



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY
BTMBT 10M

ABT 4410 : BIOCHEMICAL PHARMACOLOGY

SEMESTER EXAMINATION

DECEMBER 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

Answer question **ONE** (compulsory) and any other **TWO** questions

QUESTION ONE

- a) Differentiate between the following terms
 - (i) Median lethal dose (LD₅₀) and median Effective dose (ED₅₀) **(3 marks)**
 - (ii) Therapeutic index and graded dose effect **(3 marks)**
- b) Explain the mechanism of drug interaction during biotransformation. **(6 marks)**
- c) Acetylsalicylic acid (Aspirin) has a code A01AD05 as a drug for local oral treatment, B01AC06 as a platelet inhibitor and O0BA01 as an analgesic and antipyretic drug. Explain the reason for the different dosage for the same drug. **(6 marks)**
- d) Explain the significance of binding of the drugs to proteins **(6 marks)**
- e) Discuss the mechanism of drug receptor interaction **(6 marks)**

QUESTION TWO

Discuss the relationship between therapeutic and toxic effects of drugs giving relevant examples

(20 marks)

QUESTION THREE

Using specific examples, discuss the pharmacodynamic interactions of drugs in the biological system

(20 marks)

QUESTION FOUR

Explain the homeostatic function of prostaglandins associated with adverse effects of non-steroid antinflammatory drugs (NSAIDS) on the following organs

- a) Stomach and GIT **(5 marks)**
- b) Cardio vascular system **(6 marks)**
- c) Kidney **(7 marks)**
- d) Female reproductive organ **(2 marks)**

QUESTION FIVE

Discuss the classification of the drugs acting on the central persons system (CNS) giving examples in each case **(20 marks)**