

UGANDA ADVANCED EXAMINATIONS
BIOLOGY PRACTICAL APPROACHES 2025
S.5 TERM ONE EXAMINATIONS

Duration: 2 hours

Instructions to candidates:

Attempt all questions, presenting your answers logically and precisely.

1. Okello Solomon a student of S.5 Biology class was in the library reading a biology book. He found out that the author of the book had written that the length of an epidermal cell of plant **K** was 5µm. He was surprised because his classmate Akampa Johnson told him that most of plants cells are longer than that. During the weekend Okello Solomon met his friend, Odam Felex who studies in another school, also studying advanced biology. The two discussed about the probable length of epidermal cells of plant **K** but could not come to an accurate conclusion. You are provided with plant **K**, and other laboratory apparatus you can use.

Task:

- (a) Carry out a scientific investigation and estimate the actual length of an epidermal cell of plant **K** to clear the confusion being experienced by Okello Solomon.

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(b) Using medium power of a microscope, examine one of the epidermal cells clearly visible to you, draw it in the space below and workout it's linear magnification.

(c) Based on the results of your scientific investigation, comment on the accuracy of the information in the book which Okello Solomon was reading in the library.

(d) Which experimental errors do you think are likely to have affected your investigation and how have you minimized their effects.

END