

PHARMACEUTICS AND HERBAL MEDICINE

Semester	Subject Code	Category	Lecture		Theory		P	C
VI	21CBT6B	Core theory - IX	6 hrs per week	90	6 hrs per week	90	0	4

COURSE OBJECTIVE:

- ✓ To provide the student with knowledge of the preparation, stability and formulation of different protein and peptide drugs such as antisense agents, transgenic therapeutics and gene therapy. To use the latest techniques for the search of new products from natural sources.

COURSE OUTCOMES: Upon successful completion of the course, students will be able to

CO NUMBER	CO STATEMENT	KNOWLEDGE LEVEL (K1-K4)
CO1	To recall the basics of drug discovery and the regulation involved in the development of drugs	K2
CO2	Apply and analyze the different forms of dosage formulations	K2 & K3
CO3	Arrange the methods of drug delivery system from prehistoric times	K4
CO4	Evaluate the drug toxicity	K6
CO5	Evaluate the mode of action of drugs	K6

Knowledge Level: K1- Remember, K2- Understand, K3- Apply, K4-analyze

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	M	M	M
CO2	S	S	S	M	M	M
CO3	M	S	S	S	M	M
CO4	M	M	S	M	S	M
CO5	S	M	S	M	M	S

S-Strong, M-Medium, L-Low

UNIT 1 INTRODUCTION:**18 Hours**

Pharmacology: Introduction, History of pharmaceutical industry, drugs, Drugs discovery and Development phases, Sources of drugs, Nature of Drugs, Bioassay of drugs, drug intolerance, drug abuse.

UNIT II DOSAGE SCIENCE**18 Hours**

Definition of Dosage forms, Classification of dosage forms (solid unit dosages –Tablets, capsules; liquids – solutions, lotions, suspension etc; semi-solid dosage forms– ointments, creams, gel, suppositories, etc; Parenterals, Aerosols etc), Routes of drug administration, Mechanism of drug action.

UNIT III DRUG DELIVERY SYSTEM:**18 Hours**

Advanced drug delivery systems – controlled release, transdermal, liposomes and drug targeting, Approaches to the characterization of biosimilars. Problems in characterizing biologics: (Types of biologics, Peptides, Non-glycosylated proteins, Glycosylated proteins, Monoclonal antibodies).

UNIT IV OVERVIEW OF AYURVEDA MEDICINES**18 Hours**

Introduction to ayurveda and traditional medicines, brief understanding on ayurvedic formulation types, preparation and their methods based on ayurvedic formulary of India. Analysis of raw materials and evaluation of finished products giving emphasis on physico-chemical properties, chemical analysis, identification, instrumental analysis, biological and toxicological testing, microbiological testing.

UNIT V MEDICINAL PLANTS AND DRUG QUALITY**18 Hours**

Study of medicinal plants under therapeutic categories such as digestives, cardiovascular, anticancer, antirheumatic, antimalarial, antidiabetics, Introduction to ayurvedic pharmacopoeia and methods for standardization and quality control of herbal extracts & products.

Distribution of Marks: Theory 80% and Problems 20%

TEACHING METHODOLOGY:

- Class room teaching
- Assignments
- Discussions
- Homework
- PPT presentations
- Seminars
- Models and charts

TEXT BOOKS:

S.no.	Authors	Title	Publishers	Year of publication
1.	F.S.K. Barar, S.Chand and Co.,	Essentials of Pharmacotherapeutics	S. Chand Publishing	1985
2.	Alfonso RG	The Science and Practice of Pharmacy	Baltimore, Md. : Lippincott Williams & Wilkins	2003
3.	KoKate	Textbook of pharmaceutical Biotechnology	Elsevier Health	2011
4.	Agrawal S.S and Paridhavi M	Herbal Drug Technology	University Press	2007
5.	ManuchairEbadi	Pharmacodynamic Basis of herbal medicine	CRC Press	2006

REFERENCE BOOKS:

S.no.	Authors	Title	Publishers	Year of publication
1.	T V Ramabhadran	Pharmaceutical Design And Development Approach	Ellis Horwood Publishers	2005
2.	S.P Vyas, V. Dixit	Pharmaceutical Biotechnology	CBS publishers and distributors	2018
3.	Dawn C P Ambrose	Leafly Medicinal Herbs	CABI	2016
4	Lester Packer and SissiWachtel-Galor	Herbal and traditional medicine	CRC Press	2004
5.	Carlos A. Guzman	Pharmaceutical Biotechnology	Springer Science & Business Media	2010

WEB SOURCES:

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3525971/>
2. <https://www.imedpub.com/pharmaceutical-biotechnology-current-research/>
3. <https://www.goodreads.com/book/show/12037577-herbal-drug-technology>
4. <https://books.google.co.in/books?lr=&id=CMJKgfhCKzIC&oi>
5. https://books.google.co.in/books/about/Pharmaceutical_Biotechnologyhttps://books.google.co.in/books/about/Pharmaceutical_Biotechnology
6. <https://books.google.co.in/books?id=wwLpDAAQBAJ>

Syllabus Designer :

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