

1 Course Details	
Course Name	MATHEMATICS-I
Course Code	UCS15105
Course Credit	4
Semester	4
CS	B.SC (CS)
Faculty offering the course	S.LAKSHMI PRIYA
Department which the faculty belongs to	Mathematics
Faculty Contact	9894133476
Faculty Office	FSH

2 Course Objective

To apply basic concepts for clear understanding of mathematical principles

3 Lesson Plan

Week No.	Period No.	Portions to be Covered	Teaching Methods (BB, PPT, etc)	Text (or) Reference Books (Mention T1 or R1, etc)
		UNIT - I (Set,Relation & Function)		
1	1	Representation of sets,types of sets	BB	T1, R1
	2	Operations of sets	BB	T1, R1
	3	Law of sets,De Morgans Law	BB	T1, R1
	4	Verify the laws by venn diagram	BB	T1, R1
2	5	Statement problems in sets	BB	T1, R1
	6	Relations,Types of relations.	BB	T1, R1
	7	Symmetrics,Reflexive and transitive	BB	T1, R1
	8	Equivalence Relations,	BB	T1, R1
3	9	Equivalence Relations related problems	BB	T1, R1
	10	Funtions,types of Funtions	BB	T1, R1
	11	Coposite of two Funtions&Coposite of three Funtions.	BB	T1, R1
		UNIT - II (Mathematical connectives)		
4	12	Tautology , Introduction connectives,conjunction,disjunction	BB	T1, T2
	13	Negation,conditional&biconditional,logical Equivalence	BB	T1,T2
	14,15	Arguments,validity of Arguments	BB	T1, T2
	15,17	Normal forms ,PDNF& PCNF	BB	T1, T2

5	18,19	Construction of truth tables	BB	T1, T2
		UNIT - III (Theory of equation)	BB	T1, R1
	20	Rational roots-irrational roots-Complex roots	BB	T1, R1
6	22	Polynomial equations	BB	T1, R1
	23-24	Symmetric functions of roots	BB	T1, R1
	25	Formations of equations	BB	T1, R1
	26-27	Transformations of equations	BB	T1, R1
7	28	reciprocal equations	BB	T1, R1
	29-30	reciprocal equations	BB	T1, R1
	31-32	Approximation of roots of a Polynomial equations by Newtons method	BB	T1, R1
	33	Newtons method	BB	T1, R1
8	34-36	Horners method	BB	T1, R1
	37	Horners method	BB	T1, R1
		UNIT - IV(Matrices)	BB	T1, R1
9	38	Basics in matrices	BB	T1, R1
	39-40	symmetric-skew symmetric –hermitian – skew hermitian	BB	T1, R1
	41	orthogonal-unitary matrices	BB	T1, R1
	42	Problems on orthogonal matrices	BB	T1, R1
10	43-44	Verify Cayley Hamilton theorem	BB	T1, R1
	45-46	Using Cayley Hamilton theorem,Find the inverse of matrices	BB	T1, R1
	47-48	Problems on Cayley Hamilton theorem	BB	T1, R1
	49-50	Eigen values and eigen vectors	BB	T1, R1
11	51	Problems based on Eigen values and eigen vectors	BB	T1, R1
	52	Problems based on Eigen values and eigen vectors	BB	T1, R1
		UNIT - V(Differentiation)	BB	T1, R1
12	53	simple problems in differentiation	BB	T1, T2
	54	nth derivatives of differentiation	BB	T1, T2
	55	Radius of curvature in(Cartesian coordinates)	BB	T1, T2
	56	Maxima and minima of single variable	BB	T1, T2
13	57	Partial differentiation	BB	T1, T2
	58	Eulers theorems	BB	T1, T2
	59-60	Problems based on Eulers theorems	BB	T1, T2

4 Outcomes

- An ability to design, implement, and evaluate a computer-based system, process, component, or program.
- An ability to function effectively on teams to accomplish a common goal.

5 Text Books

1. Veerarajan,T.(2006)Discrete Mathematics Tata-Macgrawhill
2. Singaravelu,A.(2011)Allied mathematics ,Meenakshi Agency

6 Reference Books

- 1.Vittal, P.R(2013)Allied mathematics, Margham Publication
- 2.Venkatachalapathy,S.G(2007)Allied mathematics, Margham Publication