A

Proposed Syllabus

For

Certificate Course

IN

VEDIC MATHEMATICS

Session 2017-2018 onwards

DR.H.S. GOUR VISHWAVIDYALAYA

(A CENTRAL UNIVERSITY)

SAGAR (M.P.)

DOCTOR HARISINGH GOUR VISHWAVIDYALAYA, SAGAR

(Central University)

Department of Mathematics and Statistics

VDM OE 101	Vedic Arithmetic	L	T	P	C
		2	0	0	2
		Max. Marks : 100			

Mid Sem-20
Internal Assessment-20
End Sem-60

Unit-I: Multiplication

1. Ekadhikenpurven method (multiplication of two numbers of two digits)
2. Eknunenpurven method (multiplication of two numbers of three digits)
3. Urdhvatiragbhyam method (multiplication of two numbers of three digits)
4. Nikhilam Navtashchramam Dashtaha (multiplication of two numbers of three digits)
5. Combined Operations

Unit-II: Division and Divisibility

Part A: Division

1. Nikhilam Navtashchramam Dashtaha (two digits divisor)
2. Paravartya Yojyet method (three digits divisor)

Part B: Divisibility

1. Ekadhikenpurven method (two digits divisor)
2. Eknunenpurven method (two digits divisor)

Unit-III: LCM and HCF

Unit-IV: Power and Root

Power: (i) Square (two digit numbers), (ii) Cube (two digit numbers).

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

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

1. Aryabhatt
2. Brahmagupt
3. Mahaveeracharya
4. Bharti Krishna Tirtha

Recommended Books:

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. Leelavati, *Chokhambba Vidya Bhavan, Varanasi.*
6. Bharatiya Mathematicians, *Sharda Sanskrit Sansthan, Varanasi.*

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VDM OE 102	Vedic Algebra	L	T	P	C
		2	0	0	2
		Max. Marks : 100			

Mid Sem-20
Internal Assessment-20
End Sem-60

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

1. Urdhvatiragbhyam Method
2. Combined Operations

Unit-II: Division and Factorization

1. Division (Divisor: Linear expression of single variable)
2. Factorization (Quadratic expression 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)

1. Varahmihir
2. Bhaskaracharya
3. Neelkanth Somayya
4. Bharti Krishna Tirtha

Recommended Books:

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.*
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VDM OE 103	Vedic Geometry	L	T	P	C
		2	0	0	2
		Max. Marks : 100			

Mid Sem-20
Internal Assessment-20
End Sem-60

Unit-I: Concept of Bhaudhayana Number (BN)

1. BN of an angle
2. Multiplication of a constant in a BN
3. BN of complementary angles
4. BN of sum and difference ($\alpha \pm \beta$) of an angle.
5. BN of half angle

Unit-II: Trigonometry

1. Definitions of trigonometric ratios
2. 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 Bharatiya Mathematicians (In the light of Geometry)

1. Bhaskaracharya
2. Madhavan
3. Parmeshvaran
4. Bharti Krishna Tirtha
5. Baudhayana

Recommended Books:

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.*
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VDM OE 104	**Assignment & Presentation Work**	**L**	**T**	**P**	**C**
		0	**0**	**2**	**2**
		Max. Marks : 100			

Internal Assessment-(20+20)
End Sem-60

1. **Original Manuscript on any one of the following subjects:**
   (i) Vedic Mathematics
   (ii) Contribution of Indian Mathematicians
   (iii) 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 lecture in any educational institute (School or College) on Vedic Mathematics and feedback from head of the institute may be submitted to the University. Feedback must be on letter head of the institute duly signed and stamped.