



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

FIRST BPHARM PART I EXAMINATION – JANUARY/FEBRUARY 2023

PH 1132 PHARMACEUTICS IA - SEQ PAPER

TIME: TWO HOURS

INSTRUCTIONS

- There are three parts as **part A, B and C** in this paper.
- Answer all questions.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

PART A

1.

1.1. Define the term “pharmacist”. (10 marks)

1.2. Following table displays three different pharmacy practice areas. Fill the blanks with functions relevant to each practice area. (30 marks)

Community Pharmacy	Hospital Pharmacy	Clinical Pharmacy
1.2.1.	1.2.3	1.2.5.....
1.2.2.....	1.2.4.....	1.2.6.....

1.3. State the contribution of following people to the development of field of pharmacy. (20 marks)

1.3.1. Hippocrates

1.3.2. Dioscorides

1.3.3. Galen

1.3.4. Alexander Fleming

1.4. Briefly describe three advantages of information sources to the pharmacy profession. (30 marks)

1.5. According to the Avoirdupois System, calculate how much grains (gr) contains in 3 pounds (lb). The relationship between grains and ponds is, 1 pound= 7000 grains. (10 marks)

PART B

2.

2.1. A patient is prescribed with 0.5 mg of drug X twice daily for 6 days. Drug X is available as a syrup of 100 micrograms/mL.

2.1.1. How many milliliters that the patient needs to administer per dose? (05 marks)

2.1.2. What is the total volume required for the total duration? (05 marks)

2.1.3. If the stock bottle has 75 ml, how many milligrams of drug X is in this bottle? (05 marks)

2.2. Briefly explain how the age of the patient influence the dose of a drug. (15 marks)

2.3.

2.3.1. Write four examples for colligative properties. (20 marks)

2.3.2. Briefly explain the characteristic of the colligative properties using one example you mentioned in 2.3.1. (20 marks)

2.4.

2.4.1. Write four importance of studying physical properties of drug molecules. (10 marks)

2.4.2. Explain the importance of understanding ionization of drugs. (20 marks)

PART C

3.

3.1. Define the term "co-solvency". (10 marks)

3.2. Briefly describe how the polarity affects for drug dissolution. (30 marks)

3.3. Differentiate the term adsorption versus absorption. (10 marks)

3.4. List two pharmaceutical importance of adsorption. (10 marks)

3.5. Giving one example, briefly explain the following.

3.5.1. Uses of buffers in pharmaceutical applications (20 marks)

3.5.2. Complexation and solubility (20 marks)

4.

4.1. Mention three derived properties of powder particles. (15 marks)

4.2. List four types of diameters used to measure the particle size in micromeritics. (20 marks)

4.3. There are several methods to determine the particle size.

4.3.1. State two disadvantages of using optical microscopic method. (10 marks)

4.3.2. Mention two methods used in surface area determination. (10 marks)

4.3.3. Write a short description on coulter counter method in particle volume measurement. (35 marks)

4.4. Give two micromeritics applications in pharmaceutical preparation. (10 marks)

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