PAPER ID-312129

Roll No: | | | | | | | | | | | | |

MPHARM
(SEM I) THEORY EXAMINATION 2024-25
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 personalized medicine?
b.	How does pharmacogenetics influence drug therapy?
c.	What are feedback-regulated drug delivery systems?
d.	How do pH-activated systems release drugs?
e.	What is the advantage of buccal drug delivery over oral drug delivery?
f.	Define gastro-retentive drug delivery system.
g.	What are the main barriers to ocular drug delivery?
h.	Name the components of transdermal drug delivery formulations.
i.	What are the primary challenges in protein drug delivery?
j.	What are single shot vaccines?

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a.	What are the key factors influencing the development of SR/CR formulations, including physicochemical and biological considerations?
b.	Discuss the working mechanism and applications of osmotic activated drug delivery systems. How does osmotic pressure control the drug release rate?
c.	Discuss the various approaches used to extend GI transit time, including the use of gastro-retentive systems, polymers, and bioadhesive formulations.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a.	Write a detailed note on 3D printing of pharmaceuticals.
b.	Discuss the principle of enzyme-activated drug delivery systems.
c.	Explain the evaluation techniques for buccal drug delivery systems.
d.	What are the major barriers to protein and peptide delivery?
e.	Discuss the role of penetration enhancers in transdermal drug delivery.
f.	Explain the mechanisms involved in the uptake of antigens by the immune system during vaccination.
g.	Write a detailed note on transdermal delivery of vaccines.