

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE**

BOTA 271: PLANT PHYSIOLOGY

STREAMS: BSC

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 15/04/2020

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS:

1. Describe the importance of the following concepts in plant physiology
 - (i) Capillarity [2 marks]
 - (ii) Thermal conductivity [2 marks]
 - (iii) Bound water [2 marks]
2. Describe the structure of phloem? [3 marks]
3. (a) Describe the importance of cohesion and adhesion properties of water in plant physiology [3 marks]
(b) Describe the role of xylem in plants [3 marks]
4. (a) Describe the cyclic structures of the following carbohydrates
 - (i) Glucose [3 marks]
 - (ii) Fructose [3 marks]
(b) Describe the general structure of an amino acid [2 marks]
(c) List the major subclasses of lipids found in plants [3 marks]
5. List the structural organization levels of proteins [4 marks]

SECTION B

ANSWER ANY TWO QUESTIONS (40 MARKS)

6. Discuss the process of photosynthesis in plants [20 marks]
 7. Discuss mineral nutrition in plants [20 marks]
 8. (a) Describe the absorption and water movement pathways in plants [10 marks]
(b) Discuss the factors that affect enzyme activity in plants [10 marks]
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