

UNIT – I

1. **General methods of isolation and separation of plant constituents.** Qualitative reactions employed for the detection of plant constituents. Application of G.L.C., HPLC and counter current distribution to separation and analysis of plant constituents Determination of Organic structures through Interpretation of - **Infrared spectroscopy,  $H^1$  N.M.R &  $C^{13}$  N.M.R, MASS spectroscopy.**
2. **Study of biogenesis:** The acetate hypothesis, Isoprene rule Biogenetic hypotheses relation to alkaloids.

UNIT – II

3. **Alkaloids:** Isolation and study of the constitution of ergot alkaloids, opium alkaloids, atropine and reserpine.
4. **Steroids:** Chemistry and stereo-chemistry of cholesterol. Preparation and chemistry of corticosteroids.
5. **Glycosides:** A general study of glycosides with detailed treatment of cardiac glycosides, Digoxin, Sciliarin-A and ovabain.

UNIT – III

6. **Antibiotics:** A general study of the chemistry of antibacterial antibiotics, antifungal antibiotics and anti viral antibiotics with detailed treatment of newer semi synthetic penicillins and cephalosporins.

UNIT – IV

7. **Vitamins:** Detailed study including commercial preparations of vitamin-A, vitamin - C, cyanacobalamin, Nicotinamide, folic acid, thiamine, riboflavine and pyridoxine.

REFERENCES:

1. Organic Chemistry by I.L.Finar.
2. Alkaloids – Chemical and biological perspective by S. William Pelletier.
3. Alkaloids by Manske.
4. Hormone Chemistry Butt.
5. Steroids by Fischer and Fischer.
6. Pharmacognosy by Trease and Evans.
- 7.