Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Algebra

Class: B.A. Mathematics 1st semester Taught by: Ms. Anju

Class: B.Sc. 1st semester Taught by: Mrs. Sonu

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Matrices	
November	Rank of a matrix, Characteristic equation of a matrix	
December	Applications of matrices to a system of linear equations, Orthogonal and unitary matrices	Rank of a matrix
January	Bilinear and quadratic forms, Relation between the roots and coefficients of an equation	Orthogonal and unitary matrices
February	Transformation of equations, Solution of cubic and biquadratic equations, Descarte's rule of signs, Revision	Relation between the roots and coefficients of an equation

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Calculus

Class: B.Sc. & B.A. Mathematics 1st semester Taught by: Ms. Renu& Shruti

Month	Topic/Chapter to be covered	Topic of Assignment/Test
October	Limits, Continuity and Derivability, Successive Differentiation	
November	Some General Theorems on differential functions and Expansion Asymptotes, Curvature	
December	Singular Points Curve Tracing	Singular Points
January	Reduction formulae, Rectification	Reduction formulae
February	Quadrature, Volumes and surfaces of solid of Revolution	Curvature, Asymptotes

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Solid Geometry

Class: B.Sc. & B.A. Mathematics 1st semester

Taught by: Ms.Arti

Taught by: Ms. Renu

Month	Topic/Chapter to be covered	Topic of Assignment/Test
October	General equation of second degree, tracing of conics, tangent at any point to the conic, chord, pole of line to the conic	
November	Sphere, cones, cylinder	tangent at any point to the conic
December	Central conicoids, envelope cylinder of a conicoid	Sphere
January	Paraboloids, generating lines, reduction of second degree equation	Central conicoids
February	Revision	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Number Theory and Trigonometry

Class: B.sc & B.A. Mathematics 2nd semester

Taught by: Mrs. Natasha

Taught by: Ms. Shruti

Month	Topic/Chapter to be covered	Topic of Assignment / Test
April	Divisibility, Congruences, Fermat's, Wilson's and Chinese Remainder Theorem, Euler's function and residue systems (mod m), Some functions of number theory	Divisibility
May	Quadratic residues and quadratic reciprocity law, De Moivre's theorem and its applications, Circular functions of a complex variable, Hyperbolic functions	Fermat's, Wilson's and Chinese Remainder Theorem
June	Logarithm of a complex quantity, Inverse circular and inverse hyperbolic functions, Summation of series	De Moivre's theorem and its applications

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Ordinary Differential Equations

ClassB. Sc. & B.A. Mathematics. 2nd semester Taught by: Mrs. Sonu

Month	Topic/Chapter to be covered	Topic of Assignment / Test
April	Exact differential equations , Equations of first order but not of first degree, orthogonal trajectories	Equations of first order but not of firs degree
May	Linear differential equations with constant coefficients, homogeneous linear equations	Homogeneous linear equations
June	Linear differential equations of second order, total differential equations	Ordinary Simultaneous Equations

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Vector Calculus

Class: B. Sc. & B.A. Mathematics. 2nd semester Taught by: Mrs.Sonu& Ms.Shruti

Month	Topic/Chapter to be covered	Topic of Assignment /Test
April	Multiple products of Vector, Differentiation of Vector, Gradient, Divergence and curl	Differentiation of vector
May	Curvilinear co-ordinates, Vector Integration	Gradient Divergence andCurl
June	Gauss's Green's and Stoke's Theorems	Vector Integration

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Advanced Calculus

Class: B.A. Mathematics 3rd semester — Taught by: Ms. Anju

Class: B.Sc. 3rd semester — Taught by: Ms. Arti

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Continuous functions, The derivative and mean value Theorems	
November	Indeterminate forms, Limit and continuity of functions of two variables, Partial differentiation	Continuous functions
December	Differentiability of functions of two variables, Maximum and minimum of a function of two variables	Partial differentiation
January	Curves in space, Circle of curvature and spherical curvature	Differentiability of functions of two variables
February	Involutes and evolutes, Concept of a surface and envelopes	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Partial Differential Equations

Class: B. Sc. & B.A. Mathematics. 3rd semester Taught by: Ms.Rano

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Formation of partial differential equations, First order linear partial differential equations, First order Nonlinear partial differential equations	
November	Linear partial differential equations of second and Higher orders, Partial differential equations with Variable Coefficien Reducible to equations with constant coefficients	First order linear partial differential equations
December	Classification and Canonical Forms of second order linear partial differential equations, Monge's Method for partial differential equations of second order	Partial differential equations with Variable coefficients Reducible equations with constant coefficients
January	Characteristics of second order partial differential equations and Cauchy's problem, Method of separation of variables: wave	Monge's Method for partial differential equations of second order.
February	Heat and Laplace Equation , Revision	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Statics

Class: B. Sc. & B.A. Mathematics 3rd semester Taught by: Mrs. Natasha

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Composition and resolution of forces	
November	Parallel forces, moments, couples	
December	Analytical conditions of equilibrium of Coplanar forces, friction, center of gravity	Friction
January	virtual work, forces in 3-D, points of central axis	Virtual work
February	wenches, null lines and planes, stable and unstable equilibrium	Wrenches

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Sequence and Series

Class: B.Sc. & B.A. Mathematics. 4th semester Taught by: Ms. Anju

Month	Topic/Chapter to be covered	Topic of Assignment / Test
April	Topology of real numbers	Properties of open Sets
May	Sequences, Infinite series, Infinite series (Continued)	Infinite series (Continued)
June	Alternating series, Arbitrary series, Infinite products	Alternating series

