GUJARAT TECHNOLOGICAL UNIVERSITY

Integrated M.Sc. (Information Technology)
Semester: I
Subject Name: Fundamentals of Mathematics
Subject Code: 1310506

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE (V)	PA (I)	
2	2	0	0	0	30	0	20	50

Content:

Sr. No.	Content	Teaching	Module Weightage
1.	Basic concept of Matrices, Order and properties of Matrices.Basic concept of Determinant, Order and Properties of Determinant	04	10
2.	Basic concepts of Limit, Continuity and Derivatives, Derivatives of Composite and Implicit functions. Trigonometric functions and its derivatives, Second ordered Derivatives	10	35
3.	Basic Concepts of Permutations and Combinations	04	20
4.	Basic concepts of Integrals and formulas	06	15
5.	Basic concepts of first ordered differential equations	05	20

Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 10th Edition, John Wiley and Sons S.Lipschutz and M. L. Lipson, Schaum's Outline of Theory and Problems of Discrete Mathematics, 2nd Ed., Tata McGraw- Hill,1999
2. Thomas' Calculus | Fortheenth Edition | By Pearson

Course Outcomes:

After learning the course, the students should be able to:

1. Understand the basic principles of Matrices and determinants
2. Basic understanding of limit, continuity and derivatives and their relation with each other
3. Basic understanding of Permutations and combinations and their use in probability
4. Be familiar with derivatives and integrations.
5. Understanding of first ordered differential equations and its solutions.