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2022

BINA CHOWDHURY CENTRAL LIBRARY
(GIMT & GIPS)
Azara, Hatkhowapara,
Guwahati, -781017B.Pharm. 7th Semester End-Term (Regular) Examination

NOVEL DRUG DELIVERY SYSTEMS (THEORY)

(For new regulation (w.e.f. 2017-18))

(New regulation)

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following (MCQ) (20 × 1 = 20)
- (i) Liposomes consist of a bilayer of
- (a) Hydrophilic molecules (b) Hydrophobic molecules
(c) Both (a) and (b) (d) None
- (ii) Polymers formed from two or more different monomers are called
- (a) Homopolymers (b) Copolymers
(c) Oligomers (d) None of the above
- (iii) Albumin is an example of
- (a) Non biodegradable polymer (b) Synthetic Polymer
(c) Natural Polymer (d) None of the above
- (iv) Which step is involved in the preparation of microcapsules by coacervation phase separation?
- (a) Formation of 3 immiscible chemical phases
(b) Deposition of liquid polymer coating upon core material
(c) Rigidizing the coating
(d) All the above

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- (v) What is/are the size of Microsphere?
- (a) More than 200 micrometre (b) Less than 200 micrometre
(c) Both (a) and (b) (d) None of these
- (vi) Nanoscience can be studied with the help of
- (a) Quantum mechanics (b) Newtonian mechanics
(c) Macro dynamics (d) Geophysics
- (vii) Drug loading capacity of MDDS is _____
- (a) Low (b) High
(c) Very low (d) Medium
- (viii) Solvent evaporation is which type of micro encapsulation techniques?
- (a) Chemical (b) Physical
(c) Physico-chemical (d) All of the above
- (ix) Chitosan is _____ type of polymer
- (a) Anionic (b) Cationic
(c) Neutral (d) None of the above
- (x) Tablets that are placed under the skin are
- (a) Enteric coated tablets (b) Film coated tablets
(c) Implants (d) Sublingual tablets
- (xi) Following is/are the physical methods of microencapsulation techniques
- (a) Polymerisation (b) Microencapsulation
(c) Air suspension (d) All of the above
- (xii) Following are the theories of "mucoadhesion" except
- (a) Wetting agent (b) Absorption theory
(c) Fracture theory (d) Diffusion theory
- (xiii) Shellac is the coating materials for microcapsules of following categories
- (a) Water soluble resins (b) Water insoluble resins
(c) Enteric coated resins (d) Wax resins
- (xiv) Which of the following is commercially used osmotic agents?
- (a) Sorbitol (b) Osmogene
(c) Imogene (d) Aluminum chloride

- (xv) Which of the following is implantable osmotic pump?
- Single chamber osmotic pump
 - Push pull osmotic pump
 - Multiple chamber osmotic pump
 - Higuchi leeper pump
- (xvi) The time for which the floating dosage form floats on dissolution medium is called
- Floating time
 - Buoyancy lag time
 - Lead time
 - Transit time
- (xvii) Which of the following is wrong statement for GERD?
- Useful to provide both local and systemic effects of the drug
 - Useful to increase gastric retention of the drug
 - Useful to reduce the first pass effect of the thugs
 - Useful to target site specific release of drugs
- (xviii) Which of the following formulations would not be applicable to ocular administration?
- Solution
 - Liniment
 - Suspension
 - Ointment
- (xix) Which of the following oral liquid formulations would be considered as an oropharyngeal formulation?
- Syrup
 - Elixir
 - Mouthwash
 - Linctus
- (xx) Which of the following GRDDS is also known as "Plug type system"?
- Floating system
 - Swelling system
 - Bioadhesive system
 - Pulsatile system

2. Answer any *seven* questions (7 × 5 = 35)
- Classify the polymers used to modify the drug release. (5)
 - Discuss the pharmaceutical applications of microspheres. (5)
 - Describe osmotically regulated implants as a new drug. (5)
 - Explain the biological factors affecting controlled release drug delivery systems. (5)
 - Write a note on pulmonary route as a promising route of drug administration. (5)

- (f) Write the advantages and disadvantages of implants. (5)
- (g) Discuss strategies and the components of targeted drug delivery systems. (5)
- (h) What are the advantages and disadvantages of intrauterine drug delivery system? (5)
- (i) Describe the monoclonal antibodies with its applications. (5)

3. Answer any *two* questions (2 × 10 = 20)

- (a) Write the concept of controlled drug delivery systems. Explain the approaches for the Controlled release formulations based on dissolution. (3+7=10)
- (b) Describe various theories of mucoadhesion with their significance in designing mucoadhesive products. (10)
- (c) Define nanoparticles. State various methods to prepare nanoparticles. What are the advantages of nanoparticles in the drug delivery system? (2+5+3=10)