Lesson Plan

Name of the Assistant/ Associate Professor…………………Natasha………………….………………………

Class and Section:……………B com 1st year……………………………………… …………..........

Subject:………………………Business mathematics……………………………………………………

Session:…………………2022-24……………………………………………………………………

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	
	4	Definition of matrix , types of matrix , algebra of matrix
September	1	Property of determinant , calculation of value of determinant
	2	Adjoint of matrix , row and column operation
	3	Find inverse of matrix through adjoint and row or column operation
	4	Solutions of system having unique solution
October	1	Logarithm , law of operations
	2	Anti logarithm and it's operators
	3	Arithmetic progression
	4	Geometrical progression
November	1	Idea of simple derivative of function
	2	Rule of differentiation - simple standard form
	3	Maxima and minima of function
	4	Relations of cost , revenue and profit
December	1	Certain different types of interest rates
	2	Concept of present value and amount of sum
	3	Type of annuity and present value and amount
	4	Compound continues cost
January	1	
	2	
	3	
	4	
February	1	
	2	
	3	
	4	Factorial , Permutations and derivatives of formula
March	1	Combination and derivatives of formula
	2	Statement and proof of binomial theorem
	3	Pascal triangle , general and middle term in expansion

	4	Graphical solution of linear inequality in 2 variable
April	1	Solutions of system of linear inequality
	2	Formulation of equations , classification and tabulation of data
	3	Diagrammatic and graphics representation of data
	4	Type of diagram, bar diagram, pie chart , pictograph
May	1	Graph of time series, line graph and histogram
	2	Frequency , polygon , ogives and limitations of diagram and graph
	3	
	4	

Lesson Plan

Name of the Assistant/ Associate Professor………Ms.Kirti……………………………………………………

Class and Section: ……B.A 1st year……………………………………… ………......................……

Subject:…………Solid Geometry and Vector calculus……………………………………………………………………………

Session:…………………2022-24…………………………………………………………………………

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	Sphere : plane section of sphere
	4	Sphere through a given circle
September	1	Intersection of two sphere , radical plane
	2	Coaxal system of sphere
	3	Enveloping cone, Central Conicoid
	4	Equation of tangent plane
October	1	Director sphere , Normal to the Conicoid
	2	Polar plane of a point , Enveloping cone
	3	Enveloping cone of a conicoid
	4	General equations of second degree
November	1	Tracing of conics
	2	Tracing of conics and Reduction of second degree
	3	
	4	
December	1	
	2	
	3	
	4	
January	1	
	2	
	3	
	4	
February	1	
	2	Scalar and vector product of three vectors
	3	Product of four vectors
	4	Reciprocal vector , vector differentiation
March	1	Derivative alone curve , Directional derivative
	2	Gradient of scalar point function

	3	Geometrical interpretation of gradient
	4	Characters of gradient , Divergence
April	1	Divergence and curl
	2	Sum and product of curvilinear co-ordinate
	3	Orthogonality of gradient divergence and curve
	4	Laplace operator in term of Curvilinear
May	1	Cylindrical and spherical co-ordinate
	2	Vector integration , Gauss theorem , green and stokes theorem
	3	
	4	

Lesson Plan

Name of the Assistant/ Associate Professor………Ms. Natasha………………

Class and Section:…………………B.A.1st year………………………………………..…

Subject. :   Algebra and ordinary differential equations……………………………

Session:………………2022-24…………………………………………………………………………

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	Symmetric , skew symmetric ,Hermitian and skewHermitian
	4	Matrices, elementary operation on matrices, Rank of matrix
September	1	Inverse of matrix , linear dependence and independence
	2	Row rank and column rank of matrix
	3	Eigen value and Eigen space , characteristics of equations
	4	Application of matrix to system of linear equations
October	1	Theorem of consistency of system of linear equations
	2	Bilinear and quadratic form
	3	Relations between roots and co-efficient of general equations
	4	Solutions of polynomial equations having conditions on roots
November	1	Common roots of polynomial equations and multiple roots
	2	Transformations of equations
	3	Nature of roots of equations
	4	Descrate rules of sign
December	1	Solutions of cubic equations (Cardon's method)
	2	Bi quadratic equations and their solution
	3	
	4	
January	1	
	2	
	3	
	4	
February	1	
	2	Geometrical meaning of differential equations
	3	Exact differential equations, integrating factor
	4	1st order higher degree equations , Lagrange equations
March	1	Clairt's form , orthogonal trajectory in Cartesian and polar form
	2	Self orthogonal family of curves, linear differential equations
	3	Linear differential equations of 2nd order

