

JAMIA HAMDARD
School of Pharmaceutical Education and Research
M. Pharm. I Semester Examination (2023-24)

Subject: **Drug Delivery Systems**Paper Code: **MPH-102T**Date: **11-03-24**Maximum Marks: **75**Time: **Three hours**

(Write your Roll No. on the top immediately on receipt of this question paper)

Note: This paper has two Sections; A and B.

Attempt all sections.

Section A: Answer all the questions.**Section B:** Answer any 4 out of 6 questions**Abbreviations Used:**

CO-Course Outcome, PO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3- Apply; BT level 4- Analyze; BT level 5- Evaluate; BT level 6- Create.

SECTION-A

Answer the following in brief (Attempt all questions)

5x3= 15 Marks

Q. No 1	Questions	BTL	CO	PO
(a)	What are the most important aspects of Telepharmacy?	5	4	3
(b)	How would you explain any two principles in enzyme activated drug delivery systems?	6	5	6
(c)	How can you describe the different ocular absorption pathways?	2	2	3
(d)	How would you outline the structure of skin and barriers for drug absorption via skin?	1	3	9
(e)	What can you point out about any three barriers for protein and peptide delivery systems?	4	4	5

SECTION B

Long type Questions (Attempt any 4 out of 6)

4x15= 60 Marks

	Questions	BTL	CO	PO
Q. No.2	Discuss the various mechanism for the development of controlled release dosage form with suitable examples.	4	5	6
Q. No.3	How would you explain the principles of mucoadhesion? Give method of formulation and its evaluation for buccal drug delivery system	6	4	5
Q. No.4	What can you write about on the various types of penetration enhancers for the improvement of transdermal delivery systems?	4	4	5
Q. No.5	How would you discuss the formulation and evaluation of any two delivery systems for protein type drugs?	3	4	3
Q. No.6	How would you design and evaluate the gastro retentive drug delivery system?	3	3	1
Q. No.7	How would you demonstrate the formulation and manufacturing of single shot vaccines? Give a note on liposome-based vaccine.	3	3	4