



EDO UNIVERSITY, IYAMHO

FACULTY OF SCIENCE

DEPARTMENT OF BIOCHEMISTRY

FIRST SEMESTER EXAMINATION OF 2016/2017 ACADEMIC SESSION

COURSE CODE: BIC 211

COURSE TITLE: INTRODUCTORY BIOCHEMISTRY 1

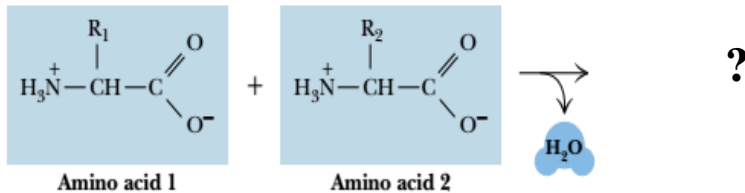
TIME: 2HRS 30 MINUTES

CREDITS: 3

DATE: 12/05/2017

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

- 1a). Calculate the pKa of lactic acid, given that the concentration of lactic acid is 0.010 M and the concentration of lactate is 0.087 M, the pH is 4.80.
- 1b). What is a buffer? Discuss the two (2) biologically important buffers
- 2a). State the five (5) classifications of common amino acids. Give an example each with the one-letter name and three-letter name.
- 2b). Complete the equation below:



- 3a). Differentiate between non-saponifiable lipids and saponifiable lipids with examples.
- 3b). State the major biological energy storage molecules and energy carriers.
- 4a). Define the following terms: nucleotides, nucleosides and DNA?
- 4b). Give the names and structure of the nitrogenous bases found in DNA?
- 4c). Draw the following structures: Uridine, Cytidine, Adenosine triphosphate, Guanosine
- 4d). Highlight the functions of nucleotides
- 4e). Highlight the differences between DNA and RNA
- 5a). Write a brief note on the properties of enzymes.
- 5b). Differentiate between induced fit model and Lock and Key model of enzyme binding
- 5c). Write briefly on the classification of enzymes giving examples of each
- 6a). List two examples and draw one each of the following:(i) Hexose sugar (ii) Pentose sugar (iii)Tetrose sugar
- 6b). List one (1) example each of trisaccharide and tetrasaccharide. Draw one (1) of them
- 6c). List three (3) examples of storage polysaccharides and write briefly on any one of them
- 6d). Write briefly on Monosaccharide classification
- 6e). List two (2) examples each of Homopolysaccharide, Heteropolysaccharide and Structural Polysaccharides.