

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF BIOMEDICAL SCIENCE AND
TECHNOLOGY (BMED)**

BMED 221: BIOCHEMISTRY OF BIOMOLECULES

STREAM: R

TIME: 2 HRS

DAY: THURSDAY [8.30A.M – 10.30A.M] DATE: 11/04/2024

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



Instructions

Answer **ALL** questions in section A and any **TWO** questions in section B

SECTION A (40 marks)**QUESTION ONE (40 MARKS)**

Draw the structure of O- α -D-glucopyranosyl-(1 \rightarrow 4)- α -D-glucopyranose and O- β -D-galactopyranosyl-(1 \rightarrow 4)- β -D-glucopyranose (6 Marks)

QUESTION TWO

Draw the structures of the alanine, valine and tyrosine (6 Marks)

QUESTION THREE

List any **four** genetic diseases associated with purine metabolism (4 Marks)

QUESTION FOUR

Outline any **five** differences between DNA and RNA (10 Marks)

QUESTION FIVE

Describe the classification of lipids on the basis of composition (10 Marks)

QUESTION SIX

List any **four** biochemical importance of glucose and ribulose (4 Marks)

SECTION B (30 MARKS)**QUESTION SEVEN (15 MARKS)**

Citing relevant examples, describe the physiological functions and clinical significance of nucleotides (15 Marks)

QUESTION EIGHT (15 MARKS)

Describe the structural properties of starch, chitin, and peptidoglycan (15 Marks)

QUESTION NINE (15 MARKS)

Describe the primary and secondary structure of proteins (15 Marks)

