

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm
SEMESTER: IV

Subject Name: Pharmacognosy-II

Subject Code: 2240006

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	Theory		Practical	
				External	Internal	External	Internal
3	0	3	6	80	20	80	20

Theory

Sr No	Course Contents	Total Hrs
1	Volatile Oils: Definition, classification, physico-chemical properties, general methods for isolation, source, cultivation, collection, commercial varieties and systematic pharmacognostic study of volatile oils containing drugs • Alcohol: Coriander, Geranium, Sandal wood • Esters and Alcohol: Rose, Mentha • Aldehyde: Cinnamon, Cassia, Lemon peel, Orange peel, Lemon grass, Eucalyptus, Cumin • Ketone: Caraway, Dill • Phenol: Clove, Tulsi, Ajowan • Ether: Star Anise, Fennel, Nutmeg, Cardamom Others: Gaultheria, Valerian, Vaj, Vetiver, Nagarmotha, Garlic, Saffron, Vanilla	25
2	Resins: Definition, classification, Physico-chemical properties, general methods for isolation, source, cultivation, collection, commercial varieties and their systematic pharmacognostic study of following drugs • Acid resin: Colophony • Resin Alcohol & Phenols: Balsam, Cannabis • Ester Resin: Benzoin • Oleo gum resin: Asafoetida, Myrrh, Guggul, Salaiguggul • Oleo-resin: Ginger, Turmeric • Glyco-resin: Kaladana, Podophyllum, Nishoth Other: Vidang, Capsicum	13
3	Tannins: Definition, classification, Physico-chemical properties, general methods for isolation, source, cultivation, collection, commercial varieties and their systematic pharmacognostic study • Hydrolysable: Amla, Harde, Behda, Galls • Condensed: Pale catechu, Black catechu, Ashoka, Bael, Pterocarpus	7

Practical – 22400P6

1	Demonstration of methods for isolation of volatile oil from crude drugs.
2	Study the Morphology of Volatile oil containing following drugs. Perform Microscopy (TS and Powder) and TLC of underlined drugs • Leaf drugs: <u>Mentha</u>, <u>Eucalyptus</u>, Lemon grass, Gaultheria, Tulsi, Basil, Geranium, Rosemary, Thyme • Bark and Peel: <u>Cinnamon</u> (Ceylon and Chinese), Orange peel, Lemon peel, Star anise • <u>Umbelliferous</u> fruits: <u>Fennel</u>, <u>Coriander</u>, Dill, Ajowan, Caraway, Cumin • Flower drugs: <u>Clove</u> and Rose • Seed and wood: <u>Cardamom</u>, Nutmeg, Sandal wood • Rhizome: <u>Vaj</u>, Valerian, Nagarmoth, Garlic
3	Study of Morphology and Microscopy (TS and powder drugs) of <u>Amla</u> , <u>Ashoka</u> Pale catechu, Black catechu, Galls, Harde, Behda, Bael, Pterocarpus
4	Isolation of oleoresin, identification (Chemical test) and study of Morphology and Microscopy (TS and powder drugs) from Colophony, Balsam, Benzoin, Myrrh, Asafoetida, Guggul, <u>Ginger</u> , Turmeric, Vidang, Kaladana
5	Isolation of tannins from crude drugs and extract. Removal of tannin from drugs and extract. Tests for tannins
6	Isolation of Thymol / Eugenol / Menthol

References Books:

1. Cultivation and Utilization of Aromatic Plants, Atal C. K. and Kapur B. M., RRL Jammu, 1st Edition, 1989
2. Cultivation and Utilization of Medicinal Plants, Atal C. K. and Kapur B. M., RRL Jammu, 1st Edition, 1989
3. Supplement to Cultivation and Utilization of Medicinal Plants, Handa, S.S. and Kaul, M.K., 1996. RRL, CSIR Publication, Jammu Tawi,
4. Supplement to Cultivation and Utilization of Aromatic Plants, Handa, S.S. and Kaul, M.K., 1996. RRL, CSIR Publication, Jammu Tawi
5. A Text book of Pharmacognosy: C. S. Shah, J. S. Quadry, B. S. Shah Prakashan, Ahmadabad. 15th Edition, 2009.
6. Textbook of Pharmacognosy: T. E. Wallis, CBS Publishers and Distributors, New Delhi, 5th Edition, reprinted, 2009.
7. Pharmacognosy: C. K. Kokate, A. P. Purohit, S. B. Gokhale, Nirali Prakashan Pune, 42nd edition, 2008.
8. Trease and Evans Pharmacognosy. 16h Edition, William Charles Evans, W. Saunders, Edinburg London New York Philadelphia St. Louis Sydney Toronto 2009.
9. Essentials of Pharmacognosy by Ansari S. H., Birla Publications Pvt. Ltd., 4th Edition, 2011.
10. Pharmacognosy of Powdered crude drugs - M.A. Lyenger. (Manipal Power Press)
11. Practical Pharmacognosy, Technique and Experiment by C. K. Kokate and S. B. Gokhale, Nirali Prakashan, Pune, 8th edition, 2005
12. Quality Control, Herbal Drugs, An approach to evaluation of Botanicals. Dr. Pulok K. Mukherjee. Business Horizons Pharmaceutical Publishers; 2002
13. The Practical Evaluation of Phytopharmaceutics by Brain K. R. and Turner R. D., Wrigth-Sciencetchnics Bristol.

14. Malati G Chanhani & A. P.G Pillai, Microscopic profile of powdered drugs used in Indian system of medicine, Volume I, Bark drugs 2005, Institute of Ayurvedic medicinal plant science, Gujarat Ayurved unit Jamnagar; CPTA.
15. Malati G Chauhan & A.P.G Pillai, "Microscopic profile of powdered drugs used in Indian systems of Medicine, Leaf Drugs, Vol 2, 2007, Institute of P.G Teaching & Research in Ayurveda, Gujarat Ayurved University, Jamnagar
16. Malati G Chauhan & A.P.G Pillai, " Microscopic profile of Drugs used in Indian system of Medicine, seed drugs, Volume- 3, part- 1, 2011; Publisher: Prof Malati G Chauhan, P.G T- S.F C cell, I.P. G T. & R.A, Gujarat Ayurved University, Jamnagar