



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR BACHELOR OF SCIENCE**  
**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2023/2024 ACADEMIC YEAR**  
**MAIN CAMPUS**

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**COURSE CODE HCB 1112**

**COURSE TITLE: LABORATORY METHODS FOR ENVIRONMENTAL HEALTH**

**EXAM VENUE:**

**STREAM:**

**DATE:**

**EXAM SESSION:**

**TIME:**

**TIME ALLOWED: 2.00 HOURS**

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**Instructions:**

- 1. Answer all the questions in Section A and ANY other 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: ANSWER ALL QUESTIONS (30MARKS)**

1. Define a microscope (1 mark)
2. Write short notes on chemical storage and handling (3 marks)
3. State and explain functions of an oven in the laboratory (4 marks)
4. Name any two types of pipettes (1 mark)
5. State and explain functions of a centrifuge (4 marks)
6. Name two types of centrifuges (2 marks)
7. State how to dispose wastes in the laboratory (5 marks)
8. Define the term solutions in the laboratory (1 mark)
9. Write short notes on buffering agents (4 marks)
10. Compare and contrast acids and bases (5 marks)

**SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)**

1.
  - i. Name four beakers used in the lab (2 marks)
  - ii. State any four equipment in the laboratory and uses (8 marks)
  - iii. Write short notes on sources of errors in the laboratory (10 marks)
2.
  - i. Define PH (1 mark)
  - ii. State five factors associated with infections in the laboratory (5 marks)
  - iii. State the fourteen basic laboratory procedures that should be observed when in the laboratory (14 marks)
3. Write short notes on cleaning of glassware in the laboratory (20 marks)
4. Describe Quality assurance procedures in the environmental health laboratory (20 marks)