JHARKHAND Rai University RANCHI

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

Subject: Pharmacology- II
Subject Code: BP503T

Course Outcomes	Description
CO1	To explain the electrophysiology of the heart, various heart diseases, and pharmacological management.
CO2	To explain the hemostasis, coagulation cascade, and drugs used to treat blood disorder and fluid-electrolyte balance.
CO3	To understand the different autocoids and their physiological and pathological role.
CO4	To explain the role of endocrine system and different hormones along with hormonal disease associated with endocrine system.
CO5	To understand the properties of natural and synthetic sex hormones, application, and principle of bioassay.

Unit I

S No.	Questions	CO	Bloom's Taxonomy Level
Section II			**Questions for 5 marks**
1	Explain with a labeled diagram, the mechanism of action of Glycosides and how it acts as an ionotropic agent with special emphasis on Na^+/K^+-ATPase pump?	CO1	Apply
2	Explain the rationale for the use of diuretics and vasodilators in alleviating CHF.	CO1	Understand
3	Explain the mechanism of action of HMG-CoA reductase inhibitors (statins) and fibrates, including their effects on lipid metabolism.	CO1	Understand
4	Discuss the various types of congestive heart failure and their distinguishing features.	CO1	Understand
5	Classify Anti-Arrhythmic Drugs with examples.	CO1	Remember

6	Define hypertension and classify it based on pathophysiology.	CO1	Remember
7	Explain the electrophysiology of heart with a neat labelled diagram that shows influx and efflux of different ions and how it affects the action potential generation?	CO1	Apply
Section III			**Questions for 10 marks**
8.	Justify the pharmacological targeting of voltage-gated ion channels as a therapeutic strategy in arrhythmias.	CO1	Analyze
9.	Critically analyze the role of the renin–angiotensin–aldosterone system (RAAS) in the pathophysiology of hypertension, and compare the molecular mechanisms by which ACE inhibitors and ARBs disrupt this pathway to achieve antihypertensive efficacy.	CO1	Analyze
10.	An old woman sought emergency medical care due to prolonged chest pain. In June 2025, the patient had prolonged chest pain and at that time she sought medical care. She was admitted at the hospital and diagnosed with ischemic disease. Describe the drug classification and mechanism of action of drugs for this type of disease.	CO1	Evaluate
Unit II			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
11	Differentiate between coagulants and anticoagulants, citing specific drug examples and mechanisms of action.	CO2	Remember
12	Explain types of hematinic with examples.	CO2	Remember
13	Write the classification of drugs used in therapy of shock.	CO2	Understand
14	Elucidate the mechanism of action of fibrinolytic (thrombolytic) agents and discuss their therapeutic applications and limitations.	CO2	Understand
15	Classify diuretics and explain their mechanism of action with special emphasis on diuretics that work by reabsorption of different ions.	CO2	Understand
16	Elaborate the mechanism of action (MOA) of Antiplatelet drugs.	CO2	Understand
17	Write a short note on iron absorption and transport.	CO2	Understand
Section III			**Questions for 10 marks**
18.	Discuss types of rational fluid resuscitation strategy for a patient with severe hemorrhagic shock, integrating the selection criteria, pharmacological properties, and clinical limitations of plasma volume expanders.	CO2	Evaluate
19.	Justify, how the site of action of different diuretics in the nephron affects the amount of sodium and water excretion? Additionally explain the mechanism of action of diuretics that	CO2	Analyze

