

**NATIONAL UNIVERSITY OF LESOTHO
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY**

BACHELOR OF PHARMACY (HONOURS)

PHA2400 – INTRODUCTION TO DISPENSING PRACTICE

JANUARY 2024

TIME: 3 HOURS

MARKS 100

INSTRUCTIONS

- **ANSWER ALL QUESTIONS**
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Question 1: Dispensing practice (20 marks)

- a) Mention any five (5) key roles of dispensing practice in healthcare. **(5 marks)**
- b) The history of pharmacy is a rich and diverse story that spans thousands of years and has had a profound impact on modern healthcare. Explain what happened in the **18th and 19th Centuries** in the history of pharmacy. **(5 marks)**
- c) An elderly patient with a chronic condition consistently fails to take their prescribed medications as instructed, and their health is deteriorating. Discuss strategies to address medication non-adherence while respecting the patient's autonomy. **(10 marks)**

Question 2: Pharmaceutical dosage forms (20 marks)

- a) **Background:** A 6-year-old child is diagnosed with a severe bacterial infection requiring antibiotic treatment. The child is in discomfort and is unable to swallow pills.

Challenge: Choose the most appropriate route of drug administration for the paediatric patient, considering the child's age, ability to swallow, the severity of the infection, and the need for immediate relief. **(5 marks)**

Options:

- i. Oral Liquid Antibiotic
 - ii. Intramuscular Injection
 - iii. Intravenous Infusion
- b) Elixirs are clear, pleasantly flavoured, sweetened hydroalcoholic liquids intended for oral administration. Mention and explain two (2) classes of elixirs. **(5 marks)**
 - c) Explain oral and parenteral routes of administration, and in emergency cases, which route of administration would you recommend for a pharmaceutical product available in dosage forms that can be administered either orally or parenterally? Justify your answer. **(6 marks)**
 - d) List any four (4) advantages of inhalation route of administration. **(4 marks)**

Question 3: Dispensing procedures (20 marks)

- a) Mention details which must appear on the label of a dispensed medicine. **(8 marks)**
- b) Why are labels for dispensed medicines important? **(2 marks)**

c) The handling of the prescription is crucial. The pharmacist should follow five (5) stages when processing a compounded prescription. Explain the following stages during dispensing of a compounded prescription.

i. Receiving and checking (5 marks)

ii. Collecting and weighing the material (5 marks)

Question 4: Introduction to communication skills in pharmacy (10 marks)

a) Lack of privacy is one of communication barriers. How will you address this barrier so that there is effective communication between you and the patients? (4 marks)

b) A pharmacist is part of a healthcare team therefore, communication with other healthcare professionals is very important. Explain pharmacist – physician communication. (6 marks)

Question 5: Pharmacy technology (10 marks)

a) Pharmacy Management Software (PMS) plays a pivotal role in enhancing efficiency within dispensing practices by leveraging advanced features that streamline processes and reduce the likelihood of errors. Provide a detailed exploration of how PMS contributes to efficiency, with a focus on automatic prescription verification and drug interaction alerts. (10 marks)

Question 6: Dispensing calculations (20 marks)

a) The doctor prescribes levodopa capsules, 1000 mg to be taken every 8 hours for 28 days. Levodopa is available as 500 mg capsules. How many capsules should be supplied? (3 marks)

b) The following regimen for oral prednisone is prescribed for a patient:

- 50 mg/ day 10/7

- 25 mg/day 10/7

- 12.5 mg/day 10/7

- 5 mg/day 7/7

How many scored 25-mg tablets and how many 5-mg tablets should be dispensed to meet the dosing requirements? (5 marks)

c) What is the percentage of alcohol in the following prescription? (4 marks)

Rx: Terpin hydrate elixir 60 mL (25% alcohol)

Alcophyllex cough syrup 100 mL (18% alcohol)

purified water ad 250 ml

- d) Using a vial containing 200,000 units of penicillin G sodium and sodium chloride injection as the solvent, explain how you would obtain the penicillin G sodium needed in preparing the following prescription. **(5 marks)**

R_x

Penicillin G Sodium 15,000 units per mL

Sodium Chloride Injection ad 10

Sig. For IM Injection. mL

- e) Twenty-five (25) milliliters of 10% calcium gluconate injection and 10 mL of multivitamin infusion are mixed with 500 mL of a 5% dextrose injection. The infusion is to be administered over 5 hours. If the dropper in the venoclysis set calibrates 15 drops/mL, at what rate, in drops per minute, should the flow be adjusted to administer the infusion over the desired time interval? **(3 marks)**