Ganpat University
॥ विद्यया समाजोत्कर्षः ॥

Faculty of Computer Applications

Programme	B.Sc. IT Honours (Artificial Intelligence & Machine Learning)	**Branch**	Computer Applications
Semester	I	**Version**	1.0.0.0
Effective from Academic Year	2026-27	**Effective for the batch Admitted in**	June 2026
Subject code	U81C4FM	**Subject Name**	FUNDAMENTAL OF MATHEMATICS

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CCE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	4	-	-	-	4	Theory	50	50	100
Hours	4	-	-	-	4				

Objective:

This course develops critical thinking and ability to do basic mathematics faster and with ease.

Pre-requisites:

Fundamental knowledge of basic mathematics

Learning Outcome:

Name of CO	Description
CO1	Students will be able to have good knowledge of Indian mathematics history and the importance of Vedic mathematics.
CO2	Students are able to do mathematical operations very quickly with the help of Vedic mathematics.
CO3	It will help to improve student's mental math ability.
CO4	Students will have knowledge of polynomials and will be able do basic polynomial operations.
CO5	Students will be able to think logically and creatively in different maths problems.

Mapping of CO and PO:

COS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	2	0	1	0	1	2	0	0	2	0
CO2	3	2	2	2	2	2	2	0	0	0	2	0
CO3	3	2	2	2	2	0	0	2	1	1	0	0
CO4	3	2	2	0	1	1	1	0	0	0	0	0
CO5	3	2	2	1	1	1	1	1	1	1	1	1

Content:

Unit	**Content**	**Hrs.**

1	**History of Indian Mathematics:** Mathematicians of India, Introduction of Swamishree Krishnatirthaji, Mathematics in the Vedas, Introduction to Vedic Mathematics, Indian Kalganana, Sutras of Vedic mathematics, Upasutras, its meaning and usefulness	12
2	**Mathematical Operations:** Addition, Subtraction, Complementary Number, Digital Root, Negative, Creation of Multiplication Tables, Composition of Multiplication Tables from Runak, Divisibility, Infinite Decimal Fraction	12
3	**Multiplication, Square and Square Root:** Multiplication with निखिलं सूत्रम्, Multiplication with एक्यूनेन् पुर्वेन् सूत्र, Multiplication with अन्त्ययोर्दसाकेपि, Multiplication with उर्ध्व-तिर्यग्भ्याम्, Square of number with एकाधिकेन पूर्वेण, Square of number with यवदुनं, Square According to Application of यवदुनं, Square with द्रन्द्रयोग, Square of number with संकलन व्यवकलनाभ्याम्, Square Root of a whole Square Number	12
4	**Algebra:** Subtraction of sums of polynomials, Multiplication of polynomials (binomials with binomials, trinomial with trinomial), square of a polynomial, Multiplication of three single variable binomials, Division of polynomials, Factors of polynomials	12
5	**Other concepts of mathematics:** Sign language, Distance and Height, greatest common divisor and least common multiple, Solving the linear equation, Solving a pair of bivariate linear equations	12
Practical Content:		
-		
Reference Books:		
1	Vedic mathematics by Sri harati Krsna Tirthaji Maharaja His Holines Jagadguru Sankaracary, Publisher Motilal Banarsidass, Edition- 1st, 2022	
2	Vedic Mathematics Made Easy, 2nd Edition, Dhaval Bathia Publisher by Jaico Publishing House	
Web Reference:		
1	https://cubemaths.com/learn/vedic-maths-tricks	
2	https://www.vedicmaths.org/	
MOOC/Certificate Course:		
1	https://www.udemy.com/course/vedicmaths/?couponCode=ST12MT030524	
2	https://www.udemy.com/course/fundamental-math-or-mathematics-course-tricks-and-techniques	
3	https://www.coursera.org/learn/basicmathematics	
Question Paper Scheme:		
	End Semester Examination Duration: (2 Hours Theory Examination) **Note for Examiner: -** Q-1 Any Five out of Seven (25 Marks) Q-2 Any Two out of Three (06 Marks) Q-3 Mandatory question (05 Marks) Q-4 Any Two out of Three (08 Marks) Q-5 Any Two out of Three(06 Marks) *The question paper must comprehensively address all Course Outcomes (COs), align with Bloom's Taxonomy levels, and ensure complete syllabus coverage.)	