

Exam Date &amp; Time: 03-Jan-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

### Novel Drug Delivery Systems [PCE-BP704T - S2]

Marks: 75

Duration: 180 mins.

#### I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

1) Choose the correct statement of the following

1)	Super disintegrants are used to increase the solubility of a drug	2)	Super disintegrants are used to decrease the solubility of a drug	3)	Super disintegrants make the dissolution rate of a drug independent of the conditions under which the test is performed	4)	Super disintegrants are usually chemically cross linked and water insoluble	(1)
----	---	----	---	----	---	----	---	-----

2) Choose the incorrect statement of the following for a dissolution based sustained release dosage forms

1)	The rate of drug release can be decreased by lowering the drug dissolution rate	2)	The rate of drug release can be decreased by increasing the drug particle size	3)	The rate of drug release can be decreased by incorporating the drug into a slowly dissolving matrix coating of the drug with a slowly dissolving film	4)	The rate of drug release can be decreased by incorporating the drug into a fast-dissolving matrix coating of the drug with a fast dissolving film	(1)
----	---	----	--	----	---	----	---	-----

3) Drug release is controlled by diffusion through a polymer - Select the one which is TRUE (1)

1)	The release profile of the	2)	The release profile of the	3)	The release profile of the	4)	The release profile of the
----	----------------------------	----	----------------------------	----	----------------------------	----	----------------------------

drug is linear if plotted as a function of time	drug is linear if plotted as a function of cube root of time	drug is linear if plotted as a function of square root of time	drug is non-linear if plotted as a function of square root of time
---	--	--	--

4) Bioerodible and biodegradable polymers can be used to (choose most relevant one of the following)

1) formulate sustained and controlled release systems	2) formulate sustained release systems only	3) formulate controlled release systems only	4) formulate immediate release systems only	(1)
---	---	--	---	-----

5) Ocusert is an ocular insert which made of polymer which (choose most relevant one of the following)

1) has a drug alginate mixture	2) gives controlled release of pilocarpine	3) is made from nonporous ethylene vinyl acetate copolymer membrane	4) is made from microporous ethylene acetate polymer membrane	(1)
--------------------------------	--	---	---	-----

6) Shellac is a which category of coating material for microcapsules?

1) Water soluble resin	2) Water insoluble resin	3) Wax and lipid resin	4) Enteric resin	(1)
------------------------	--------------------------	------------------------	------------------	-----

7) Which type of gastro-retentive drug delivery system is less effective?

1) Floating systems	2) High density systems	3) Swellable and expandable systems	4) Muco-adhesive and bio-adhesive systems	(1)
---------------------	-------------------------	-------------------------------------	---	-----

8) Which of the following statement is correct for gastro-retentive drug delivery systems? (1)

1) Gastro-retentive drug delivery system can be preferred for the drugs which are predominantly absorbed from the upper part of GI tract.	2) Gastro-retentive drug delivery system can be preferred for the drugs which are having daily dose of more than 200 mg/day.	3) Gastro-retentive drug delivery system can be preferred even for the	4) Gastro-retentive drug delivery system can be preferred for the
---	--	--	---





## II Long Answers

### Answer all the questions.

- 1) Discuss on physicochemical and biological properties of drugs relevant to controlled release formulations. (10)
- 2) Discuss on Liposomes and Niosomes for Targeted Drug delivery. Support your answers with figures and examples. (10)

## III Short Answers

### Answer all the questions.

- 1) Define the term microencapsulation. Explain with a suitable diagram fluidized bed dryer for the preparation of microcapsules. (5)
- 2) Discuss theories of bioadhesion. (5)
- 3) Explicate the activation process based implants. (5)
- 4) Explain various approaches of transdermal drug delivery systems with their diagram. (5)
- 5) Discuss on merits and demerits of various routes of ocular delivery of drugs. (5)
- 6) Write briefly on Diffusional inserts, Soluble Ocular drug insert, and Bioerodible inserts. (5)
- 7) Discuss the fostering of intra-uterine devices till date. (5)

-----End-----