 123-128)

UNIT V:

Hours: 20

Applications of Division Rule, Factorisation and equations.

Books for study and reference

Tirthaji B.K. (1965) Vedic Mathematics, Motilal Banarsidass

ADVANCED DIPLOMA COURSE : VEDIC MATHEMATICS III

Total Hours : 100

Syllabus

Objectives:

Students will be able to

1. develop the ability to reflect critically on the methods they have chosen to solve problem.
2. enable faster calculations and to improve mathematical skills.
3. discuss the concepts of simultaneous simple equations, quadratic equations, cubic equations, bi-quadratic equations and multiple simultaneous equations using vedic sutras with appropriate examples.

UNIT I:

Hours: 20

Simultaneous Simple Equations – The General formula, A Special type and a Second special type, Quadratic equations – First special type, Second special type and Third special type and Fourth special type

Chapter 15 (Page No: 129-132) miscellaneous simple equations

Chapter 16 (Page No: 133-137) first two types only

Chapter 17. (Page No: 145-154)

UNIT-II:

Hours: 20

Cubic equations, Bi-quadratic equations. Simultaneous Quadratic Equations, Partial Fractions and Integration by Partial Fractions.

Chapter-18 (Page No. 155-157), Chapter-19 (Page No. 159-161)

Chapter-21 (Page No. 169 - 173), Chapter-23 (Page No. 179-183) and

Chapter-24 (Page No. 185-187)

UNIT - III:**Hours:20**

Sum and Difference of squares, Elementary Squaring, Cubing, etc, Straight Squaring.

Chapter-31 (Page No. 281-284), Chapter-32 (Page No. 285-289) and Chapter-33 (Page No. 291-293)

UNIT IV:**Hours:20**

Vedic Mathematics versus Logics

UNIT V:**Hours: 20**

Applications of Vedic Mathematics on Various Interesting Fields with the aid of Xilinx Software

Books for study and reference

Tirthaji B.K. (1965) Vedic Mathematics, Motilal Banarsidass