	4	Reduction of normal form
April	1	Transformations of equations by changing dependence and independence
	2	Solutions by operator of non homogeneous linear differential equations
	3	Ordinary simultaneous differential equations
	4	Solutions of ordinary simultaneous differential equations by involving operators
May	1	General method of solving Pdx + Qdy+Rdz =0
	2	
	3	
	4	

Lesson Plan

Name of the Assistant/ Associate Professor......Ms Shruti & Ms Natash

Class and Section:................BA-II /BSC III...

Subject:.........................Statics (III)......& C (IV)...

Session:....................................2022-24.......................

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	Composition of Forces
	4	Resolution of Forces
September	1	Resolution of Forces continue and composition of
	2	Force test
	3	Parallel forces
	4	Parallel forces continue and resolution of forces test
October	1	Forces in three dimension
	2	Point's central axis
	3	Revision of forces in three dimension and test
	4	Null line and null planes
November	1	Null line and null planes continuous
	2	Wrenches and null plane and null lines test
	3	Wrenches continue
	4	Friction and wrench test
December	1	Friction continuous and test
	2	Friction continue and introduction of centre of
	3	gravity
	4	Centre of gravity continue
January	1	Centre of gravity test.
	2	
	3	
	4	
February	1	
	2	
	3	Programmer's model of a computer
	4	Algorithms and flow charts, Data Types.
March	1	Decisions control Structure: Decision Statements
	2	Logical and conditional statements

	3	Implementation of loops, switch statement and
	4	Case control structures
April	1	Character data type, standard string
	2	Handling functions, arithmetic operation on character
	3	Definition, using structures
	4	Bisection and regular false method
May	1	Secant and Newton-Raphson method
	2	Gauss-elimination method
	3	Gauss- Jordan and Triangularization Method
	4	

Lesson Plan

Name of the Assistant/ Associate Professor……Ms Natasha ……

Class and Section:……………BA-II /BSC III……………………………

Subject:………………Partial Diff. Equations…&…Special function

Session:…………………………2022-24……………………

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	Partial Diff. Equation, Formation, Order & Degree
	4	Linear & Non-Linear Partial Diff. Equation, Complete solution
September	1	Singular Solution, General Solution
	2	Solution of lagrange's, Linear Equation
	3	Charpit's General Method of Solution
	4	Linear partial diff. Equation of Second & Higher order
October	1	Linear partial diff. Equation of homogeneous & non-Homogeneous Eq.
	2	Complementary functions & particular Integrals
	3	Equations reducible to linear equation with
	4	Constant co-efficient
November	1	Classification of linear partial diff. Equation of Second order
	2	Hyperbolic, Parabolic and Elliptic Type
	3	Reduction of Second order linear partial Diff. Equation
	4	Solution of Linear hyperbolic equation
December	1	Monge's method of partial differential equation
	2	Cauchy problem for second order partial diff. Equation
	3	Characteristics Equation & curves of 2nd order partial
	4	Differential Equation
January	1	Solution of Laplace's equation & wave Equation
	2	Solution of Heat Equation in Cartesian coordinate
	3	Revision and Test
	4	
February	1	
	2	
	3	Power series method, Definition of Beta and
	4	Gamma function
March	1	Bessel's Equation & its solution
	2	Recurrence relation's & Generating Function

	3	Legendre & Hermite diff. Equation & Solution
	4	Recurrence Relation & Generating function
April	1	Orthogonality of Legendre polynomial
	2	Laplace Transform, Linearity, Shifting Theorem
	3	Laplace Transform & Derivatives
	4	Convolution theorem & Inverse Laplace
May	1	Fourier Theorem, Shifting Modulation
	2	Convolution Theorem, Relation btw Fourier & Laplace
	3	
	4	

Lesson Plan

Name of the Assistant/ Associate Professor……Ms Sonu…………………………….……

Class and Section:……………BA-II /BSC II………………………………..…………..

