



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY**

**DEPARTMENT OF BIOLOGICAL SCIENCES**

**SCHOOL OF BIOLOGICAL, PHYSICAL, MATHEMATICS AND ACTUARIAL  
SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCES  
IN BIOLOGICAL SCIENCES**

**2<sup>nd</sup> YEAR 1<sup>st</sup> SEMESTER 2022/2023 ACADEMIC YEAR**

**MAIN CAMPUS - REGULAR**

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**COURSE CODE: SBB 1214**

**COURSE TITLE: BIOCHEMISTRY II**

**EXAM VENUE: STREAM: (BSC)**

**DATE: 21/12/2022 EXAM SESSION: 15.00-17.00PM**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in Section A and Any two questions in Section B**
  - 2. Candidates are advised not to write on question paper**
  - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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**SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)**

1. Highlight the difference between feedback regulation and feedback inhibition (3 marks)
2. Describe the difference between reversible and irreversible reactions (3 marks)
3. Describe the function of excitatory neurotransmitters (3 marks)
4. Outline the general structure of integral membrane proteins (3 marks)
5. Highlight the importance of allosteric regulation (3 marks)
6. Describe the significance of membrane permeability (3 marks)
7. Explain the role of vitamin B2 (Riboflavin) in metabolic reactions (3 marks)
8. Describe the role of cofactors
9. Describe three mechanisms of controlling of enzyme quantity (3 marks)
10. Outline the structural role of hemoglobin (3 marks)

**SECTION B: ESSAY QUESTIONS (40 MARKS)**

11. Discuss the role of membrane transport proteins (20 marks)
12. Outline the differences between competitive and non competitive inhibition (20 marks)
13. Describe classification of enzymes (20 marks)
14. Discuss the basis of interactions between lipids and proteins in biological membranes (20 marks)