

Paper Code: MAT-HE-6066: Group Theory-II

Course Objectives: The course will develop an in-depth understanding of one of the most important branch of the abstract algebra with applications to practical real-world problems. Classification of all finite abelian groups (up to isomorphism) can be done.

Course Learning Outcomes: The course shall enable students to:

- i) Learn about automorphisms for constructing new groups from the given group.
- ii) Learn about the fact that external direct product applies to data security and electric circuits.
- iii) Understand fundamental theorem of finite abelian groups.
- iv) Be familiar with group actions and conjugacy in S_n .
- v) Understand Sylow's theorems and their applications.

Paper Code: MAT-HE-6086: Project

In this paper each student is asked to submit a project on an assigned topic. After the examination of the project, they have to present themselves with their topic before an interview board and ultimately evaluation process of the paper is completed.