

Gujarat Technological University

B.Pharm Semester-II

Pharmacognosy-I

(2 hours/week, 2 credits, 30 hours)

1. Definition, history, scope and development of Pharmacognosy. **01**
2. Sources of drugs: **03**
Plant, biological, marine, and mineral. Tissue culture as source of drugs.
3. Classification of drugs: **02**
Alphabetical, Morphological, Taxonomical, Chemical and Pharmacological.
4. Morphology: **08**
Seed, root, stem, leaf, bark, wood, flower and fruit. Modification of root and stem. Histology of dicot and monocot root, stem and leaf.
5. Cultivation, collection, processing and storage of crude drugs. **04**
Factors influencing cultivation of medicinal plants. Types of soils and fertilizers of common use. Plant hormones and their applications. Polyploidy, mutation and Hybridization with reference to medicinal plants.
6. Quality control of crude drugs: **04**
Adulteration of crude drugs and their detection by organoleptic, microscopic, physical, chemical, biological and other method of evaluation.
7. An introduction to active constituents of drugs and their classification and properties. **01**
8. **Systemic pharmacognostic study of the following:** **07**
 - a) Carbohydrates and derived products: Agar, Guar gum, Acacia, Honey, Isabgol, Pectin, Starch, Stercuila, Tragacanth and sodium alginate.
 - b) Lipids: Beeswax, castor oil, coca butter, cod liver oil, hydrocarpus oil, sesame oil and wool fat, kokum butter, lard, linseed oil, rice bran oil, shark liver oil.

Pharmacognosy-I PRACTICAL

(3 hours/week, 3 credits, 45 hours)

1. Morphology of plant parts indicated in theory.
2. Microscopy of monocot and dicot root, stem and leaf.
3. Microscopic measurements of cell and cell contents: starch grains, calcium oxalate crystals and phloem fibers.
4. Identification of crude drugs belonging to carbohydrates and lipids.
5. Preparation of herbarium sheets.

Books Recommended:

1. Botany for degree students: A. C. Dutta, Calcutta Oxford University Press, New Delhi, 6th Edition, 2002.
2. College botany Vol-I-III, Ganguly H.C., Das K.S., and Dutta C., New Central Book Agency [P] Lt., 2006.
3. Pharmacognosy: C. K. Kokate, A. P. Purohit, S. B. Gokhale, Nirali Prakashan Pune, 9th edition, 1998.
4. Pharmacognosy: V. E. Tyler, L. R. Brady, J. E. Habbers, Lea and Febiger Philadelphia, 9th edition, 1988.
5. A Text book of pharmacognosy: C. S. Shah, J. S. Quadry, B. S. Shah Prakashan, Ahmedabad, 13th revised edition, 2007-08.
6. Trease and Evan's Pharmacognosy: W. C. Evans, W. B. Saunders Company, Singapore 14th edition, 1997.
7. Textbook of Pharmacognosy: T.E. Wallis, CBS Publishers and Distributors, New Delhi, 5th Edition, reprinted, 2003.

Practical Books:

1. Practical Pharmacognosy by C. K. Kokate, Vallabh Prakashan, Delhi, 4th edition, 1997.
2. Practical Pharmacognosy, Technique and Experiment by C. K. Kokate and S. B. Gokhale, Nirali Prakashan, Pune, 3rd edition, 1996.