

Exam Date & Time: 14-Dec-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Pharmaceutical Formulation Development [PCE-MIP102T - S2]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

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

- 1) Discuss on importance of following studies : particle size, shape, flow property, density and porosity during pre-formulation stage of formulation development. (10)
- 2) Explain micellar solubilisation technique. (10)
- 3) Explain the need for dissolution studies. Enlist various experimental conditions to be monitored during the dissolution studies and explain USP Type I apparatus. (10)
- 4) Explain the importance of functional excipients in formulations with examples. Write a detailed note on Tonicity adjusters used in parenterals. (10)
- 5) Enlist the various zones and discuss various stability study conditions as per ICH guidelines. (10)

SECTION - B

Answer all the questions.

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

- 6) Briefly discuss on molecular optimization by pro-drug approach technique. (5)
- 7) Mention any five importance of solubility studies of drug. (5)
- 8) Briefly discuss on zero order release model of drug dissolution. (5)
- 9) Write a note on Matrixing approach during stability studies with examples. Mention the advantages. (5)
- 10) What is stability protocol and report? Discuss briefly. (5)

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