



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN APPLIED CHEMISTRY

ABT 4202: FUNDAMENTALS OF METABOLISM

END OF SEMESTER EXAMINATION

SERIES: Select series Pick year

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

Do not write on the question paper.

Question ONE

- a). Describe the shuttle system. **(5 marks)**
- b). Give five (5) examples of high energy molecules. **(5 marks)**
- c). Give the three steps where ATP is generated at the electron transport chain. **(3 marks)**
- d). Name four physiological functions of fatty acid. **(4marks)**
- e). Outline the principle reactions in fatty acid oxidation. **(5 marks)**
- f). Contrast fatty acid synthesis and fatty acid degradation. **(5 marks)**
- g). Name the three features of oxidative phosphorylation. **(3 marks)**

Question TWO

- a). Describe the entry of fructose and galactose into the glycolytic pathway. **(15 marks)**
- b). Explain the milk intolerance in adults. **(5 marks)**

Question THREE

- a). Briefly describe the formation of ketone bodies. **(10 marks)**
- b) Outline the functions of ketone bodies **(10 marks)**

Question FOUR

Outline the synthesis of porphyrins from amino acid. **(20 marks)**

Question FIVE

- a). List the five (5) high energy compounds and describe their biomedical importance. **(8 marks)**
- b). Describe the six biosynthetic families of amino acids. **(12 marks)**