JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMMUNITY HEALTH AND DEVELOPMENT

1ST YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR

NAIROBI CITY LEARNING CENTRE

COURSE CODE: SCH 3121

COURSE TITLE: APPLIED CHEMISTRY

EXAM VENUE: **STREAM: (Bsc CHD)**

DATE: **EXAM SESSION: 2PM-4PM**

TIME: 2.00 HOURS

INSTRUCTIONS:

1. **Answer Section A (COMPULSORY) and ANY other 2 questions in Section B**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A: ANSWER ALL QUESTIONS (COMPULSORY) (30 MARKS)

a) Define the following terms as used in organic chemistry; (3marks)
   i) Isomers
   ii) Hydrocarbon
   iii) Zwitterions
b) Draw the structures for each of the following organic compounds (4marks)
   i) Methane
   ii) Chloroform
   iii) Ethane
   iv) Propyne
c) Name any THREE aliphatic amino acids (3marks)
d) Give 2 examples of nonsaponifiable lipids (2 marks)
e) Briefly highlight the four levels of protein structure (4marks)
f) Differentiate between saturated and unsaturated fatty acids (4marks)
g) Differentiate between essential and non-essential amino acids; give at least 2 examples in each case. (4 marks)
h) Highlight the difference between bacterial and plant cell walls (4marks)
i) State any THREE characteristics of organic compounds (3marks)

SECTION B: ANSWER ANY TWO QUESTIONS FROM THIS SECTION

1. Expound in details the functions of various non-essential amino acids (20marks)
2. i) Discuss conditions that denature proteins (10marks)
   ii) Discuss the FIVE factors that influence protein folding and stability (10marks)
3. i) Using examples where appropriate, describe fibrous and globular proteins (10marks)
   ii) Describe the basic structure of amino acids (10marks)
4. Define lipoprotein. Write short notes on the seven classes of plasma lipoproteins (20marks)