



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS
FIRST YEAR EXAMINATION FOR THE AWARD OF THE
CERTIFICATE IN FISHERIES AND AQUACULTURE
FIRST SEMESTER 2022/2023
(SEPTEMBER - DECEMBER, 2022)

BIOC 00104: BIOCHEMISTRY

STREAM: Y1 S1

TIME: 2 HOURS

DAY: MONDAY, 12:00 P.M – 2:00 P.M

DATE: 19/12/2022

INSTRUCTIONS:

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

SECTION A

1. Differentiate between prokaryotic and eukaryotic cell (4 marks)
2. With the aid of a formula explain photosynthesis (5 marks)
3. Explain the meaning of the following words
(a) Autotrophs
(b) Flagellum
(c) Mitochondria
(d) Phloem
(e) Chloroplast (5 marks)
4. List functions that are essential for something to be considered an organism (5 marks)
5. Describe a simple food chain in a fresh water Lake Victoria (5 marks)

6. Describe the structural and functional difference between cellulose and glycogen (6 marks)
7. Explain the importance of decomposers in a food chain (4 mark)
8. Discuss the relationship between named abiotic and biotic components in aquatic ecosystem (8 marks)

SECTION B

9. Write an essay on enzymes (15 marks)
10. Discuss, in detail, the structure and functions of the major biomolecules. (15 marks)
11. Write an essay on the detailed stages in photosynthesis (15 marks)