

GANPAT UNIVERSITY									
FACULTY OF AGRICULTURE, ALLIED SCIENCES & TECHNOLOGY									
Programme	B.Sc. (Hons) Agriculture				Branch/Spec.	Agriculture			
Semester	I				Version	1.0.0.0			
Effective from Academic Year	2024-25				Effective for the batch Admitted in	July 2025			
Subject code	IA05IMA	Subject Name			Introductory Mathematics (Non –Gradial Subject)				
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture (DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	1	0	0	-	1	Theory	100	00	100
Hours	1	0	0	-	1	Practical	0	0	0
Objectives of the course:									
To acquaint the students with the basic concepts of Mathematics and their application in agriculture. After successful completion of the course, students will be...									
CO-1. Study about Straight lines its equation, slope and angle.									
CO-2. Study of circle, its equation.									
CO-3. Study of Differential Calculus its definition, its principles.									
CO-4. Study of Matrix and integration and its principles.									
Theory Syllabus									
Unit	Content								Hrs
1	Algebra: Progressions- Arithmetic, Geometric and Harmonic Progressions. Matrices: Definition of Matrices, Addition, Subtraction, Multiplication, Transpose and Inverse up to 3rd order by adjoint method, Properties of determinants up to 3rd order and their evaluation.								3
2	Differential Calculus : Definition of function, limit and continuity, Simple problems on limit, Simple problems on continuity, Differentiation of x^n , e^x , $\sin x$ & $\cos x$ from first principle, Derivatives of sum, difference, product and quotient of two functions, Differentiation of functions of functions (Simple problem based on it), Logarithmic differentiation (Simple problem based on it), Differentiation by substitution method and simple problems based on it, Differentiation of Inverse Trigonometric functions.								6
3	Integral Calculus: Integration -Definite and Indefinite Integrals-Methods- Integration by substitution, Integration by parts. Area under simple well-known curves.								3
4	Mathematical Models: Agricultural systems - Mathematical models - classification of mathematical models- Fitting of Linear, quadratic and exponential models to experimental data.								3
Reference book									
1. Mathematics for the biological sciences, Arya J. C. and Larder R. W. Pearson.									
2. Integral calculus, Shanti Narayan and Mital P. K., S Chand;									
3. Text book of Matrix Algebra, Biawas S., Prentice Hall India Learning Private Limited									