

PHYTOCHEMISTRY

THEORY 3 hours/ week

MODULE -I

Chemical and spectral approaches to simple molecules of natural origin. Application of I.R., N.M.R. and Mass spectroscopy in the structural elucidation of organic compounds. Concept of stereoisomerism taking examples of natural products (citral, menthol, camphor, ephedrine and atropine).

MODULE -II

Cardiac Glycosides: Source, structures, Pharmacological properties and study of interrelationship between cardenolides and bufadienolides (Chemistry of digoxin & digitoxin). Introduction to Scillaren A and ouabain.

Terpenes : Classification, General methods of extraction and separation (Mono and sesquiterpenes), special isoprene rule and Structural elucidation of citral carvone, menthol & camphor

MODULE -III

Vitamins : Classification, Chemistry & uses of vitamin A, B1, Folic acid and vitamin C.

MODULE-IV

Alkaloids : Classification, isolation, structural elucidation & uses of atropine, ephedrine, reserpine and morphine.

UNIT -V

Chemistry and therapeutic activity of penicillin (includes structural elucidation), streptomycin and tetracyclines.

Flavonoids: Classification, pharmacological properties and chemistry of quercetin .