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Special Function and Integral Transform

Class: B. Sc. & B.A. Mathematics. 4th semester Taught by: Mrs. Sonu

Month	Topic/Chapter to be covered	Topic of Assignment /Test
April	Laplace Transforms, Inverse Laplace Transforms	Laplace Transforms
May	Use of Laplace Transforms in Integral equations,Solution of Differential equations by Laplace Transformation, Fourier Transforms Solution of differential equation by Fourier Transformation	Use of Laplace Transforms in Integral equations
June	Power series, Bessel's equation & function, Legendre's Equation, Hermite's Equation	Bessel's equation

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Programming in C & Numerical Methods

Class: B. Sc. & B.A. Mathematics. 4th semester Taught by: Ms. Sujata

Month	Topic/Chapter to be covered	Topic of Test
April	Computers, introduction to C, data types, operators and expressions	operators and expressions
May	Decision control structure s, loops, functions, C pre-processor, Arrays	Loops
June	Structures and unions, pointers, files in C, Solution of algebraic and transcendent equation, simultaneous linear algebraic equations	Pointers

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Real Analysis

Class:. B.Sc & B.A. Mathematics 5th semester Taught by: Ms.Shruti

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Riemann integral	
November	Improper integrals and their convergence, Integral as a function of a parameter	Riemann integral
December	Metric spaces, Open and closed sets in metric Spaces	Improper integrals and their convergence
January	Completeness in metric space, Continuity and uniform continuity in metric spaces	Metric spaces
February	Compactness in metric spaces, Connectedness in metric spaces	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Groups and Rings

Class: B.sc & B.A. Mathematics. 5th semester Taught by: Ms. Renu

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Groups and subgroups	
November	Cosets, Homomorphisms and automorphisms	Groups and subgroups
December	Permutation groups, Rings and fields	Homomorphisms and Automorphisms
January	Ideals and quotient rings, Homomorphisms of rings	Rings and fields
February	Euclidean Rings, Polynomial rings	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Numerical Analysis

Class: B. Sc. & B.A. Mathematics 5th semester Taught by: Mrs. Sonu

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Finite difference operators	
November	Interpolation with equal intervals, interpolation with unequal operators	
December	Central difference interpolation formulae, probability distribution	Gauss forward and backward formula
January	Numerical differentiations, eigen value problems	Jacobi method
February	Numerical integration, numerical solution of ordinary differential equations	Euler method

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Applications of Mathematics in Finance

Class: B.A. Mathematics 5th semester Taught by: Ms. Rano

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Financial Management, Nature and Scope of Financial Management	
November	Time value of Money, Present value and Future Value	Financial Management
December	Return as Internal Rate of Return, Newton Raphson Method, Difference between Risk and Uncertainty	Time Value of Money
January	Types of Risk, Calculation of Risk	Newton Raphson Method
February	Financial Derivatives	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Probability Theory

Class: B.A. Mathematics. 5th semester Taught by: Ms. Shruti

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Notion of Probability axiom of Probability	
November	Equally likely outcome Problems Cumulative distribution friction	Cumulative distribution function
December	Discrete and continuous random variable, Hean variance	Mean variance
January	Moment generating function Bernoulli, Binomial and Poisson. Bayes Theorem	Bayes Theorem
February	A list model a random graph 37 laya's urn model. Joint distribution, the Correlation	

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Real and Complex Analysis

Class: B.sc & B.A. Mathematics 6th semester Taught by: Ms. Arti & Mrs. Natasha

Month	Topic/Chapter to be covered	Topic of Assignment / Test
April	Jacobians, Beta and gamma functions , Double and triple Integral	Beta and gamma functions
May	Fourier series, Calculus of complex functions	Fourier series
June	Elementary functions and mobius transformations, Critical mappings	Calculus of complex functions

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Linear Algebra

Class: B.Sc. & B.A. Mathematics. 6th semester Taught by: Ms. Anju & Mrs. Sonu

Month	Topic/Chapter to be covered	Topic of Assignment / Test
April	Vector spaces and subspaces, Basis and dimension, Quotient space, Linear transformations	Basis and dimension
May	Rank and Nullity, Algebra of linear transformations, Matrix of a linear transformation	Rank and Nullity
June	Dual space, Eigen values and eigen vectors, Inner product spaces, Linear operators on inner product spaces	Matrix of a linear transformation

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Dynamics

Class: B. Sc. & B.A. Mathematics. 6th semester Taught by: Ms. Arti

Month	Topic/Chapter to be covered	Topic of Assignment / Test
April	Velocity and acceleration along radial, transverse, tangential and normal directions, harmonic motion	Velocity and acceleration along radial
May	Mass, momentum and force, newton law of force, Projectile motion of a particle in a plane	harmonic motion
June	vector angular Velocity, Kepler law of motion, motion of a particle in 3 Dimension	Projectile motion of a particle in a plane

Lesson Plan of Session: 2018-22

Subject: Mathematics

Paper: Elements of Business Mathematics - I

Class: B. .Com. 1st semester Taught by: Ms. Renu

Month	Topic/Chapter to be covered	Topic of Assignment / Test
October	Algebra of Matrices	
November	Determinants, Sequences and Series	Determinants
December	Differentiation	Algebra of Matrices
January	Logarithm, Compound Interest	Differentiation
February	Revision	