Department of Mathematics

Session-2022-23

Lesson plan (Semester 3)

Prof. Dalvinder Singh,Prof. Kirti Bhagirath & Prof. Jagjit Singh

Weeks	Paper 1: Linear Programming	Paper 2: Analysis	Paper 3: Mechanics
1	Linear Programming: Mathematical Formulation and Properties of Solution	Sequences	Definiyions, Forces acting at a Point
2	Graphic Method	Sequences	Any Number of Forces acting at a Point, Parallel Forces
3	Simplex Method	Sequences	Moments and Couples
4	Simplex Method	Infinite Series	Equilibrium of Three Coplanar Forces acting on a Rigid Body
5	Duality in Linear Programming	Infinite Series	Coplanar Forces, Friction
6	Duality in Linear Programming	Sequence and Series of Function	Center of Gravity
7	Transportation Problems	Power Series	Basic Concept, Motion with Constant Acceleration
8	Transportation Problems	Riemann Integration	Newton laws of Motion
9	Transportation Problems	Riemann Integration	Motion under variable acceleration
10	Assignments Problems	Riemann Integration	Simple Harmonic Motion
11	Assignments Problems	Improper Integrals	Projectiles
12	Revision	Improper Integrals	Projectiles
13	MST	MST	MST
14	Revision	Revision	Revision

Dr. Dalvinder Singh
Head of Department

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Department of Mathematics

Session-2022-23

Lesson plan(Semester 4)

Prof. Dalvinder Singh,Prof. Kirti Bhagirath & Prof. Jagjit Singh

Weeks	Paper 1: Analysis 2	Paper 2: Numerical Methods	Paper 3: Number Theory
1	Functions of Bounded Variation and Rectifiable Curves	Measures of Error: Relative, Absolute and Percentage error	Divisibility and Division Algorithm
2	Functions of Bounded Variation and Rectifiable Curves	Types of Error	GCD and Euclidean Algorithm
3	Total Variation	Solution of Equations regula-falsi and secant Method	The Diophantine Equations, Prime Numbers and there Distribution, Fundamental Theorem of arithmetic
4	Jordan Theorem and Properties	Solution of Equations regula-falsi and secant Method	Congruence's
5	Rectifiable Curve and Arc length	Newton Raphson and Iterative Method	Linear Congruence's and Chinese Remainder Theorem
6	Additive Property, Equivalence of Paths and Change of Parameter	Newton Raphson and Iterative Method	Fermat's Theorem and Wilson's Theorem
7	The Riemann-Stieltjes Integrals: Definition, Elementary properties	System of Linear Equations	Euler's Phi Function and Euler's Theorem
8	Reduction of Riemann Integral, Riemann Condition, Step Function	Pivot Elements, Pivoting Strategies, Partial and Complete Pivoting	Arithmetic Function, Application of Cryptography
9	Comparison Theorem, Integrators of Bounded Variation	Gauss Jordan and Gauss Siedel Method	Primitive Roots and Indices
10	First and Second Mean Value Theorem for RSI	Interpolation: Finite Differences, Divided and Central difference	Quadratic Residues and Quadratic Reciprocity Law
11	Fundamental Theorem of Integral Calculus, Mean Value theorems for Riemann Integral	Lagrange's Formula, and Newton's formula, Sterling	Legendre Symbol, Euler's Crition, Gauss Lemma, Jacobi Symbol
12	Revision	Bessel's and Everett's Formulae	Arithmetic Functions, Mobius Inverse Formula
13	MST	MST	MST
14	Revision	Revision	Revision

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