Code	Subject Title	Cr. Hrs	Semester
MATH-407	**Ring Theory**	**3**	**VII**
Year	Discipline		
4	**Mathematics**		

Objectives:

Ring Theory

- Construction of new rings
- Direct sums, polynomial rings
- Matrix rings
- Divisors, units and associates
- Unique factorisation domains
- Principal ideal domains and Euclidean domains

Field Extensions

- Algebraic and transcendental elements
- Degree of extension
- Algebraic extensions
- Reducible and irreducible polynomials
- Roots of polynomials

Recommended Books:

- I. N. Herstein, Topics in Algebra, (Xerox Publishing Company Mass, 1972)
- B. Hartley and T. O. Hauvkes, Rings, Modules and Linear Algebra, (Chapmann and Hall
- Ltd., London, 1970)
- R. B. Allenly, Rings, Fields and Groups:An Introduction to Abstract Algebra, (Edward
- Arnold, 1985)
- J. Rose, A Course on Rings Theory, (Cambridge University Press, 1978)
- G. Birkhoff and S. Maclane, A Survey of Modern Algebra, (Macmillan, New York, 1964)