

Institute/School Name	Chitkara College of Pharmacy		
Department Name	Pharmacy		
Programme Name	B.Pharmacy		
Course Name	Medicinal Chemistry-II	Session	July-Dec, 2025
Course Code	BP501T	Semester/Batch	5 th /2023
L-T (Per Week)	3-1	Course Credits	4
Pre-requisite	The students must have successfully completed B. Pharm. 4 th Semester	NHEQF Level¹	5.5
Course Coordinator	Dr. Nidhi Rani		
SDG	3,4		

Objectives of the Course:

Upon completion of the course the student shall be able to understand the chemistry of drugs with respect to their pharmacological activity; understand the drug metabolic pathways, adverse effect and therapeutic value of drugs; know the structural activity relationship of different class of drugs; study the chemical synthesis of selected drugs.

Course Outcomes (COs)

Students should be able to:

	COs	Program Outcomes (PO)	NHEQF Level Descriptor	No. of Lectures
CO01	Illustrate correlation between pharmacology of a disease and its migration or cure	PO1, PO6, PO9, PO11	Q1	10
CO02	Determine the mechanism pathways and classification of different classes of medicinal compounds	PO1, PO6, PO9	Q3	08
CO03	Outline the chemical synthesis, structure activity relationship of different classes of drugs	PO1, PO6, PO9, PO10	Q4	10
CO04	Recognize the drug regimen used in heart disease and anti-histaminic agents	PO1, PO2, PO6, PO9, PO11	Q5	10
CO05	Deduce the chemotherapy for cancer and drugs acting on endocrine system	PO1, PO2, PO3, PO6, PO9, PO10	Q6	07
Total Contact Hours				45

CO-PO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	Type of Assessment's
CO01	2					3			2		2	Summative/ Formative
CO02	2					3			3			Summative/ Formative

CO03	2					2			2	2		Summative/ Formative
CO04	3	2				3			3		2	Summative/ Formative
CO05	3	2	2			3			2	2		Summative/ Formative

3=High, 2=Medium, 1=Low

Recommended Books:

- B01: Wilson and Gisvold's Textbook of Organic Medical and Pharmaceutical Chemistry**
- B02: Foye's Principles of Medicinal Chemistry**
- B03: Burger's Medicinal Chemistry, Volume I to IV**
- B04: Introduction to Principles of Drug Design – Smith and Williams**
- B05: Textbook of Medicinal Chemistry – Harkishan Singh and V. K. Kapoor**

Other readings and relevant websites:

Serial No	Link of Journals, Magazines, websites and Research Papers
1.	www.sciencedirect.com
2.	www.apc.com
3.	www.ncbi.nlm.nih.gov
4.	www.springerlink.com

Lecture Plan

Lec no.	Topic	Book no, Ch no, page no.	TLM	ALM	Web References	Audio-video
1-12	Antihistaminics	B02, CH 32, Page no 1045	Lecture Discussion	Quiz/Test Questions/ Brain storming Sessions Case study	https://books.google.co.in/books?id=R0W1ErpsQpkC&printsec	1-12
13-24	Anticancer Agents	B02, CH 37, Page no 1199	Active learning Questioning	Debate Quiz Plays	-	13-24
25	Antihyperlipidemic agents – Classification, MOA, Digestion of Lipids	B02, CH 25, Page no 815	Active learning Questioning	Infusing humor into Class Sessions Roleplay / Quiz		25
26	SAR (HMG CoA Reductase inhibitors, Bile Acid sequestrants, Fibrates)	B02, CH 25, Page no 815	Inductive Methods Lecture Discussion	Group Discussion Think/Pair /Share		26

27-29	Anti-anginal – SAR (Calcium Channel Blockers) and Pharmacology	B02, CH 21, Page no 700	Inductive Methods Lecture Discussion	Group Discussion Think/Pair /Share Roleplay		27-29
30-31	Cardiac glycosides – SAR and Pharmacology, synthesis	B02, CH 21, Page no 700	Cooperative Learning Lecture	Quiz/Test Questions/ Brain storming Sessions Case study		30-31
32	Coagulants and Role of Vit K in coagulation, Coagulation cascade	B02, CH 26, Page no 841	Active learning Questioning Reviewing Discussion	Quiz/Test Questions/ Brain storming Sessions Case study	-	32
33-34	Anticoagulants (MOA and SAR)	B02, CH 26, Page no 841	Active learning Questioning	Think/Pair /Share Roleplay	-	33-34
35-36	Diuretics – Pharmacology and Classification	B02, CH 22, Page no 728	Inductive Methods Lecture Discussion	Case study Puzzle, Enigma, Contraindication		35-36
37-38	SAR of high ceiling diuretics, carbonic anhydrase inhibitors, Thiazide diuretics, osmotic diuretics, Potassium sparing diuretic	B02, CH 22, Page no 728	Active learning Questioning Reviewing Discussion	Debate / Quiz / Plays		37-38
39-41	Antihypertensive agents – Classification, Pharmacology, and SAR (ACE Inhibitors)	B02, CH 23, Page no 747	Active learning Questioning Reviewing Discussion	Brain storming Sessions Case study Puzzle, Enigma, Contraindication	-	39-41

42-45	Anti-arrhythmic agents – Pharmacology and SAR	B02, CH 21, Page no 700	Lecture Discussion	Infusing humor into Class Sessions Roleplay / Quiz	-	42-45
46-49	Antidiabetic agents (Pharmacology and SAR)	B02, CH 27, Page no 877	Lecture Discussion	Infusing humor into Class Sessions Roleplay / Quiz	-	46-49
50-52	Local Anaesthetics	B01, CH 20, Page no 676	Lecture Reviewing Discussion	Video / Puzzle / Enigma / Contraindication	-	50-52
53	Thyroid and Antithyroid drugs (MOA and SAR), Local anesthetics	B02, CH 29, Page no 943	Inductive Methods Lecture Discussion	Brain storming Sessions Case study		53
54-55	Nomenclature, stereochemistry, and metabolism of steroids	B02, CH 28, Page no 907	Lecture Reviewing Discussion	Video / Puzzle / Enigma / Contraindication	-	54-55
56-61	Sex Hormones, Drugs for erectile dysfunction, oral contraceptives, corticosteroids	B02, CH 28, Page no 907	Lecture Reviewing Discussion	Video / Puzzle / Enigma / Contraindication	-	56-61

Teacher in-charge

Assistant Dean

Dean