

Total No. of printed pages = 6

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MPH 102 T

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Azara, Hatkhowapara,
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2019

M.Pharm. 1st Semester End-Term Examination

DRUG DELIVERY SYSTEM

(New Regulation)

(w.e.f. 2017-2018)

Full Marks – 75

Time – Three hours

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

1. (A) Answer the following : (MCQ/Short answer type questions) (10 × 1 = 10)
- (i) Alzet pump is an
- (a) Feedback regulated drug delivery
 - (b) Swelling controlled drug delivery
 - (c) Osmotically controlled drug delivery
 - (d) pH sensitive drug delivery

[Turn over

- (ii) Ocular absorption of hydrophilic and large molecules primarily takes place via
- (a) Conjunctiva
 - (b) Cornea
 - (c) Both the Cornea and Conjunctiva
 - (d) None of the above
- (iii) The study belonging to ADME changes caused by genetic mutation is
- (a) Pharmacogenomics
 - (b) Pharmacogenetics
 - (c) Pharmacotherapeutics
 - (d) Pharmacoepidemiology
- (iv) The principal barrier for transdermal permeation of molecules is
- (a) Stratum corneum
 - (b) Dermis
 - (c) Subcutaneous fatty tissue
 - (d) Stratum granulosum

- (v) Depot preparation is an example of
- (a) Parental controlled release system
 - (b) Transdermal drug delivery system
 - (c) Ocular drug delivery system
 - (d) Gastro retentive drug delivery system
- (vi) For matrix system, sustained release can be obtained by the following parameters, except
- (a) Altering porosity of tablet
 - (b) Decreasing tablet wettability
 - (c) Dissolving at lower rate
 - (d) Encapsulating in rate controlling membrane
- (vii) Irregular surface of polymer and mucin undergo entanglement, this concept is known as-
- (a) Fracture theory
 - (b) Diffusion theory
 - (c) Adsorption theory
 - (d) Electronic theory

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- (viii) For buccal drug delivery, molecular weight
- (a) Should not be more than 100 da
 - (b) Should be less than 600 da
 - (c) Should not be more than 1000 da
 - (d) Should not be more than 10000 da
- (ix) Progesterone IUD is a prototype example of
- (a) Activation modulated drug delivery
 - (b) Feedback regulated drug delivery
 - (c) Site targeting drug delivery
 - (d) Rate preprogrammed drug delivery
- (x) Metered dose inhaler falls under the type
- (a) Hydrodynamic pressure activated drug delivery
 - (b) Mechanically activated drug delivery
 - (c) Vapour pressure activated drug delivery
 - (d) Osmotic pressure activated drug delivery

(B) Define and give the significance of the following: (5 × 2 = 10)

- (i) Sustained and controlled drug delivery
- (ii) 3D printing
- (iii) Iontophoresis
- (iv) Pharmacogenetics
- (v) Single short vaccine

2. Answer any *seven* questions: (7 × 5 = 35)

- (a) Discuss the formulation considerations in the development of peptide based pharmaceuticals.
- (b) Give the various types and mechanisms of transversal permeation enhancers.
- (c) Explain the approaches for controlled delivery of vaccines.
- (d) Explain the physiology of eye and barriers for ocular drug delivery.
- (e) Explain the principle of mucoadhesion and advantages and disadvantages of mucoadhesive drug delivery,
- (f) What are bioerosion regulated and bioresponsive drug delivery system?
- (g) Discuss the factors influencing controlled drug delivery.
- (h) Discuss the general strategies for parenteral systemic delivery of peptide based pharmaceuticals.
- (i) Explain the different types and designs of transdermal drug delivery system.

3. Answer any *two* questions :

(2 × 10 = 20)

- (a) Discuss the concept, give advantages and disadvantages of gastro-retentive drug delivery system and approaches to extend gastric transit time.
 - (b) Classify and explain the concepts of each class of rate controlled drug delivery system.
 - (c) Classify polymers and give the common polymerization types, properties and applications.
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