
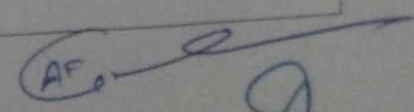
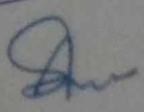


**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

Class...B.A/B.Sc. - 6<sup>th</sup> sem.....

Paper...Real & Complex Analysis.....

S. No.	Month	Topic Covered
1.	April <del>Mar</del>	Jacobian, Beta and Gamma function Double & Triple integral
2.	May	Fourier Series, Even and odd fun. Half Range Series Dirichlet's Condition Parseval's Identity Extended Complex plane Stereography, C.R.E., Harmonic function
3.	June	Analytic function Mapping by elementary function, Mobius Transform fixed pt., Cross-ratio of four pts. Conformal mapping.

**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

Class. B.Sc./B.A. 6<sup>th</sup> Sem

Paper... Linear Algebra

S. No.	Month	Topic Covered
1	April	Vector Space, Subspace, Sum of Direct sum of subspace, Linear span Linearly Independent & dependent Subset of vector space. Finitely generated vector space, Existence thm for Basis of a finitely generated vector space Finite dim. vector space, Quotient space
2.	May	Homom. & Isomorphism of vector space Linear transformation, vector space of all the linear transformation, Dual space, Nullspace, Range space of L.T. Rank and Nullity thm. Algebra of L.T. minimal Poly. of L.T. Singular and non-singular L.T, Matrix of L.T. Change of Basis Eigenvalue & function
3.	June	Inner product Space, Cauchy-Schwarz inequality, Orthogonal vector, Orthogonal Complement, Orthogonal set and Basis Bessel's inequality for finite dim. vector space, Gram-Schmidt orthogonalization process, Adjoint of L.T and its properties Unitary L.T.



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**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

**Class..B.A./B.Sc.(6<sup>th</sup>sem)**

**Paper..Dynamics**

S. No.	Month	Topic Covered
1.	April	Simple Harmonic Motion, Elastic Strings, Newton's laws of motion
2.	May	Projectile motion of a particle in a Plane. Central orbits Relative velocity & acceleration.
3.	June	Kepler's laws of motion, Work, Power & Energy



**Lesson Plan for B.Sc./B.A./B.C.A.**  
**session 2021-22 (Even Semester)**

Class...B.C.A. 2nd Year

Paper...Computer Oriented Statistical Methods

S. No.	Month	Topic Covered
1.	April	Measure of Central Tendency: Arithmetic mean, Geometric mean Harmonic mean, Median, Mode Measure of Dispersion: Range, Quartile Deviation Mean Deviation, Standard Deviation. Moments.
2.	May	Probability Distribution Binomial, Poisson, Normal Distribution Correlation and Regression Karl Pearson's Coefficient of Correlation Curve Fitting
3.	June	Baye's Theorem in Decision Making and Forecasting Techniques Sampling, Statistical Inference: Test of Hypothesis, Types of Hypothesis. Procedure of Hypothesis Testing

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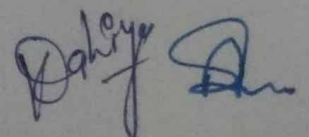
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**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

Class...B.Sc./BA.-4<sup>th</sup>.....

Paper.....Seq. & Series.....

S. No.	Month	Topic Covered
1.	April	Boundness of set of Real no., LUB, g.l.b., Interior pt., Exterior pt., Limit pt., B.W.Th <sup>m</sup> , Heine Borel Th <sup>m</sup> , Interior pt. Sequence, Real Convergence of seq., Cauchy's Seq.
2.	May	Cauchy's general principle of Convergence subseq., Infinite Series: Convergent & divergent, Cauchy's general principle of convergence Convergence & divergence of Geometric Series, P-Series
3.	June	Infinite Series, D-Alemb, ratio Test, Raabe's Test, Logarithmic Test, Bertrand's Test, Cauchy's Integral test, Alternating Series, Leibnitz's Test, absolute & Conditional convergence Arbitrary Series - Abel lemma, Abel's Test Dirichlet Th <sup>m</sup>

**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

Class...B.Sc./BA-4<sup>th</sup>.....

Paper...Special function.....

S. No.	Month	Topic Covered
1.	April	Series Solution of diff Eq., Power Series. Bessel Equations Bessel fun: Recurrence Relation for Bessel's fun., Orthogonality of Bessel function.
2.	May	Laplace Transf, Laplace Transformation of derivative, Integral, Diff. & integral of Laplace Transf. Convolution Thm. Inverse Laplace Transf Fourier Transf, Linear Prop. Relation b/w Laplace & Fourier.
3	June	Parseval Identity for Fourier Transf., Solution of diff Eq. using Fourier Transf Legendre's & Hermite Diff. Eq., Recurrence Relation Rodrigue formula, Hermite Poly., Laplace integral Representation of Legendre Polynomial.



