



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

FIRST BPHARM PART I EXAMINATION – NOVEMBER 2020

PH 1132 PHARMACEUTICS 1A– SEQ

TIME: TWO HOURS

INSTRUCTIONS

- There are **four** questions in 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 'solution' with regard to pharmaceutical dosage forms. (10 marks)
- 1.2. List five factors that affect the solubility of solids in liquids. (20 marks)
- 1.3. Briefly describe two factors you mentioned in 1.2. (30 marks)
- 1.4.
- 1.4.1. Define the term 'buffer solution'. (10 marks)
- 1.4.2. Calculate the weights (in milligrams) of sodium acetate (molecular weight 82 g/mol) and acetic acid (molecular weight 60 g/mol) needed to prepare 500 mL of a buffer solution with total buffer concentration of 0.1 mol/L. Molar ratio of acid to salt is 2:1. (30 marks)

2.

- 2.1. List three methods of analyzing particle size. (06 marks)
- 2.2. Write three applications of micrometrics in pharmaceutical field. (12 marks)
- 2.3. What are the two types of ideal packing arrangements of powders? Use diagrams to support your answer. (12 marks)
- 2.4. Name two tests that are used to assess powder flow. (08 marks)
- 2.5. Briefly explain one test you mentioned under 2.4. (12 marks)
- 2.6.
- 2.6.1. Name the two types of adsorption processes. Give one example for each type. (10 marks)
- 2.6.2. Differentiate the two types you mentioned in 2.6.1. (10 marks)
- 2.7. Describe how to protect the drugs from hydrolysis. (30 marks)

PART B

3.

3.1. Calculate the followings.

3.1.1. A prescriber orders to prepare 180 mL of a 150 mg/5 mL drug solution. The drug is only available in 200 mg tablets. How many tablets are required to prepare this solution? **(15 marks)**

3.1.2. A patient is prescribed Dextromethorphan cough syrup 500 mcg twice daily for 7 days. If the available stock is 0.25 mg/5 mL, what volume should the pharmacist dispense for the above prescription? **(15 marks)**

3.1.3. A child (body weight 25 kg) is prescribed carbamazepine 400 mg twice a day orally. The recommended dose is 15 mg/kg – 20 mg/kg.

3.1.3.1. Is the ordered dose safe for the child? **(09 marks)**

3.1.3.2. If the medication is supplied in 100 mg/5 mL, how many milliliters that the patient needs to administer per dose? **(04 marks)**

3.2. State three differences between true solutions and coarse solutions. **(12 marks)**

3.3. Briefly explain the term “colligative properties” of a solution. **(10 marks)**

3.4. Write a short description on ideal solutions. **(15 marks)**

3.5. Explain how chelation/complexation affects the activity of drugs. Give examples for the use of chelation in drug therapy. **(20 marks)**

PART C

4.

4.1 List five services provided by a community pharmacist. **(10 marks)**

4.2 Describe the pharmacist’s role related to pharmaceutical industry. **(20 marks)**

4.3 Briefly explain the pharmacy practice in ancient Egypt. **(30 marks)**

4.4 Briefly describe two advantages and two disadvantages of tertiary information sources. **(20 marks)**

4.5 How many grams of potassium permanganate should be used in compounding the following prescription? **(20 marks)**

Rx	
Potassium permanganate	0.02%
Purified water ad	500 mL
Sig. as directed	

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