

GUJARAT TECHNOLOGICAL UNIVERSITY

M.Pharm PHARMACOGNOSY SEMESTER: II

Subject Name: ADVANCED PHARMACOGNOSY - II

Subject Code: MPG202T

Scope: To know and understand the Adulteration and Deterioration that occurs in herbal/natural drugs and methods of detection of the same. Study of herbal remedies and their validations, including methods of screening

Objectives: After Completion of course student will be able to know:

1. Validation of herbal remedies
2. methods of detection of adulteration and evaluation techniques for the herbal drugs
3. methods of screening of herbals for various biological properties

Sr No	Course Contents	Total Hrs
1	Herbal remedies – Toxicity and Regulations: Herbals vs Conventional drugs, Efficacy of Herbal medicine products, Validation of herbal therapies, Pharmacodynamic and Pharmacokinetic issues	12
2	Adulteration and Deterioration: Introduction, Types of Adulteration/ Substitution of Herbal drugs, Causes and Measures of Adulteration, Sampling Procedures, Determination of Foreign Matter, DNA Finger printing techniques in identification of drugs of natural origin, detection of heavy metals, pesticide residues, phytotoxin, microbial contamination in herbs and their formulations.	12
3	Ethnobotany and Ethnopharmacology: Ethnobotany in herbal drug evaluation, Impact of Ethnobotany in traditional medicine, New development in herbals, Bio-prospecting tools for drug discovery, Role of Ethnopharmacology in drug evaluation, Reverse Pharmacology	12
4	Analytical Profiles of herbal drugs: Andrographis paniculata, Boswellia serata, Coleus forskholii, Curcuma longa, Embelica officinalis, Psoralea corylifolia	12
5	Biological screening of herbal drugs: Introduction and Need for Phyto-Pharmacological Screening, New Strategies for evaluating Natural Products, In vitro evaluation techniques for Antioxidants, Antimicrobial and Anticancer drugs. In vivo evaluation techniques for Anti-inflammatory, Antiulcer, Anticancer, Wound healing, Antidiabetic, Hepatoprotective, Cardio protective, Diuretics and Antifertility, Toxicity studies as per OECD guidelines	12

REFERENCES:

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2. Natural Products: A laboratory guide - Raphael Ikan , 2nd Edition, Academic Press, 2013
3. Trease and Evans' Pharmacognosy - William Charles Evans, 16th Edition, Elsevier Health Sciences,

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4. Pharmacognosy-Tyler, Brady, Robbers, 9th Edition, Wolters Kluwer New Delhi, 1988
5. Modern Methods of Plant Analysis Vol. I & VII – Peach K. and M.V. Tracey, Springer-Verlag Berlin Heidelberg, 1956
6. Herbal Drug Industry: A Practical Approach to Industrial Pharmacognosy by RD. Choudhary, Eastern Publishers, New Delhi 1996.
7. Text book of Pharmacognosy – A. P. Purohit, C. K. Kokate, S. B. Gokhale, 53rd Edition, Nirali Prakasshan, Pune 2016.
8. Text Book of Pharmacognosy - T.E. Wallis, 5th Edition, CBS Publishers, New Delhi, 2005
9. Quality control of Herbal Drugs - Pulok K Mukarjee, Business Horizons Pharmaceutical Publisher, New Delhi, 2012.
10. Indian Herbal Pharmacopoeia, IDMA, 1st Revised Edition, IDMA, Mumbai, 2002
11. Text book of Pharmacognosy and Phytochemistry Part I & II - Vinod D. RangarI, , 3rd Edition, Career Publication, Nasik, 2014.
12. Plant Drug Analysis - Hildebert Wagner and Sabine Bladt, 2nd Edition, Springer, NY, 1996
13. Standardization of Botanicals: Testing and Extraction Methods of Medicinal Herbs Vol. I - V. Rajpal Business Horizons, 2011
14. Herbal Medicine. Expanded Commission E Monographs - Mark Blumenthal (Editor), Alicia Goldberg (Editor), Josef Brinckman , Churchill Livingstone, 2000