



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

FIRST BPHARM PART I EXAMINATION – FEBRUARY 2022

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

01.

- 1.1 Read the paragraph given below and answer the questions.

Pharmaceutical care aims to provide responsible and careful medication therapy to achieve optimal medication outcomes and increase patient satisfaction in an integrated health system that ultimately improves the quality of a patient's life. Pharmacists play a vital role in pharmaceutical manufacturing, marketing and regulation of medicines, providing pharmaceutical care services, and disseminating their knowledge through academia and research. Furthermore, pharmacists are important members of the multidisciplinary healthcare team caring for patients and playing a major role in ensuring the judicious use of medicines. These roles are well-recognized and considered integral parts of many countries' healthcare systems, including those of some developing countries. However, at present, pharmacists are not yet an integral part of the multidisciplinary healthcare team in Sri Lanka, and their role is currently limited to drug dispensing, compounding and providing limited medicine information to patients.

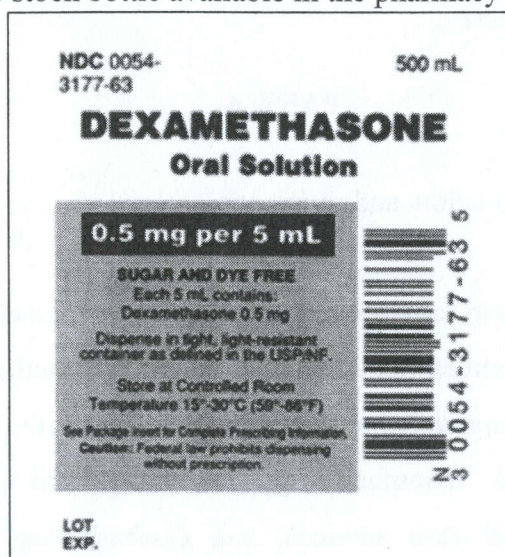
- 1.1.1 List five key areas which pharmacists provide their service. **(15 marks)**
- 1.1.2 Briefly explain current situation of pharmacist in Sri Lanka. **(15 marks)**
- 1.1.3 Briefly describe why well-established pharmacy profession is essential in a healthcare system. **(20 marks)**
- 1.2 Paracetamol syrup contains 120 mg of paracetamol active ingredient in each 2 mL. Find the volume of syrup that contains 480 mg of paracetamol. **(15marks)**

- 1.3 A cream contains 6 g of drug X made up to 0.05 kg with a cream base (gross weight of the cream = 0.05 kg). Express the percentage concentration w/w (% w/w). (15 marks)
- 1.4 Briefly explain how Egyptian civilization contributed to development of pharmacy profession. (20 marks)

PART B

02.

- 2.1 List five factors affecting the dose of the drug. (15 marks)
- 2.2 A patient with a prescription for dexamethasone oral solution 0.25 mg three times a day comes to your pharmacy. The doctor has ordered 7 days supply. The label of the dexamethasone stock bottle available in the pharmacy is given below.



- 2.2.1 How many milligrams of dexamethasone is in this stock bottle? (05 marks)
- 2.2.2 How many milliliters of the dexamethasone solution this patient has to take per dose? (05 marks)
- 2.2.3 Calculate the volume of the dexamethasone solution you need to dispense for this patient. (10 marks)
- 2.3 "Studying the physical properties of drug molecules is important in formulation of a new product".
- 2.3.1 What is meant by refractive index? (10 marks)
- 2.3.2 Briefly explain how the refractive index vary with wavelength? (10 marks)
- 2.3.3 List three applications of refractive index? (15 marks)
- 2.4 Write short notes on followings. (30 marks)
- 2.4.1 Dipole moment
- 2.4.2 Optical rotation
- 2.4.3 Partition co-efficient

PART C

03.

- 3.1 Define the term "Solubility". (10 marks)
- 3.2 Mention five factors which could affect the solubility of a drug. (25 marks)
- 3.3 Giving two examples each and briefly explain following.
- 3.3.1 Complete and partial miscibility (20 marks)
- 3.3.2 Hydrolysis (20 marks)
- 3.4 Write a short note on pH and solubility. (25 marks)

04.

- 4.1 Define the term "Micromeritics". (10 marks)
- 4.2 Mention two examples of micromeritics for dosage form development. (10 marks)
- 4.3 Briefly discuss the sedimentation method which is a test to determine the particle size. (25 marks)
- 4.4 List four factors which affect the flow properties of a powder. (20 marks)
- 4.5 Write a brief account on "tests used to evaluate the flowability of a powder". (35 marks)

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