

Semester I - Post Graduate Pharmacy

CHEMISTRY OF MEDICINAL NATURAL PRODUCTS (CG)

THEORY

- 1 Classification of medicinally active constituents. General methods of Extraction procedures, Isolation, Purification and Identification of Natural Products such as Alkaloids, Glycosides, Tannins and other Phenolics, Volatile oils and Terpenoids, Fixed oils, Carbohydrates, Acetogenins and Marine products.
- 2 Study of Biogenetic pathways of therapeutically important active constituents of plant origins. Techniques to investigate biogenetic pathways.
- 3 Study of sources, isolation, purification, identification and analysis and structure elucidation of plant constituents of economical and medicinal importance such as Atropine, Ergometrine, Vincristine, Disosgenin, Sennosides, Glycyrrhetic acid, Guggulipids, Boswellic acids, Rutin, Psoralen, Digoxin, Podophyllotoxin, Quinine, Reserpine, Echimic acid, Andrographolide, Withanolides and Withanofens, Ginkgolide, Silymarin, Picroside, Artemisin, Gymnemic acids, Curcuminoids, Embelin, Opium alkaloids, Menthol, Thymol, Citral, Taxol.
- 4 Review of recent literatures appearing on Phytopharmaceuticals used as antiallergic, antimicrobials, anti-inflammatory, anticancer, antidiabetic, antihepatotoxic and immunomodulators.

PRACTICAL

The practical syllabus comprises of the exercises formulated based on the topics mentioned in the Theory syllabus.

BOOKS RECOMMENDED:

- 1 Manske- The Alkaloid- Chemistry and Physiology.
- 2 Sim - Medicinal Plant Glycosides.
- 3 Sim - Medicinal Plant Alkaloids.
- 4 IUPAC - Chemistry of Natural Products - International symposium.
- 5 Zechmeister - Progress in the Chemistry of Organic Natural Products.
- 6 Reinhold - Liwshitz - Progress in Phytochemistry.
- 7 Wagner - Wolf- New Natural Products and Plant Drugs with Pharmacological, Biological or Therapeutic Activity
- 8 Finar- Organic Chemistry.
- 9 Peach - Tracey - Modern Methods of Plant Analysis.

- 10 Geissman - Modern Methods of Plant Analysis.
- 11 Garatt - The Quantitative Analysis of Drugs.
- 12 Backett - Stenlake - Practical Pharmaceutical Chemistry,
- 13 Arthur-Symposium on Phytochemistry.
- 14 Pridham - Swain - Biosynthetic Pathways in Higher Plants.
- 15 Greenbury - Metabolic Pathways.
- 16 Margaret - Brain - Secondary Plant Metabolism.
- 17 Wagner - Horhammer - Pharmacognosy and Phytochemistry
- 18 Harborne - Comparative Biochemistry of Flavonoids.
- 19 Lehninger - Principles of Biochemistry,
- 20 Bonner - Plant Biochemistry.
- 21 Harborne - Phytochemical Methods.
- 22 Rosenthaler - The Chemical Investigation of Plants.
- 23 Cheronis - Organic Functional Group Analysis.
- 24 Nakanishi - Natural Products Chemistry, Vol. 1 & Vol. 2