

**BACHELOR OF PHARMACY**  
**BPU2124 – PHARMACOLOGY I – LEVEL 4**  
**FINAL EXAMINATION**  
**DURATION: TWO HOURS**

---

DATE: 26<sup>th</sup> FEBRUARY 2019

TIME: 1.30 P.M –3.30 P.M

---

**Structured Essay Questions (SEQs) – (50 marks)**

Answer all questions.

1.

Hypertension is characterized by elevation of blood pressure. It can lead to severe complications and increase the risk of heart disease, stroke, and death. Acute causes of high blood pressure includes stress, but it can happen on its own, or it can result from an underlying condition such as obstructive sleep apnoea, kidney problems and adrenal tumours etc.

1.1 Explain the mechanism of action of Angiotensin Converting Enzyme Inhibitors (ACEI) used in the treatment of hypertension. (15 marks)

1.2 Concomitant administration of Spironolactone may exacerbate ACE inhibitor-induced hyperkalemia. Briefly justify the statement. (05 marks)

1.3 State **two (02)** other common drug interactions associated with ACEI. (03 marks)

1.4 List **two (02)** clinical indications of ACEI other than hypertension. (02 marks)

2.

Bioavailability studies offer various pharmacokinetics information associated with elimination, distribution, absorption, dose proportionality and many more. Bioavailability information provides data about the drug substance properties prior to its entry to the systemic circulation.

2.1 Define the term “absolute bioavailability” (05 marks)

2.2 Briefly describe how the following factors are affecting the bioavailability of a drug. (08 marks)

- i) Physical properties of drugs
- ii) Gastrointestinal (GI) transit time

2.3 Oral administration of a drug does not achieve 100% bioavailability. Explain. (12 marks)

