

INDIRA UNIVERSITY, PUNE

SCHOOL OF PHARMACY-MPHARM (Pharmaceutics)

Term End Examination (2025 Pattern) April- May – 2026- Semester – II

**Course Name: Molecular Pharmaceutics
(Nano Tech and Targeted DDS)**

Max. Marks: 75

Course Code: MPH201T

Time: 3:00 Hrs.

Instructions

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

Q.1 Solve any ONE from the following

15 Marks

- Describe in detail methods of preparation and applications of niosomes.
- Discuss in detail various component of aerosol system. Add a note on evaluation of aerosol.

Q.2 Solve any FOUR from the following

20 Marks

- Discuss therapeutic antisense molecules in gene delivery.
- What is the concept of gene therapy? Give its applications.
- Explain methods of preparation of nanoparticles.
- Discuss applications of phytosomes.
- Discuss gene therapy for cancer treatment.
- Discuss preparation methods of aquasomes.

Section : II

Q.3 Solve any ONE from the following

15 Marks

- Explain viral and non-viral method for gene transfer.
- Elaborate concept of Biodistribution and Pharmacokinetic. Add note on aptamers.

Q.4 Solve any TWO from the following

15 Marks

- a. Suggest factors for consideration during design of an intra nasal drug delivery system.
- b. Discuss concept, events and biological process involve in drug targeting.
- c. What are hybridomas? Discuss hybridoma technology.
- d. Explain in detail approaches of drug targeting used in the treatment of various diseases.

Q.5 Solve any TWO from the following

10 Marks

- a. Elaborate on liposomal gene therapy.
- b. Discuss preparation methods of electrosomes.
- c. Discuss gene therapy for X linked inherited disorders.
- d. Write a note on limitations of gene therapy.
