PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY, PANIPAT

DEPARTMENT OF PHARMACY

Course: Bachelor in Pharmacy

LESSON PLAN

Faculty Name: Dr. Shiva Tushir **Subject Name: Pharmacognosy & Phytochemistry-I**

Class: B. Pharmacy – 4th Semester **Subject Code: BP405T**

Scope of the Subject: The subject involves the fundamentals of Pharmacognosy like scope, classification ofcrude drugs, their identification and evaluation, phytochemicals present in them and theirmedicinal properties.

Objectives: Upon completion of the course, the student shall be able

1. to know the techniques in the cultivation and production of crude drugs
2. to know the crude drugs, their uses and chemical nature
3. know the evaluation techniques for the herbal drugs
4. to carry out the microscopic and morphological evaluation of crude drugs

Number of Lectures: 45 **Each lecture**: 01 hour

Lecture No.	Particular	Remark/ Date
UNIT-I : Introduction to Pharmacognosy:		
1.	Introduction to Pharmacognosy	
2.	History of Pharmacognosy	
3.	Sources of Drugs in detail	
4.	Organized and Unorganized Drugs	
5.	Classification of drugs in detail	
6.	Classification of drugs in detail	
7.	Adulteration of drugs of natural origin	
8.	Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties	
9.	Quantitative microscopy of crude drugs & leaf constants	
10.	Diagrams of microscopic objects to scale with camera lucida	
UNIT-II : Cultivation, Collection, Processing and storage of drugs of natural origin:		
11.	Cultivation of drugs of natural origin	
12.	Collection of drugs of natural origin	
13.	Factors influencing cultivation of medicinal plants	
14.	Plant hormones and their applications	
15.	Plant hormones and their applications	
16.	Polyploidy with reference to medicinal plants	
17.	Mutation with reference to medicinal plants	
18.	Hybridization with reference to medicinal plants	

19.	In situ Conservation of medicinal plants	
20.	Ex situ Conservation of medicinal plants	
UNIT-III : Plant tissue culture:		
21.	Historical development of plant tissue culture	
22.	Types of cultures of plant tissue culture	
23.	Nutritional requirements of plant tissue culture	
24.	Growth and their maintenance of plant tissue culture	
25.	Applications of plant tissue culture in pharmacognosy	
26.	Applications of plant tissue culture in pharmacognosy	
27.	Edible vaccines	
UNIT-IV: Pharmacognosy in various systems of medicine:		
28.	Role of Pharmacognosy in allopathy and traditional systems of medicine-Ayurveda	
29.	Role of Pharmacognosy in allopathy and traditional systems of medicine-Unani	
30.	Role of Pharmacognosy in allopathy and traditional systems of medicine-Siddha	
31.	Role of Pharmacognosy in allopathy and traditional systems of medicine-Homeopathy and Chinese systems of medicine	
32.	Definition, classification, properties and test for identification of Alkaloids	
33.	Definition, classification, properties and test for identification of Glycosides	
34.	Definition, classification, properties and test for identification of Flavonoids	
35.	Definition, classification, properties and test for identification of Tannins	
36.	Definition, classification, properties and test for identification of Volatile oil	
37.	Definition, classification, properties and test for identification of Resins	
UNIT-V: Primary metabolites:		
38.	Study of biological source, chemical nature and uses of drugs of natural origin-Plant Products: Fibers - Cotton, Jute, Hemp	
39.	Study of biological source, chemical nature and uses of drugs of natural origin Hallucinogens	
40.	Study of biological source, chemical nature and uses of drugs of natural origin Teratogens	
41.	Study of biological source, chemical nature and uses of drugs of natural origin Natural allergens	
42.	General introduction, detailed study with respect to chemistry, sources, preparation, evaluation, preservation, storage, therapeutic used and commercial utility as Pharmaceutical Aids and/or Medicines for the Carbohydrates	
43.	General introduction, detailed study with respect to chemistry, sources, preparation, evaluation, preservation, storage, therapeutic used and commercial utility as Pharmaceutical Aids and/or Medicines for the Proteins and Enzymes	
44.	General introduction, detailed study with respect to chemistry, sources, preparation, evaluation, preservation, storage, therapeutic used and commercial utility as Pharmaceutical Aids and/or Medicines for the Lipids(Waxes, fats, fixed oils)	
45.	Novel medicinal agents from marine sources	

Teacher in-charge **HOD** **Principal**