



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
COMMUNITY HEALTH AND DEVELOPMENT
3RD YEAR 1ST SEMESTER 2019/2020 ACADEMIC YEAR

COURSE CODE: HPB 3413
COURSE TITLE: ENVIRONMENTAL TOXICOLOGY
EXAM VENUE: STREAM: BSc Community Health and Development
DATE: **EXAM SESSION:**
TIME: 2.00 HOURS

Instructions:

- 1. Answer all the questions in Section A and 2 questions in Section B.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the Examination room.**

SECTION A. (30MARKS)

1. Define the following terminologies as used in environmental toxicology. (4marks)
 - a) Poison
 - b) Toxicity
 - c) Toxicokinetics
 - d) Toxicodynamic.
2. State FIVE classification of poisonous substances. (5marks)
3. Outline FIVE physiological effects of toxic substances on the body. (5marks)
4. State FIVE chemical or physical classification of poisons in the environment. (5marks)
5. Briefly outline FIVE important means of controlling toxic substances in the environment where life exist. (5marks).
6. State and explain the impact of toxic substances to human after the chronic exposure. (6marks).

SECTION B. (40MARKS)

7. a. Describe the major sources of toxins and common causes of poisoning to the general public. (15marks)
 - b. Toxicokinetics is the application of the pharmacokinetics to determine the relationship between the systematic exposure of chemical in an experimental animal and its toxicity. State and briefly explain its uses. (5marks)
8. Describe the physiological toxicokinetic model and the possible application to public health. (20marks)
9. Monitoring of toxicants present in food can follow the seven-principal based on HACCP. Discuss. (10 marks).
 - b. Briefly outline various pathways of toxic substances in to the body and the role a public health officer can play reduce the impact before and after the exposure to such toxicants in an environment.(10marks)
10. Describe dose-response relationship (10mks). Briefly discuss factors that influence toxicity of poisonous substances to humans (10mks).