

TRINITY COLLEGE NABBINGO
S.6 BIOLOGY PRACTICAL
TIME: 1 ½ HOURS

INSTRUCTIONS

- Answer all parts of the question.

1. You are provided with specimen B.

(a) Using a knife, peel the specimen then cut out two cubes from it. Cube B₁ measuring 1cm x 1cm x 1 cm and cube B₂ measuring 2cm x 2cm x 2cm.

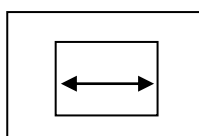
(b) Calculate the surface area, the volume and the surface area to volume ratio of each in table I. Show your working.

(i)

	Surface area	Volume	Surface area: volume ratio.
B ₁			
B ₂			

(ii) Immerse each cube completely in a beaker containing potassium permanganate solution and leave for 15 minutes. After 15 minutes remove the cubes from the solution and wipe them using a filter paper.

Using a razor blade, cut each cube into two halves. Using one half of each cube, measure the distance in MM across the uncoloured portion as indicated above.



Record your results;

B₁.....MM

B₂.....MM

(iii)What physiological process is observed above?

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(iv)How do the results in (i) relate to the physiological process named in (II) in living organism.

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(c) Using a mortar and pestle, crash the remaining piece of specimen B. add 10cm³ of water to it, stir then decant the liquid part into a test tube.

(i) Carryout tests for proteins, starch and reducing sugar on the solution using observation and conclusion in a suitable table

- (ii) To 5cm³ of solution B add 2cm³ of solution Y provided. Indicate in a water bath at 35 – 40⁰C for 5 minutes. Repeat the tests in your previous table using the incubated mixture. Record your observations in the table below.

Test		
Proteins		
Starch		
Reducing sugars		

- (iii) From the results in the table observe, suggest the nature of solution Y.

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- (iv) State **one** property of solution **Y** shown by the results in the table.

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END