



PAPER ID-310472

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Subject Code: MPH102T

Roll No:

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MPHARM
(SEM I) THEORY EXAMINATION 2025-26
DRUG DELIVERY SYSTEM

TIME: 3 HRS

M.MARKS: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

a.	What is sustained release (SR)?
b.	Give any two disadvantages of controlled release systems.
c.	Define polymer.
d.	What is personalized medicine?
e.	Name any one pH-activated drug delivery system.
f.	Define mucoadhesion.
g.	Mention one barrier to ocular drug delivery.
h.	What is a penetration enhancer in transdermal delivery?
i.	Give one challenge in protein or peptide delivery.
j.	What are single-shot vaccines?

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

a.	Explain sustained and controlled release systems. Write their basic mechanisms and advantages in simple language.
b.	Describe gastro-retentive drug delivery systems. Explain their need, advantages, and simple approaches to extend GI residence time.
c.	Write about transdermal drug delivery systems. Explain the structure of skin, role of penetration enhancers, and basic formulation steps.

SECTION C

3. Attempt any five parts of the following:

7 x 5 = 35

a.	Write a short note on classification and uses of polymers in drug delivery.
b.	Describe 3D printing in pharmaceuticals in simple terms.
c.	Explain pH-activated and enzyme-activated drug delivery systems.
d.	Write the advantages and disadvantages of buccal drug delivery systems.
e.	Explain two methods used to overcome ocular drug delivery barriers.
f.	Describe common approaches to deliver proteins and peptides.
g.	Explain mucosal or transdermal vaccine delivery in simple words.