**Assignment-3 of CSE (A) and CSD (2150301and 3290301)**

**UNIT-3**

1.Prove that the order of each subgroup of a finite group is a divisor of the order of the group.

2.The intersection of any two normal sub groups of a group is a normal sub group.

3. Prove that every finite integral domain is a field.

4. Define: Group, Semi- Group, Normal Sub-Group, Quasi Group, Semi Group, Monoid, Abelian Group, Permutation, Field, Cyclic Group, and Order of element of a group, Quotient Group, Field, Integral Domain, and Without Zero Divisor.

5. Prove that if G is an abelian group, then for all a, b ∈ G and all integers n,