

**MA-635 HOMOLOGICAL ALGEBRA-II (Pre-requisite MA-634) (3 Credits)**

Tensor Products of Modules, Singular Homology Flat Modules. Categories and Functors Cogenerator. Finitely related (finitely presented) Modules. Ure Ideals of a ring Pure submodules and Pure Exact sequences. Hereditary and Semihereditary Rings. Ext. and extensions, Axioms Tor and Torsion, Universal co-efficient Theorems. Hilbert Syzygy Theorem, Serre's Theorem, Mixed identities.

**RECOMMENDED BOOKS:**

1. J. Fuller and F.W. Anderson: Rings and Categories of Modules, Stringer Verlag, 1973.
2. J. Lambek: Lectures on Rings and Academic Modules, New York, 1966.
3. F. Kasch: Modules and Rings. Academic Press, 1982.
4. T. W. Hungerford: Algebra, Holt, Rinehart and Winston, Inc. New York, 1974.
5. J. J. Rotman, An Introduction to Homological Algebra, Academic Press, New York, 1979.
6. O. Zariski and P. Samual, Commutative Algebra, Vol. I, Springer-Verlag, New York, 1958.
7. O. Zariski and P. Samual, Commutative Algebra, Vol. II, Springer-Verlag, New York, 1960
8. M. F. Atiyah and I. G. Macdonald, Introduction to Commutative Algebra, Addison Wesley Pub. Co. 1969. .