

UNIT-I

1. General methods of isolation and separation of plant constituents.
2. General techniques of biosynthetic studies and brief introduction to biogenesis of secondary metabolites.
3. Factors affecting production of secondary metabolites in medicinal plant.

UNIT-II

4. Alkaloids- Isolation and Chemistry of Atropine, Quinine, Morphine and Ephedrine.
5. Steroid- Chemistry and Stereochemistry of Cholesterol.
6. Preparation and Chemistry of Corticosteroids.
7. Glycosides- A general study of glycosides with detail treatment of Digoxin, Scillarin A, Ouabain.

UNIT-III

8. Antibiotics- Chemistry and therapeutic activity of Penicillin, Streptomycin, Tetracycline and Cephalosporin.
9. Terpenes- Chemistry of Citral, Menthol, Camphor

UNIT-IV

10. Vitamins- Detailed study including commercial production and chemistry of Vitamin-A, Cyanocobalamine, Nicotinamide, Folic acid, Riboflavine .
11. Chemical and Spectral approaches to simple molecules of natural origin.

REFERENCES:

1. Phytochemical Methods by J.B.Harborne
2. Organic Chemistry of Natural Products by A.Singh & S.Singh
3. Organic Chemistry of Natural Products by G.Chatwal
4. Organic Chemistry of Natural Products by O.P.Agrawal
5. Chemistry of Natural Products Alkaloids & Terpenoids by A.Singh
6. Organic Chemistry by I.L.Finar
7. Steroids by Fieser & Fieser
8. Alkaloids by Manske