1/4/22, 9:15 AM PCE-BP704T - S2

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



MANIPAL ACADEMY OF HIGHER EDUCATION

			No	ovel	Drug Deliver	ry Sy	stei	ms [PCE-BP704T - S2]					
Marks: 75											Duration:	180	mins.
					I Multiple C	hoice	Qι	iestions (MCQs)					
Answer all	the q	uestions.								S	Section Duration	n: 30) mins
1)	Ch	oose the correct	state	me	nt of the follow	ving							
	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)	Ch	oose the incorre	ect sta	iten	nent of the foll	owing	g fo	or a dissolution based sus	tained	l rele	ease dosage for	rms	,
	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)	rele decrince drug diss mat the	e rate of drug ase can be reased by orporating the g into a fast- solving rix coating of drug with a dissolving		(1)
3)	Dr	ug release is con	ntroll	ed b	y diffusion th	rough	a p	polymer - Select the one	which	is T	RUE		(1)
	1)	The release		2)	The release	e		3) The release	۷	/	The release		

	drug is linear if plotted as a function of time	plo fui	rug is linear otted as a nction of cu ot of time		f f s	olotted function			lin plo fui	ug is non- ear if otted as a nction of uare root of ne					
4)	Bioerodible and biodegradable polymers can be used to (choose most relevant one of the following)														
	formulate sustai and controlled release systems	2	formulat sustained release s only	d	3	cont relea	nulate rolled ase ems only		4) $\begin{vmatrix} i \\ r \end{vmatrix}$	formulate mmediate release systems only	(1				
5)	Ocusert is an ocular	insert which	h made of p	polymei	which	(choos	e most rele	vant c	ne o	f the following	g)				
	has a drug alginate mixture	gives controllerelease of	of	3) non viny	nade fro porous yl aceta olymer	ethyle1 te		4) met	icrop		(1				
6)	Shellac is a which category of coating material for microcapsules?														
	1) Water soluble resin	1 1/11	Water insol	uble	3) Wax resin	and lipid		4)	Enteric resin	(1)				
7)	Which type of gastro-retentive drug delivery system is less effective?														
	1) Floating systems	High density systems			ellable a andable ems		1/11			esive and	(1				
8)	Which of the follow	ving statemen	ent is correc	t for ga	stro-rete	entive (drug delive	ry sys	tems	?	(1				
	1) Gastro-retentive drug delivery sy can be preferred the drugs which predominantly absorbed from tupper part of Gl tract.	ystem d for n are the	Gastro-drug de system of preferred drugs whaving of more mg/day.	livery can be ed for the which are daily do than 20	e e ose		Gastro- retentive drug delivery system can be preferre even for th	d	4)	Gastro- retentive drug delivery system can be preferred for the					

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	irritant drugs having less stability in stomach.														
9)	Which excipient is used for gas generating gastro-retentive system?	(1)													
	1) Sodium bicarbonate 2) Magnesium stearate 3) Starch 4) Glucose	(1)													
10)	The time taken by dosage form to reach the top of dissolution media after placing in the media is termed as														
	1) Destination time 2) Buoyancy Lag Time 3) Lead Time 4) Transit Time	(1)													
11)	Which of the following describes "Central Airway"?														
	1) Alveolar region 2) Bronchus 3) Tracheobronchial region 4) Nasopharyngeal region														
12)	What is the maximum particle size preferred for solid particle blend containing drug in dry powder inhalers?	(1)													
	1) Less than 0.05 μ 2) Less than 0.5 μ 3) Less than 5 μ 4) Less than 50 μ														
13)	Piezoelectric crystal is used in														
	1) Metered dose inhalers 2) Dry powder inhalers 3) Air jet nebulizer 4) Ultrasonic nebulizer														
14)	Which of the following statement is correct for nasal drug delivery systems?														
	1) pH more than 5.5 cannot match with the nasal epithelium buffer capacity which may cause toxicity and also affects the permeation of drugs. 2) pH less than 6.5 cannot match with the nasal epithelium buffer capacity which may cause toxicity and also affects the permeation of drugs. 3) pH between 5.5 to 6.5 cannot match with the nasal epithelium buffer capacity which may cause toxicity and also affects the permeation of drugs. 4) pH lower than 5.5 or higher than 6.5 cannot match with the nasal epithelium buffer capacity which may cause toxicity and also affects the permeation of drugs.														

the permeation of drugs.

15) Indicate which one of the following statements is not correct

1)	Increased permeability of the endothelium due to pathological conditions can be exploited to allow the escape of the drug carrier from the central circulation		Due to the leaky vasculature of the tumour site, after intravenous injection particulate carrier systems can become trapped in the tumour vasculature		3)	Tumour tissue generally lacks effective lymphatic drainage		4)	Targeting via the EPR effect is driven by active targeting moieties on the DDS		(1)
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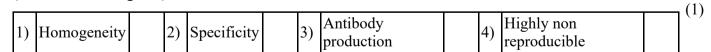
Most drugs designed to have sufficient water solubility and have a balance between hydrophobicity and hydrophilicity. (Choose the wrong one)

111	Usually not distributed throughout the body		2)	Reaches non- target sites		3)	Metabolized by liver		4)	Excreted via kidney		(1)
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The geometrical shape of lipid molecules in liposomes dictates how they self-aggregate and determines (Choose the most relevant one)

								. (1	I١
1)	the resulting structure of the aggregate	2)	the targeting	3)	solubility of drug	4)	entrapment of drug	(1	.,

18) Advantages of Monoclonal antibodies are (Choose the wrong one)



19) Following are examples of hormonal intra-uterine device, except

20) Pregnancy rate of MLCu-250 is

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	1)	18%	2)	5%	3)	3%	4)	0.3%	

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II Long Answers

Answer a	all th	ie ques	tions.
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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 t	he 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		