

LESSON PLAN

Session 2024-25

Subject- Mathematics

Class- B.A./B.Sc. 3rd Year (Sem--V)

Paper- Groups and Rings

Course Code - BM-352

22 July 2024 to 24 August 2024

Cyclic groups, Cosets, Left and right cosets, Index of a sub-group, Coset decomposition, Lagrange's theorem and its consequences, Normal subgroups, Quotient groups.

26 August 2024 to 14 September 2024

Homomorphisms, isomorphisms, automorphisms and inner automorphisms of a group. Automorphisms of cyclic groups, Permutations groups. Even and odd permutations. Alternating groups, Cayley's theorem, Centre of a group and derived group of a group.

16 September 2024 to 05 October 2024

Introduction to rings, subrings, integral domains and fields, Characteristics of a ring. Ring homomorphisms, Ideals (Principal, Prime and Maximal) and Quotient rings, Field of quotients of an integral domain.

07 October 2024 to 26 October 2024

Euclidean rings, Polynomial rings, Polynomials over the rational field, The Eisenstein's criterion, Polynomial rings over commutative rings, Unique factorization domain, R unique factorization domain implies so is $R[X_1, X_2, \dots, X_n]$.

04 November 2024 to 22 November 2024

Revision

SUDHIR PUJARA

(Associate Professor in Mathematics)