



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 APPLIED CHEMISTRY
BTAC

ABT 4201: STRUCTURE OF BIOMOLECULES

SPECIAL/SUPPLEMENTARY EXAMINATION

OCTOBER 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) Define the following terms
 - (i) Muta-rotation (2marks)
 - (ii) Racemic mixture (2marks)
- b) Describe the application of arid-base properly of aminoarid (6marks)
- c) Giving examples, compare globular and fibrous proteins (5marks)
- d) Outline the differences between cellulose adglycogen (6marks)
- e) Using specific examples differentiate between Homopolysaccharaides and Heteropolysaccharides (4marks)

- f) Describe the application of ninhydrine reaction in amino acid analysis **(5marks)**

Question TWO

Using specific examples, describe the functions of proteins in the biological systems **(20marks)**

Question THREE

- a) With reference to glucose molecule, describe mutarotation process. **(10marks)**
b) Outline the functions of the degradative derivatives of cholesterol. **(10marks)**

Question FOUR

- a) Give an account of Bloor's classification of lipids **(16marks)**
b) Pyrimidine-purine base pairing are favored in DNA molecule. Explain? **(4marks)**

Question FIVE

Give a detailed account on the type structures and properties of the different forms of DNA occurring in living organisms **(20marks)**