



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE

KST 105: PLANT PHYSIOLOGY

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DATE: MONDAY 2ND APRIL 2012

TIME: 4.30 P.M. – 6.30 P.M.

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INSTRUCTIONS

Answer ALL questions in this section. Each question is 5 marks

1. Write short notes on the following (5 marks)
 - a) Phytochemistry
 - b) Lysosome
 - c) Mass flow
 - d) Anabolism
 - e) Chemiosmosis
2. Briefly discuss the mechanisms of plant nutrient uptake (5 marks)
3. Describe the role of the following micro and macro nutrients in plant growth and function (5 marks)
 - a) Potassium
 - b) Calcium
 - c) Sulphur
 - d) Manganese
 - e) Zinc
4. Briefly discuss the dark reaction of photosynthesis with respect to the C₃ plants. (5 marks)

5. Describe the process of photophosphorylation in plants (5 marks)
6. Glycolysis is a major step in respiration. Briefly explain the three main steps in glycolysis. (5 marks)
7. Explain phototropism and gravitropism (5 marks)
8. Outline the importance of transpiration in plants (5 marks)

SECTION B

Answer only any two questions (30 marks)

9. Discuss the primary differences between photosynthesis and respiration
10. Citing relevant examples discuss the C_3 , C_4 and CAM plants with special emphasis on the CO_2 fixation
11. Compare and contrast the Calvin cycle and the Krebs cycle
12. Discuss in detail the electron transport chain in respiration