BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Pharm-2019
Course Name – Novel Drug Delivery System
Course Code - BP704T
(Semester VII)

Full Marks : 75 **Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) Which one is a natural polymer?
a) Carbopol b) PVA
c) PVP d) Chitosan

(ii) Which one is a soluble polymer?
a) Carbopol b) Sodium CMC
c) Polyacrylic acid d) PEG

(iii) Preparation of microspheres should satisfy certain criteria:
a) The nature of the core b) Coating materials
c) The microencapsulating methods d) All

(iv) From which of the following mechanisms most of the drugs get absorbed via skin.
a) Active transport b) Passive Transport
c) Facilitated transport d) Osmosis

(v) Composition of coating materials in Microencapsulation include inert polymer, Colouring agent and ---------
a) Diluent b) Binder
c) Plasticizer d) Glidant

(vi) The drug is released either by passing through the pores or between polymer chains, is called:
a) Reservoir diffusion system b) Matrix diffusion system
c) Degradation d) All

(vii) Erosion of polymers basically takes place by
a) Hydrolytic mechanism b) Enzymatic mechanism
c) Both d) None

(viii) The middle step of polymer synthesis is:
a) Initiation b) propagation
c) Termination d) None

(ix) Drugs are encased in a partially soluble membrane and pores are created due to dissolution of parts of membrane in:

a) Dissolution controlled release system
b) Diffusion controlled release system
c) Dissolution and diffusion controlled release system
d) None

(x) Osmotically controlled systems provide a predictable, ---------- release rate independent of the physicochemical properties of the drug

a) First order
b) Zero-order
c) Non specific
d) All

(xi) Identify the component which is not a part of the Transdermal Patch

a) Seal Coat.
b) Adhesive layer.
c) Backing membrane
d) Polymer matrix.

(xii) Floating Drug Delivery Systems are hydrodynamically balanced systems that have a bulk density -------.

a) Same that of Gastric fluids
b) Lesser than that of Gastric Fluid
c) More than that of Gastric Fluid
d) Same that of Gastric Acid

(xiii) The surface morphologies of microspheres are examined by:

a) UV Spectrophotometry
b) HPLC
c) FTIR
d) SEM (scanning electron microscope)

(xiv) Nasal clearance" on of the major problem affecting performance of a Nasal drug delivery system can be reduced by use of,

a) Starch microspheres.
b) Chitosan
c) Bile Salts
d) Only A & B

(xv) Identify the correct order of layers for "Microreservior Patch".

a) Backing Membrane, Occlusive Base, Drug Microreservior, Release liners
b) Backing Membrane, Drug Adhesive Mix, Release liners
c) Backing Membrane, Controlled Release Membrane, Drug Microreservior Release liners
d) Occlusive Base, Drug Microreservior, Backing Membrane, Release liners

(xvi) In ancient Ayurvedic time the preparations and dosage forms for nasal drug delivery were called,

a) Basti
b) Nasya
c) Churna
d) Avaleha

(xvii) What are the characteristics of the monolithic devices?

a) The drug has a large therapeutic index
b) Aqueous solutions
c) Control drug release by partitioning the drug from the oil
d) Administration of emulsions

(xviii) The rate at which monolithic devices transfer drugs to the patient body is proportional to _____of time.

a) Square of time
b) The square root of time
c) Twice the time
d) Half the time

(xix) Advantage of Microencapsulation

a) Masking of bitter taste drugs
b) Conversion of liquid to pseudo solid
c) Environmental protection
d) All

(xx) The time taken by dosage form to reach the top of dissolution medium after placing in the medium is termed as,

a) Floating Time.
b) Buoyancy Lag Time.
c) Lead Time.
d) Transit Time.

Group-B

(Short Answer Type Questions) 5 x 7=35

2. Explain the controlled drug delivery systems with suitable examples. (5)

OR

Briefly discuss about penetration enhancer (5)

3. Discuss the limitations of nasopulmonary drug delivery system (5)

OR

Name any two polymers used in the reservoir type of controlled drug delivery formulations (5)

4. Name a few polymers used in the matrix type of controlled drug delivery formulations (5)

OR

Discuss the excipients used in nasal spray formulations (5)

5. Briefly discuss the evaluation parameters for nasal sprays (5)

OR

Explain about mucoadhesive drug delivery systems focusing on the theories of muco-adhesion (5)

6. Write the applications of niosomes (5)

OR

Write the applications of nanoparticulate drug delivery systems (5)

7. Write the advantages and disadvantages of nanoparticulate drug delivery systems (5)

OR

Discuss the advantages and disadvantages of gastroretentive drug delivery system (5)

8. Write the advantages and disadvantages of ocular drug delivery systems (5)

OR

Write the advantages and disadvantages of intrauterine drug delivery systems (5)

Group-C

(Long Answer Type Questions) 10 x 2=20

9. Explain the factors affecting nasal absorption of drugs (10)

OR

Describe the various physicochemical and pharmaceutical factors to be considered in selection of a drug candidate for controlled delivery formulations (10)

10. Write the formulation approaches of nanoparticles (10)

OR

Write about the evaluation parameters of transdermal drug delivery systems (10)

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