



TECHNICAL UNIVERSITY OF MOMBASA

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School of Applied and Health Sciences  
DEPARTMENT OF PURE AND APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

BACHELOR OF SCIENCE IN FOOD TECHNOLOGY AND QUALITY ASSUARANCE

ABT 4202: BIOCHEMISTRY II

END OF SEMESTER EXAMINATION

**SERIES: DECEMBER 2024 SERIES**

**TIME: 2 HOURS**

**DATE: DECEMBER 2024**

**Instructions to Candidates**

You should have the following for this examination

*Answer Booklet, 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.**

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**Question One (30 Marks)**

- (i) Giving examples of complications describe diabetes mellitus **(3 Marks)**
- (ii) Name the four main groups of lipids **(4 Marks)**
- (iii) State the differences between hexokinase and glucokinase **(4 marks)**
- (iv) Highlight any three fates of pyruvate **(3 Marks)**
- (v) State four ways in which one can control high cholesterol **(4 Marks)**
- (vi) Explain the effect of gluconeogenesis pathway on blood glucose level **(3 Marks)**
- (vii) Explain the glycogen priming process during glycogenesis in absence of a pre-existing **(4 Marks)**
- (viii) Explain three metabolic significances of amino acid transamination **(3 Marks)**

(ix) List the different types of amino acids

**(2 Marks)**

## **Question Two (20 Marks)**

With an illustration, discuss the glycolytic pathway (20 Marks)

## **Question Three (20 Marks)**

(a) Describe the different types of lipoproteins

**(8 Marks)**

(b) Discuss any three disorders of lipid metabolism

**(12 Marks)**

## **Question Four (20 Marks)**

(a) Discuss the disorders of purine metabolism

**(16 Marks)**

(b) Differentiate between the two pathways used in nucleotide biosynthesis **(4 Marks)**

## **Question Five (20 Marks)**

(a) Explain the biological functions of nucleotides

**(15 Marks)**

(b) Describe a disorder of pyrimidine metabolism

**(5 Marks)**