Subject:…………………Ad. Algebra & Seq. Series……………………………………

Session:……………………………2022-24……………………………………

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	Continuity, Sequential Continuity, Properties of Continuity
	4	Uniform continuity, Chain Rule, Mean Value Th^m
September	1	Rolles's Th^m, Lagrange's Mean value Th^m, Taylor's Th^m
	2	Darboux's Intermediate Th^m
	3	Indeterminate form
	4	Limit and continuity of two valued function, Partial difference.
October	1	Total differentiation, Composite function, Implicit functions
	2	Homogeneous functions and Euler's Th^m
	3	Euler's Theorem and Taylor's theorem
	4	Differentiation of Function's of two variables
November	1	Schwarz and Young's Theorem, Implicit function
	2	Theorem, Maxima and Minima of two variable
	3	Functions Lagrange's method of two variable
	4	Curves, Tangents, Principal Normal's
December	1	Binomials, Scrnet fernet formula
	2	Locus of Centre of curvature
	3	Spherical curvature
	4	Revision
January	1	Revision
	2	Exam Days
	3	Exam Days
	4	Exam Days
February	1	Exam Days
	2	Exam Days
	3	Sequence and its convergence
	4	Sequence and its convergence
March	1	Series and its convergence

	2	Comparison tests and their application
	3	Ratio test, Raabe's Test, Logarithmic Test
	4	De-Morgan test, Cauchy Root test
April	1	P-test and G.P. Sener test and Alternate Series Test
	2	Leibnitz's test, Absolute & Conditional Cgt.
	3	Dirichlet's test and Revision
	4	Exam Days
May	1	Exam Days
	2	Exam Days
	3	Exam Days
	4	Exam Days

Lesson Plan

Name of the Assistant/ Associate Professor……Sonu……………………….……………………………….

Class and Section:………………B..Sc3rd year…………………………………… ………......................

Subject: Real analysis and Linear Algebra………………………………………………………………………………..

Session: 2022-24..

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	
	4	Riemann Integral
September	1	Riemann Integral
	2	Integrability of continuous and monotonic functions
	3	The fundamental theorem of Integral Calculas
	4	M.V.T of integral calculas
October	1	Improper integral and their cgs
	2	Comparison test
	3	Abel's Test and Dirchlet's Test
	4	Metric space
November	1	Metric space(open sets)
	2	Metric space(open sets)
	3	Metric space (closed sets)
	4	Continuous function and uniform continuity
December	1	Compactness of metric space
	2	Sequental compactness,BWP totally Bdd
	3	F.I.P continuity with compactness
	4	revision and sessionals
January	1	revision and sessionals
	2	revision
	3	exam days
	4	exam days
February	1	exam days
	2	Vector space and its sub spaces
	3	L.I sets and L.D sets, Linear span and theorem
	4	Basis and its dimensions
March	1	Homomorphism of vector spaces
	2	Linear transformation, Null space, Range space
	3	Rank nullity of LI and rank nullity thm

	4	Algebra of LI ,minimal polynomial of LT
April	1	Singular and non singular LT and basis
	2	Inner product space
	3	orthogonal and orthonormal vectors
	4	Gram-Schmt orthogonalization
May	1	revision
	2	revision
	3	
	4	

Lesson Plan

Name of the Assistant/ Associate Professor……Shruti and Anju……………………………….

Class and Section:…………………BA final ………………………………………… ……………........................

Subject:…Numerical analysis   Real and complex……………………………………………..

Session:..2022-24...

