

Exam Date & Time: 03-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.
Specialization: Industrial Pharmacy
Date: 03-12-2018

Pharmaceutical Formulation Development [PCE-MIP102T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

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

- 1) Discuss on study on 'partition coefficient' and 'ionization constant' during pre-formulation stage. (10)
- 2) Describe the 'Co-solvency' and 'Solid dispersion' techniques to improve the solubility. (10)
- 3) Explain 'Korsmeyer-Peppas' mechanism model for dissolution process (10)
- 4) Explain why dissolution study is important for solid dosage forms. Enlist the various apparatus listed in IP. Add a note on specification for Basket type of apparatus as per current IP (10)
- 5) Differentiate between stability protocol and stability report. Discuss briefly on bracketing studies and list the applications of stability studies (10)

SECTION - B

Answer all the questions.

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

- 6) Write short note on study of 'Organoleptic properties' during pre-formulation stage (5)
- 7) Define the following terms (i) Saturated solution (ii) Molality (iii) Sink condition for dissolution study (iv) Micelle (v) Hydrotropy (5)
- 8) What is QbD? Add a note on critical quality attributes (CQAs) as per QbD approach (5)
- 9) Write a note on tonicity adjusters in sterile preparation with their importance (5)
- 10) Discuss the important excipients used in the preparation of dispersible tablets (5)

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Date & Time: 05-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.
Specialization: Industrial Pharmacy
Date: 05-12-2018

Novel Drug Delivery Systems [PCE-MIP103T]

Duration: 180 mins.

Marks: 75

SECTION - A

Answer all the questions.

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

- 1) Enlist different system parameters affecting controlled drug delivery. Explain any TWO in detail (10)
- 2) Explain iontophoresis, sonophoresis and microneedle techniques for transdermal delivery with the help of diagram. (10)
- 3) Define liposomes. Give in detail a method for the preparation of liposomes. How the liposomes are different than niosomes? (10)
- 4) Write advantages and disadvantages of nasal drug delivery system. Explain any SIX factors affecting nasal drug absorption. (10)
- 5) Describe in detail different types of oral controlled release drug delivery systems. (10)

SECTION - B

Answer all the questions.

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

- 6) Explain addition polymerization technique. (5)
- 7) Explain the role of nanotechnology in any TWO cosmeceutical products. (5)
- 8) Discuss various pharmaceutical applications of 3D printing technology. (5)
- 9) What are monoclonal antibodies. Give their production procedure. (5)
- 10) Write a note on protein and peptide drug delivery system. (5)

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