

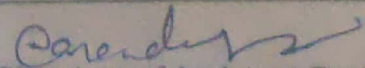
GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2025-26

Name of Assistant Professor: Dr NARENDER SINGH

Class & Sem.: 05 Subject: Numerical Analysis

Months	Topics/Chapters to be covered
August 2025	Finite difference operators and their relation. Finding the missing terms and effect of error in different tabular values, Interpolation with equal intervals. Newton's forward and Newton's backward interpolation formulae, Interpolation with Unequal intervals.
September 2025	Central Difference: Gauss forward and Gauss's backward interpolation formulae, Stirling's formula, Numerical Differentiation: Derivative of a function using interpolation formulae.
October 2025	Numerical Integration: Newton-Cotes's Quadrature formulae. Trapezoidal rule, Simpson's one- $\frac{1}{3}$ rd and $\frac{2}{3}$ rd rule, Chebyshev formula, Gauss quadrature formulae.
November 2025	Numerical solution of ordinary differential equations: Single step methods - Picard's method, Taylor's series method, Euler's method, Runge-Kutta methods. Multiple step method; Predictor-Corrector method, Modified Euler's method, Milne-Simpson's method.


Signature of Assistant Professor

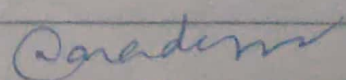
GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2025-26

Name of Assistant Professor: Dr NARENDER SINGH

Class & Sem.: Ist Subject: M.D.C MATHEMATICS

Months	Topics/Chapters to be covered
August 2025	Numbers, H.C.F. and L.C.M. of numbers, Decimal and fractions, Simplifications square root and cube roots. surds indices.
September 2025	Problems on Numbers, Average percentage. Profit and Loss Ratio and Proportions
October 2025	Problem on numbers (Revision) Average, percentage (revision) Profit and Loss (Revision) Ratio and proportions (Revision) Problem on ages, Partnership, Time and work Time and distance.
November 2025	Problems on trains, mixture problems, problems based on Calendar and clocks.


Signature of Assistant Professor

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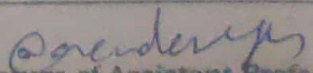
Summary of Lesson Plans of College Faculty for Academic Session 2025-26

Name of Assistant Professor: Dr NARENDRA SINGH

Class & Sem.: 03

Subject: _____

Months	Topics/Chapters to be covered
August 2025	Geometrical meaning of a differential equation. Exact differential equations. Integrating factors. First order higher degree equations solvable for X.Y.P. Lagrange's equations. Singular Solutions.
September 2025	Orthogonal trajectories: Cartesian coordinates and polar coordinates. Self-orthogonal family of curves. Linear ordinary differential equations with constant coefficients. Homogeneous linear ordinary differential equations. Equations reducible to homogeneous.
October 2025	Linear differential equation of second-order. Reduction to normal form. Transformation of the equation by changing the dependent variable / the independent variable. Solution by operator of non-homogeneous linear differential equations. Reduction of order of a differential equation.
November 2025	Ordinary simultaneous differential equations. Solution of simultaneous differential equations involving operator $x(d/dx)$ or $t(d/dt)$ etc. simultaneous equation of the form $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$

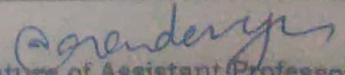

Signature of Assistant Professor

GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2025-26

Name of Assistant Professor: DR. NARENDER SINGH
Class & Sem.: 03 Subject: SEC MATHS (Operations Research Techniques)

Months	Topics/Chapters to be covered
August 2025	Definition, scope, methodology, and Application of OR. Types of OR Models. Concept of optimization, Linear Programming: Introduction Formulation of a Linear programming problem (LPP), Requirements for an LPP, Advantages and Limitations of L.P. Graphical Solution: multiple, unbounded and infeasible solutions.
September 2025	Principle of Simplex method; standard form, basic solution, basic feasible solution. Computational Aspect of Simplex method. Case of unbounded feasible solution, no feasible solution, Multiple solution and unbounded solution and degeneracy. Two Phase and Big-M methods.
October 2025	Duality in LPP, primal - dual relationship. Transportation method and problems. Modified distribution method for finding the optimum solution, Unbalanced and degenerate transportation problems, transshipment problem, maximization in Transportation Problem.
November 2025	Assignment problem: Solution by Hungarian method, Unbalanced assignment problems, maximization in an assignment problem. (new) assignment and Travelling salesman Problem. Game theory: Two person zero sum game with saddle point.


Signature of Assistant Professor