

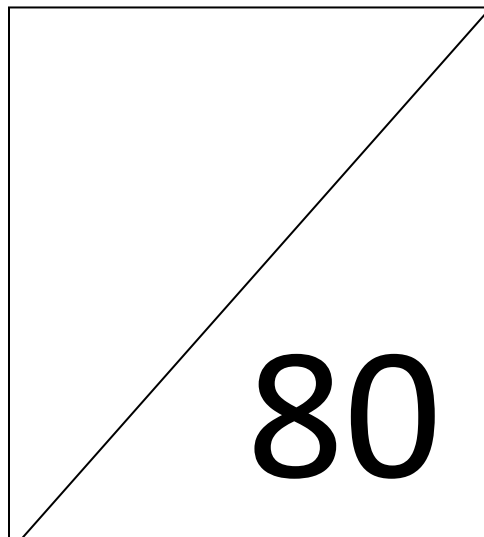
**BIOLOGY**  
**FORM 2**  
**END TERM EXAM – MARCH 2016**  
**TIME : 2 HRS**

**NAME:.....CLASS:.....ADM NO:.....**

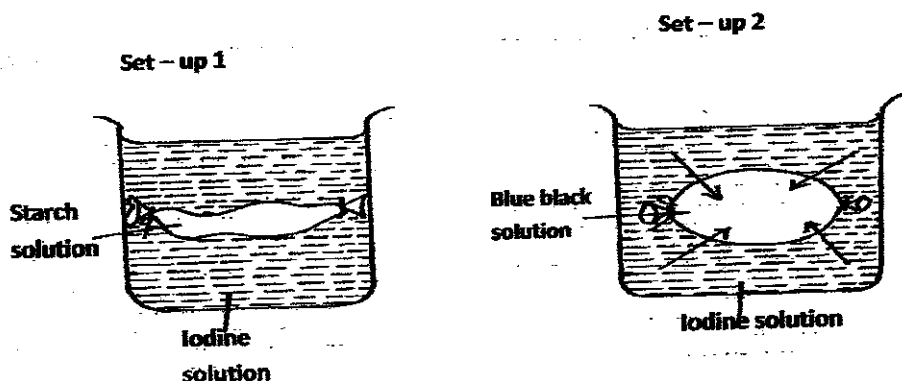
**INSTRUCTIONS**

**Answer all questions in the spaces provided.**

**For examiners use only**



1. A group of students of form two set up an experiment to demonstrate a certain process. the experimental set up was as shown in the diagrams below.



After 10 minutes the students recorded their observation in a table as shown below.

	Observation	
	Inside the tube	Outside the tube
I	Blue black colour	no color change
II	no colour change	blue black colour

(a) Name the process being demonstrated by this experiment. (1 mk)

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(b) Explain the result in the experiment set up I. (3 mks)

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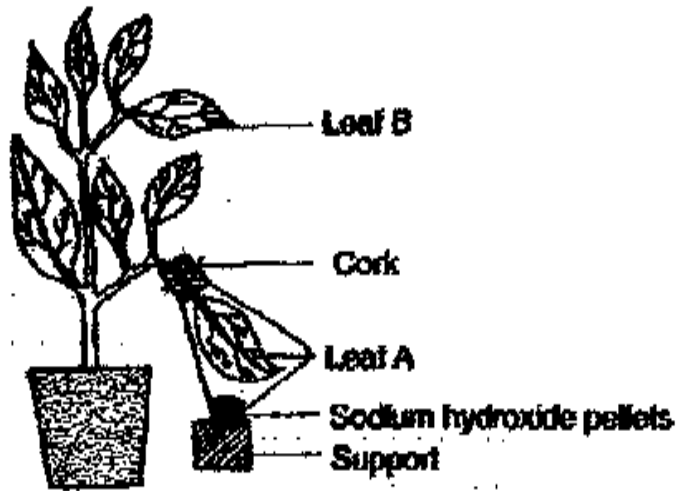
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2. The experiment below was set up to investigate a certain aspect of photosynthesis.



(a) What aspect of photosynthesis was being investigated? (1 mk)

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(b) What is the important of sodium hydroxide in the experiment? (1 mk)

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(c) leaf A and B were tested for starch separately. What would be the results? (2 mks)

A.....

B.....

3. (a) Some drops of fresh pineapple fruit juice are added drop by drop to DCPIP solution. The deep blue colour of DCPIP quickly fades.

