

GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2024- 2025

Name of Assistant/Associate Professor: Dr MONIKA

Class & Sem.: B.Sc II, III sem Subject: Sequence & Series

Months	Topics/Chapters to be Covered
Jan 2025	Boundedness of the set of real numbers, least upper bound, greatest lower bound of a set neighbourhoods, interior points isolated points, limit points, open sets, Closed set, interior of a set, Closure of a set in real numbers and their properties, Bolzano-weierstrass th ^m , open covers, Compact sets & Heine-Borel th ^m .
Feb 2025	seq ⁿ : Real seq ⁿ & their convergence, th ^m on limits of seq ⁿ , Bounded and monotonic seq ⁿ , Cauchy's seq ⁿ , Cauchy general principle of convergence, subsequence, subsequential limits. infinite series: Convergence & divergence of infinite series, Comparison test of positive terms infinite series
March 2025	D'Alembert's Ratio Test, Raabe's test, logarithmic Test, de Morgan and Bertrand's test, Cauchy's nth root test, Gauss Test, Cauchy's integral test. Cauchy's condensation test. absolute & conditional convergence
April 2025	Alternating Series: Leibnitz's test, Abel's lemma, Abel's test, Dirichlet's test Insertion and removal of parenthesis re-arrangement of terms in a series, Dirichlet's th ^m , Riemann's Re-arrangement th ^m . Multiplication of series, Cauchy product of series.

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Signature of Asst/Asso. Professor

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Summary of Lesson Plans of College Faculty for Academic Session 2024- 2025

Name of Assistant/Associate Professor: Dr MONIKA

Class & Sem.: B.Sc II, IV sem Subject: Special Funⁿ & Integral Transforms

Months	Topics/Chapters to be Covered
Jan 2025	Series sol ⁿ of diff eq ⁿ : Power series Method Def ⁿ of Beta & Gamma fun ⁿ , Bessel eq ⁿ & its sol ⁿ . Bessel fun ⁿ and their properties - Convergence, Recurrence relations and generating fun ⁿ , orthogonality of Bessel fun ⁿ . Legendre and Hermite diff eq ⁿ & their solutions Legendre & Hermite's fun ⁿ .
Feb 2025	Orthogonality of Legendre and Hermite's polynomials Rodrigue's formula for Legendre & Hermite polynomials, Laplace Integral Representation of Legendre polynomial. Laplace Transforms: Existence th ⁿ for Laplace transform, Linearity of the Laplace transform, shifting th ⁿ , Laplace th ⁿ , Differentiation & integration of Laplace transforms, Convolution th ⁿ , Inverse Laplace transforms, Convolution th ⁿ , Inverse Laplace transforms, of derivatives & Integrals, sol ⁿ of ordinary diff eq ⁿ using Laplace transforms.
March 2025	
April 2025	Fourier transforms: Linearity property, Shifting, Modulation, Convolution th ⁿ , Fourier transform of derivatives, Relations between Fourier transform & Laplace transform, Parseval's Identity for Fourier transforms, sol ⁿ of diff eq ⁿ using Fourier transforms.

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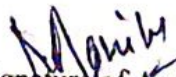
GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2024- 2025

Name of Assistant/Associate Professor: Dr MONIKA

Class & Sem.: B.Sc II, 1st Sem Subject: Prog. in C & Numerical Methods.

Months	Topics/Chapters to be Covered
Jan 2025	Programmer's Model of a Computer. Algorithms, Flow Charts. Data types, operators and expressions. input/output fun ⁿ . Decision statements, logical & conditional statements, Implementation of loops, switch statement / case control structures. Fun ⁿ Processors and Arrays.
Feb 2025	Character data type, standard string handling fun ⁿ , Arithmetic operations on Characters structures: Definition using structures, use of structures in arrays and arrays in structures. pointers data type, pointers and arrays, pointers and fun ⁿ . Sol ⁿ of algebraic and Transcendental eq ⁿ . Bisection Method, Regula-Falsi ^o Method, Secant Method, Newton Raphson's Method. Newton's iterative Method for finding bth root of a number, order of Convergence of above Method.
March 2025	
April 2025	Simultaneous linear algebraic eq ⁿ . Gauss - elimination Method, Gauss - Jordan Method, Triangularization Method. Crout's Method Cholesky decomposition Method. Iterative Method, Jacobi's Method - Gauss-Seidel's Method, Relaxation Method.


Signature of Asst/Asso. Professor