B.Pharm. (CBCS Pattern) Semester-VII

BP704T - Novel Drug Delivery System

P. Pages : 3 **GUG/W/24/14146**

Time : Three Hours * 5 6 4 3 * Max. Marks : 75

Notes : 1. Illustrate your answers wherever necessary with the help of neat sketches.
2. All questions are compulsory.

1. Multiple choice questions. **20**

i) Which of the following is synthetic polymer.
a) Dextran b) Hydroxypropyl cellulose
c) Poly lactic acid d) Methyl cellulose

ii) The paracellular route allows the hydrophilic drugs with molecular weight of –
a) Less than 500 Da b) 500-1000 Da
c) 1000-2000 Da d) More than 2000 Da

iii) Ideally, the drug should have half-life to be formulated in controlled release dosage
a) 1-2 hrs b) 3-4 hrs
c) 6-7 hrs d) 9-10 hrs

iv) Which of the polymer is non-biodegradable.
a) Poly (ethylene vinyl acetate) b) Poly (lactic acid)
c) Poly (caprolactone) d) Poly (lactic-co-glycolic acid)

v) Following can be considered as physico-mechanical technique used for microencapsulation.
a) Phase Inversion b) Co-extrusion
c) Coacervation d) Hot Melt

vi) The characteristic that is suitable for transdermal drug is –
a) Large drug dose b) Drugs with narrow therapeutic index
c) Large molecular size d) Drugs which are metabolized in the skin

vii) Iontophoresis is used in TDDS as
a) Physical penetration enhancer
b) Drug carrier
c) Chemical penetration enhancer
d) Polymer matrix

viii) PEVA stands for –
a) Polyethylene vinyl alcohol b) Poly ethylene vinyl acetate
c) Propylethylene vinyl alcohol d) None of the above

ix) This is not the chemical permeation enhancer

a) Fatty acids b) Alcohol
c) Zein d) Glycol

x) For a drug to be formulated in to controlled/modified release dosage form its Margin of safety should be –

a) Very low b) Very high
c) Normal d) None of above

xi) In gastroretentive drug delivery system the device may ----------

a) Float on the gastric fluid b) Settle in the stomach
c) Enlarge in the size d) All of the above

xii) Humectant used in nasal products.

a) Glycerin b) Sorbitol
c) Mannitol d) All of the above

xiii) Hydrodynamically balanced system consists of -----

a) HPMC b) Polymethacrylates
c) Alginic acid d) All of the above

xiv) Major components of Niosomes preparation.

a) Cholesterol b) Non-ionic surfactants
c) Both a & b d) Ionic surfactants

xv) Monoclonal antibodies have –

a) Monovalent affinity b) Divalent affinity
c) Multivalent affinity d) All of the above

xvi) Liposomes have ---------- half-life.

a) Longer b) Shorter
c) Intermediate d) Both a & b

xvii) Hormone present in IUDDS is –

a) Testosterone b) Progestine
c) Corticosteroids d) LH

xviii) The normal volume of tear fluid in the Cul-de-sac region if human eye is ------

a) 7-8 ml b) 7-8 μl
c) 12-17 ml d) 17-18 μl

xix) Copper containing IUDs causes –

a) Lysosomal activation b) Lysosomal inactivation
c) Fertilization d) None of the above

xx) Components of Targeted Drug delivery systems are ------

a) Drug carrier b) Target
c) Drug delivery vehicle d) all of the above

2. Solve **any two.** **10x2 =20**

a) Enlist various approaches to design-controlled release formulations and explain in detail diffusion and dissolution-controlled release system.

b) Define microencapsulation, enlist various techniques of microencapsulation and explain any two.

c) Define and classify liposomes and explain various methods of preparation of liposomes.

3. Solve **any seven.** **5x7 =35**

a) Discuss the theories of mucoadhesion.

b) Write a note on osmotic pressure powdered pump.

c) Explain about the basic components used for TDDS.

d) Write a note on Niosomes.

e) What are intrauterine devices (IUDs) ? Discuss hormone releasing IUDs.

f) Explain types, advantages and disadvantages of Ocuserts.

g) Discuss about Gastroretentive floating drug delivery systems.

h) Write a note on Nebulizers and nasal sprays.

i) What are monoclonal antibodies. Write their advantages, limitations and applications.

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