



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN COMMUNITY HEALTH AND HIV MANAGEMENT

DCHM 19M/YEAR 1/ SEMESTER1

ABT 2101 STRUCTURES OF BIOMOLECULES

END OF SEMESTER EXAMINATION

SERIES: AUGUST, 2019

TIME: 2 HOURS

Instructions to Candidates

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions

This paper consists of two printed pages.

Mobile phones are NOT allowed in the examination room

QUESTION ONE. (Compulsory) (30 MARKS)

a) Define the following term

- | | |
|--------------------------------------|-----------|
| (i) Coenzymes | (2 marks) |
| (ii) Competitive inhibitor | (2 marks) |
| (iii) Primary structure of DNA | (2 marks) |
| (iv) Quaternary structure of protein | (2 marks) |
| (v) Protein folding | (2 marks) |

b) State FOUR Functions of Biomolecules (4 marks)

c) Elaborate on the following forces

- (i) Vander Waal bond (2 marks)
- (ii) Ionic Bond (2 marks)
- d) Describe the following biomolecules
- (i) Monosaccharides (2 marks)
- (ii) Heteropolysaccharide (2 marks)
- (iii) Steroid (2 marks)
- (iv) Fatty acid (2 marks)
- e) Briefly, explain the factors affecting enzyme action (4 marks)

QUESTION TWO

Discuss carbohydrate with reference to

- (i) Monosaccharide (5 marks)
- (ii) Disaccharides (5marks)
- (iii) Polysaccharide (5 marks)

QUESTION THREE

- a) Discuss the differences between enzymes and inorganic catalysts (10 marks)
- b) Outline classification of enzymes (5 marks)

QUESTION FOUR

Discuss the following structural level of protein

- (i) Primary structure (7 marks)
- (ii) Quaternary structure (8marks)

QUESTION FIVE

- a) Explain the classification of lipids (8marks)
- b) Outline Biological Role of Lipids (7marks)