Code	Subject Title	Cr. Hrs	Semester
MATH-406	**Group Theory - II**	**3**	**VII**
Year	Discipline		
4	**Mathematics**		

Objectives:

Automorphisms and Products in Groups

- Characteristic and fully invariant subgroups
- Normal products of groups
- Holomorph of a group

Permutation Groups

- Symmetric or permutation group
- Permutability of permutations
- Transposions
- Generators of the symmetric and alternating group
- Cyclic permutations and orbits, the alternating group
- Generators of the symmetric c and alternating groups
- Simplicity of A, n   5
- The stabiliser subgroups

Series in Groups

- Series in groups
- Zassenhaus lemma
- Normal series and their refinements
- Composition series

Recommended Books:

- J. Rotman, The Theory of Groups, 2nd edition, (Allyn and Bacon, London, 1978)
- J. B. Fraleigh, A First Course in Abstract Algebra, 7th edition, (Addison-Weseley Publishing Co., 2003)
- I. N. Herstein, Topics in Algebra, (Xerox Publishing Company Mass, 1972)
- J. A. Gallian, Contemporary Abstract Algebra, 4th edition, (Narosa Publishers, 1998)
- J. S. Rose, A Course on Group Theory, (Dover Publications, New York, 1994)
- K. Hoffman, Linear Algebra, 2nd edition, (Prentice Hall, 1971)