



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN COMMUNITY HEALTH
BSCH Y2 S1

APH 4204 : INTRODUCTION TO BIOMOLECULES

SUPPLEMENTARY/SPECIAL EXAMINATION

MARCH 2014 SERIES

2 HOURS

Instructions to candidates:

This paper consists of **FIVE** questions

Answer question **ONE** (compulsory) and any other **TWO** questions

QUESTION ONE

- 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) Elaborate on the following forces
- (i) Vander Waal bond (2 marks)
 - (ii) Ionic Bond (2 marks)

- c) Describe the following biomolecules
- (i) Monosaccharides **(2 marks)**
 - (ii) Heteropolysaccharide **(2 marks)**
 - (iii) Steroid **(2 marks)**
 - (iv) Fatty acid **(2 marks)**
- d) Describe the following terms
- (i) Glycocalyxes **(2 marks)**
 - (ii) Facilitated diffusion **(2 marks)**
 - (iii) Group translocation **(2 marks)**
 - (iv) Non polar residue amino acid **(2 marks)**

QUESTION TWO

Discuss carbohydrate with reference to

- (i) Monosaccharide **(6 marks)**
- (ii) Disaccharides **(7 marks)**
- (iii) Polysaccharide **(7 marks)**

QUESTION THREE

Discuss the movement of molecules across the membrane elaborating on

- (i) Passive process **(10 marks)**
- (ii) Active process **(10 marks)**

QUESTION FOUR

Discuss the following structural level of protein

- (i) Primary structure **(12 marks)**
- (ii) Quaternary structure **(8 marks)**

QUESTION FIVE

Discuss cell structure in relation to

- (i) Cytoplasmic membrane
- (ii) Cell wall

(10 marks)

(10 marks)