Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Computer Science & Engineering
(Applicable from the academic session 2018-2019)

Subject Code : BSC 301	**Category:** Basic Science course
Subject Name :Mathematics-III	**Semester** : Third
L-T-P : 2-0-0	**Credit:2**
Pre-Requisites: No-prerequisite	

Course Content:
Module 1: Sequences and series [8L]

Convergence of sequence and series, tests for convergence, power series, Taylor's series. Series for exponential, trigonometric and logarithmic functions.

Module 2: Multivariable Calculus (Differentiation)[7L]

Limit, continuity and partial derivatives, Chain rule, Implicit function, Jacobian, Directional derivatives, Total derivative; Maxima, minima and saddle points; Gradient, curl and divergence and related problems.

Module 3: Multivariable Calculus (Integration)[8L]

Double and triple integrals (Cartesian and polar), change of order of integration in double integrals, Change of variables (Cartesian to polar). Theorems of Green, Gauss and Stokes (Statement only) and related problems.

Module 4: Ordinary Differential Equation [9L]

First Order Differential Equation, Exact, Linear and Bernoulli's equations, Equations of first order but not of first degree: equations solvable for p, equations solvable for y, equations solvable for x and Clairaut's form, general & singular solution.   [5L]

Second order linear differential equations with constant coefficients, D-operator method, method of variation of parameters, Cauchy-Euler equation.   [4L]

Module 5: Graph Theory [8L]

Basic Concept of graph, Walk, Path Circuit, Euler and Hamiltonian graph, diagraph.

Matrix Representation: Incidence & Adjacency matrix.

Tree: Basic Concept of tree, Binary tree, Spanning Tree, KrusKal and Prim's algorithm for finding the minimal spanning tree.