

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

BACHELOR OF PHARMACY (HONOURS)

PHA3300 – DRUG SUPPLY MANAGEMENT

AUGUST 2023

TIME: 3 HOURS

MARKS 100

INSTRUCTIONS

- **ANSWER ALL QUESTIONS**
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Question 1: Medical gases (20 marks)

- a) Describe the “DOs” (5 marks) and “DON’Ts” (5 marks) of storage of medical gases in wards or clinical areas. **(10 marks)**
- b) What is the difference between a flow meter and a pressure regulator? **(4 marks)**
- c) What is the relationship between a pressure regulator and a flow meter when a medical gas is being used for inhalation by a patient? **(2 marks)**
- d) Why should a pharmacist avoid storing entonox at low temperature? **(4 marks)**

Question 2: Drug supply management (20 marks)

- a) Supply Chain Management Department (SCMD) at the Ministry of Health in Lesotho also takes part in procurement of medicines. State how the SCMD participates in procurement. **(4 marks)**
- b) You are a head pharmacist at St. Joseph hospital. You have noticed an increased incidence of incorrect dispensing during after-hours pharmacy. Which measures would you take to minimize the risk of incorrect dispensing during after-hours pharmacy? **(6 marks)**
- c) Give any two (2) reasons why medication administration records are important. **(2 marks)**
- d) The pharmacy department should undertake periodic inspections of medication storage areas throughout the hospital. Why should the pharmacy department undertake periodic inspections of medication storage areas? (NB: Give two (2) reasons) **(2 marks)**
- e) Explain how all basic types of medication distribution systems may be in use in the same health facility depending on the strategic development. **(6 marks)**

Question 3: Cold chain (20 marks)

- a) Why should health facilities not use domestic refrigerators to store vaccines? **(3 marks)**
- b) Why must a health facility refrigerator never be packed solid? **(2 marks)**
- c) What is a vaccine vial monitor (VVM)? **(1 mark)**
- d) Why is a vaccine vial monitor (VVM) important in cold chain? **(1 mark)**
- e) Explain how you would interpret a vaccine vial monitor (VVM) to check if a vaccine has been exposed to too much heat. **(3 marks)**

f) You failed to notice that your vaccine refrigerator has not been working for 10 days. Your refrigerator has stored vaccines with VVM2, VVM7, VVM14 and VVM30. Which vaccines are more likely to have been exposed to too much heat? (*Explain your choices*)

(5 marks)

g) Describe how you would carry out the process of conditioning frozen ice packs.

(5 marks)

Question 4: Medication errors (20 marks)

a) How will you, as a head pharmacist, ensure prevention of prescription or medication errors at your facility? **(5 marks)**

b) Outline guidelines that you, the DHMT pharmacist, will teach your fellow pharmacists to implement when dispensing a prescription. **(3 marks)**

c) Outline points you will take into consider when preparing a lecture for medical doctors on how to prevent prescribing errors. **(8 marks)**

d) An error has occurred in your pharmacy department, as a head pharmacist, what will you do? **(4 marks)**

Question 5: Drug supply management calculations (20 marks)

(a) In January 2001, Mabote clinic received from QE II hospital 24 tins of item in the store called Nevirapine 60 mg tablets. During January, two tins of 500 tablets were issued to the dispensing area. In February, four tins were issued, and in the next two successive months, two and two tins were issued respectively. Finally during the last two months, three and three tins were issued respectively. Answer the following questions. (*NB: Show your calculations*)

(i) What is the average monthly consumption of Nevirapine? **(2marks)**

(ii) Assuming the lead time is three months, what is the request indicator?

(4 marks)

(iii) Assuming the lead time is three months and add one month as reserve for unforeseen circumstances, what is the quantity to be ordered? **(4 marks)**

(b) You as the DHMT pharmacist are keeping stock for clinics that do not have adequate store rooms to store a large quantity of commodities. Use the attached stock card for monitoring paracetamol tablets to answer questions that follow. (*NB: Show your calculations*)

- (i) What is the monthly consumption in August? **(2 marks)**
- (ii) What was the average monthly consumption in the last three months? **(2 marks)**
- (iii) What was the average time from placing an order to receiving it (i.e. the average lead time) over the period shown on the stock card? **(4 marks)**
- (iv) How many months' stock are on hand on 31 August 1998? **(2 marks)**

APPENDIX 1: STOCK CARD

ITEM: Paracetamol 500 mg		Description: tablets CODE NUMBER: 017 345 678					
UNIT + SIZE: pack of 20		PRICE:		REORDER LEVEL:			
DATE	REQUISITION NUMBER	TO / FROM	QUANTITY ORDERED	QUANTITY RECEIVED	QUANTITY ISSUED	BALANCE IN STOCK	SIGNATURE
12/06/98	001		1000			500	
25/06/98	012	To clinic			100	400	
12/07/98	001	From stores		1000		1400	A
16/07/98	013	To clinic			100	1300	A
20/07/98	014	To clinic			200	1100	A
21/07/98	015	To clinic			200	900	A
22/07/98	002		1000			900	
10/08/98	016	To clinic			200	700	A
15/08/98	002	From stores		1000		1700	A
31/08/98	017	To clinic			300	1400	A