Sum – 2023
16/5/23
CJ-08

BP 704T Novel Drug Delivery System

(5346)

Time: Three Hours **Max. Marks: 75**

Instruction to Candidates:

1. Do not write anything on question paper except Seat No.
2. All questions are compulsory.
3. Figures to right indicate full marks.
4. Students should note, no supplement will be provided.
5. Graph or diagram should be drawn with the black ink pen or black HB pencil.

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1. Answer all the questions. **20**

i) **Controlled drug delivery systems follows .....order kinetics**

a) first b) second c) zero d) pseudosecond

ii) **Which of the following is not the component of mucus**

a) Salt b) Sugar c) Protein d) Lipid

iii) **For dissolution controlled-release formulation, drug encapsulated in .....type of polymer**

a) Soluble b) Insoluble c) Fast dissolving d) only synthetic

iv) **Following are the methods of Microencapsulation EXCEPT**

a) Air suspension b) Coacervation phase separation

c) Spray drying d) Solvent addition

v) **The ideal properties of polymer used for coating should have following properties EXCEPT**

a) Compatible b) film forming c) Reactive d) Protective

vi) **HPMC is the example of .....**

a) Hydrophobic b) Hydrophilic c) Both a & b d) None

vii) **As per wetting theory, lower the contact angle .....the affinity for mucoadhesion**

a) lower b) greater c) Both a & b d) All of above

viii) **Electronic double layer is formed in .... of mucoadhesion**

a) Electronic theory b) Adsoption theory

c) Diffusion theory d) Mechanical theory

ix) **Disadvantages of implantable DDS are....**

a) Invasive b) Termination c) site specific d) Both a & b

x) **A hybridoma cell line is formed by the fusion of .... lymphocyte with a myeloma cell**

a) Two B-cell b) One B-cell c) Two A-cell d) One A-cell

xi) **Fullerene is a molecule made up of .....in different shapes**

a) Helium b) Carbon c) Chlorine d) Sulphar

xii) **The size of large unilamellar vesicles is ....**

a) >0.10 µm b) >0.5 µm c) <0.10 µm d) upto 0.10 µm

xiii) **Human skin composed of different layer, these are**

a) Dermis b) epithermis c) hypodermal d) all the above

xiv) **The examples of effervescent systems are**

a) Suspension b) Inflatable system

c) Hydrodynamically balanced systems d) Microballoons

xv) **The density of normal gastric content is....**

a) 0.773 gm/cm^3 b) 1.004 gm/cm^3 c) 5.106 gm/cm^3 d) 2.088 gm/cm^3

xvi) **The physical form of dry-powder-inhalers is....**

a) Solid b) Liquid c) Gases d) Gel

xvii) **Identify the component which is not a part of the Transdermal Patch**

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

xviii) **Which of the following statements is true with effect of "Skin Thickness" on rate of permeation**

a) Rate of permeation is not dependent on thickness of the skin

b) Rate of permeation increases with an increase in skin thickness

c) Rate of permeation decreases with an increase in skin thickness

d) Rate of permeation increases skin thickness

xix) **What are the two types of inhaler?**

a) MDI & API b) IV & SC c) DPI & MDI d) GIT & AT

xx) **A lipid bilayer structure that encloses an internal aqueous volume**

a) Niosome b) Liposome c) Solid lipid nanoparticle

d) Nanoparticle

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2. Attempt any two of the following.

i) Define mucoadhesion; write different theories of mucoadhesion

ii) What are liposomes, write methods for preparation of liposomes.

iii) Define CDDS. Explain the factors which influence the design and performance of CDDS

3. Attempt any seven of the following. 35

i) Define implant. Write a note on osmotic pump

ii) Define Polymers. Write in detail about applications of polymers in formulation of controlled release drug delivery systems

iii) Descibe any two methods of microencapsulation

iv) Define niosomes. Write its advantages, disadvantage and application

v) Explain the factors affecting transdermal permeation

vi) What is Naso pulmonary drug delivery system. Write in short about dry powder inhalers

vii) Define IUD's, and enlist the advantages and disadvantages of IUD's

viii) Write a note on different strategies of targeted drug delivery system

ix) Define penetration enhancers and write a note on penetration enhancers

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