Program	Diploma in Pharmacy (D.Pharm)	**Year - 1**
Type of Course	-	
Prerequisite		
Course Objective	-	
Effective From A.Y.	2024-25	

Teaching Scheme (Contact Hours)				Examination Scheme				
				Theory Marks		Practical Marks		
Lecture	Tutorial	Lab	Credit	External Marks (T)	Internal Marks (T)	External Marks (P)	Internal Marks (P)	Total Marks
3	1	3	8	80	20	80	20	200

SEE *- Semester End Examination,* ***CIA*** *- Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)*

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
1	**Introduction to pharmacognosy** Definition, history, present status and scope of Pharmacognosy	2	3
2	**Classification of crude drugs** Alphabetical Taxonomical Morphological Pharmacological Chemical Chemo-taxonomical	4	5
3	**Quality control of crude drugs:** different methods of adulteration of crude drugs evaluation of crude drug	6	8
4	**Alkaloids, terpenoids, glycosides, volatile oils, tannins and resins.** Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of alkaloids, terpenoids, glycosides, volatile oils, tannins and resins.	6	8
5	**Biological source, chemical constituents and therapeutic efficacy of the following categories of crude drugs.** Laxatives Aloe, Castor oil, Ispaghula, Senna Cardiotonic Digitalis, Arjuna Carminatives and G.I. regulators Coriander, Fennel, Cardamom, Ginger, Clove, Black Pepper, Asafoetida, Nutmeg, Cinnamon Astringents Myrobalan, Black Catechu, Pale Catechu Drugs acting on nervous system Hyoscyamus, Belladonna, Ephedra, Opium, Tea leaves, Coffee seeds, Coca Anti-hypertensive Rauwolfia Anti-tussive Vasaka, Tolu Balsam Anti-rheumatics Colchicum seed Anti-tumour Vinca, Podophyllum Antidiabetics Pterocarpus, Gymnema Diuretics Gokhru, Punarnava Anti-dysenteric Ipecacuanha Antiseptics and disinfectants Benzoin, Myrrh, Neem, Turmeric Antimalarials Cinchona, Artemisia Oxytocic Ergot Vitamins Cod liver oil, Shark liver oil Enzymes Papaya, Diastase, Pancreatin, Yeast Pharmaceutical Aids Kaolin, Lanolin, Beeswax, Acacia, Tragacanth, Sodium alginate, Agar, Guar gum, Gelatine Miscellaneous Squill, Galls, Ashwagandha, Tulsi, Guggul	30	40
6	**Plant fibres used as surgical dressings:** Cotton, silk, wool and regenerated fibres Sutures – Surgical Catgut and Ligatures	3	4
7	**Basic principles involved in the traditional systems of medicine, Method of preparation of Ayurvedic formulations** Ayurveda, Siddha, Unani and Homeopathy Arista, Asava, Gutika, Taila, Churna, Lehya and Bhasma	8	11
8	**Role of medicinal and aromatic plants in national economy and their export potential** Role of medicinal and aromatic plants in national economy and their export potential	2	3
9	**Herbs as health food:** Brief introduction and therapeutic applications of: Nutraceuticals, Antioxidants, Pro-biotics, Pre-biotics, Dietary fibers, Omega-3-fatty acids, Spirulina, Carotenoids, Soya and Garlic	4	5
10	**Introduction to herbal formulations** Introduction to herbal formulations	4	5

Course Content

T - Teaching Hours | **W** - Weightage

Sr.	Topics	T	W
11	**Herbal cosmetics:** Sources, chemical constituents, commercial preparations, therapeutic and cosmetic uses of: Aloe vera gel, Almond oil, Lavender oil, Olive oil, Rosemary oil, Sandal Wood oil	4	5
12	**Phytochemical investigation of drugs** Phytochemical investigation of drugs	2	3
	Total	75	100

Suggested Distribution Of Theory Marks Using Bloom's Taxonomy

Level	Remembrance	Understanding	Application	Analyze	Evaluate	Create
Weightage	30	30	20	10	5	5

NOTE : This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes

At the end of this course, students will be able to:	
CO1	Knowledge and understanding about identification of the important/common crude drugs of natural origin
CO2	Knowledge and understanding about the importance of quality control of drugs of natural origin.
CO3	Knowledge and understanding about the use of herbs and nutraceuticals
CO4	Knowledge and understanding the principles of alternative system of medicines
CO5	Ability to morphological identification, gross anatomical studies(transsverse section) and physical and chemical test for evaluation of crude drugs

