



TECHNICAL UNIVERSITY OF MOMBASA
Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY
BIMBT 12J

SBH 2200: STRUCTURE OF BIOMOLECULES

SPECIAL/SUPPLEMENTARY EXAMINATION

FEBRUARY 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

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

Question ONE

- a) Outline the functions of a typical biological membrane **(4marks)**
- b) Give the classification of the simple sugars **(6marks)**
- c) Describe the properties of triacylglycerols **(4marks)**
- d) Describe the different structural forms of DNA **(6marks)**
- e) Outline the classification of enzymes **(5marks)**
- f) State any **FOUR** biological functions of proteins **(4marks)**
- g) Give general chemical structure of a lipid **(4marks)**

Question TWO

- a) Discuss polysaccharides giving their classification and the relevance biological significance examples **(15marks)**

- b) Outline the classification of phospholipids and giving examples **(5marks)**

Question THREE

- a) With a labeled illustration describe the deolynbonucleic Acid **(12marks)**
- b) Give the roles of the following biochemical tests
- (i) Seliwanoff's test
 - (ii) Molisch's test **(4marks)**
- c) Illustrate the fisher glucose structure **(4marks)**

Question FOUR

- a) Describe enzymes under the following sub-headings
- (i) Enzyme specify **(9marks)**
 - (ii) Mechanism of action **(8marks)**
- b) Describe the Beta pleated protein structure **(3marks)**

Question FIVE

- a) Describe the biological significance of polyunsaturated fatty acids **(10marks)**
- b) Proteins are biologically significant biomolecules. List at least FIVE of their functions in the body **(5marks)**
- c) State FIVE differences between starch and glycogen. **(5marks)**