



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY, B/ED & AGEDE

SBT 201 : PLANT FUNCTION

DATE: 25/8/2022

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

- 1 Answer Question 1 (compulsory) and **any two** questions in Section B
- 2 Use clean well labeled diagrams wherever appropriate

SECTION A

Question 1

- (i) Distinguish between Molal and Molar solutions (3 marks)
- (ii) Explain the composition of colloidal systems (3 marks)
- (iii) Design an experiment to illustrate brownian movement (3 marks)
- (iv) Describe the role of hydrophilic particles in the hydration of plant cells (3 marks)
- (v) Outline the components of water potential (3 marks)
- (vi) Describe the effect of element concentration on growth rate in plants (3 marks)
- (vii) Explain the basis of classifying nutrients into micro and macro –nutrients (3 marks)
- (viii) Describe three factors affecting respiration (3 marks)
- (ix) Outline the significance of carbohydrates to plants (3 marks)
- (x) Describe the distribution of enzymes in relation to their roles (3 marks)

SECTION B

Question 2

Discuss significance of endogenous plant hormones (20 marks)

Question 3

Discuss photosynthesis (20 marks)

Question 4

(a) Describe the reaction sequences of glycolysis (10 marks)

(b) Explain the process of aerobic respiration (10 marks)

Question 5

Discuss the classification of proteins (20 marks)