UNDERGRADUATE PROGRAMME COURSE OUTCOMES

Name of the Programme: B.Sc. Computer Science (Mathematics)

Name of the Class	Course Code	Course Title		Course Outcomes
SEMESTER I				
F.Y.B. Sc (CS)	MTC-111	Matrix Algebra	CO1	A students should be able to calculate operations on matrices.
			CO2	The student should able to solve the system of linear equation by various methods.
			CO3	A student should know the various properties of vector spaces.
			CO4	A student should be able to study different properties of determinantwith its application.
F.Y.B.Sc (CS)	MTC-112	Discrete Mathematics	CO1	Student should be familiar with mathematical logic.
			CO2	Student should know the Boolean functions, DNF and CNF.
			CO3	Using counting principals' student should be able to solve real life problems.
			CO4	Through recurrence relation student should develop problem solving skills.
F.Y.B. Sc (CS)	MTC-113	Mathematics Practical	CO1	Student should know about basic of maxima software.
			CO2	Using Maxima software student should be able to solve complex problems.
			CO3	Student gains confidence in solving the problems.
SEMESTER II				
F.Y.B. Sc (CS)	MTC-121	Linear Algebra	CO1	Student should able to study null space, column space, linearly independent set, linearly dependent set, basis, rank and nullity.
			CO2	Student should be able to find eigenvalues and eigenvectors.
			CO3	Student should able to study orthogonal projection, diagonalization of symmetric matrices and various types of quadratic forms.
			CO4	Student should know geometry of vector spaces.
F.Y.B. Sc (CS)	MTC-122	Graph Theory	CO1	A students should be able to work with graphs and identify certain parameters and properties

				of the given graphs
			CO2	Student should know connected graph with its properties.
			CO3	Student should able to apply various algorithm to find Euler and Hamiltonian path.
			CO4	Student should able to study trees with its properties and application.
F.Y.B. Sc (CS)	MTC-123	Mathematics Practical	CO1	Student should know about basic of maxima software.
			CO2	Using Maxima software student should be able to solve complex problems.
			CO3	Student gains confidence in solving the problems.
SEMESTER III				
S.Y.B.Sc (CS)	MTC-231	Groups and Coding Theory	CO1	Student should know divisibility of integers, its theorems and properties and able to find G.C.D and L.C.M using it.
			CO2	Student should know and identify groups, types of groups and able to solve problems based on it.
			CO3	Student should be able to code and de-code information using various crypto-techniques and should also be able to detect and correct errors in the message.
S.Y.B.Sc (CS)	MTC-232	Numerical Techniques	CO1	The mathematical maturity of students in their current and future courses shall develop.
			CO2	The student develops theoretical, applied and computational skills.
			CO3	The student gains confidence in proving theorems and solving problems.
			CO4	Student should able to solve algebraic and transcendal equations by using different numerical methods.
			CO5	Student should able to know different interpolation formulae and apply them to interpolate the given data.
			CO6	Student should able to differentiate and integrate by different numerical methods.
			CO7	Student should able to solve ODE by various numerical methods.
S.Y.B.Sc (CS)	MTC-233	Mathematics Practical: Python Programming Language-I	CO1	The student should know installation of python/ app and various basic commands of it.
			CO2	The student will be able to develop skill of python programming in solving mathematical problem.
SEMESTER IV				

S.Y.B.Sc (CS)	MTC-242	Operations Research	**CO1**	Student should able to formulate different life problems into LPP and solve them by using graphical method and simplex method.
			CO2	Student should able to solve and optimize transportation problems.
			CO3	Student should able to solve assignment problems.
			CO4	Student should know game problems and find value of the game using optimum strategies.
S.Y.B.Sc (CS)	MTC-243	Mathematics Practical: Python Programming Language-II	**CO1**	The student should know installation of various packages used in python.
			CO2	The student will be able to develop skill of python programming in solving mathematical problem.