

**KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
COIMBATORE – 641 029**



**CURRICULUM AND SCHEME OF EXAMINATIONS (CBCS)
(2021-2022 and onwards)**

for the programme

DIPLOMA IN VEDIC MATHEMATICS

Offered by

DEPARTMENT OF MATHEMATICS

DIPLOMA IN VEDIC MATHEMATICS

Curriculum and Scheme of Examinations under CBCS for the candidates
Admitted from 2021-2022 and onwards

Semester	Subject Code	Title of the Paper	Instructional Hrs/Cycle	Exam Marks			Duration of Exam	Credits
				CIA	ESE	Total		
I	21DVM101	Core Paper I Vedic Arithmetic	2	40	60	100	2	2
	21DVM102	Core Paper II Vedic Algebra	2	40	60	100	2	2
		Total	4	-	-	200	-	4
II	21DVM201	Core Paper III Vedic Geometry	2	40	60	100	2	2
	21DVM2Z1	Project Work	2	40	60	100	2	2
		Total	4	-	-	200	-	4
		Grand Total	8	-	-	400	-	8

CBCS – Choice Based Credit System

CIA – Continuous Internal Assessment

ESE – End of Semester Examinations

BLOOM'S TAXONOMY BASED ASSESSMENT PATTERN

K1- Remembering, K2 - Understanding, K3- Applying, K4-Analyzing

End of Semester Examinations

1. Theory Examinations

Knowledge Level	Section	Marks	Description	Total
K1-K4 Q1-Q5	A	6 x 5 = 30	Short Answers	60
K2-K4 Q6-Q9	B	10 x 3 = 30	Descriptive/Detailed	

2. Project Viva Voce

Knowledge Level	Section	Marks	Total
K3	Project Report	40	60
K4	Viva Voce	20	
OR			
Teaching Practice			60

Components of Continuous Internal Assessment (CIA)

Theory			
Components		Marks	Total
CIA I	60	(60+60 = 120/4)	40
CIA II	60		
Assignment	5	5	
Attendance	5	5	
Project Work			
Review		30	40
Regularity		10	
OR			
Teaching Practice			40

Question Paper Pattern (60 Marks)

Section A Answer ALL the Questions (5 x 6 = 30)

1. (a) or (b)
2. (a) or (b)
3. (a) or (b)
4. (a) or (b)
5. (a) or (b)

Section B Answer any THREE from the following (3 x 10 = 30)

- 6.
- 7.
- 8.
- 9.

Programme Code: VM02		Diploma in Vedic Mathematics		
Course Code: 21DVM101		Core Paper I Vedic Arithmetic		
Batch 2021-2022	Semester I	Hours/Cycle 2	Total Hours 30	Credits 2

Course Objectives

1. To get the knowledge of ancient arithmetic calculations.
2. To Understand the concepts of Nikhilam sutras
3. To Solve the square root problems using Ekadhiken sutram

Course Outcomes (CO)

K1 to K4	CO1	Remembering the basic 16 sutras and 13 sub sutras
	CO2	Applying the Nikhilam sutras for arithmetic calculations
	CO3	Analyzing certain sutras in vedic arithmetic
	CO4	Evaluating the concept of vedic arithmetic with modern mathematics

Syllabus

UNIT – I

History of Vedic Mathematics – salient features of Vedic Mathematics – formulae – 16 sutras, 13 sub sutras – terms and operations. High speed addition by using the concept of computing the whole and from left to right – super fast subtraction by Nikhilam sutras from basis 100,1000,10,000.

UNIT – II

Multiplication: Ekadhikenpurven sutram – Eknunenpurven sutram - vinculum sutram –Nikhilam Navtashchraman Dashtaha sutram

UNIT – III

Meaning of Ekadhiken sutram and its applications in finding squaring of numbers ending in 5 – squares of Anurupeyana sutram – squares by Yavdunam thavadunikritya vargamcha yojyet sutram – squaring by Dwandvayoga sutram – squaring numbers nearest 50 – square roots of perfect square – general method of square roots – cubes by Anurupeyana sutram.

UNIT – IV

Decimals and fractions – division by Nikhilam sutram – division of $1/19$, $1/29$ by ekadhikenpurven sutram - division by paravartya sutram – division by anurupeyana sutram – division of polynomials – factors of general second degree equation by lopsthapanabhayam sutram.

UNIT – V

Contribution of Indian Mathematicians in light of Arithmetic – Aryabhata – Brahmagupta – Mahaveeracharya – Bharti Krishna Tirtha.

Teaching Methods

Chalk and Talk/Seminar/Quiz/Discussion/Power Point Presentations/Assignments

RECOMMENDED BOOKS FOR STUDY

1. Vedic Mathematics, Jagadguru Sankaracarya Swami Sri Bharati Krsna Tirthaji Maharaja, Motilal Banarsidass Publishers, New Delhi.
2. Vedic Ganita: Vihangama Drishti-1, Shiksha Sanskriti Utthan Nyas, New Delhi.
3. Bharatiya Mathematicians, Sharda Sanskrit Sansthan, Varanasi.
4. Leelavati, Chokhambha Vidya Bhavan, Varanasi.

