



KIBABII UNIVERSITY COLLEGE
*(A Constituent College of MasindeMuliro University of Science
Technology)*
P.O. Box 1699-50200 Bungoma, Kenya
Tel. 020-2028660/0708-085934/0734-831729
E-mail: enquiries@kibabiiuniversity.ac.ke

UNIVERSITY REGULAR EXAMINATIONS
2013 /2014 ACADEMIC YEAR
1ST YEAR 2ND SEMESTER EXAMINATIONS
(MAIN EXAMINATION)
BACHELOR OF EDUCATION SCIENCE (REGULAR)

COURSE CODE: SBT 111

COURSE TITLE: SURVEY OF THE PLANT KINGDOM

DATE: 14TH APRIL, 2014

TIME: 12.00NOON – 5.00P.M

INSTRUCTION TO CANDIDATES

Answer Question ONE and any other THREE Question

QUESTION ONE

Briefly explain the meaning of the following terms as used in this course.

- (i) Biology (5mks)
- (ii) Binomial nomenclature (5mks)
- (iii) Vascular tissue (5mks)
- (iv) Chloroplast (5mks)
- (v) Heterotrophy (5mks)

QUESTION TWO

Slices of onion epidemics were placed in different solution concentrations. The percentages of plasmolysed cells were determined after thirty minutes. The results were as follows

Concentration of sucrose	0.55	0.6	0.65	0.7	0.75
Percentage of plasmolysed cells	0	5	20	80	100

Study the table above and answer the following questions

- (a) What does the word plasmolysis mean? (5mks)
- (b) What causes plasmolysis of cells? (5mks)
- (c) Explain the results of 0.75 molar sucrose solution. (5mks)
- (d) What description/term would be used in a plant where 100% of its cells were plasmolysed? (5mks)
- (e) What is the relationship between molar concentration of sucrose solutions and percentage of plasmolysed cell? (5mks)

QUESTION THREE

Explain the following

- (a) Shaded plant leaves accumulate less photosynthesis (5mks)
- (b) Why most leaves respire more than photosynthesis in the dark (5mks)
- (c) The functions of proteins in plants. (5mks)
- (d) The differences between flowering plants and mosses and liverworts. (5mks)
- (e) Why non-woody plants droop during drought conditions (5mks)

QUESTION FOUR

- (a) State the roles of diffusion in living organisms (9mks)
- (b) State the factors that affected the rate of photosynthesis in plants (10mks)
- (c) State the functions of carbohydrates. (6mks)

QUESTION FIVE

- (a) An aeroplane can move, produces carbon (iv) oxide and water. Explain why it is not a living thing. (5mks)
- (b) State **FIVE** ways in which materials can move in and out of cells. (5mks)
- (c) State **FIVE** properties of enzymes (5mks)
- (d) What is an organelle? Give **FOUR** examples of organelles (5mks)
- (e) Give the scientific names of maize and beans. What are the reasons for giving scientific names? (5mks)