

Unit-2Functions

- Composition of Functions
 - Definition of Functions
 - Defining whether it is function or not
 - Domain, Co-domain & Range
 - Representation of function
 - Types of Function (Injection, Surjection, Bijective, Into, one-one into, many-one, many-one into, many-one onto)
 - Identity function
 - Inverse of function.
 - Permutation function
 - Inverse of Permutation function
 - Product of Permutation function
 - Cyclic permutation
 - even/odd permutation

* Poset, Lattices, Hasse diagram

- Poset & Total difference
- Hasse diagram (divisibility, subsets, \leq)
- elements of poset

- Comparable: Maximal, Minimal, Maximum, Minimum,
Non-comparable: Upper Bound, Lower Bound,

Least upper Bound, Greatest lower Bound

- Lattices (Definition) Semi Lattice, Meet

- Dual of lattices

- Product of lattices

• Types of Lattices (Isomorphic Lattices, Complement lattices, Distributive Lattice, Rounded Lattice)

- Lattices of Lattices Imp

Recurrence relation

- Definition
- order & degree of Recurrence relation
- Homogeneous & non homogeneous difference
- Methods of Recurrence
 - Characteristic equation (Homogeneous & non homogeneous) and cases
 - Generating function
 - Recursion Tree method
 - Substitution method
 - Iteration method
 - Master theorem method
- Divide & conquer
- Proof of Master theorem

Boolean expression

- Boolean identities
- Truth tables
- Logic gates
- SOP & POS (Sum of product & Product of sum)
- K Map
- Simplification of Boolean expression

LCM, HCF, Prime No

↳ Finding Method