JHARKHAND Rai University
RANCHI

PRACTICE SET FOR SUBJECTIVE QUESTIONS

End Semester (VII Semester) Examination, Dec, 2025

Program: B. Pharm

Subject: Novel Drug Delivery System

Subject Code : BP704T

Course Learning Objective (CLO)	Description
CLO1	To explain the principles and design strategies of various controlled drug delivery systems.
CLO2	To evaluate the role of polymers in the formulation and performance of controlled release drug delivery systems, considering their classification and physicochemical properties.
CLO3	To describe the formulation, advantages, and limitations of specialized drug delivery systems.
CLO4	To analyze the concepts and formulation techniques of advanced delivery formulation including targeted drug delivery.
CLO5	To assess the design and applications of site-specific drug delivery systems like intrauterine and ocular formulations, addressing physiological barriers and delivery challenges.

Unit I			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
1	Define controlled drug delivery system and list its advantages.	CO1	Remember
2	Explain rationale behind designing controlled drug delivery systems.	CO1	Understand
3	Describe diffusion-controlled drug release mechanism.	CO1	Understand
4	Differentiate between dissolution and ion exchange systems.	CO1	Understand
5	Classify polymers used in CDDS with examples.	CO1	Remember
6	Explain the role of polymer molecular weight in drug release,	CO1	Understand
7	List physicochemical properties of drugs suitable for CDDS.	CO1	Remember
Section III			**Questions for 10 marks**
8	Compare diffusion, dissolution, and ion exchange mechanisms of controlled release.	CO1	Analyze
9	Critically analyze challenges in polymer selection for CDDS	CO1	Analyze
10	Create a design proposal for polymer-based sustained release tablet.	CO1	Create
11	Evaluate effect of polymer characteristics on release kinetics.	CO1	Evaluate
Unit II			

S No.	Questions	CO	Bloom's Taxonomy Level
Section II			**Questions for 5 marks**
12	Enlist different methods of microencapsulation.	CO2	Remember
13	Explain difference between microspheres and microcapsules.	CO2	Understand
14	Describe principles of mucoadhesion.	CO2	Understand
15	Write short note on osmotic pump.	CO2	Understand
16	Describe formulation considerations for buccal delivery system.	CO2	Understand
17	Differentiate between non-degradable implants and biodegradable implants.	CO2	Analyze
18	Mention disadvantages of microencapsulation technique.	CO2	Remember
19	Define implantable drug delivery system and list examples.	CO2	Remember
Section III			**Questions for 10 marks**
20	Apply knowledge to design an implantable system for long-term therapy.	CO2	Apply
21	Compare microencapsulation and mucoadhesive systems in terms of design and use.	CO2	Analyze
22	Analyze mechanism and applications of microencapsulation for sustained release.	CO2	Analyze
Unit III			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
23	Explain working principle of nebulizers.	CO3	Understand
24	Write short note on dry powder inhalers.	CO3	Understand
25	List approaches for gastric retention	CO3	Remember
26	Explain principle of floating drug delivery system.	CO3	Understand
27	Describe basic components of TDDS.	CO3	Understand
28	Explain role of permeation enhancers.	CO3	Understand
Section III			**Questions for 10 marks**
29	Apply concept of GRDDS to design dosage form for drug absorbed in stomach.	CO3	Apply
30	Evaluate challenges and strategies in pulmonary drug delivery.	CO3	Evaluate
31	Analyze formulation approaches for enhancing drug permeation through skin	CO3	Analyze
Unit IV			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
32	Differentiate between active and passive targeting.	CO4	Analyze
33	Define liposomes and list its components.	CO4	Remember
34	Write short note on niosomes.	CO4	Understand
35	Explain role of monoclonal antibodies in targeting.	CO4	Understand
36	List examples of marketed targeted formulations.	CO4	Remember

37	Define targeted drug delivery system with its limitation.	CO4	Remember
38	Explain about ligand-mediated targeting.	CO4	Remember
Section III			**Questions for 10 marks**
39	Create a liposomal formulation for tumor targeting.	CO4	Create
40	Analyze design considerations in active targeting using antibodies.	CO4	Analyze
41	Compare liposomes, niosomes, and nanoparticles for targeted drug delivery.	CO4	Analyze
Unit V			
S No.	**Questions**	**CO**	**Bloom's Taxonomy Level**
Section II			**Questions for 5 marks**
42	List barriers to ocular drug absorption.	CO5	Remember
43	Define and explain ocusert.	CO5	Understand
44	Explain formulation considerations for IUDs.	CO5	Understand
45	Write short note on development of intrauterine devices.	CO5	Understand
46	Mention advantages and Limitations of IUDs.	CO5	Remember
47	Describe methods to overcome ocular barriers.	CO5	Understand
48	Write short note on development of intrauterine devices.	CO5	Understand
Section III			**Questions for 10 marks**
49	Analyze material and design parameters of intrauterine devices.	CO5	Analyze
50	Design sustained-release ocuserts for anti-glaucoma drug.	CO5	Create
51	Evaluate formulation strategies to enhance ocular bioavailability.	CO5	Evaluate
52	Analyze physiological barriers which can affect ocular drug delivery.	CO5	Analyze

Summary sheet

CO WISE

CO	Q. WISE	MARKS
CO1	**1,2,3,4,5,6,7, 8,9,10,11**	**75**
CO2	**12,13,14,15,16,17,18,19,20,21,22**	**70**
CO3	**23,24,25,26,27,28,29,30,31**	**60**
CO4	**32,33,34,35,36,37,38,39,40,41**	**65**
CO5	**42,43,44,45,46,47,48,49,50,51,52**	**75**
	total	**345**

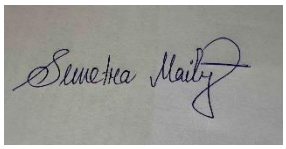
UNIT WISE

UNIT	Q. WISE	MARKS
UNIT 1	**1,2,3,4,5,6,7, 8,9,10,11**	**75**
UNIT 2	**12,13,14,15,16,17,18,19,20,21,22**	**70**
UNIT 3	**23,24,25,26,27,28,29,30,31**	**60**

UNIT 4	**32,33,34,35,36,37,38,39,40,41**	**65**
UNIT 5	**42,43,44,45,46,47,48,49,50,51,52**	**75**
	total	**345**

Blooms taxonomy level (wise)

UNIT	Q. WISE	MARKS
LOT	**1,2,3,4,5,6,7,12,13,14,15,16,17,18,19,23,24,25,26,27,28, 32,33,34,35,36,37,38,42,43,44,45,46,47,48**	**175**
HOT	**8,9,10,11,20,21,22, 29,30,31,39,40,41,49,50,51,52**	**170**
	Total	**345**



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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.