Name: Enrolment No:	

UPES

End Semester Examination, December 2024

Course: Advanced Drug Delivery System — **Semester : VII**

Program: Int. (B. Sc. + M. Sc. (Clinical Research) — **Time : 03 Hours.**

Course Code: HSCR8008P — **Max. Marks: 100**

Instructions: All questions are compulsory.

Section A

Short answer questions/ MCQ/T&F

(20Qx1.5M= 30 Marks)

S. No.		30 Marks	CO
Q 1	Occusert is _____ drug delivery system. A. Erodible and ocular B. Non-erodible and ocular C. Erodible and mucosal D. Non-erodible and mucosal	1.5	CO1
Q 2	Drug release from non-erodible matrix is due to the drug_____. A. Diffusion B. Dissolution C. Erosion D. Perfusion	1.5	CO1
Q 3	Define controlled drug delivery system.	1.5	CO1
Q 4	The formulations used for ocular delivery need not to be isotonic to body fluids. A. True B. False	1.5	CO1
Q 5	Enlist three advantages of TDDS.	1.5	CO1
Q 6	Enlist any three polymers used for bio-adhesive drug delivery.	1.5	CO1
Q 7	Define ocular drug delivery system.	1.5	CO1
Q 8	_____ can not affect mucoadhesion. A. Molecular weight of polymer B. Water content of dosage form C. Turnover of mucin D. Contact time	1.5	CO2
Q 9	Give any three examples of vesicles.	1.5	CO2
Q 10	Volatile fluids can be employed for designing _____ drug delivery system. A. High-density B. Mucosal C. Gastroretentive D. Transdermal	1.5	CO2
Q 11	Name any one drug delivery system that can avoid first pass metabolism.	1.5	CO2
Q 12	Backing layer in transdermal patch controls the rate of drug release. A. True B. False	1.5	CO2
Q 13	Bioavailability of drug via nasal route is reduced in which conditions? A. Delayed turnover of mucin B. High viscosity of mucus C. Rapid turnover of mucin D. Low blood flow to nasal mucosa	1.5	CO2
Q 14	If the drug has good permeability through mucosal membrane but is acid labile, then suggest the suitable drug delivery system for such a drug.	1.5	CO3
Q 15	Report any three types of dosage forms that can be used to load hydrophobic drug.	1.5	CO3

Q 16	_____ can be used for active targeting of nanoparticles. A. Size of nanoparticles B. Penetration enhancers C. Antibodies D. Pore size of capillary endothelium	**1.5**	**CO3**
Q 17	The metals used for fabricating implantable drug delivery systems should interact with biological systems. A. True B. False	**1.5**	**CO3**
Q 18	Identify and relate its proper use. A. Mucosal drug delivery B. Nasal drug delivery C. Pulmonary drug delivery D. Oral drug delivery 	**1.5**	**CO4**
Q 19	Drug release from the TDDS can be controlled by pore density of rate controlling membrane. A. True B. False	**1.5**	**CO4**
Q 20	Draw a schematic diagram of transdermal patch.	**1.5**	**CO4**
	Section B **(4Qx5M=20 Marks)**		
Q	**Short Answer Type Question**	**20 Marks**	**CO**
Q 1	Describe implantable drug delivery systems.	**5**	**CO1**
Q 2	Explain various advantages of ocular drug delivery systems.	**5**	**CO2**
Q 3	Review any two theories of bioadhesion.	**5**	**CO2**
Q 4	Differentiate active and passive drug targeting with examples.	**5**	**CO4**
	Section C **(2Qx15M=30 Marks)**		
Q	**Two case studies 15 marks each subsection**	**30 Marks**	**CO**
Q 1	Contrast different types of transdermal drug delivery systems.	**15**	**CO4**
Q 2	Demonstrate the use of any five mechanisms employed for gastroretentive drug delivery systems.	**15**	**CO3**
	Section D **(2Qx10M=20 Marks)**		
Q	**Long Answer type Questions**	**20 Marks**	**CO**
Q 1	a) Report and explain any one method for targeting a specific tissue in the human body. b) Sketch the diagram of mucosal membrane.	**6+4**	**CO3**
Q 2	Describe different factors affecting drug bioavailability *via* nasal route.	**5+5**	**CO2**