



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES**  
**DEPARTMENT OF BIOLOGICAL SCIENCES**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN**  
**BIOLOGICAL SCIENCES**  
**FOURTH YEAR FIRST SEMESTER 2018-2019 ACADEMIC YEAR**  
**MAIN CAMPUS**

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**COURSE CODE:** SBT 401:  
**COURSE TITLE:** PLANT BIOCHEMISTRY AND  
PHYSIOLOGY  
**VENUE** STREAM: (BSC BIO)  
**DATE:** EXAM SESSION:  
**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 the 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. Name any three electron acceptors involved in the photochemical reactions of photosynthesis. (3 marks)
2. Explain how Nicotinamide Adenine Dinucleotide may be generated for the glycolysis process. (3 marks)
3. Describe the triglycerides. (3 marks)
4. Outline the Three steps of chain elongation during protein synthesis initiation. (3 marks)
5. Explain the importance of leghemoglobin to leguminous plants. (3 marks)
6. List the three major storage polysacharrides in living organisms. (3 marks)
7. Briefly describe photorespiration in plants. (3marks)
8. Outline the importance of lipoproteins in tissues. (3 marks)
9. Describe streereoisomerism in amino acids. (3 marks)
10. Name the three special termination codons recognized by the release factor proteins. (3 marks)

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

11. Discuss the Photosynthetic Carbon Reduction reactions. (20 marks)
12. Describe Aerobic respiration. (20 marks)
13. Discuss symbiotic nitrogen fixation in plants. (20 marks)
14. Describe lipid metabolism. (20 marks)