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**Lesson Plan for B.Sc./B.A.  
session 2021-22 (Even Semester)**

Class B.A./B.Sc. (4<sup>th</sup> sem)

Paper Programming in C  
& Numerical Methods

S. No.	Month	Topic Covered
1.	April	Bisection method, Regula-Falsi Method, Secant method, Newton- Raphson's method. order of convergence of above methods Gauss-elimination, Gauss-Jordan method.
2.	May	LU Decomposition & Cramer's method, cholesky decomposition & Gauss-Seidel's method Programming model of a computer, Algorithms, Flowcharts, Data Types
3.	June	Decision statements, logical & conditional statements, switch statement & case control structures. Functions & Arrays.

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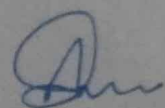
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Lesson Plan for B.Sc./B.A. / BBA  
session 2021-22 (Even Semester)

Class.....BBA-II SEM.....

Paper.....Business Mathematics.....

S. No.	Month	Topic Covered
1.	April	1. Cartesian System of Rectangles. Co-ordinates. 2. straight line 3. Arithmetic, Geometric and Harmonic progressions.
2.	May	4. Integration. 5. Application of integration in Business and Commerce.
3.	June	6. Logarithms. 7. Compound interest → Revision.





**Lesson Plan for B.Sc./B.A.  
session 2021-22 (Even Semester)**

Class B.A./B.Sc. (2nd sem)

Paper Vector Calculus

S. No.	Month	Topic Covered
1.	April	Scalar & Vector product of three vectors, Product of four vectors, Reciprocal vectors, scalar & vector valued point functions, Gradient of a scalar point function
2.	May	Divergence & curl of vector point function, Laplacian operator orthogonal curvilinear co-ordinates, Gradient, divergence, curl & Laplacian operator in terms of cylindrical & spherical coordinates
3.	June	Vector integration, line integral, surface integral, volume integral Theorem of Gauss, Green, Stokes & problems based on these, directional derivatives.

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**Lesson Plan for B.Sc./B.A.  
session 2021-22 (Even Semester)**

Class B.A./B.Sc. (2nd sem)

Paper Number Theory & Trigonometry

S. No.	Month	Topic Covered
1.	April	De-Moivre's theorem & its applications, Expansion of trigonometrical functions, Direct circular & hyperbolic functions & their properties
2.	May	Inverse circular & hyperbolic functions, Logarithm of a complex quantity & Gregory's series, Divisibility, Fundamental Theorem of Arithmetic, Linear Congruences
3.	June	Complete Residue system & Reduced Residue system modulo $m$ , Euler $\phi$ function, Chinese Remainder Theorem, Greatest integer function, Fermat's Theorem, Linear Diophantine eq. in two variables.

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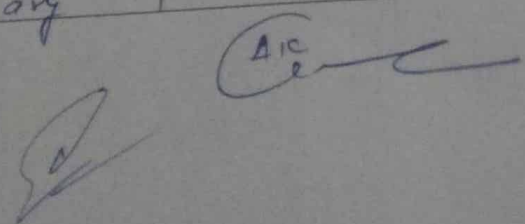
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**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

Class...B.A/B.Sc - 2<sup>nd</sup>.....

Paper...O: A: E:.....

S. No.	Month	Topic Covered
1.	April	Exact differential Equat I. F., first order higher degree eqs. solvable for $x$ & $y$ . Lagrange's Eq, Clairaut's Eq, Orthogonal Trajectories in Cartesian & Polar coordinates.
2.	May	Linear Diff Eq. with Constant coefficients, Homogeneous linear diff Eq. Equation reducible to Homogeneous, L.D. Eq. of 2 <sup>nd</sup> order, Reduction to normal form Transf of eq. by changing dep variable.
3.	June	By changing independent variable. Method of variation of Parameters, Method of undetermined coefficients Ordinary Simultaneous Diff Eq, Simultaneous Eq, in the form of $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$ Total diff Eq, condition of exactness, method of auxiliary Eq.

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**Lesson Plan for B.Sc./B.A.**  
**session 2021-22 (Even Semester)**

Class..B.C.A. 2<sup>nd</sup> Sem

Paper..Mathematics Foundations

S. No.	Month	Topic Covered
1	April	Binary Operations on a non-empty Group, Subgroup, Normal subgroup, Normal Subgroup, Coset, Factor Group, Ring, Sub rings, Ideal, Prime ideal, Minimal Ideal
2.	May	Addition & multiplication of matrices, law of matrix algebra, Singular and non-singular matrices. Inverse of a matrix, Rank of a matrix, Rank of the Product of two matrices, System of linear equation
3	June	Characteristic equation of a square matrix, Cayley-Hamilton's theorem, Eigen value and eigen vector, Eigen value and Eigen vector of symmetric, skew-symmetric, Hermitian & skew-Hermitian matrix. Diagonalization of a square matrix

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Lesson Plan for B.Sc./B.A.  
session 2021-22 (Even Semester)

Class B.com (2nd sem)

Paper Business Mathematics

S. No.	Month	Topic Covered
1.	April	Graphical solution of linear inequalities in two variables, solution of system of linear inequalities in two variables, linear programming
2.	May	Data - introduction, Classification & Tabulation, Diagrammatic Representation of Data, Types of diagrams, graphs of frequency distribution, limitations of diagrams & graphs.
3.	June	Data Interpretation, Permutations & combinations, Binomial Theorem.