

St.James College of Pharmaceutical Sciences			
St.James medical Academy			
River Bank, Chalakudy			
Programme:	B.Pharm	Sem.:	VI
Name of Course: (Subject)	Herbal Drug Technology	Course Code:	BP603T
Teaching faculty of the course	Mr. Aravind R		

Summary of the Lecture Plan

Topic	Lectures	Hours
Herbs as Raw material	Herbal medicine, herbal medicinal Products and herbal medicinal Preparations	1
	Selection, identification and authentication of herbal materials	1
	Processing of herbal raw materials	1
	Biodynamic agriculture-Good Ayurvedic Practices in cultivation of medicinal plants.	1
	Pest and Pest Management in medicinal plants	1
	Biopesticides	1
Complementary and Alternative methods of therapy	Basic Principles of Ayurveda and siddha	1
	Principle of unani and homeopathy	1
	Preparation and Standardization of Arista and Asava	1
	Preparation and Standardization of Churna and Lehya	1
	Preparation and Standardization of Bhasma	1
Nutraceuticals	General Aspects, Market Growth, Scope and Type of Products available in market.	2
	Health benefits and role of nutraceuticals in ailments like diabetes and CVS diseases, Cancer, IBS and various GI disorders	1
	Study of the following food as health food: Alfa, chicory, Ginger, Fenugreek, Garlic, honeyAmla, ginseng, Aswagandha, Spirulina	2
	Herb-Drug and Herb food interaction: Hypericum, Kava-kava, ginkobiloba, Ginseng, Garlic, Pepper and Epehdra	2
Herbal cosmetics	Sources and Description of raw materials of herbal origin used in Herbal cosmetics for skin care, hair care and oral hygiene products.	
	a) Fixed oils and waxes	1
	b) Gums	1
	c) Colourants and Perfumes	1

	d) Protective agents, bleaching agents	2
	e) Antioxidants	2
Herbal Formulations	Herbal Excipients-significance of various substance of natural origin colorants, sweeteners, binders, diluents, viscosity builders, disintegrants, flavours and perfumes	2
	Herbal formulations-syrup, mixture and tablet. Novel dosage form- Phytosomes	1
Evaluation of Drugs	WHO and ICH guidelines for the assessment of herbal drugs?	3
	Stability testing of herbal drugs.	1
Patenting & Regulatory Requirements	Patent, IPR, Plant breeders right, Bioprospecting and Biopiracy	2
	Patenting aspects of traditional knowledge and natural products in case curcuma and neem.	2
	Regulatory issue- Regulations in India	1
	Regulation in the manufacture of ASU drugs- Schedule Z of D and C act, 1940 for ASU drug.	1
Introduction to Herbal Industry	Herbal industry- Scope and future prospectus	1
	Brief account of plant-based industries involved in the work of medicinal and aromatic plants.	1
	Schedule T- GMP of Indian system of medicine, components and objective	1
	Requirements of Schedule T, SOP, Health, hygiene and documentation of records.	4

Major issues or Core aspects to be addressed/ covered:

Herbs as Raw material
Definition and classification of Herbal medicine, herbal medicinal Products and herbal medicinal Preparations
Procurement and Selection of raw material
Methods for identifications- Physical, chemical, Morphological and microscopical methods in authentication.
Processing- cleaning, size reduction, drying, packing and storage of raw material
Good Ayurvedic Practices in cultivation of medicinal plants- Methods, Construction of field, Procedures
Pest management- Mechanical method, Chemical method and Biological methods of pest control.
Biopesticides- Advantages, description
Complementary and Alternative methods of therapy
Principles of Ayurveda, siddha, Unani and Homeopathy
Classification of ayurvedic formulation
Preparation, marketed formulation and standardization of Arishta, Asava, LEhya, churna and Bhasma

Herbal cosmetics
Definition, Advantage and classification of Herbal constituents
Sources and Description of raw materials of herbal origin- Biological source, chemical constituents, uses and their marketed formulation.
Herbal Excipients- Source, description and characteristics.
Convectional formulations like syrup, mixture and tablet- ingredients, method of preparation, examples of marketed preparations.
Phytosomes- raw materials, method of preparation and application
Evaluation of Drugs
Methods of Evaluation- Physical, Chemical, Organoleptic and Microscopical methods.
Role of WHO and ICH in herbal medicines
WHO guidelines for the standardization of raw materials.
WHO guidelines for the standardization of finished products.
ICH guidelines for the assessment of herbal products for its safety, efficacy and quality meant for human use.
Patenting & Regulatory Requirements
Definition of IPR, Patent, Design, Trademark and Geographical indication
Articles that can be patented.
Method of applying patent
Plant breeders right, Bioprospecting and Biopiracy
Patenting of traditional medicines, case study of Neem and Turmeric
Regulations in India- DCGI, CDSCO, AYUSH
Regulation in the manufacture of ASU drugs- Schedule Z of D and C act, 1940 for ASU drug.
Introduction to Herbal Industry
Scope and future of herbal industry
Classification of herbal industries and examples
Central government and state government research institutions involved in the work of medicinal and aromatic plants.
Schedule T- GMP of Indian system of medicine, components and objective
Requirements of Schedule T, SOP, Health, hygiene and documentation of records.

Sample Questions

Herbs as Raw material
1. Classification of herbal extracts with examples.
2. Describe the procedure for procuring raw material.
3. Explain various methods for authenticating a medicinal plant.
4. Write notes on Biopesticides.

5. Describe Good ayurvedic Practice.
6. Explain various methods of Pest control
Complementary and Alternative methods of therapy
1. Write the Principle of Ayurveda.
2. Write the Principle of Homeopathy and Unani
3. Explain the method of preparation and standardization of Arista.
4. Explain the method of preparation and standardization of Churna
5. Explain the method of preparation and standardization of Lehya
6. Describe the method of preparation of Bhasma
Herbal cosmetics
1. Write notes on any two fixed oil used in cosmetics.
2. Give the biological source, constituents and uses of any two drugs used as colouring agents.
3. What is the role of gums in herbal formulation
4. Write notes on Phytosomes.
5. Explain any two herbs used as protective agents
6. Give an account of Role of antioxidants with example.
7. Write an essay on Herbs used as excipients in tablet.
Evaluation of Drugs
1. Give WHO guidelines for the standardization of raw materials.
2. Describe WHO guidelines for the standardization of finished products.
3. Explain ICH guidelines in assessing the safety of herbal medicine
4. What are ash values and extractive values? Give its significance.
5. Explain various physical methods for evaluating raw materials.
6. Describe various microscopical methods for evaluating raw materials
Patenting & Regulatory Requirements
1. Explain the procedure for patenting herbal medicine.
2. Write notes on Plant breeders right, Bioprospecting and Biopiracy.
3. Give an account of Regulation in the manufacture of ASU drugs
4. Explain the patenting aspects of traditional knowledge.
Introduction to Herbal Industry
1. Write a note on scope of Herbal industry.
2. Give an account of Plant based industries and institutions involved in the work of medicinal and aromatic plants.
3. Write an essay on Good Manufacturing Practice in Herbal medicine.
4. Give the basic requirements for Schedule T.