



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN MICROBIOLOGY AND

BIOTECHNOLOGY

ABT 4101: STRUCTURES OF BIOMOLECULES

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date May 2016

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) Draw the structure of the following biomolecules

i) Glucose (2 marks)

ii) Fructose (2 marks)

iii) Triacylglycerols (2 marks)

iv) Adenine (2 marks)

b) Define the following terms and give two (2) examples in each.

i) Aldose sugars (2 marks)

ii) Heteropolysaccharides (2 marks)

iii) Essential and non essential amino acids (2 marks)

- iv) Glycosidic bond (2 marks)
- c) Name four amino acids that are both glucogenic and ketogenic. (2 marks)
- d) Give with an example the three classes of carbohydrates. (3 marks)
- e) State four biomedical functions of the glycosaminoglycans (4mks)
- f) Describe the general structure of all amino acids (5mks)

Question TWO

- (a) Describe monosaccharide derivatives and their biomedical roles. (10 marks)
- (b) Describe the four levels of proteins. (10 marks)

Question THREE

Outline the classification of amino acids and state their respective biomedical importance. (20 marks)

Question FOUR

Describe the classification and biomedical importance of Lipids. (20 marks)

Question FIVE

- (i) Name five types of Pyrimidines, state their occurrences and draw their structures. (10 marks)
- (ii) Outline the biomedical functions of Pyrimidines. (10marks)