TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR

DIPLOMA IN INDUSTRIAL MIROBIOLOGY AND BIOTECHNOLOGY

ABT 2208 STRUCTURAL BIOCHEMISTRY

SPECIAL SUPPLEMENTARY EXAMINATION

SERIES: JULY 2025

TIME: 2HOURS

DATE: JULY 2025

Instructions to Candidates

You should have the following for this examination

Answer Booklet, ndustrial examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

a) Outline **FIVE** components of cell Organization molecules (**5 marks)**

b) Name **THREE** types of structural representation of carbohydrates (**3 marks)**

C. (i) Define the term Epimer and state its characteristics **(2 marks)**

(ii) Define a peptide bond and state its characteristics **(3 marks)**

d) Define a Fibrous protein and Name **TWO** of its classification **(2 marks)**

e) List essential **TWO** amino acids present in eggs **(2 marks)**

f) Draw structures of the following amino acids:

(i)Glycine **(2 marks**

(ii)Cysteine **(2 mark)**

(iii)Histidine **(2 marks)**

g) (i) Explain the meaning of Non-essential fatty acids **(2 marks)**

(ii) Name **TWO** examples of homopolysachride **(2 marks)**

h) Outline the **THREE** levels of protein structures **(3 marks)**

Question TWO

i) Discuss any **FIVE** chemical properties of proteins **(5 marks)**

ii) List the functions of ribonucleic acids **(5 marks)**

iii) Outline the classification of amino acids based on side chain **(5 marks)**

Question THREE

i) Describe the general characteristics of protein **(6 marks)**

ii) Discuss the chemical properties of nucleic acids **(5 marks)**

ii) Describe chemical properties of carbohydrates **(4 marks)**

Question FOUR

i) Describe functions of amino acids **(6 marks)**

ii) Discuss functions performed by different types of protein **(6 marks)**

iii) Outline the procedure for Xanthoproteic test **(3 marks)**

Question FIVE

i) Describe the general characteristics of lipids **(5 marks)**

ii) Classification of protein based on prosthetic group **(6 marks)**

ii) Illustrate with the help of diagrams D and L isomers are enantiomers **(4 marks)**