



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

UNIVERSITY EXAMINATIONS APRIL 2020

**THIRD YEAR SECOND SEMESTER END OF SEMESTER EXAM FOR THE DEGREE OF
BACHELORS IN COMMUNITY HEALTH AND DEVELOPMENT/PUBLIC HEALTH**

COURSE CODE: HPB 3323

COURSE TITLE: ENVIRONMENTAL POLLUTION AND CONTROL

EXAM VENUE:

STREAM:

DATE:

EXAM SESSION:

TIME: 2 HOURS

INSTRUCTIONS:

- 1. THIS PAPER CONSISTS OF TWO SECTIONS A&B**
- 2. ANSWER ALL QUESTIONS IN SECTION A AND ANY OTHER 2 QUESTIONS IN SECTION B**
- 3. CANDIDATES ARE ADVISED NOT TO WRITE ON THE QUESTION PAPER.**
- 4. CANDIDATES MUST HAND IN THEIR ANSWER BOOKLETS TO THE INVIGILATOR WHILE IN THE EXAMINATION ROOM.**

SECTION A : ANSWER ALL QUESTIONS IN THIS SECTION (30 Marks)

Question 1. State the concept of Paracelsus who is regarded as the grandfather of toxicology

Question 2. Differentiate between primary pollutants and secondary pollutants

Question 3. Explain two broad sources of environmental pollution

Question 4. List six (6) fields of toxicology

Question 5. Explain any three (3) fields of toxicology based on socio-medical issues

Question 6. What is toxicovigilance? Explain its relevance in environmental pollution

Question 7. State three (3) types of pollution that may occur in a cement factory

Question 8. Explain the following effects as derived from dose – response relationship

a) Median lethal dose (LD₅₀)

b) Median effective dose (ED₅₀)

c) Median toxic dose (TD₅₀)

Question 9. Describe three (3) control measures of thermal pollution

Question 10. Explain two main types of air pollution

SECTION B: ANSWER QUESTION ONE AND ANY OTHER ONE QUESTION IN THIS SECTION 20 MARKS EACH

1. Nairobi University's Public Health Pharmacology and Toxicology department recently conducted toxicological and epidemiological studies in Lake Victoria and its environment, and the results revealed that the lake is heavily polluted with pathogenic microorganisms, heavy metals and toxic pesticides and this has deleterious effects on the people and the environment; and thus the researchers described the lake as "Lake of Poison".

Describe six (6) principles that can be applied to help prevent and control environmental pollution in Lake Victoria and its environment.

2. Identify and discuss the challenges associated with the ban on light-weight plastic packaging bags in Kenya and recommend mitigative measures for the challenges identified.

3. Discuss how the following activities or processes may cause environmental pollution and indicate preventive and control measures for each cause:

- a) Agricultural development
- b) Deforestation
- c) Urbanization
- d) Nature of technology