Department of Mathematics

Session-2022-23

Lesson plan (Semester 5)

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

Weeks	Paper 1: Algebra 1	Paper 2: Discrete Mathematics 1	Paper 3: Mathematical Methods
1	Groups , subgroups and cyclic groups	Set theory	Fourier series
2	Groups , subgroups and cyclic groups	Relations	Fourier series
3	Groups , subgroups and cyclic groups	Relations, Functions	Beta and gamma functions
4	Normal and quotient groups	Logic and quantifiers	Beta and gamma functions
5	Normal and quotient groups	Permutations and combinations	Beta and gamma functions
6	Homorphisms	Permutations and combinations	Laplace transformations
7	Rings	Pigeonhole principle	Laplace transformations
8	Subrings , Ideals , Quotient Rings	Mathematical induction	Inverse laplace transformations
9	Subrings , Ideals , Quotient Rings	Inclusion - exclusion principle	Inverse laplace transformations
10	Homorphisms of rings	lattices	Inverse laplace transformations
11	Homorphisms of rings	Graph theory, Trees	Revision
12	Fields	Finite state machines and languages	Convolution theorm
13	PID, Euclidean rings	Probablity	Convolution theorm
14	Revision	Revision	Revision

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Session-2022-23

Lesson plan (Semester 6)

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

Weeks	Optimization Techniques	Discrete Mathematics-II	Mathematical method-II
1	Inventory Costs involved in Inventory, Variables, characteristics of Inventory	Analysis of algorithms	Fourier Series Theories, Dirichlet's Condition,
2	Concept of Economics ordering, EOC Models, Economics Lot size with uniform demand,	Discrete numeric functions	Fourierseries for odd and even function,Half Range Fourier Series,Other form of Fourier series
3	Classification of Inventory	Recurring relations	Hankel Transform, Inverse Theorem, Hankel sine and cosine Transform
4	Economics ordering Models (EOC)	Homogeneous solutions	Linear Property and change of scale property for hankel transforms
5	Economics Lot size with different rate of demand with finite rate of replenishment	Group Theory	Fourier Transformation: Dirichlet's Conditions,Fourier Integral Formula
6	Economics Lot size with Constant rate of demand, sceduling time with comstant and variable	Ring Theory	Inverse theorem fot FT, Sine and cosine transformation
7	Production Lotb size demand with Shortage	Boolean Algebra	Fourier transformation Linear Property, Modulation Theorem , Change of scale Property,Shifting theorem
8	Introduction of job sequencing	Boolean Algebra	Convolution Theorem,Parseval's Identity
9	n Job on two machines, m Job on three machines	Duality	Finite fourier sine transform , Finite fourier cosine transform, Inverse Formula
10	Two job on n machines, n Job on m machines	Boolean functions and expressions	Application of Fourier transform: Heat equations, wave equations
11	MST	MST	MST
12	Project Network: Critical Path Method	Digital Networks	Application of Fourier transform: Heat equations, wave equations
13	Project evaluation and Review Techniques	Digital Networks	Revision
14	Revision	Revision	Revision

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