



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

FOURTH BPHARM PART II EXAMINATION – DECEMBER 2018

PH 4212 CLINICAL PHARMACY (SEQ)

TIME: TWO HOURS

INSTRUCTIONS

- There are **four (04)** questions of SEQ paper.
- Answer **all** questions in the booklet provided.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

1.

- 1.1. Define the term “clinical trial”. (10 marks)
- 1.2. Before conducting a clinical trial, pilot studies and feasibility studies could be done.
Differentiate pilot studies and feasibility studies when conducting a clinical trial. (20 marks)
- 1.3. State **two** ethical aspects involved with clinical trials. (20 marks)
- 1.4. Discuss the importance of post marketing surveillance related to clinical trial. (25 marks)
- 1.5. Write a short note on “role of clinical pharmacist in a clinical trials”. (25 marks)

2.

- 2.1. Define the “term therapeutic drug monitoring”. (10 marks)
- 2.2. Briefly describe pharmacokinetic considerations of therapeutic drug monitoring. (25 marks)
- 2.3. The elderly patients often suffer with multiple chronic diseases. Therefore they are the major consumers of drugs for long term therapy. As a clinical pharmacist, briefly describe how you would improve the compliance among elderly patients’ to drug therapy. (25 marks)
- 2.4. A 45 year-old male patient was admitted to the hospital with fatigue, nausea and problems in breathing. His serum potassium level was 6.6 mmol/L with ECG changes. As a clinical pharmacist, how would you manage the patient’s condition? (40 marks)

3.

- 3.1. List **four** examples for highly protein bound drugs. (10 marks)
- 3.2. “Differences in physiological and pathological conditions alter the drug- protein binding”.
Briefly explain this statement by giving **four** examples. (30 marks)
- 3.3. Define the following terms.
 - 3.3.1. Drug distribution (10 marks)
 - 3.3.2. Absolute bioavailability (10 marks)

3.4. An antibiotic was given at a dose of 1.2 g as a single intravenous bolus (IV). If the initial plasma concentration (C_{p0}) was estimated as 40 mg/L.

3.4.1. Estimate the volume of distribution of the drug. (20 marks)

3.4.2. Calculate the IV dose required to achieve an initial plasma concentration of 17mg/L. (10 marks)

3.4.3. If the required steady state plasma drug concentration (C_{ss}) is 60 mg/L, calculate the loading dose of the drug. (10 marks)

4.

4.1. State **one** appropriate laboratory test for each of the following conditions given below. (15 marks)

4.1.1. Skeletal muscle damage

4.1.2. Renal impairment

4.1.3. Effect of warfarin

4.2. A 55 year-old patient admitted to hospital with a blood glucose level of 2.2 mmol/L (reference range is 3-6 mmol/L).

Write **five** symptoms that would be experienced by this patient before starting the treatments. (25 marks)

4.3. A 56 year-old, wheelchair bound lady was admitted with a lower respiratory tract infection and recovered with the treatment of roxithromycin. It was found that she has fallen from the wheelchair and observed with significant bruising around her hip with no pain. Following are her laboratory test results after admission to the hospital.

Current results	Patient value	Reference
Bilirubin	5 $\mu\text{mol/L}$	(<20 $\mu\text{mol/L}$)
Alkaline phosphatase	595 U/L	35-135 U/L
Alanine transaminase (ALT)	23 U/L	(<36 U/L)
Albumin	38 g/L	35-45 g/L
Total protein	69 g/L	60-80 g/L

4.3.1. Giving reasons, interpret the results given in the above table. (20 marks)

4.3.2. Identify the disease condition that could be responsible for the abnormal result/s. (15 marks)

4.3.3. Justify your answer mentioned in 4.3.2. (25 marks)

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