User profile

Sanil Jose

Send message
Add contact

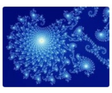
Courses | Details

Applicable Mathematics

Started on: Wednesday, 22 July 2020

The objectives of this course include preparing students of all streams, particularly those with arts and commerce back ground with the basics of mathematics required for their higher studies and preparing students of all streams, particularly those with arts and commerce back ground to approach competitive examinations. Detailed explanation and short cut method for solving problems are to be introduced to students, so that they can acquire better understanding of concepts and problem solving skill.

0%



COMPLEX ANALYSIS

Started on: Friday, 20 November 2020

CO1: Analyze analytic functions, Power series and Mobius Transformations. CO2: Determine power series for analytic functions and its zeros. The index of a closed curve, Cauchy's theorem and Cauchy's integral formula, The Homotopic version of Cauchy's theorem and simple connectivity. CO3: Interpret counting zeros, the open mapping theorem, Goursat's Theorem, classification of singularities, residues and the Argument Principle. CO4: Understand Maximum Modulus theorem, maximum principle, Schwarz's lemma, convex functions and Hadmard's Three Circles Theorem.

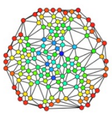
0%

Differential Equation ,Trigonometry and Matrices

Started on: Tuesday, 16 June 2020

Text Books 1) Ordinary and Partial Differential Equations with Laplace transforms, Fourier series and applications, by V Sundarapandian., McGraw Hill Publications 2) A text book of Engineering Mathematics,by N.P Bali, Manish Goyal , Lakshmi publications, Eight edition 3) Plane Trigonometry by S. L Loney Course Objectives : The objectives of the course include familiarizing the student with the techniques of solving first order ordinary differential equations, the origin of first order p.d.e.'s and their solution. The course also introduces matrix theory and its application in solving systems of linear equations and applications of the Cayley Hamilton theorem. Basic trigonometry including summation of infinite series by the C+iS method is also introduced.

0%



DISCRETE MATHEMATICS

Started on: Tuesday, 10 November 2020

Text books: 1. John Clark Derek Allen Holton - A first look at graph theory, Allied Publishers 2. David M Burton - Elementary Number Theory 6th Edition TMH 3. Vijay K. Khanna - Lattices and Boolean Algebras- First Concepts, Vikas Publishing House Pvt Ltd.Module I : Graph Theory (40Hrs) An introduction to graph. Definition of a Graph, Graphs as models, More definitions, Vertex Degrees, Sub graphs, Paths and cycles The matrix representation of graphs (definition & example only) (Section 1.1 to 1.7 of text 1) Trees and connectivity. Definitions and Simple properties, Bridges, Spanning trees, Cut vertices and connectivity. (Section 2.1, 2.2, 2.3 & 2.6 of text 1)Module 2 (20 Hrs) Euler Tours and Hamiltonian Cycles .Euler's Tours, The Chinese postman problem .Hamiltonian graphs, The travelling salesman problem, Matching and Augmenting paths, Hall's Marriage Theorem-statement only, The personnel Assignment problem, The optimal Assignment problem (Section 3.1(algorithm deleted) 3.2(algorithm deleted), 3.3, 3.4 (algorithm deleted)) Matching (Section 4.1,4.2 4.3(algorithm deleted),4.4 (algorithm deleted) of text 1 Module 3: Introduction to Cryptography (15 Hrs) From Caesar Cipher to Public key Cryptography, the Knapsack Cryptosystem(Section 10.1, 10.2 only of text 2) Module 4: Poset and Lattices (15 Hrs) Diagramatical Representation of a Poset, Isomorphisms, Duality, Product of two Posets, Lattices, Semilattices, Complete Lattices, Sublattices. (Chapter 2 of text 3)

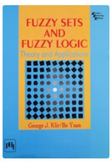
0%

Fourier Series, Laplace Transforms, Fourier Transforms, and Groups.

Started on: Tuesday, 10 November 2020

Course Objectives: The objectives of the course include teaching the students the concepts of Fourier Series, Fourier and Laplace Transforms and their applications in the physical world.The course also introduces the concept of groups which is very useful in studying symmetry of molecular structures.Text Books: 1. A text book of Engineering Mathematics, by N.P Bali, Manish Goyal,Lakshmi publications, Eighth edition 2. Algebra, Abstract and Modern, by Swamy U.M , Murthy, Pearson publications

0%

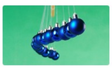


FUZZY MATHEMATICS

Started on: Monday, 1 June 2020

Course objectives: To Provide an emphasis on the differences and similarities between fuzzy sets and classical sets theories. Provide a brief introduction to fuzzy arithmetic concepts and fuzzy logic.

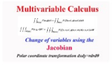
0%



Mechanics and Astrophysics - Dr. Roby Cherian (UGSEM2 Mathematics)

Started on: Friday, 1 November 2019

0%



MULTIVARIATE CALCULUS AND INTEGRAL TRANSFORMS

Started on: Tuesday, 10 November 2020

Module 1: TheWeirstrasstheorem,otherformsofFourierseries,theFourierintegraltheorem,theexponentialformofth e Fourierintegraltheorem,integraltransformsandconvolutions,theconvolutiontheoremforFouriertransfor ms. (Chapter 11 Sections 11.15 to 11.21 ofText1) (16 hours) Module 2: Multivariable Differential Calculus The directional derivative, directional derivatives and continuity, the total derivative, the total derivative expressed in terms of partial derivatives, An application of complex- valued functions, the matrix of a linear function, the Jacobian matrix, the chain rate matrix form of the chain rule. (Chapter 12 Sections.12.1to12.10ofText1) (17hours.)Module 3: Implicit functions and extremum problems, the mean value theorem for differentiable functions, a sufficient condition for differentiability, a sufficient condition for equality of mixed partial 47 derivatives, functions with non-zero Jacobian determinant, the inverse function theorem (without proof), the implicit function theorem (without proof), extrema of real- valued functions of one variable, extrema of real- valued functions of several variables. Chapter 12 Sections-. 12.11 to 12.13. of Text 1 Chapter 13 Sections-. 13.1 to 13.6 of Text 1 Module 4: Integration of Differential Forms Integration, primitive mappings, partitions of unity, change of variables, differential forms, Stokes theorem (without proof) Chapter 10 Sections. 10.1 to 10.25, 10.33 ofText2 (21 hours.)

0%

QUALITY IMPROVEMENT IN HIGHER EDUCATION

Started on: Saturday, 30 June 2018

0%