



KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF THE
DEGREE OF BACHELOR OF PUBLIC HEALTH
SECOND SEMESTER, 2021/2022
(FEBRUARY - JUNE, 2022)**

PHES 121/221: LABORATORY METHOD AND PRACTICES

STREAM: Y1 S2

TIME: 3 HOURS

DAY: WEDNESDAY, 9:00 – 12:00 P.M.

DATE: 18/05/2022

INSTRUCTIONS

- 1. Do not write anything on this question paper.***
- 2. Answer ALL the questions in section A and any other TWO questions from section B.***

SECTION A

ANSWER ALL QUESTIONS: (40 MARKS)

1. Differentiate between a primary standard and a secondary standard
2. Outline the principle of fluorimetry
3. Name the main uses of a colorimeter
4. Define the following:
 - a) Arrhenius acid
 - b) Chemical equilibrium
 - c) Monoprotic acid
 - d) Titration
5. What do you understand by autoclaving? Give its applications
6. Briefly, discuss the concepts of electrochemistry
7. Name the main components of a centrifuge.
8. Given the concentration of a solution as 40%, show how to prepare 10% from this solution. Show your calculations.

9. Differentiate between a standard solution and a saturated solution.
10. Why is calibrating an equipment important?

SECTION B: (30 MARKS)

ANSWER ANY TWO

11. Discuss laboratory ware giving their uses. [15 marks]
12. Discuss consequences of environmental pollution and maximum pollution threshold. [15 Marks]
13. What is the role of laboratory safety and how is it achieved in a laboratory? [15 Marks]