



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELLOR OF
SCIENCE (FORENSIC SCIENCE)**

SBC 356: FORENSIC PHARMACOLOGY

DATE: Monday 2nd April 2012

TIME: 8.00a.m – 10.00a.m

**INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTIONS “A” AND “B”
COMPULSORY) AND ANY OTHER TWO QUESTIONS IN SECTION C**

(All answers MUST be written in the Examination Booklet)

SECTION A: Answer ALL the Questions (20 marks)

1. List the four main cellular regulatory proteins which act as primary drug targets. (4 marks)

- a. _____
- b. _____
- c. _____
- d. _____

2. List the four main ways by which small molecules (drugs) cross cell membranes. (4 marks)

- a. _____
- b. _____
- c. _____
- d. _____

3. List the four potential biotransformations that drugs can undergo in the body. (4 marks)

- a. _____
- b. _____
- c. _____
- d. _____

4. List any 4 reactions that drugs produce in the body. (4 marks)

- a. _____
- b. _____
- c. _____
- d. _____

5. List any 4 known sites of drug metabolism in the body. (4 marks)

- a. _____
- b. _____
- c. _____
- d. _____

SECTION B: Answer ALL Questions (30 Marks)

1. Briefly explain the difference between partial agonists, full agonists and antagonists. (5 marks)
2. State and briefly explain the five mechanisms of drug antagonism. (5 marks)
3. Briefly explain the three phases oral drugs go through in the body. (5 marks)
4. The pathways of drug metabolism can be divided into phase I and phase II. Briefly distinguish between the two phases. (5 marks)
5. Almost 30% of all marketed drugs act on GPCRs. Briefly explain the structure and characteristics of G-proteins. (5 marks)
6. Drug-drug interactions can produce effects that are additive, synergistic, or antagonistic in the body. Briefly explain. (5 marks)

SECTION C: Answer ANY TWO Questions (20 marks)

1. List and define any 5 classes of psychotropic drugs. (10 marks)
2. Briefly discuss various factors that influence drug response. (10 marks)
3. a. Explain the term “first pass effect” and give reasons why it is a problem for oral drugs. (6 marks)
b. List the factors that favour the liver as the principal organ of drug metabolism. (4 marks)