



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE**  
**IN COMMUNITY DEVELOPMENT AND PUBLIC HEALTH**  
**1<sup>ST</sup> YEAR 1<sup>ST</sup> SEMESTER 2016/2017 ACADEMIC YEAR**  
**KISUMU CAMPUS**

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**COURSE CODE: SCH 3112**

**COURSE TITLE: ORGANIC CHEMISTRY**

**EXAM VENUE:**

**STREAM: (BSc.)**

**DATE: 22/04/16**

**EXAM SESSION: 2.00 – 4.00 AM/PM**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer question 1 (compulsory) and ANY other 2 questions.**
- 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

1. a) Draw the diagram and describe the components and physical properties of the cell membrane. Include the concepts of hydrophilic and hydrophobic (8 marks)
- b) Describe the mechanisms by which soaps work in cleaning (4 marks)
- c) Explain the significance of polar and non-polar amino acids (2 marks)
- d) Outline the role of condensation and hydrolysis in the relationship between amino acids and dipeptides (4 marks)
- e) Explain what is meant by amphipathic lipids (2 marks)
- f) Describe the Watson - Crick Model of DNA replication. Include a diagrammatic illustration (4 marks)
- g) Explain the relevance of recombinant gene technology in medicine (4marks)
- h) Distinguish between fibrous and globular proteins (2 marks)

## SECTION B

2. Discuss the economic importance of genetically modified plants and Animals. 20 marks
3. Describe the eight major classes of lipids and draw their general Structures. 20 marks
4. Describe the process of protein synthesis including all stages beginning from the nucleus to the cytoplasm. 20 marks