Mapping

PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO					
CO1	S	S	H	M	M
CO2	H	M	S	S	H
CO3	M	H	M	S	S
CO4	S	S	H	M	H

S-Strong; H-High; M-Medium; L-Low

Programme Code: VM02		Diploma in Vedic Mathematics		
Course Code: 21DVM102		Core Paper II Vedic Algebra		
Batch 2021-2022	Semester I	Hours/Cycle 2	Total Hours 30	Credits 2

Course Objectives

1. To get the knowledge of ancient algebraic calculations.
2. To Understand the concepts of Urdhvatiragbhyam sutram
3. To Solve the factorization problems using Urdhvatiragbhyam sutram

Course Outcomes (CO)

K1 to K4	CO1	Remembering the basic 16 sutras and 13 sub sutras
	CO2	Applying Urdhvatiragbhyam sutram for algebraic calculations
	CO3	Analyzing certain sutras in vedic algebra
	CO4	Evaluating the concept of vedic algebra with modern mathematics

Syllabus

UNIT – I

Multiplication: Quadratic expressions of single variable – Urdhvatiragbhyam sutram – combined operations

UNIT – II

Division and factorization : Linear expression of single variable - Quadratic expressions of single variable.

UNIT – III

LCM AND HCF

UNIT – IV

Solution of Linear Simultaneous Equations

UNIT – V

Contribution of Indian Mathematicians in light of Algebra – Varahmihir – Bhaskaracharya – Neelkanth Somayya – Bharti Krishna Tirtha.

Teaching Methods

Chalk and Talk/Seminar/Quiz/Discussion/Power Point Presentations/Assignments

RECOMMENDED BOOKS FOR STUDY

1. Vedic Mathematics, Jagadguru Sankaracarya Swami Sri Bharati Krsna Tirthaji Maharaja, Motilal Banarsidass Publishers, New Delhi.
2. Vedic Ganita: Vihangama Drishti-1, Shiksha Sanskriti Utthan Nyas, New Delhi.
3. Bharatiya Mathematicians, Sharda Sanskrit Sansthan, Varanasi.
4. Beejganitam, Chokhambha Vidya Bhavan, Varanasi.

Mapping

PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO					
CO1	S	S	H	M	M
CO2	H	M	S	S	H
CO3	M	H	M	S	S
CO4	S	S	H	M	H

S-Strong; H-High; M-Medium; L-Low

21DVM201

Programme Code: VM02		Diploma in Vedic Mathematics		
Course Code: 21DVM201		Core Paper III Vedic Geometry		
Batch 2021-2022	Semester II	Hours/Cycle 2	Total Hours 30	Credits 2

Course Objectives

1. To get the knowledge of Bhaudhayana Number
2. To Understand the concepts of sutras in geometry
3. To Solve the complex square root problems using sutras in geometry

Course Outcomes (CO)

K1 to K4	CO1	Remembering the basic concept of Bhaudhayana Number
	CO2	Applying the ancient sutras for solving geometric problems
	CO3	Analyzing certain sutras in vedic geometry
	CO4	Evaluating the concept of vedic geometry with modern mathematics

Syllabus

UNIT – I

Concept of Bhaudhayana Number (BN) – BN of an angle – Multiplication of a constant in a BN – BN of complementary angles – BN of sum and difference ($a +$ or $- b$) of an angle – BN of half angle.

UNIT – II

Trigonometry: Definitions of trigonometric ratios – trigonometric identities.

UNIT – III

Co-ordinate Geometry: Different forms of straight lines.

UNIT – IV

Complex Numbers: Multiplication, Division and Square root.

UNIT – V

Contribution of Indian Mathematicians in light of Geometry – Bhaskaracharya – Madhavan – Parmeshvaran - Baudhayana.

Teaching Methods

Chalk and Talk/Seminar/Quiz/Discussion/Power Point Presentations/Assignments

RECOMMENDED BOOKS FOR STUDY

1. Vedic Mathematics, Jagadguru Sankaracarya Swami Sri Bharati Krsna Tirthaji Maharaja, Motilal Banarsidass Publishers, New Delhi.
2. Vedic Ganita: Vihangama Drishti-1, Shiksha Sanskriti Utthan Nyas, New Delhi.
3. Bharatiya Mathematicians, Sharda Sanskrit Sansthan, Varanasi.
4. Beejganitam, Chokhambha Vidya Bhavan, Varanasi.

Mapping

PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO					
CO1	S	S	H	M	M
CO2	H	M	S	S	H
CO3	M	H	M	S	S
CO4	S	S	H	M	H

S-Strong; H-High; M-Medium; L-Low

21DVM2Z1

Programme Code: VM02		Diploma in Vedic Mathematics		
Course Code: 21DVM2Z1		Project Work		
Batch 2021-2022	Semester II	Hours/Cycle 2	Total Hours 30	Credits 2

1. Original Manuscript on any one of the following:

i) Contributions of Indian Mathematicians

ii) Ancient Bharatiya Mathematical Work (Leelavati, Sulba Sutra, Ganita Kaumudi etc., or any other Ancient Indian Text)

The manuscript may be a review article based upon personal observations or research article giving some new idea.

2. Candidates may deliver a lecture in any educational institute (School or College) on Vedic Mathematics and feedback from head of the institute may be submitted. Feedback must be on letter head of the institute duly signed and stamped.