Index no:....................

UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES
DEPARTMENT OF PHARMACY
FOURTH BPHARM PART II EXAMINATION – JULY/AUGUST 2020
PH 4212 CLINICAL PHARMACY (SEQ)

TIME: TWO HOURS

INSTRUCTIONS

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

Part A

1. A 70-year-old male patient was admitted to the medical ward with fever and severe body aches for 4 days. According to medical records, he had a history of hypertension and ischemic heart disease. The patient was on following medications at the time of admission.

Atenolol	50 mg mane
Atorvastatin	40 mg daily
GTN	600 micrograms SOS
Aspirin	75 mg nocte
Glibenclamide	5 mg tds
Furosemide	40 mg bd
Losartan	50 mg mane

   Other than the above drugs, patient had taken paracetamol and ibuprofen at his own interest for fever and body aches before the admission.

   Laboratory investigations were done for this patient after the hospital admission, and a summary of the results are as follows. On the following day after admission, the patient complained of gum bleeding.

	Day 1 morning	Day 1 evening	Reference value
Total white cell count	4.1%	2.9 %	4-11%
Haemoglobin	12.1 g/dL	11.8 g/dL	13-17 g/dL
Red blood cells	5.01×10^{12}/L	4.9×10^{12}/L	$4.5-5.6 \times 10^{12}$/L
MCV	87 fl	84 fl	76-96 fl
PCV	43.6 L/L	49.3 L/L	40-47 L/L
Platelet count	80×10^9/L	37×10^9/L	$150-400 \times 10^9$/L
SGOT	745 U/L	-	<34 U/L
SGPT	670 U/L	-	<35 U/L
NS1	positive		

1.1 What would be the cause of clinical symptoms of this patient? (*10 marks*)

1.2 As the clinical pharmacist in-charge what are your immediate advice to the patient, after observing clinical condition and laboratory data? Justify the reasons for your answer.

(*40 marks*)

1.3 Describe the medication related issues you identify in reviewing the routine medication list of this patient (except the observations in 1.2). Give your recommendations to overcome these issues. (*50 marks*)

2. A 58- year-old patient diagnosed with diabetes mellitus, hypertension and depression was admitted to the emergency department with confusion and drowsiness (blood pressure 122/77 mmHg). His laboratory investigations were as follows.

		Reference range
Blood Urea	120 mg/dL	(7- 20 mg/dL)
Serum creatinine	1.5 mg/dL	(0.7- 1.2 mg/dL)
Serum sodium	110 meq/L	(135 – 145 meq/L)
Potassium	4 meq/L	(3.6 - 5.2 meq/L)
Hb	9 g/dL	(13 - 17 g/dL)
Random Blood Sugar	260 mg/dL	(80-140 mg/dL)

Patient was on below medications at the time of admission.

Metformin 1g bd
Losartan 50 mg mane
Lithium carbonate 500 mg bd
Sertraline 100 mg mane
Enalapril 5 mg bd

2.1 List the indications for each of the above drugs prescribed for this patient. (*20 marks*)

2.2 As the clinical pharmacist in-charge, explain the appropriateness of the above medications and your suggestions to improve this patient's medication safety.

(*60 marks*)

2.3 Explain the special advices you would give to this patient at discharge. (*20 marks*)

Part B

3. Answer all parts.

3.1

    3.1.1 State **four** counselling tips that can be used by a paediatric clinical pharmacist to increase patient compliance. *(15 marks)*

    3.1.2 State **five** characteristics of "a good paediatric pharmacist". *(15 marks)*

    3.1.3 Briefly explain general guidelines of prescribing in paediatric. *(30 marks)*

3.2

    3.2.1 What is meant by "mantra" for dosing in the elderly patients? *(05 marks)*

    3.2.2 As a clinical pharmacist, what are the medication related factors that you would consider to monitor the appropriateness of an initiation of a medication for an elderly patient? Briefly discuss. *(15 marks)*

    3.2.3 Briefly explain how medicines cause falls in elderly patients. *(20 marks)*

4.

4.1 Define the following terms using your knowledge on pharmacokinetics. *(20 marks)*
    4.1.1 Volume of distribution
    4.1.2 Clearance
    4.1.3 Half-life
    4.1.4 Steady-State

4.2. After a single IV bolus dose of 2000 mg of an antibiotic, the initial concentration was estimated to be 50 mg/L.

    4.2.1 Estimate the volume of distribution (V_d) of this drug. *(08 marks)*

    4.2.2 Calculate the IV dose required to achieve an initial concentration of 60 mg/L. *(10 marks)*

4.3 A significant number of patients with renal impairment are admitted to hospital due to use of inappropriately high doses of drugs.

    4.3.1 State **three** types of patient groups who are generally at risk with impaired renal function. *(12 marks)*

    4.3.2 Write the Cockcroft-Gault equation in predicting the Glomerular filtration rate (GFR) and state **four** limitations of using this equation. *(20 marks)*

    4.3.3 Briefly explain the role of a clinical pharmacist in managing a renal impaired patient. *(30 marks)*

@@@@@@@@@@