

B.Pharm. (CBCS Pattern) Semester-VII
BP704T - Novel Drug Delivery System

P. Pages : 3

Time : Three Hours



GUG/S/25/14146

Max. Marks : 75

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

1. Multiple Choice Questions.

**20x1
=20**

- 1) Drug having molecular weight ----- is good candidate for controlled release dosage form.
 - a) More than 2000 dalton
 - b) Over and above 1000 dalton
 - c) Less than 600 dalton
 - d) None of the above
- 2) Release kinetics from dissolution control system is governed by
 - a) Fick's law of diffusion
 - b) Zero order
 - c) Noyes Whitney equation
 - d) First order
- 3) Lactide-co-glycolide are ----- polymers.
 - a) Water soluble biodegradable
 - b) Water soluble non-biodegradable
 - c) Water insoluble biodegradable
 - d) Water insoluble non-biodegradable
- 4) Physiological factors that affect mucoadhesion
 - a) Molecular weight
 - b) pH
 - c) Mucin turnover
 - d) Contact Time
- 5) Micron or submicron particles can be effectively encapsulated by ----- techniques.
 - a) Air suspension
 - b) Pan Coating
 - c) Centrifugal extrusion
 - d) Vibrational nozzle
- 6) Following are the theories of "mucoadhesion", except
 - a) Wetting theory
 - b) Fracture theory
 - c) Absorption theory
 - d) Diffusion theory
- 7) Physicochemical factor effecting TDDS
 - a) Sun light
 - b) Air pollution
 - c) Partition coefficient
 - d) Cold season
- 8) The first implantable pump for humans in USA approved by FDA is
 - a) Rose and Nelson osmotic pump
 - b) ALZET
 - c) DUROS
 - d) Higuchi-Leeper
- 9) The mechanism of chemical permeation enhancer is
 - a) Cause deposition of penetrant in the stratum corneum
 - b) Alter physicochemical properties of stratum corneum
 - c) Causes reversible damage to the stratum corneum
 - d) Both b & c

- 10) Which of the following is Biodegradable Polymer
 - a) Poly dimethyl siloxane
 - b) Poly ether Urethane
 - c) Ethyl cellulose
 - d) Poly Lactic acid
- 11) The aerosol medication particles must be of----- size for inhalation and deposition in the airway
 - a) 0.5-4.5 μ m
 - b) 7.5-12 μ m
 - c) Both a & b
 - d) 15.5-18.5 μ m
- 12) Time taken by the dosage form to float on the top is called as -----
 - a) Buoyancy lag time
 - b) Floating time
 - c) Swelling index
 - d) floating ability
- 13) The body's natural immune system is used in which type of targeting
 - a) Active
 - b) Passive
 - c) Physical
 - d) Dual
- 14) Nanoparticles can able to deliver
 - a) Proteins
 - b) Peptides
 - c) Genes
 - d) All the above
- 15) Monoclonal antibodies is used in the -----
 - a) Metabolic disorder
 - b) Cancer Treatment
 - c) Autoimmune disease
 - d) All of the above
- 16) Niosomes are
 - a) Anionic surfactant Vesicles
 - b) Cationic surfactant Vesicles
 - c) Nonionic surfactant Vesicles
 - d) Amphiphilic surfactant Vesicles
- 17) Copper ions are released from which type of IUDs-
 - a) First generation IUDs
 - b) Second generation IUDs
 - c) Third generation IUDs
 - d) All of the above
- 18) In ocular drug delivery system SODI stands for -----
 - a) Soft Ocular Drug Inserts
 - b) Superoxide dismutase
 - c) Soluble Ophthalmic Drug Inserts
 - d) Soluble Ocular Drug Implant
- 19) Ocular nano particles have a size range of -
 - a) 10-100nm
 - b) 10-500nm
 - c) 10-1000nm
 - d) 1-10nm
- 20) Microballoon is the ----- types of GRDDS.
 - a) Floating system
 - b) High density system
 - c) Mucoadhesive system
 - d) None of the above

2. Solve **any two**.

**10x2
=20**

- a) Write a note on
 - i) Buccal drug delivery systems and
 - ii) Implantable drug delivery systems
- b) What are GRDDS? Explain various approaches of GRDDS.
- c) Explain various methods of preparation and characterization of nanoparticles.

3. Solve any seven.

**5x7
=35**

- a) Write about various formulation approaches of TDDS.
- b) Enlist various methods of microencapsulation and explain the coacervation -phase separation technique.
- c) Describe the factors affecting the design and performance of OCDDS and
- d) Write a note on properties of polymers.
- e) Explain in detail about metered dose inhalers.
- f) Write note on Monoclonal antibodies.
- g) What are IUDs and give the advantages and disadvantages of copper IUDs.
- h) Write a note on novel ocular formulations.
- i) Write a note on osmotic pressure pump.
