

**NATIONAL UNIVERSITY OF LESOTHO**

*FACULTY OF HEALTH SCIENCES*

Department of Pharmacy

**PHA 3403: SYSTEMS PHARMACOTHERAPEUTICS I**

*Supplementary examinations*

**AUGUST 2023**

**TIME: 3 HOURS**

**100 MARKS**

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**Instructions:**

- The paper consists of **two (2) printed pages** including the **cover page**
- Answer **all** the questions
- Begin every question on a **NEW PAGE**
- The page consists of **four questions**

### QUESTION 1

30 MARKS

**Discuss** the pathogenesis of the following disorders (3); and outline the pathophysiology of the identified **distinguishing** signs and symptoms (2) and give **one long term** complication (1)

- a) Hypertension - epistaxis
- b) Congestive heart failure – pulmonary oedema
- c) Deep vein thrombosis – leg swelling
- d) Metabolic syndrome – hyperinsulinaemia
- e) Microcytic anaemia – paleness

### QUESTION 2

20 MARKS

**Outline** the stepwise drug treatment of the following chronic illnesses, indicating dosing regimens and the criteria for moving from one-step to another (No OR statements)

**10 marks each**

- a) Essential hypertension
- b) Diabetes mellitus type II

### QUESTION 3

30 MARKS

**Discuss clearly** the mechanism(s) of action of the following drugs **strictly** in the treatment of the disorders given

**3 marks each**

- 1) losartan in hypertension
- 2) Nitroglycerine in angina pectoris
- 3) Furosemide in CCF
- 4) Adenosine in cardiac arrhythmias
- 5) Atorvastatin in dyslipidaemia
- 6) Warfarin in thrombosis
- 7) Aminocaproic acid in haemorrhage
- 8) Folic acid in anaemia
- 9) Insulin in diabetes mellitus type I
- 10) Metformin in diabetes mellitus type II

### QUESTION 4

20 MARKS

Discuss how the following drug induced adverse effects come about **5 marks each**

- a) Heparin bleeding
- b) Metformin lactic acidosis
- c) Acarbose flatulence
- d) Atorvastatin myositis