

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
BOTANY**

BOTA 473: PLANT BIOCHEMISTRY

STREAMS: BSC BOTA

TIME: 2 HOURS

DAY/DATE: MONDAY 22/03/2021

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS:

- Answer all questions in SECTION A and any other TWO in SECTION B.

SECTION A

- Using molecular structures differentiate between alpha glucose and beta glucose. (2 marks)
 - Name four monosaccharides that are found in plants. (2 marks)
- Describe the synthesis of the following macromolecules in plants.
 - Starch (4 marks)
 - Cellulose (4 marks)
- Describe the structure of glycerolipids. (4 marks)
 - Describe the synthesis of fatty acids in plants. (5 marks)
- Describe the function of the following macromolecules in plants
 - Pectin in plants (3 marks)
 - Lipids (4 marks)
 - Plant natural metabolites (2 marks)

SECTION B

- Discuss the role of secondary metabolites in plants. (10 marks)
 - Discuss the process of nitrogen fixation. (10 marks)

6. (a) Describe five coenzymes found in plants. (10 marks)
- (b) Describe the process of photosynthesis in plants. (10 marks)
7. (a) Discuss the role of vitamins in plants. (10 marks)
- (b) Explain why immediate products of the translation process are not functional. (10 marks)
-