



RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES
B.Sc. (General) Degree in Applied Sciences
Second Year – Semester I Examination – September/October 2019

BOT 2201 - PLANT PHYSIOLOGY

Time: Two (02) hours

Answer Four (04) questions.

1. a) Describe the light dependent reactions of photosynthesis. **(50 marks)**
 b) Discuss how the C4 carbon fixation minimizes the photorespiration. **(50 marks)**
2. a) Describe the different stages of aerobic cellular respiration. **(60 marks)**
 b) Differentiate between microbial fermentation and aerobic cellular respiration. **(40 marks)**
3. a) How does water moves from the soil solution to the root xylem in a land plant? **(60 marks)**
 b) Describe the mechanisms involve in the stomatal movement of higher plants. **(40 marks)**
4. a) Explain the role of phytochrome in plants in diffnt light conditions. **(40 marks)**
 b) "Phototropic movements of plants are regulated by auxins". Justify the above statement. **(30 marks)**
 c) Discuss briefly the role of gibberellic acid on the germination of cereal grains. **(30 marks)**
5. a) What is 'Liebig's Law of the Minimum'? **(30 marks)**
 b) How do roots actively increase the availability of cationic mineral nutrients? **(30 marks)**
 c) Discuss the mechanisms of solute translocation in phloem. **(40 marks)**

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