

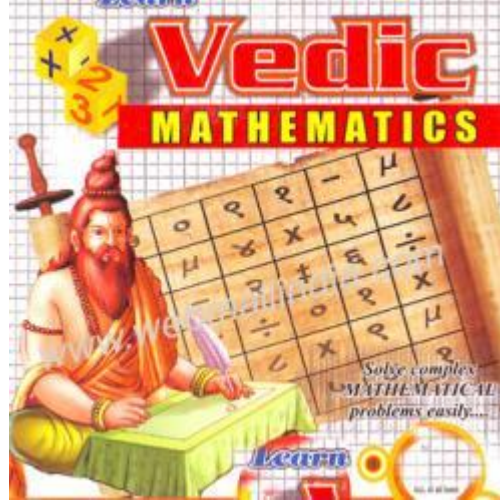


Kavikulaguru Kalidas Sanskrit University

University established by State Government of Maharashtra and UGC Recognized u/s 2f and 12B

Ramtek Office : Administrative Building, Mauda Road, Ramtek - 441106, Dist.Nagpur

Nagpur Office : 05th Floor, NIT Commercial Complex, Near Morebhavan, Sitabuldi, Nagpur 44001



Diploma in Vedic Mathematics

Course Curriculum (Syllabus)

Approved by the Academic Council Meeting

(Revised From 2017-2018)

Approved by the Academic Council Meeting No. 1/ 2017, Item No. 16, Dt. 04.01.2017

Name of the Course	Diploma Course in Vedic Mathematics
Name of the Faculty	Faculty of Ancient Indian Sciences and Humanities
Examination Type	Annual
Examination Duration	One Year
Eligibility	HSSC with mathematics as one of the subject or passed certificate course in vedic mathematics.
Medium	Sanskrit, Marathi, Hindi, English.

Year	Internal		Theory		Other		Total		Credits	Remarks
	Max	Passing	Max	Passing	Max	Passing	Max	Passing		
One Year	60	21	240	84	0	0	300	105	--	--

Curriculum Charges : (NET copy Rs.30/-)

Academic Course Structure

Name of the Course	Diploma Course in Vedic Mathematics
Name of the Faculty	Faculty of Ancient Indian Sciences and Fine Arts
Examination Type	Annual
Course Duration	One Year
Total Credits	NOT APPLICABLE
Eligibility	HSSC with mathematics as one of the subject or passed Certificate course in Vedic Mathematics.

Paper Code	Paper Title	Internal <small>(Pr/Desr /Viva/Oral/ Test/Sessional etc.)</small>		Theory		Other		Subject Total <small>(in case of joint passing)</small>		No. Credits <small>(if Credit System is applicable)</small>
		A		B		C		A+B+C		
		Max	Passing	Max	Passing	Max	Passing	Max	Passing	
	BHARTIYA ANKA GANITAM	20	7	80	28			100	35	N.A
	BHARTIYA BEEJ GANITAM	20	7	80	28			100	35	N.A
	BHARTIYA REKHA GANITAM	20	7	80	28			100	35	N.A
Final Total		60	21	240	84			300	105	

Internal Assessment - 20% for each course.

20 Marks

Sr.No.	Particulars	Marks
1	One periodical class test	10 Marks
2	Seminar's, Objective Tests, Assignments	05 Marks
3	Active participation in the class, Interaction, overall conduct.	05 Marks

Diploma course in Vedic Mathematics

Paper I -- भारतीय अंकगणितम् (Arithmetic)

Max. Marks : 80

Time : 3 Hrs.

Unit 1

20 marks

- (i) Vinculum - Operations
- (ii) Number System, number code.
- (iii) Fundamental theorem of Arithmetic
- (iv) Introduction to Combinatorics using Meru Prastar.

Unit 2

20 marks

- (i) श्रेढी विस्तार - A.P. & G.P.
- (ii) Congruence relations
- (iii) Absolute value of a number - Equations.

Unit 3

20 marks

- (i) Recurring decimals
- (ii) Change of base
- (iii) Unit fractions, Continued fractions application in inequalities.

Unit 4

20 marks

Contribution of any two of the following Indian Mathematicians in Arithmetic only

(Min. 100 words each)

- (i) रामानुजन (ii) नारायण पंडीत (iii) कापेकर (iv) Text "आर्यभटीय" of आर्यभट
- (v) Text "लीलावती" of भास्कराचार्य

Internal Assessment

20 marks

Total Marks : 100

Paper II -- भारतीय बीजगणितम्

(Algebra)

Max. Marks: 80
Time : 3 Hrs.

Unit 1

20 marks

- (i) Fundamental theorem of Algebra
- (ii) Factorization of cubic and biquadratic polynomials
- (iii) Factor theorem , Remainder theorem , GCD of polynomial.

Unit 2

20 marks

- (i) Logarithmic & Exponential series
- (ii) Madhav - Taylor series, Madhav - Mclaurn's series, expansion of a function in series.
- (iii) चकवाल method of भास्कराचार्य to solve $Dx^2 + k = y^2$
- (iv) Inverse of matrix & its application.

Unit 3

20 marks

- (i) Complex numbers , Polar form
- (ii) Equation to a line , plane , circle in complex form.
- (iii) Hyperbolic functions.
- (iv) Cube root of Unity.

Unit 4

20 marks

Contribution of any two of the following Indian Mathematicians in Algebra only

(Min. 100 words each)

- (i) Text "लीलावती" of भास्कराचार्य (ii) Text "गणितसारसंग्रह" of महाविराचार्य
- (iii) Text "बीजगणितम्" of भास्कराचार्य (iv) Text "आर्यभटीयम्" of आर्यभट (v) ब्रह्मगुप्त

Internal Assessment

20 marks

Total Marks: 100

Paper III -- भारतीय रेखागणितम्

(Geometry)

Max. Marks: 80

Time: 3 Hrs.

Unit 1

20 marks

- (i) Heights & Distances - using trigonometry.
- (ii) Solution of triangles.
- (iii) Properties of cyclic quadrilaterals , Third diagonal.
- (iv) Applications using शुल्ब सूत्र

Unit 2

20 marks

- (i) Coordinate Geometry - Standard equations to circle, parabola, ellipse, hyperbola.
- (ii) Quadrapules - Application.
- (iii) Mensuration : Area - volume of standard solids.

Unit 3

20 marks

- (i) Origin of calculus, "ज्योत्पत्ती" of भास्कराचार्य
- (ii) Standard forms of derivative
- (iii) Standard forms of integration
- (iv) Spherical Geometry (up to triangles)

Unit 4

20 marks

Contribution of any two of the following Indian Mathematicians in Geometry only

(Min. 100 words each)

- (i) Text "लीलावती" of भास्कराचार्य (ii) Text "आर्यभटीय" of आर्यभट
- (iii) Text "गणित कौमुदी" of नारायण पंडीत (iv) भानुमूर्ती (v) सरस्वती अम्मा

Internal Assessment - 20 marks

Total Marks : 100