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 10M

SBH 2304 : PROTEIN AND ENZYME II

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) Describe the structure of myoglobin **(6marks)**

b) Discuss the structural basis of Bohrs effect **(6marks)**

c) Explain the use of protease inhibitors in determination of active centre residues **(6marks)**

d) Describe Daniel Koshlarid mode of substrate-enzyme binding **(6marks)**

e) Describe the Edman degradation procedure in amino acids sequencing **(6marks)**

Question TWO

Citing specific examples, account for regulation of enzyme activity **(20marks)**

Question THREE

a) Describe the structure of haemoglobin **(8marks)**

b) Describe conformational changes that occur during oxygen binging to a haemoglobin **(12marks)**

Question FOUR

Discuss chymotrypsin under the following sub-heading

a) Formation **(2marks)**

b) Structure **(3marks)**

c) Activation **(3marks)**

d) Catalysis **(4marks)**

e) Mode of catalysis **(8marks)**

Question FIVE

Show that $\frac{[S]}{Vo} = \frac{[S]}{V\max} + \frac{Km}{V\max}$ **(20marks)**