JHARKHAND Rai University
RANCHI

PRACTICE SET FOR SUBJECTIVE QUESTIONS
End Semester (Semester V) Examination, Dec-2025

Program: B. Pharm
Subject: Medicinal Chemistry-II
Subject Code: BP501T

Unit I			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
1	Describe the distribution and physiological role of histamine receptors.	CO1	Understand
2	Write the classification and therapeutic uses of first-generation H_1-antagonists.	CO1	Remember
3	Explain the mechanism of action and SAR of Diphenhydramine hydrochloride.	CO1	Analyze
4	Write short notes on Cimetidine and Famotidine as H_2-receptor antagonists.	CO1	Understand
5	Discuss the mechanism of action of proton pump inhibitors.	CO1	Understand
6	Write the classification and therapeutic uses of alkylating agents.	CO1	
Section III			**Questions for 10 marks**
7	Classify antihistaminic drugs and explain the synthesis, SAR, and mechanism of Promethazine hydrochloride.	CO1	Analyze
8	Explain the chemistry, mechanism of action, and therapeutic applications of Omeprazole and Pantoprazole.	CO1	Understand
9	Classify antineoplastic agents and explain the chemistry and mechanism of action of Methotrexate and Cyclophosphamide.	CO1	Understand
10	Discuss in detail the various classes of anticancer antibiotics and plant products with examples.	CO1	Remember
Unit II			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
11	Classify anti-anginal drugs with examples.	CO2	Remember
12	Explain the mechanism of action of Isosorbide dinitrate.	CO2	Understand
13	Write short notes on calcium channel blockers with suitable examples.	CO2	Remember
14	Discuss the mechanism and therapeutic importance of Acetazolamide.	CO2	Understand
15	Write the classification and mechanism of loop diuretics.	CO2	Remember

16	Explain the mechanism of action and uses of Captopril and Enalapril.	CO2	Understand
17	Write short notes on carbonic anhydrase inhibitors.	CO2	Remember
Section III			**Questions for 10 marks**
18	Explain the chemistry, SAR, and mechanism of action of nitrates and calcium channel blockers.	CO2	Analyze
19	Discuss in detail the classification, SAR, and mechanism of action of thiazide diuretics with emphasis on Hydrochlorothiazide.	CO2	Analyze
20	Classify antihypertensive drugs and explain the chemistry and mechanism of action of Methyldopate hydrochloride and Clonidine hydrochloride.	CO2	Apply
21	Write detailed notes on vasodilator antihypertensive drugs.	CO2	
Unit III			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
22	Classify anti-arrhythmic drugs with examples.	CO3	Remember
23	Explain the mechanism of action of Lidocaine hydrochloride.	CO3	Understand
24	Write short notes on Clofibrate and Lovastatin as antihyperlipidemic agents.	CO3	Analyze
25	Discuss the mechanism of action of the anticoagulant Warfarin.	CO3	Understand
26	Write short notes on cardiac glycosides.	CO3	Analyze
27	Mention the uses and mechanisms of Digoxin and Digitoxin.	CO3	Understand
Section III			**Questions for 10 marks**
28	Discuss the classification, chemistry, and mechanism of action of anti-arrhythmic drugs with reference to Disopyramide phosphate and Quinidine sulphate.	CO3	Understand
29	Explain in detail the classification and mechanism of anticoagulants and coagulants (Warfarin, Clopidogrel, Menadione).	CO3	Remember
30	Describe the mechanism, structure, and uses of drugs used in congestive heart failure.	CO3	Evaluate
31	Write the chemistry and mechanism of action of Lovastatin and Cholestyramine as lipid-lowering agents.	CO3	Understand
32	Classify anti-arrhythmic drugs and discuss the synthesis and mechanism of action of Lidocaine hydrochloride.	CO3	Remember
33	Write notes on potassium channel blockers and calcium channel blockers used in cardiac arrhythmia, with examples such as Amiodarone and Verapamil.	CO3	Apply
Unit IV			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
34	Write the general structural features and stereochemistry of steroidal hormones.	CO4	Understand
35	Discuss the therapeutic uses of Testosterone and Nandrolone.	CO4	Apply
36	Write short notes on oral contraceptives (Mifepristone, Levonorgestrel).	CO4	Remember

37	Explain the mechanism of action of corticosteroids.	CO4	Understand
38	Discuss the uses of Oestradiol and Diethylstilbestrol.	CO4	Apply
39	Write a short note on antithyroid drugs.	CO4	Remember
Section III			**Questions for 10 marks**
40	Classify sex hormones and explain the chemistry, SAR, and metabolism of estrogens and progestins.	CO4	Analyze
41	Explain in detail the chemistry and therapeutic uses of corticosteroids (Hydrocortisone, Dexamethasone).	CO4	Apply
42	Discuss the chemistry, mechanism of action, and uses of L-Thyroxine and Propylthiouracil.	CO4	Understand
Unit V			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
43	Classify oral antidiabetic agents with examples.	CO5	Remember
44	Explain the mechanism of action of Tolbutamide and Chlorpropamide.	CO5	Understand
45	Write short notes on the SAR of sulfonylurea derivatives.	CO5	Analyze
46	Classify local anaesthetics with examples.	CO5	Remember
47	Discuss the mechanism of action of Benzocaine.	CO5	Understand
Section III			**Questions for 10 marks**
48	Explain the chemistry, SAR, and mechanism of action of sulfonylureas and biguanides.	CO5	Analyze
49	Discuss the chemistry, SAR, and mechanism of action of local anaesthetics with reference to Mepivacaine and Lignocaine.	CO5	Analyze
50	Write detailed notes on the chemistry and mechanism of action of insulin and its analogues.	CO5	Understand

Course Outcomes (CO): On the successful completion of the Course, students will be able to: -

CO1. Demonstrate synthesis of selected therapeutic drugs.
CO2. Analyze how chemical structures affect drug activity and metabolism.
CO3. Compare the SAR and mechanism of action of antimicrobial and anticancer drugs.
CO4. Evaluate how structural changes impact drug stability, efficacy, and bioavailability.
CO5. Explain the chemistry, classification, and SAR of drugs acting on the ANS and CVS.

Summary Sheet

CO Wise		
CO	Q. No	Marks
CO1:	1, 2, 3, 4, 5, 6, 7, 8, 9,10	70
CO2:	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	75
CO3:	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33	90
CO4:	34, 35, 36, 37, 38, 39, 40, 41, 42	60
CO5:	43, 44, 45, 46, 47, 48, 49, 50	55

Total Marks: 350		
Unit Wise		
Unit	Q. No	Marks
Unit 1:	1, 2, 3, 4, 5, 6, 7, 8, 9,10	70
Unit 2:	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	75
Unit 3:	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33	90
Unit 4:	34, 35, 36, 37, 38, 39, 40, 41, 42	60
Unit 5:	43, 44, 45, 46, 47, 48, 49, 50	55
Total Marks: 350		
Blooms Taxonomy Level (BTL) Wise		
BTL	Q. No	Marks
LOT = 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 23, 25, 27, 29, 31, 34, 36, 37, 39, 42,43, 44, 46, 47, 50		185
HOT = 3, 7, 18, 19, 20, 21, 22, 24, 26, 28, 30, 32, 33, 35, 38, 40, 41, 45, 48, 49		150
Total Marks: 335		

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Disclaimer: -This is a Practice Set. The Question in End term examination will differ from the Practice Set. This Practice Set is meant for practice only.