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	Finite difference operators and their relations
	4	Finding the missing terms,interpolation with interval
September	1	Newton forward and backwards
	2	interpolation with unequal intervals newton
	3	Lagrange interpolation formula
	4	gauss forward interpolation and backward
October	1	sterling bessel formula
	2	unit test
	3	probability distribution of random variable
	4	binomial distribution poison distribution
November	1	normal distribution mean variance and fitting
	2	numerical differentiation with revision
	3	eigen value problem power method
	4	Jacobi method given method house hold method
December	1	numerical integration:newton cotes quadrature
	2	trapezoidal rule Simpson one third rule
	3	3-8th chebychov formula gauss quadrature
	4	test of unit 4
January	1	take test and revision of pyq
	2	revision
	3	exam days
	4	exam days
February	1	exam days
	2	exam days
	3	jacobins and examples
	4	beta function and test on jacobian
March	1	gamma function and its examples
	2	Fourier series:Fourier expansion of piece wise monotonic function
	3	properties of Fourier coefficients dirichlets condition

	4	parseul identity Fourier series for even and odd function
April	1	extended complex plane stereographic projection of complex number
	2	continuity and differentiation of complex numbers
	3	analytic function CR equation harmonic function
	4	revision of CR equation harmonic function
May	1	mapping by elementary function translation rotation
	2	inversion conformal mapping
	3	mobius transformation fixed point cross ratio inverse pt
	4	revision

Lesson Plan

Name of the Assistant/ Associate Professor………Kirti……………………………………………….

Class and Section:……………………….BA 3rd year……………………………… …………......................

Subject: Group and Ring theory   And.
Dynamics…………………………………………………………………………..
Session:.....................................2022-24...

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	Defination of group with examples and properties of group
	2	Subgroup and subgroup criteria
	3	Generation of group cyclic group
	4	Cosets left and right cosets
September	1	Index of subgroup coset decomposition
	2	Lagrange theorem and its consequences
	3	Normal subgroup quotient group
	4	Homomorphism isomorphism auto morphism and inner automorphism
October	1	Automorphism of cyclic group
	2	centre of a group
	3	Derived group of group and sessional test
	4	Introduction of rings Subrings char. Of ring
November	1	Integral domain and field,Ring Homomorphism
	2	Ideals(Principlal Prime and maximal)
	3	Quotient ring,Field of ID
	4	Euclidean rings Polynomials rings
December	1	Polynomials over the rational field
	2	revision
	3	revision
	4	tests
January	1	exam days
	2	exam days
	3	exam days
	4	exam days
February	1	exam days
	2	Vector and acceleration along radial and transverse
	3	tangential and normal directions
	4	revise of above topic
March	1	relative velocity
	2	relative velocity and acceleration

	3	newtons law of motion
	4	work power and energy
April	1	revision of unit 2
	2	projectile motion of particle
	3	projectile motion of particle
	4	vector angular velocity
May	1	central orbits
	2	keplers law of motion motion of particle
	3	acceleration in terms of diff coordinate system
	4	

Lesson Plan

Name of the Assistant/ Associate Professor………Ms.Anju and Shruti……………………

Class and Section:…………B.sc………1st

Subject:……………………Calculus and Number Theory……………

Session:…………………………2022-24…………………………………………………………………………………………

Month	Week	Topics
July	1	
	2	
	3	
	4	
August	1	
	2	
	3	
	4	Sucessive Differentiation
September	1	Continue - Sucessive Differentiation
	2	Limit and continuity
	3	Continue - Limit and continuity
	4	Indeterminate form
October	1	Asymptotes
	2	Continue - Asymptotes
	3	Reduction formula
	4	Reduction formula and curve tracing
November	1	Curve tracing
	2	Curve tracing and Rectification
	3	Continue - Rectification
	4	Quadrature
December	1	Continue - Quadrature
	2	Volume and surface of solids
	3	Continue - Volume and surfaces of solids
	4	
January	1	
	2	
	3	
	4	
February	1	
	2	Divisibility
	3	Greatest common divisor and least common multiple
	4	Primes fundamental theorem of Arithmetic
March	1	Linear congruences and divisibility test
	2	De - Morvie theroem and it's expansion
	3	Expansion of trigonometric functions

	4	Circular function of complex variable
April	1	Logarithm of complex quantity
	2	Inverse circular and hyperbolic function
	3	Complete residue system and reduced residue
	4	Eulers function , Eulers generalization
May	1	Fermats theorem
	2	Greatest integer function
	3	Mobius function
	4	