



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

SPECIAL/SUPPLEMENTARY EXAMINATIONS
SECOND YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF BACHELOR
OF SCIENCE IN PUBLIC HEALTH
SECOND SEMESTER 2024/2025
[AUGUST, 2025]

PHES 201: BIOCHEMISTRY

STREAM: Y2 S2

TIME: 2 HOURS

DAY: TUESDAY, 12:00 - 2:00 P.M.

DATE: 13/08/2025

INSTRUCTIONS:

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

SECTION A: ANSWER ALL QUESTIONS

1. Define the following terms (5 marks)
 - i. Metabolism
 - ii. Catabolism
 - iii. Chemical of life
 - iv. Nutrient
2. Explain pyrimidine bases by use of structures (5 marks)
3. What are the five main structures of amino acids? (5 marks)
4. Briefly explain the two classifications of proteins based on molecular shape (5 marks)
5. List any four biomolecules present in living organisms (4 marks)
6. Distinguish between intracellular and extracellular enzymes (6 marks)
7. Explain structural differences between glucose and fructose (5 marks)
8. Highlight five characteristics of lipase enzymes (5 marks)

SECTION B (ANSWER ALL TWO QUESTIONS)

QUESTION 1

- a) State three characteristics that distinguish water-soluble vitamins from fatty soluble vitamins (5 marks)
- b) State two functions of vitamin E in the body (2 marks)
- c) List any two sources of vitamin E (2 marks)
- d) Describe any three symptoms arising from deficiency of vitamin C (6 marks)

QUESTION 2

Explain eight steps involved in glycolysis (15 marks)