

INDIRA UNIVERSITY, PUNE

SCHOOL OF PHARMACY- MPHARM (Pharmaceutics)

Backlog Examination (2025 Pattern) April/ May – 2026 - Semester – I

Subject Name: Drug Delivery System
Subject Code: MPH102T

Max. Marks: 75
Time: 3 Hours

Instructions

- Instructions 1-All Questions are Compulsory. Write two sections on separate answersheets.
 - Instructions 2 -Neat diagram must be drawn wherever necessary.
 - Instructions 3- Figures to the right indicate full marks
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Section : I

Q.1 Solve any ONE from the following

15 Marks

- Explain various physiochemical and biological factors approaches for SR or controlled release formulations.
- Explain vapour pressure activated drug delivery systems. Define mucoadhesion and explain methods of permeation in mucoadhesive drug delivery system.

Q.2 Solve any FOUR from the following

20 Marks

- Write a note on sublingual drug delivery systems.
- Elaborate the mechanism of buccal absorption.
- Explain hydro dynamically balanced drug delivery systems.
- Explain in vitro evaluation tests for buccal drug delivery system.
- Discuss in brief enzyme activated drug delivery systems.
- Write the merits and limitations of mucoadhesive delivery systems.

Section : II

Q.3 Solve any ONE from the following

15 Marks

- Discuss the different delivery systems employed for vaccine administration. Write note on transdermal vaccine delivery.
- Describe barriers to ocular drug permeation and means to overcome them. Write note on contact lens.

Q.4 Solve any TWO from the following

15 Marks

- a. Explain the factors affecting transdermal permeability.
- b. Discuss iontophoresis and microneedle array for TDDS.
- c. Discuss drug delivery systems for uptake of vaccines.
- d. Classify vaccines in detail along with their mechanism of action.

Q.5 Solve any TWO from the following

10 Marks

- a. Describe preparation and evaluation of gastro retentive floating tablet.
- b. Discuss parenteral route of administration of proteins.
- c. Describe formulation, advantages & disadvantages of mucosal vaccine delivery system.
- d. Describe components of transdermal drug delivery system.
