

Exam Date & Time: 11-Mar-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal College of Pharmaceutical Sciences, Manipal

MPharm Theory End-Semester Examinations.

Novel Drug Delivery Systems [PCE-MIP103T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Enlist and discuss rate-preprogrammed drug delivery systems with TWO examples to each. (10)
- 2) Enlist gastroretentive drug delivery approaches. Discuss any TWO approaches. (10)
- 3) Explain the various types of needle free injections and microneedle techniques for transdermal delivery with diagram. (10)
- 4) Write the rationale and types of targeted drug delivery systems. Explain any TWO methods for the preparation of liposomes with their surface modifications for targeting to specific tissues. (10)
- 5) Write the advantages and disadvantages of colon targeted drug delivery systems. Discuss microbially controlled system in detail. (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Classify biodegradable polymers with TWO examples to each. Discuss the polymer degradation and erosion process (5)
- 7) How submicron cosmeceuticals are beneficial compared to conventional? Explain. (5)

- 8) Write the type and approaches of gene therapy. Enlist its applications and limitations. (5)
- 9) Explain physical degradation pathways with involved in protein and peptide drug delivery systems. Discuss their preventive measures also. (5)
- 10) Discuss the services, benefits and limitations of Telepharmacy. (5)

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