

JIS College of Engineering
(NAAC 'A' Accredited Autonomous Institution)

Syllabus for M. Tech (MBMI) 1ST YEAR 1ST SEM

Paper Name: Advanced Engineering Mathematics

Paper Code: M (MBMI) 101

Contact: 3L+1T

Course contents

Matrix: Rank of a Matrix, Eigen values and Eigen vectors of a matrix, Solution of linear equations by Gauss elimination method. 12L

Fourier Transforms: Discrete Fourier Transform, Fast Fourier Transform and their applications. 8L

Fuzzy Theory: Introduction to Fuzzy set theory, Fuzzy relation and Fuzzy graph with simple applications. 5L

Graph Theory: Basic notions- Graph, Directed Graphs, walk, path, circuits, connected graphs, components, Matrix representation of graphs. operation on graphs, isomorphism of graphs, trees, some important properties of trees, binary trees, spanning trees,, cut-set, cut vertices, fundamental cut set, fundamental circuits .Vector space associated with graph, sets with one operation, sets with two operations, modular arithmetic and Galois field, vector space, subspace, Linear dependence and independence vectors, Basis vectors. 15L