KONGUNADU ARTS AND SCIENCE COLLEGE

(AUTONOMOUS)

COIMBATORE – 641 029

CURRICULUM AND SCHEME OF EXAMINATIONS (CBCS)
(2022-2023 and onwards)

for the programme

CERTIFICATE PROGRAMME ON VEDIC MATHEMATICS

Offered by

DEPARTMENT OF MATHEMATICS

CERTIFICATE PROGRAMME ON VEDIC MATHEMATICS

Curriculum and Scheme of Examinations under CBCS for the candidates
Admitted from 2022-2023 and onwards

Semester	Subject Code	Title of the Paper	Instructional Hrs/Cycle	Exam Marks			Duration of Exam	Credits
				CIA	ESE	Total		
I	22CVM101	Core Paper I Introduction to Vedic Mathematics	2	50	50	100	2	2
	22CVM102	Core Paper II Contribution of Bharatiya Mathematicians	2	50	50	100	2	2
	22CVM1Z1	Group Project	2	50	50	100	-	2
		Total	**6**	**-**	**-**	**300**	**-**	**6**

CBCS – Choice Based Credit System
CIA – Continuous Internal Assessment
ESE – End of Semester Examinations

*- Duration of Examination is scheduled for 2 Hours to enhance speedy calculation

Components of Continuous Internal Assessment (50 Marks)

1. Theory Examinations

Components		Marks	Total
Theory			
CIA I	75	(75+75) converted to 30	50
CIA II	75		
Problem based Assignment**		10	
Attendance		5	
Others*		5	

Project		
Review	45	50
Regularity	5	

* Class Participation, Case Studies Presentation, Field Work, Field Survey, Group Discussion, Term Paper, Workshop/Conference Participation. Presentation of Papers in Conferences, Quiz, Report/Content writing. Etc.

****** Two Assignments to be given. (Each 5 marks).

BLOOM'S TAXONOMY BASED ASSESSMENT PATTERN

(K1-Remembering; **K2**-Understanding; **K3**-Applying; **K4**-Analyzing; **K5**-Evaluating)

Theory Examination

i) CIA I & II and ESE: 75 Marks

Knowledge Level	Section	Marks	Description	Total
K1 – K2 Q1 to 20	A (Answer all)	20 x 1 = 20	MCQ-10/ Fill ups-5/ One word-5	75******
K2 – K5 Q21 to 28	B (5 out of 8)	5 x 5= 25	Short Answers	
K2 – K5 Q29 to 33	C (3 out of 5)	3 x 10 = 30	Descriptive / Detailed	

****For ESE 75 marks converted to 50 marks.**

ESE Project Viva Voce:

Knowledge Level	Section	Marks	Total
K3	Project Report	35	50
K4	Viva voce	15	
K5			

Programme Code: VM01	Certificate Programme on Vedic Mathematics
Course Code: 22CVM101	Introduction to Vedic Mathematics
Duration: 6 Months	Instruction Hours/Cycle : 2

Course Objectives

1. Cultivate an interest for numbers and the eliminates the math-phobia present in the students.
2. Sharpen students mind, increase mental ability and intelligence.
3. Develop left and right sides of brain by increasing visualization and concentration abilities.

Course Outcome

K1 – K5	CO1	Understand the various techniques in Vedic mathematics
	CO2	Recognize the meaning of mathematical sutras in Sanskrit.
	CO3	Develop the understanding of objectives and features of Vedic maths.
	CO4	Analyze the different methods available for effective calculation.
	CO5	Interpret reverse squaring to find square root of perfect square.

Syllabus

UNIT – I

History of Vedic Mathematics – salient features of Vedic Mathematics – formulae – 16 sutras, 13 sub sutras – terms and operations.

UNIT – II

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.

Multiplication by Urdhavtrighbhyamsutram- Multiplication by vinculum sutram.

UNIT – III

Multiplication by Nikhilamsutram – fast multiplication by 11 – multiplication of numbers consisting of all 9's – multiplication of numbers nearest to the base 10 and multiplication of sub base 50,500,5000.

Meaning of Ekadhikensutram and its applications in finding squaring of numbers ending in 5.

