CINEC CAMPUS
Beyond A Graduate

PAST PAPERS

Faculty	Department / Section/Division
Not Applicable	Learning Resource Centre

Past Papers

Faculty of Health Sciences

Master of Science in Pharmaceutical Science

(Year 1 – Semester I)

CINEC CAMPUS
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Faculty of Health Sciences
Master of Science in Pharmaceutical Science
MPS 1143– Pharmacoeconomics, Pharmacoepidemiology, Marketing & Management
1st Year 1st Semester- 1st Batch
End Semester SEQ Examination

Date : 31/08/2024
Time : 09.00 am – 11.00 am (Two Hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **FOUR** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.

Question 01 **(100 marks)**

1.1. State the two main types of epidemiological studies. (20 marks)

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1.2. Compare the differences between descriptive epidemiology and analytical epidemiology. (30 marks)

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1.3. How is a cross-sectional study defined? (20 marks)

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1.4. Mention the key characteristics of a cross-sectional study. (10 marks)

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1.5. Briefly mention the strengths and limitations of cross-sectional studies. (20 marks)

Question 02 **(100 marks)**

2.1. State the main steps of drug development after identification of lead molecule. (20 marks)

2.2. Compare and contrast Phase I, II, and III clinical trials. (30 marks)

2.3. State the significance of the common technical document (CTD) in the international registration of new drugs. (20 marks)

2.4. Enumerate the categories of OTC drugs and their typical applications. (30 marks)

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Question 03 **(100 marks)**

3.1. What are the objectives of labelling? (20 marks)

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3.2. State different types of labels. (50 marks)

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3.3. What are the applications of "Pharmacopoeias"? (30 marks)

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Question 04 **(100 marks)**

4.1 Define "registration dossier" of the pharmaceutical product. (20 marks)

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4.2. State the common types of dossiers. (20 marks)

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4.3. What are the advantages of preparing a proper dossier for an application? (20 marks)

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4.4. State few common challenges faced when preparing a dossier. (20 marks)

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4.5. How does an investigational medicinal product dossier (IMPD) differ from a marketing authorization dossier? (20 marks)

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Library

CINEC CAMPUS
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00024

Faculty of Health Sciences
Master of Science in Pharmaceutical Science
MPS 1134– Pharmaceutical Laboratory Operations
1st Year 1st Semester- 1st Batch
End Semester SEQ Examination

Date : 24/08/2024
Time : 13.30 pm – 14.30 pm (One Hour)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **TWO** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.

Question 01 **(100 marks)**

1.1. What is meant by "calibration"? (20 marks)

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1.2. What are the main objectives of calibration? (20 marks)

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1.3. Why it is important to have a regular calibration program for equipment? (40 marks)

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1.4. State the challenges faced by the industry in testing of raw materials for pharmaceutical production. (20 marks)

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Question 02 **(100 marks)**

2.1. State the importance of pharmaceutical analysis in the industry. (25 marks)

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2.2. Why standard addition method is important in pharmaceutical analysis? (25 marks)

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2.3. List the advantages and limitations of standard addition method of chemical analysis. (25 marks)

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2.4. List-out the different applications of HPLC in pharmaceutical laboratory. (25 marks)

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CINEC CAMPUS
Beyond A Graduate

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00024

Faculty of Health Sciences
Master of Science in Pharmaceutical Science
MPS 1124– Biopharmaceutics
1st Year 1st Semester- 1st Batch
End Semester SEQ Examination

Date : 17/08/2024
Time : 09.00 am – 11.00 am (Two Hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **FOUR** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.

Question 01 **(100 marks)**

1.1. Define ADME process. (20 marks)

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1.2. List the pharmacokinetic methods of assessing bioavailability. (20 marks)

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1.3. List the pharmacodynamic methods of assessing bioavailability. (20 marks)

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1.4. What is meant by AUC in biopharmaceutics? (20 marks)

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1.5. Compare the absolute and relative bioavailability. (20 marks)

