

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF PHARMACY
FOURTH YEAR FIRST SEMESTER EXAMINATION in BPharm Honours – 2022
CLINICAL PHARMACY – PHACP 4132

Date: 09.03.2024

Time: 02 hours

ANSWER ALL SIX QUESTIONS.

- 1.
- 1.1. Define pharmaceutical care. (20 Marks)
 - 1.2. List the five (05) main steps in pharmaceutical care process. (25 Marks)
 - 1.3. List five (05) activities carried out by clinical pharmacists. (15 Marks)
 - 1.4. List the steps involved in obtaining a best possible medication history. (15 Marks)
 - 1.5. Briefly describe the importance of taking a best possible medication history. (25 Marks)
- 2.
- 2.1. Define Adverse Drug Reaction (ADR). (10 Marks)
 - 2.2. Outline the procedure for reporting ADRs in Sri Lanka. (25 Marks)
 - 2.3. Briefly explain prescribing cascade with a suitable example. (15 Marks)
 - 2.4. Briefly describe the role of a clinical pharmacist in the following aspects. (25 Marks)
 - 2.4.1 Management of ADR (25 Marks)
 - 2.4.2 Prevention of substance abuse (25 Marks)
3. Mrs. MN is a 65-year-old patient with a history of hypertension for the past 5 years. She has been admitted to the hospital due to uncontrolled hypertension and has been newly diagnosed with type-2 diabetes mellitus. She has negative belief towards the effect of medications and make dose reductions or skips taking them frequently. She takes her medications at higher doses when her symptoms get worsen.
- Her regular medications include:
- Hydrochlorothiazide 25 mg mane
 - Metoprolol 50 mg mane
- During discharge, it was decided to continue her regular medications and add Metformin 500 mg BD along with attempts to improve her medication adherence.
- 3.1. What is meant by medication adherence? (10 Marks)
 - 3.2. Identify the different forms of medication non-adherence observed in Mrs. MN. (15 Marks)

- 3.3. Comment on the suitability of the current antihypertensives in Mrs. MN with regard to her new condition. (25 Marks)
- 3.4 Name a suitable alternative drug for treating hypertension in Mrs. MN. (10 Marks)
- 3.5 Discuss the strategies that can be used to improve medication adherence of Mrs. MN during discharge. (40 Marks)

4. Mrs. HA is a 65-year-old patient who was admitted to hospital with sudden onset chest pain. Her body weight was 57 kg.

Past Medical History:

- Hypertension

Presenting complaints:

- Chest pain and tightness (radiating to arm and not relieved by rest)
- Shortness of breath, sweating and tiredness

Laboratory Findings:

- Her 12-lead ECG showed ST segment elevation
- Troponin I – 6.8 ng/mL
- Blood pressure – 150/90 mm Hg
- Serum Potassium levels – 4.5 mmol/L
- Serum creatinine levels – 100 μ mol/L

Routine medications:

- Losartan 25 mg BD

- 4.1 Calculate the estimated glomerular filtration rate (in $\text{ml}/\text{min}/1.73 \text{ m}^2$) of Mrs. HA using Cockcroft & Gault formula. (15 Marks)
- 4.2 What condition does Mrs. HA's presenting symptoms and laboratory investigations suggest? (10 Marks)
- 4.3 The following medications were prescribed to Mrs. HA on admission:
- Aspirin 150 mg Nocte
 - Clopidogrel 75 mg Nocte
 - Enoxaparin 40 mg BD
 - Atorvastatin 20 mg nocte
 - S/L GTN SOS
- 4.3.1 Review Mrs. HA's current medication list and state the reason why each of this medication has been prescribed. (25 Marks)

- 4.3.2 Provide suggestions to resolve any drug related problem(s) identified in Mrs. CK. (25 Marks)
- 4.4 List five (05) challenges for providing patient care in geriatric population. (25 Marks)
- 5.
- 5.1 List four (04) applications of pharmacokinetic studies. (20 Marks)
- 5.2 Briefly explain how the protein binding of drugs influences the volume of distribution. (25 Marks)
- 5.3 After single dose IV bolus dose of 1000 mg of an antibiotic, the initial plasma concentration was estimated as 25 mg/L.
- 5.3.1 Estimate the volume of distribution of this antibiotic. (15 Marks)
- 5.3.2 Calculate the IV dose of this antibiotic required to achieve the initial concentration of 50 mg/L. (15 Marks)
- 5.4 Calculate the elimination half-life ($t_{1/2}$) in hours for this antibiotic. (Assume that the elimination of this antibiotic follows first-order kinetics and its clearance is approximately equal to 60 mL/min). (25 Marks)
6. 6.1. What is Evidence Based Medicine (EBM)? (10 Marks)
- 6.2 List the major components of EBM. (15 Marks)
- 6.3 List the steps in EBM. (25 Marks)
- 6.4 List the types of drug information resources with an example for each. (25 Marks)
- 6.5 Briefly describe the importance of following a systematic approach for answering drug information enquiries. (25 Marks)