UNIT – IV

Squares of Anurupeyanasutram – Squares by Yavdunamtha vadunikritya vargam chayojyet sutram – Squaring by Dwandvayoga sutram – Squaring numbers nearest 50 – Square roots of perfect square – General method of square roots – Cubes by Anurupeyanasutram.

UNIT – V

Decimals and fractions – division by Nikhilamsutram – division of 1/19, 1/29 by ekadhikenpurvensutram - division by paravartyasutram – division by anurupeyanasutram – division of polynomials – factors of general second degree equation by lopsthapanabhayamsutram.

RECOMMENDED BOOKS FOR STUDY

1. Vedic Mathematics, Jagadguru Sankaracarya Swami Sri Bharati KrsnaTirthaji Maharaja, Motilal Banarsidass Publishers, New Delhi.
2. Vedic Ganita: Vihangama Drishti-1,Shiksha Sanskriti UtthanNyas, New Delhi.
3. Bharatiya Mathematicians, Sharda Sanskrit Sansthan, Varanasi.
4. Leelavati, ChokhambhaVidyaBhavan, Varanasi.

Mapping

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	H	M	M
CO2	H	M	S	S	H
CO3	M	H	M	S	S
CO4	S	S	H	M	H
CO5	S	H	M	S	H

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

Programme Code: VM01	Certificate Programme on Vedic Mathematics
Course Code: 22CVM102	Contribution of Bharatiya Mathematicians
Duration: 6 Months	Instruction Hours/Cycle : 2

Course Objectives

1. Role of Mathematics in various walks of life.
2. It helps in enhancing the reputation.
3. Better understanding of the subject.

Course Outcome

K1 – K5	CO1	Understand Indian Mathematicians made great strides in developing arithmetic.
	CO2	Remember the various techniques and ideas in ancient mathematics
	CO3	Solve general equations using sutras.
	CO4	Analyze modern mathematics with Ancient mathematics.
	CO5	Apply various sutras for complex problems.

Syllabus

UNIT – I

Contribution of Indian Mathematicians in light of Arithmetic- Aryabhatt – Brahmagupta – Mahaveeracharya – Bharti Krishna Tritha.

UNIT – II

Contribution of Indian Mathematicians in light of Algebra –Varahmihir – Bhaskaracharya – NeelkanthSomayya – Bharti Krishna Tritha.

UNIT – III

Contribution of Indian Mathematicians in light of Geometry –Bhaskaracharya – Madhavan – Parameshvaran.

UNIT – IV

Contribution of Indian Mathematicians in light of Geometry - Bharti Krishna Tritha - Baudhayana.

UNIT – V

General Equations – Tips for Competitive Exams.

RECOMMENDED BOOKS FOR STUDY

1. Bharatiya Mathematicians, Sharda Sanskrit Sansthan, Varanasi.
2. Leelavati, ChokhambhaVidyaBhavan, Varanasi.
3. Vedic Mathematics Made easy ,DhavalBathia, Jaico Publication, 8th Edition 2017, Mumbai-400 001

Mapping

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	S	M
CO2	H	S	S	M	H
CO3	H	M	S	M	S
CO4	H	S	H	M	S
CO5	S	H	M	S	H

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

22CVM1Z1

Programme Code: VM01		**Certificate Programme in Vedic Mathematics**		
Course Code:22CVM1Z1		**Group Project**		
Batch	**Semester**	**Hours/Cycle**	**Total Hours**	**Credits**
2022-2023	**II**	**2**	**30**	**2**

Course Objectives

1. To study the basic sutras related to the practical problems.
2. To know about the ancient Bharathiya Mathematicians.
3. To share our knowledge to the young buds in the modern society

Course Outcomes

K3 - K5	**CO1**	Develop the understanding of objectives and features of Vedic Mathematics
	CO2	Recognize the meaning of Mathematical sutras.
	CO3	Applying the various techniques or Sutras in real life problems.
	CO4	Analyze the result with existing result.
	CO5	Interpret the results with suitable examples.

Distribution of Marks in ESE

Project Report	:	35
Viva voce	:	15
Total		**50**

Internal

Project Review	:	45
Regularity	:	5
Total		**50**

To be awarded jointly by the internal and external examiners

Mapping

PSO / CO	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	M	S	H	H
CO2	H	M	S	M	S
CO3	S	H	S	H	M
CO4	S	H	S	H	M
CO5	M	S	H	S	H

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