

# Group Theory:

## Imp Stuff:

- ⇒ Lagrange's theorem.
- ⇒ Coset decomposition: all, left, right.
- ⇒ cyclic groups question, find generators + imp theorems.
- ⇒ Homomorphism & Isomorphism ⇒ only theorems.
- ⇒ prove if it is a group or an abelian group.
- ⇒ imp theorems on abelian groups

## Coding Theory:

- ⇒ Parity check matrix ⇒ 8M/10M
- ⇒ encode / decode the word, Triple repetition code ⇒ 8M/10M

## Graph Theory and Trees:

- ⇒ Chromatic polynomial ⇒ 8M/10M.
- ⇒ Konigsberg or prime M.S.T ⇒ 8M/10M.
- ⇒ walk, trail, path ⇒ 4M
- ⇒ subgraphs ⇒ 4M.

## Logic

- ⇒ laws of logic ⇒ 4M/8M
- ⇒ find negation of foll ⇒ 4M.
- ⇒ converse, inverse, contrapositive of the given statements ⇒ 4M/6M.
- ⇒ prove the validity of the foll / laws of inference ⇒ 6M/4M.
- ⇒ open statements ⇒ 4M

## Relations and Funcs:

- ⇒ Partial order questions.
- ⇒ Hasse diagram ⇒ 6/8/10M ⇒ for sure.
- ⇒ Equivalence reln questions.
- ⇒ Stirling questions
- ⇒ Imp theorems on functions ⇒ 4M/6M
- ⇒ Inverse functions