Reference Books

1.	**Pharmacognosy** By C K Kokate & S B Gokhale | Nirali prakashan | 55th
2.	**pharmacognosy and phytochemistry I (TextBook)** By Dr. Kuntal Das
3.	**pharmacognosy and phytochemistry II (TextBook)** By Dr. T. Sudha, Dr. V. R. Ravikkumar, Dr. Tulsidas P. Nimbekar | pee vee
4.	**Indian medicinal plants (TextBook)** By kirtikar KR
5.	**Text book of Pharmacognosy (TextBook)** By C.S. Shah and J. S. Qadry | CBS Publishers
6.	**Study of crude drugs** By M. A. Iyengar | Manipal Press Ltd
7.	**Text Book of Pharmacognosy (TextBook)** By T. E. Wallis. | CBS Publishers
8.	**Handbook of aromatic plants (TextBook)** By S.K Bhattacharjee
9.	**Indian herbal pharmacopoeia**

List of Practical

1.	To study morphological characteristics of ispaghula and senna
2.	To study morphological characteristics of coriander and fennel
3.	To perform physical and chemical test of asafoetida
4.	To study morphological characters and to perform physical and chemical test of agar
5.	To study morphology and gross anatomy of clove
6.	To prepare and study transverse section of coriander
7.	To study morphology and gross anatomy of cinnamon
8.	To study morphological characteristics of cardamom and ginger
9.	To Perform physical and chemical test of guar gum
10.	To Perform physical and chemical test of tragacanth
11.	To study morphological characteristics of gokhru and punarnava
12.	To study morphological characteristics of nutmeg and black pepper
13.	To study morphological characteristics of ephedra and rauwolfia
14.	To Perform physical and chemical test of acacia and benzoin
15.	Perform physical and chemical test of gelatine
16.	To study morphology and gross anatomy of cinchona
17.	To prepare and study transverse section of datura
18.	To prepare and study transverse section of vasaka
19.	To prepare and study transverse section of ajwain
20.	To prepare and study transverse section of ashwagandha.
21.	To prepare and study transverse section of nux vomica
22.	To prepare and study transverse section of liquorice
23.	To perform physical and chemical test of castor oil and aloe

List of Tutorial

1.	Definition, history, and scope of Pharmacognosy
2.	classification of crude drugs: alphabetical, morphological, pharmacological classification of crude drugs
3.	chemical classification, taxonomical classification, chemotaxonomical classification , different methods of adulteration
4.	different methods of adulteration, morphological and microscopic evaluation
5.	physical evaluation, chemical evaluation, biological evaluation
6.	Biological source, chemical constituents and therapeutic efficacy of the aloe, castor oil, isapgol
7.	Biological source, chemical constituents and therapeutic efficacy of the senna, digitalis, arjuna, coriander, fennel, cardamom, ginger, clove, balck pepper
8.	Biological source, chemical constituents and therapeutic efficacy of the asafoetida, nutmeg, cinnamon, myrobalan, black catechu, pale catechu, hyoscyamus, belladonna, ephedra
9.	Biological source, chemical constituents and therapeutic efficacy of the opium, tea leaves, coffee seeds, coca, rauwolfia, vasaka
10.	Biological source, chemical constituents and therapeutic efficacy of the tolu balsam, colchicum seeds, vinca, podophyllum, pterocarpus, gymnema, gokhru, punarnava, ipecacuanha
11.	Biological source, chemical constituents and therapeutic efficacy of the benzoin, neem, myrrh, turmeric, cinchona, artemisia, ergot, cod liver oil, shark liver oil
12.	Biological source, chemical constituents and therapeutic efficacy of the papaya, diastase, pancreatin, yeast, kaolin, lanolin, beeswax, acacia, tragacanth
13.	Biological source, chemical constituents and therapeutic efficacy of the sodium alginate, agar, guar gum, gelatinr, squill, galls, ashwagandha, tulsi, gugul
14.	Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of alkaloids, terpenoids, glycosides, volatile oils,
15.	Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of tannins and resins.
16.	Plant fibres used as surgical dressings: Cotton, silk, wool and regenerated fibres Sutures – Surgical Catgut and Ligatures
17.	Basic principles involved in the traditional systems of medicine like: Ayurveda, Siddha, Unani and Homeopathy
18.	Method of preparation of Ayurvedic formulations like: Arista, Asava, Gutika, Taila, Churna, Lehya and Bhasma
19.	Method of preparation of Ayurvedic formulations like: Churna, Lehya and Bhasma
20.	Role of medicinal and aromatic plants in national economy and their export potential
21.	Herbs as health food: Brief introduction and therapeutic applications of: Nutraceuticals, Antioxidants, Pro-biotics, Pre-biotics, Dietary fibers, Omega-3-fatty acids,
22.	Herbs as health food: Brief introduction and therapeutic applications of: Spirulina, Carotenoids, Soya and Garlic
23.	Introduction to herbal formulations
24.	Sources, chemical constituents, commercial preparations, therapeutic and cosmetic uses of: Aloe vera gel, Almond oil, Lavender oil, Olive oil, Rosemary oil, Sandal Wood oil
25.	Phytochemical investigation of drugs