Code	Subject Title	Cr. Hrs	Semester
MATH-422	**Group Theory - III**	**3**	**VIII**
Year	Discipline		
4	**Mathematics**		

Objectives:

Solvable Groups

- Solvable groups, definition and examples
- Theorems on solvable groups
- Super-solvable groups

Nilpotent Groups

- Characterisation of fin ite nilpotent groups
- Upper and lower central series
- Frattini subgroups, free groups, basic theorems
- Definition and examples of free products of groups

Linear Groups

- Linear groups, types of linear groups
- Representation of linear groups
- Group algebras and representation modules

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-Wesley Publishing Co., 2003)
- H. Marshall, The Theory of Groups, (Macmillan, 1967)
- J. A. Gallian, Contemporary Abstract Algebra , 4th edition, (Narosa 1998)
- J. S. Rose, A Course on Group Theory , (Dover Publications, New York, 1994)
- K. Hoffman, Linear Algebra, 2nd edition, (Prentice Hall, 1971)