Ch. Bansi Lal University Bhiwani

(A State University established under Haryana Act No. 25 of 2014)

Certificate Course

IN

Vedic Mathematics

Scheme

Paper Code	Nomenclature of Paper	Credits	Contact Hours	Examination Scheme			Max. Marks
				Internal	External	Practical/ Project	
20CVM-001	Vedic Arithmetic	3	3	20	80		100
20CVM-002	Vedic Algebra	3	3	20	80		100
20CVM-003	Vedic Geometry	3	3	20	80		100
20CVM-004	Seminar and Manuscript Writing	2	2	20		80	100
	Total						400

20CVM-001:Vedic Arithmetic

Maximum Marks-100
External Examination-80
Internal Assessment-20
Max. Time- 3 hrs.

Note: *There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Student will have to attempt one question from each unit. Each question shall carry equal marks.*

Unit-1: Multiplication

(1) Ekadhikenpurven method (multiplication of two number of two digits)
(ii) Eknuenpurven method (multiplication of two numbers of three digits)
(iii) Urdhavatiragbhyam method (multiplication of two numbers of three digits)
(iv) Nikhilam Navtashcharamam Dashtaha (mutilplcation of two numbers of three digits)
(v) Combined Operations

Unit-II: Division and Divisiblity

Division

(i) Nikhilam Navtashchramam Dasthaha (two digits divisor)
(ii) Paravartya Yojyet method (three digits divisor)

Divisibility
(I) Ekadhikenpurven method (two digits divisor)
(ii) Eknuenpurven method (three digits divisor)

Unit-III: LCM and HCF, Power and Root

LCM and HCF

Power(i) square (two digit numbers), (ii) Cube (two digit numbers).

Root: (i) square root (four digit numbers) (ii) Cube root (six digit numbers)

Unit-IV: Contribution of Indian Mathematicians (In light of Arithmetic)

(i) Aryabhatt (ii) Brahamgupt
(iii) Mahaveeracharya (iv) Bharti Krishna Tirtha

Suggested Readings:

1. Vedic Mathematics, Motilal Banarsi Das, New Delhi.
2. Vedic Ganita: Vihangam Drishti-1, Siksha Sanskriti Uthana Nyasa, New Delhi.
3. Vedic Ganita Praneta, Siksha Uthana Nyasa, New Delhi.
4. Vedic Mathematics: past, present and Future, Siksha Sanskriti Uthana Nyasa, New Delhi.
5. Leelavati, Chokhanbba Vidya Bhavan, Varanasi.
6. Bharatiya Mathematicians, Sharda Sanskrit Sansthan, Varana

20CVM-002:Vedic Algebra

Maximum Marks-100
External Examination-80
Internal Assessment-20
Max. Time- 3 hrs.

Note: *There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Student will have to attempt one question from each unit. Each question shall carry equal marks.*

Unit-I: Multiplication (Quadratic expressions of single variable)

(i) Urdhavatiragbhyam Method

(ii) Combined Operations

Unit-II: Division and Factorization

(i) Division (Divisor: Linear expression of single variable)

(ii) Factorization (Quadratic expression of single variable)

(iii) LCM and HCF

Unit-III: Solution of liner simultaneous equations

Unit-IV: Contribution of Indian Mathematicians (In light of Algebra)

(i) Varahmihir (ii) Bhaasharacharya (iii) Neelkanth Somayya (iv) Bharti Krishna Tirtha

Suggested Readings:

1. Vedic Mathematics, Motilal Banarsi Das, New Delhi

2. Vedic Ganita: Vihangama Drishti-1, Siksha Sanskriti Uthana Nyasa, New Delhi.

3. Vedic Ganita Praneta, Siksha Sanskriti Uthana Nyasa, New Delhi.

4. Vedic Mathematics: Past, Present and Future, Siksha Sanskriti Uthana Nyasa, New Delhi.

5. Beejganitam, Chokhambba Vidya Bhavan, Varanasi.

6. Bharatiya Mathematicians, Sharda Sanskriti Sansthan, Varanasi.

20CVM-003:Vedic Geometry

Maximum Marks-100
External Examination-80
Internal Assessment-20
Max. Time- 3 hrs.

Note: *There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Student will have to attempt one question from each unit. Each question shall carry equal marks.*

Unit-I: Concept of Bhaudhayana Number (BN)

(i) BN of an angle

(ii) Multiplication of a constant in a BN

(iii) BN of complementary angles

(iv) BN of sum and difference ($\alpha \pm \beta$) of an angle.

(v) BN of half angle

Unit-II: Trigonometry & Co-ordinate Geometry

(i) Definitions of trigonometric ratios (ii) Trigonometric Identities

Co-ordinate Genometry

Different forms of straight lines.

Unit-III: Complex Numbers

Multiplication, Division and Square root

Unit-IV: Contribution of Bharatiya Mathematicians (In the light of Geometry)

(i) Bhaskaracharya (ii) Madhavan (iii) Parmeshvaran (iv) Bharti Krishna Tirth (v) Baudhayana

Suggested Readings:

1. Vedic Mathematics, Motilal Banarsi Das, New Delhi.
2. Vedic Ganita: Vihangama Drishti-1, Siksha Sanskriti Uthana Nyasa, New Delhi.
3. Vedic Ganita Praneta, Siksha Sanskriti Uthana Nyasa, New Delhi.
4. Vedic Mathematics: Past, Present and Future, Siksha Sanskriti Uthana Nyasa New Delhi.
5. Beejganitam , Chokambba Vidya Bhavan, Varanasi.
6. Bharatiya Mathematicians, Sharda Sanskrti Sansthan, Varanasi.

20CVM-004: Seminar and Manuscript Writing

Total marks:100
Practical/Project Marks :80
Internal marks: 20

Seminar and Manuscript writing (30+50)

1. Manuscript (handwritten/ typed) on any one of the following subjects: 50

(i) Vedic Mathematics
(ii) Contribution of Indian Mathematicians
(iii) Ancient Bharatiya Mathematical Work (Leelavati, Sulba Surta, 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 which is to be evaluated by External Examiner(s).

2. Seminar: 30

Candidates may deliver lecture in any educational institutes (School or College) on Vedic Mathematics and feedback from Head of the institute may be submitted to the Department of Mathematics of University. Feedback must be on letter pad of the institute duly signed and stamped.