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PHARMACOGNOSY - II

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Authors

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About the Units

Unit - 1

Metabolic pathways in higher plants and their determination

- Brief study of basic metabolic pathways and formation of different secondary metabolites through these pathways- Shikimic acid pathway, Acetate pathway, and Amino acid pathway.
- Study of the utilization of radioactive isotopes in the investigation of Biogenetic studies.

Unit - 2

General introduction, composition, chemistry & chemical classes, biosources, therapeutic uses and commercial applications of the following secondary metabolites:

Alkaloids: Vinca, Rauwolfia, Belladonna, Opium

Phenylpropanoids and Flavonoids: Lignans, Tea, Ruta

Steroids, Cardiac Glycosides and Triterpenoids: Liquorice,

Dioscorea, Digitalis

Volatile oils: Mentha, Clove, Cinnamon, Fennel, Coriander.

Iridoids, other terpenoids and Naphthaquinones: Gentian, Artemisia, taxus, carotenoids.

Unit - 3

Isolation, Identification and Analysis of Phytoconstituents

- Terpenoids:** Menthol, Citral, Artemisin
- Glycosides:** Glycyrrhetic acid and Rutin
- Alkaloids:** Atropine, Quinine, Reserpine, Caffeine
- Resins:** Podophyllotoxin, Curcumin

Unit - 4

Industrial production, estimation and utilization of the following phytoconstituents

Forskolin, Sennoside, Artemisinin, Diosgenin, Digoxin, Atropine, Podophyllotoxin, Caffeine, Taxol, Vincristine and Vinblastine.

Unit - 5

Basics of Phytochemistry Modern methods of extraction, application of latest techniques like Spectroscopy, chromatography and electrophoresis in the isolation, purification and identification of crude drugs.

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