

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF
DIPLOMA IN

BIOC 0113: BASIC BIOCHEMISTRY

STREAMS:

TIME: 2 HOURS

DAY/DATE: THURSDAY 9/04/2020

8.30 A.M - 10.30 A.M.

INSTRUCTIONS:

QUESTION ONE

- a. Give 4 achievements of biochemistry to cell science and medicine. [4 Marks]
- b. Briefly outline 5 major differences between prokaryotic cell and eukaryotic cell. [5 Marks]
- c. Outline the three major roles of water in biological system. [3 Marks]
- d. Show how the structure of D-glucose can be cyclized to form B-D-Glucopyranose. [3 Marks]
- e. Draw a tripeptide chain containing glycine, cysteine and alanine in that order. [3 Marks]
- f. Draw the structure of the following biomolecules. [4 Marks]
 - i. Adenine
 - ii. Fructose
 - iii. Cytosine
 - iv. Thymine
- g. Give 4 functions of proteins in the body of human beings. [4 Marks]
- h. Draw the structure of adenosine triphosphate [4 Marks]

QUESTION 2

- a. Describe factors affecting enzyme activity. [10 Marks]
- b. Give 4 roles of vitamin A [4 Marks]
- c. Briefly describe the classification of phospholipids. [6 Marks]

QUESTION 3

- a. Outline the glycolytic pathway and give the overall equation. [16 Marks]
- b. Outline 4 ways by which proteins can be denatured. [4 Marks]

QUESTION 4

- a. Give 8 differences between DNA and RNA. [8 Marks]
- b. Describe the various levels of protein structure [12 Marks]

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