SYLLABUS

Paper II : MODERN ALGEBRA

(SEMESTER-V)

(P.U.)

Note : 1. The syllabus has been split into two Units : Unit-I and Unit-II. Four questions will be set from each Unit.

2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.

3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.

4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

UNIT– I

Groups, Subgroups, Lagrange's Theorem, Normal subgroups and Quotient Groups, Homomorphisms, Isomorphism Theorems, Conjugate elements, Class equation, Permutation Groups, Alternating groups, Simplicity of A_n, $n \geq 5$ (without proof).

UNIT – II

Rings, Integral domains, Subrings and Ideals, Characteristic of a ring, Quotient Rings, Prime and Maximal Ideals, Homomorphisms, Isomorphism Theorems, Polynomial rings.