SUBJECT NAME: GROUP THEORY
COURSE NAME: Bsc Hons Maths
SEMESTER : 3

WEEK	**TOPIC(S)**	**TEACHING METHODOLOGY ADOPTED/CONTINUOUS INTERNAL EVALUATION**
1-4	Permutation groups and group of symmetries, Cycle notation for permutations and properties, Even and odd permutations, Alternating groups. Cosets and its properties, Lagrange's theorem and consequences including Fermat's Little theorem, Number of elements in product of two finite subgroups.	Classroom teaching and assignment
5-6	Normal subgroups, Factor groups, Cauchy's theorem for finite Abelian groups	Quiz and ppt presentation along with teaching
7-8	Group homomorphisms, isomorphisms and properties, Cayley's theorem.	Class test and teaching
9-11	First, Second and Third isomorphism theorems for groups. Automorphism, Inner automorphism, Automorphism groups, Automorphism groups of cyclic groups, Applications of factor groups to automorphism groups.	Ppt and teaching and mcq quiz
12-13	External direct products of groups and its properties, The group of units modulo	Classroom teaching and assignment

	□ as an external direct product, Applications to data security and electric circuits.	
14-15	Internal direct products; Fundamental theorem of finite Abelian groups and its isomorphism classes.	Class test ,ppt and teaching