

Contents

Preface.....(v)

UNIT I

Metabolic Pathways in Higher Plants and their Determination

- Basic Metabolic Pathways in Plants 2
- Biosynthesis of Secondary Metabolites 12
- Study of Utilization of Radioactive Isotopes in the Investigation of Biogenetic Studies 21
- Probable Questions* 31

UNIT II

General Introduction, Composition, Chemistry & Chemical Classes, Biosources, Therapeutic uses and Commercial Applications of Following Secondary Metabolites

- Drugs Containing Alkaloids 36
- Drugs Containing Phenylpropanoids and Flavonoids..... 42
- Drugs Containing Steroids, Cardiac Glycosides and Triterpenoids 46
- Drugs Containing Volatile Oils 50
- Drugs Containing Tannins 56
- Drugs Containing Resins 59
- Drugs Containing Glycosides 66
- Drugs Containing Iridoids, other Terpenoids and naphthaquinones..... 72
- Carotenoids 75
- Probable Questions* 77

UNIT III

Isolation, Identification and Analysis of Phytoconstituents

- Terpenoids 80

• Glycosides.....	87
• Alkaloids.....	90
• Resins.....	96
<i>Probable Questions</i>	99

UNIT IV

Industrial Production, Estimation and Utilization of Phytoconstituents

• Forskolin	102
• Sennosides	103
• Artemisinin	105
• Diosgenin.....	106
• Digoxin	108
• Atropine.....	109
• Podophyllotoxin.....	111
• Caffeine.....	112
• Taxol.....	113
• Vincristine and Vinblastine	115
<i>Probable Questions</i>	116

UNIT V

Basics of Phytochemistry

• Phytochemistry	120
• Extraction.....	120
• Analytical Techniques used in Isolation, Purification and Identification of Crude Drugs.....	128
• Chromatography	128
• Spectroscopy.....	139
• Electrophoresis	145
<i>Probable Questions</i>	146