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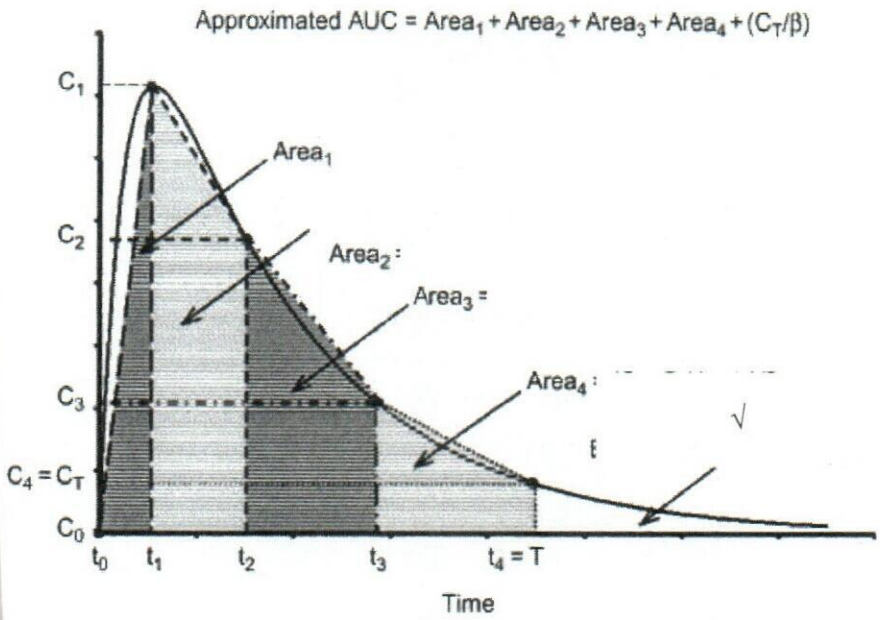
Question 02 **(100 marks)**

2.1. Calculate the AUC for area 2. (40 marks)



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2.2. What is the purpose of doing bioequivalence studies? (25 marks)

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2.3. What are the two types of *in vivo* bioequivalence studies? (10 marks)

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2.4. What is biowaiver studies? (25 marks)

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Question 03 **(100 marks)**

3. A patient is given drug X as IV bolus injection in three different doses as 500 mg, 1000 mg, and 2000 mg on three different occasions and you have been asked to identify the linear – nonlinear pharmacokinetics nature of this drug.

3.1. Point out the process that you follow to identify the linear-nonlinear pharmacokinetics behavior of the drug. (50 marks)

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3.2. If the drug x shows nonlinear behavior, draw the possible semi log concentration time profiles for all three doses in the same graph. (25 marks)

3.3. If the drug x shows linear behavior, draw the possible semi log concentration time profiles for all three doses in the same graph. (25 marks)

Question 04 **(100 marks)** 00024

4. Hydromorphone has a bioavailability of 24% when given as an immediate – release tablets and produces a C_{max} of 5.5 ng/mL at approximately 45 minutes following administration. The volume of distribution is 2.9 L/kg and elimination half-life is 2.6 hours and is approximately 14% protein bound. Calculate the following things.

4.1. The amount absorbed from an 8 mg tablet, based on the bioavailability. (25 marks)

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4.2. The amount of unbound drug based on the amount absorbed in 4.1. (25 marks)

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4.3. The total amount of drug (mg) present in a patient weighing 160lb at C_{max}. (25 marks)

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4.4. The amount of time necessary to eliminate virtually all the drug from the body. (25 marks)

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00024

Faculty of Health Sciences
Master of Science in Pharmaceutical Science
MPS 1113– Pharmaceutical Technology
1st Year 1st Semester- 1st Batch
End Semester SEQ Examination

Date : 10/08/2024
Time : 09.00 am – 11.00 am (Two Hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **FOUR** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.

Question 01 **(100 marks)**

1.1. Define the term "fluid" and give its properties. (30 marks)

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1.2. State the assumptions used in deriving Bernoulli's equation. (20 marks)

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1.3. Define turbulent flow and write its characteristics. (20 marks)

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1.4. State advantages and limitations of manometers. (30 marks)

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Question 02 **(100 marks)**

2.1. State the difference modes of stress applied in size reduction. (20 marks)

2.2. What is the mechanism of size reduction when impact type of stress is applied? (30 marks)

2.3. What are the variables affecting the sizing process? (20 marks)

2.4. What is the working principle of multi mill? (30 marks)

Question 03 **(100 marks)**

3.1. Classify the liquids based on miscibility and give an example for each. (30 marks)

3.2. Define the following liquid mixing mechanisms. (40 marks)

Bulk transport

Turbulent mixing

Laminar mixing

Molecular diffusion

3.3. State three measuring devices for each of the specified parameters. (30 marks)

Temperature, pressure, humidity, flow

Question 04 **(100 marks)**

4.1. Define the term "drying". (20 marks)

4.2. Compare the terms "drying" and "evaporation". (30 marks)

4.3. List the factors that influence the selection of a dryer. (25 marks)

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4.4. State the importance of freeze dryers in pharmaceutical industry. (25 marks)

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