

**KISII UNIVERSITY
UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE
IN ANIMAL HEALTH AND ANIMAL SCIENCES
FIRST SEMESTER 2023/2024
[JANUARY-APRIL 2024]
BIOC 00113: BIOCHEMISTRY**

**STREAM: Y1S1
DAY:**

**TIME: 2HOURS
DATE:**

INSTRUCTIONS

1. Do not write anything on this question paper.
2. Answer ALL questions in section A [COMPULSORY] and any other THREE questions of your choice from section B.

SECTION A [COMPULSORY] [40 MARKS]

QUESTION 1

- (a) Give three classes of carbohydrates, in each give two examples. [4marks]
- (b) List any two examples of functional disaccharides. [2marks]
- (c) What are lipids? Give four examples. [3marks]

QUESTION 2

Explain the following terms;

- (a) Phospholipids [2marks]
- (b) Triglyceride [2marks]
- (c) Waxes [2marks]
- (d) Amino acids [2marks]
- (e) Nucleic acids [2marks]
- Give four examples of amino acids. [2marks]

QUESTION 3

- (a) What is RNA? [1mark]

(b) List three different types of RNA and their functions. [3marks]

QUESTION 4

(a) Explain what you understand by biotechnology and its uses. [3marks]

(b) Give four examples of milk products you know. [2marks]

SECTION B [30 MARKS]

QUESTION 5

(a) Differentiate between asexual and sexual reproduction, in each give one example. [5marks]

(b) Explain two methods of asexual reproduction. [5marks]

Question 6

(a) Explain the two functional classes of disaccharides. [4marks]

(b) Briefly explain three structural polysaccharides. [6marks]

QUESTION 7

(a) What is glycolysis? [2marks]

(b) Highlight the steps in glycolysis. [5marks]

(c) List six essential amino acids. [3marks]

QUESTION 8

Describe Mendel's law with an illustration. [10marks]