	are not affected by reabsorption of ions.		
20.	A man got injured and was bleeding heavily. Write a detailed note on mechanism of body to stop bleeding and enlist few drugs that could be used as treatment.	CO2	Evaluate
Unit III			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
21	What are the main classes of histamine and serotonin antagonists, and how do they work?	CO3	Remember
22	Write a brief note on the biosynthesis of histamine and serotonin.	CO3	Understand
23	Write the biosynthesis of prostaglandins.	CO3	Understand
24	What are NSAIDs? Explain their mechanism of action in controlling pain, fever, and inflammation.	CO3	Understand
25	What are the different classes of anti-gout medications, and how do they help prevent gout attacks?	CO3	Remember
26	Explain the pharmacological actions of histamine on different body systems and mention the physiological roles of its receptor types.	CO3	Understand
27	How do angiotensin receptor blockers (ARBs) and ACE inhibitors modify the effects of angiotensin in hypertension treatment?	CO3	Apply
Section III			**Questions for 10 marks**
28.	Write a detailed note on biosynthesis of Prostaglandin, thromboxane and leukotienes.	CO3	Evaluate
29	Classify histamine receptors and discuss their distribution in the body along with the physiological and pharmacological effects mediated through each receptor type.	CO3	Evaluate
30.	A man was stung by honeybee. There was inflammation and then the inflammation was reduced. What was responsible for suppression of inflammation? Write the type of receptors involved for each type	CO3	Evaluate
Unit IV			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
31	Explain the pharmacological role of Insulin and its clinical uses.	CO4	Remember
32	Discuss insulin secretion from pancreatic cell in detail with diagram	CO4	Understand
33	What are oral hypoglycemic agents? Write mechanism of action of Biguanides.	CO4	Understand
34	What are the general principles of endocrine pharmacology, and how do hormone actions differ from other pharmacological agents?	CO4	Apply

35	Outline the synthesis, storage, and release of thyroid hormones.	CO4	Remember
36	Briefly describe the roles of parathyroid hormone (PTH), calcitonin, and vitamin D in calcium and phosphate homeostasis.	CO4	Understand
37	Briefly describe the physiological actions of glucocorticoids and mineralocorticoids.	CO4	Understand
Section III			**Questions for 10 marks**
38.	Discuss the clinical applications of corticosteroids and explain the molecular mechanisms underlying their anti-inflammatory and immunosuppressive effects.	CO4	Evaluate
39.	Differentiate between Type I and Type II Diabetes Mellitus in terms of their etiology, pathophysiological mechanisms, and therapeutic approaches. Elaborate on the mechanism of action of various classes of oral hypoglycemic agents used in the management of Type II diabetes.	CO4	Analyze
40.	Enumerate the major anterior pituitary hormones and describe the pharmacological role of their analogues and inhibitors. Discuss the clinical uses of growth hormone agonists and antagonists	CO4	Evaluate
Unit V			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
41.	Discuss the pharmacological actions, therapeutic uses, and adverse effects of anabolic steroids.	CO5	Remember
42.	Differentiate between testosterone and DHT. Explain the side effects of DHT.	CO5	Understand
43	What do you mean by oral contraceptives? Classify oral contraceptives based on hormones composition.	CO5	Understand
44	Explain the term bioassay and outline its principles. Differentiate between graded and quantal bioassays with suitable examples	CO5	Apply
45	Explain the pharmacology of estrogens, highlighting their chemical classification, mechanism of action, physiological roles, and therapeutic applications.	CO5	Understand
46	Discuss the procedure for bioassay of insulin.	CO5	Understand
Section III			**Questions for 10 marks**
47.	Classify drugs acting on uterus with examples and explain their pharmacological action.	CO5	Evaluate
48.	A pharmaceutical company develops a new batch of oxytocin. Explain how a bioassay can be conducted and used to determine its potency?	CO5	Analyze

Summary Sheet

CO Wise

CO	Q. No	Marks
CO1	1,2,3, 4,5, 6, 7,8,9,10	65
CO2	11,12,13, 14,15,16,1718,19,20	65
CO3	21,22,23,24,25,26,27,28,29,30	65
CO4	31,32,33,34,35,36,37,38,39,40	65
CO5	41, 42,43,44,45,46,47,48	50
Total		**310**

Unit Wise

Unit	Q. No	Marks
Unit 1	1,2,3, 4,5, 6, 7,8,9,10	65
Unit 2	11,12,13, 14,15,16,17,18,19,20	65
Unit 3	21,22,23,24,25,26,27,28,29,30	65
Unit 4	31,32,33,34,35,36,37,38,39,40	65
Unit 5	41, 42,43,44,45,46,47,48	50
Total		**310**

Blooms Taxonomy Level (BTL) Wise

BTL	Q. No	Marks
LOT	1, 2,3, 4,5, 6, 7,11,12,13,14,15,16,17,21,22,23,24,25,26 27,31,32,33,34,35,36,37,41,42,43,44,45,46	170
HOT	8,9,10, 18,19,20, 28,29,30, 38,39,40, 47,48	140
Total		**310**

***All questions of Section II are LOT**
***All questions of Section III are HOT**

Prepared By: Ms. Srijani Dasgupta **Reviewed By**: **Dr. SM Abdullah**

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.