BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Pharm-2019/B.Pharm-2020/B.Pharm-2021
Course Name – Novel Drug Delivery System/Novel Drug Delivery System - Theory
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) What is the primary mechanisms of drug release from polymers?
a) Diffusion b) Degradation
c) Swelling d) All

(ii) Select the correct word for: Prolongs the residence time of the mucoadhesive dosage form at the site of absorption, hence ---------- the bioavailability:
a) Increases b) Decrease
c) No change d) None

(iii) Relate the theories associated with mucoadhesion
a) Electronic theory b) Wetting theory
c) Adsorption theory d) All

(iv) Select the demerits of controlled release drug delivery system-
a) Possibility of dose dumping. b) Retrieval of drug is difficult
c) None d) Both

(v) Identify the ocular drug delivery system where pilocarpine is used as a active constituent-
a) Matrix system b) Collagen shields
c) Ocusert d) Ocufit

(vi) Which properties considered the fabrication of the formulation?
a) Physicochemical properties of the drug b) Pharmacokinetic behavior of the drug
c) Both d) None

(vii) Which of the following approaches or concepts are followed to design and prepare controlled/sustained release dosage form?
a) Modification of the drug molecule b) Modification of the dosage form

c) None d) Both

(viii) Identify the name of ocular delivery under Injectable particulate system where target the drug as a form of emulsion-

a) I-vationTM TA b) Cortiject®
c) RETAAC d) All of these

(ix) Polymers which can be softened on heating and reversibly hardened on cooling are:

a) Thermoplastic polymers b) Thermosetting
c) Both d) None

(x) The middle step of polymer synthesis is:

a) Initiation b) propagation
c) Termination d) None

(xi) Memorize the name of the drug delivery system where Iontophoresis is used as physical enhancer of drug is-

a) Oral drug delivery b) Nasal drug delivery
c) Transdermal drug delivery d) None of these

(xii) Choose the normal pH value of the nasal secretion in case of adult is-

a) 5.5-6.5 b) 3.5-4.5
c) 6.5-7.5 d) 2.5-3.5

(xiii) Choose the fluid capacity of the cul-de-sac from the below options.

a) 1 to 5 microliter b) 7-10 microliter
c) 20 to 30 microliter d) None of these

(xiv) Select a mucoadhesive polymer from the followings-

a) PEG b) Chitosan
c) Albumin d) All of these

(xv) Identify the method associated with preparation of buccal patches-

a) Solvent casting b) Hot melt extrusion
c) Both of these d) None of these

(xvi) Select the theory in which physical entanglement of mucin strands and the flexible polymeric chain occurs-

a) Adsorption theory b) Diffusion theory
c) Fracture Theory d) Wetting theory

(xvii) Name some materials used as a backing membrane in buccal patches-

a) Eudragit RL b) Eudragit RS
c) Ethyl cellulose d) All of these

(xviii) Recognize the first step in the theory of mucoadhesion-

a) Wetting and swelling of polymer b) Interpenetration of bio adhesive polymer
c) Formation of weak bonds d) None of these

(xix) Cite what the large contact surface of the buccal mucosa contributes to

a) Rapid and extensive drug absorption b) Delayed and extensive drug absorption
c) Rapid and limited drug absorption d) Delayed and limited drug absorption

(xx) Choose the effective buccal permeation enhancers

a) Fatty acids b) Alcohols
c) Bile salts d) All of these

Group-B

(Short Answer Type Questions) 5 x 7=35

2. Explain in brief about penetration enhancer. (5)
3. Illustrate Cooacervation and interfacial polymerization method of preparation of microspheres (5)
4. Enumerate the advantages and disadvantages of liposomal drug delivery systems (5)
5. Discuss about the construction of Copper T 380A IUD. (5)
6. Explain about mucoadhesive drug delivery systems focusing on the theories of muco-adhesion (5)
7. Explain the importance of polymer in drug delivery and differentiate between co-polymer and homo-polymer. (5)

OR

Distinguish between spray drying and spray congealing methods of preparation of microspheres. (5)

8. Explain the need for gastro-retention for therapeutic agents. (5)

OR

Discuss about the importance of polymers in ocular drug delivery system (5)

Group-C

(Long Answer Type Questions) 10 x 2=20

9. Discuss about the characterization of liposomes (10)
10. Describe the various physicochemical and pharmaceutical factors to be considered in selection of a drug candidate for controlled delivery formulations. (10)

OR

Explain the approaches for the Controlled release formulations based on dissolution control system. (10)

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