(i) What does the disappearance of the blue indicate about the type of food present in the juice. (1 mk)

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(ii) When this substance is deficient in body what health disease could result? (1 mk)

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(b) (i) A test tube containing some sucrose was treated with Benedict's solution and then heated gently. The mixture remained blue. What does this indicate concerning the chemical property of sucrose? (1 mk)

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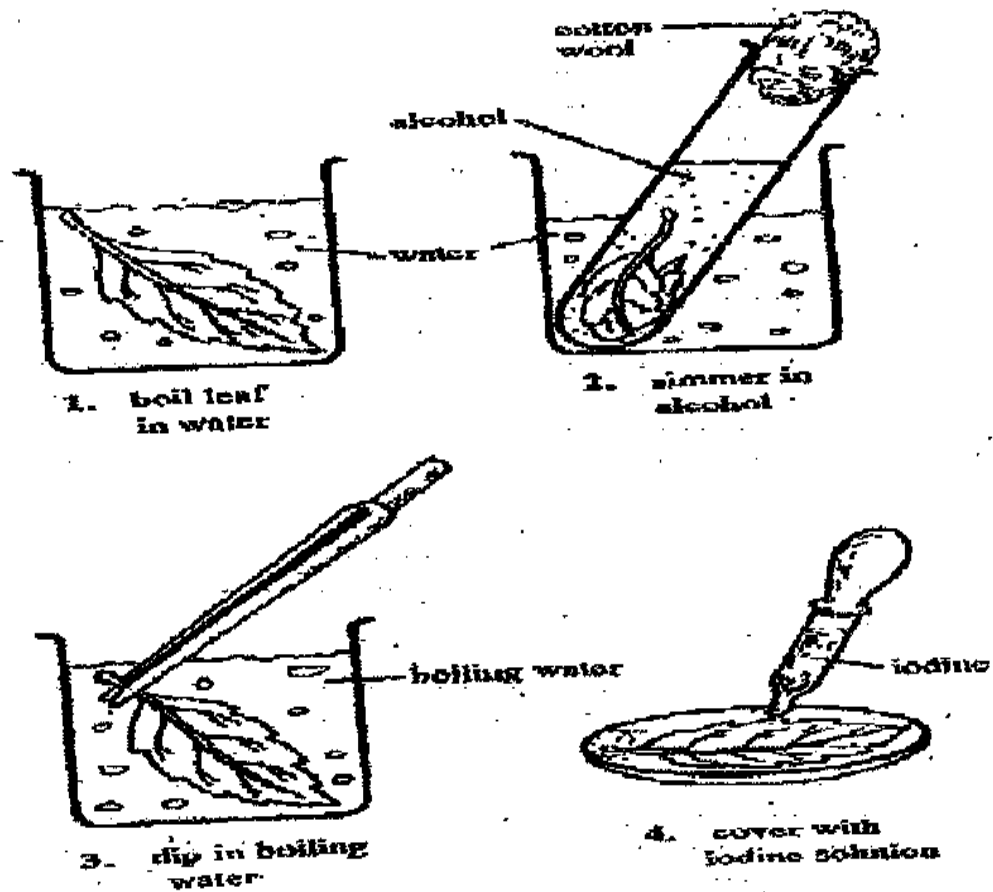
(ii) In another test tube a few drops of HCl were added to some sucrose solution and the mixture was then boiled. After cooling the mixture, a few drops of sodium bicarbonate was added. State the functions of the two reagents. (2 mks)

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4. State two precautions to take while collecting specimens in the field. (2 mks)

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5. A student plucked a leaf from a potted plant and subjected it to some treatment as shown below.



(a) What is the aim of the treatment of the leaf as shown in the diagrams above? (1 mk)

(b) Give a reason why treatment 1, 2 and 3 was conducted.

treatment 1 (2 mks)

treatment 2 (1 mk)

treatment 3 (1 mk)

6. A from two student carried out an experiment in the lab using onion epidermal cells. He observed 7 cells under a light microscope whose diameter of the field of view was 3.5mm. the eye piece magnification was x10 while the objective lens magnification was x25.

(a) Calculate the size of one cell. (3 mks)

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(b) What was the actual size of the cell? (2 mks)

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(c) What will be the effect of increasing the magnification on the field of view? (1 mk)

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(d) State the functions of the following parts of a microscope.

(i) condenser (1 mk)

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(ii) fine adjustment knob (1 mk)

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7. What if the role of a long caesum in a rabbit. (2 mks)

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8. State two important of transpiration to plants. (2 mks)

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9. Explain how the following factors affect the rate of transpiration.

(a) sunken stomata (2 mks)

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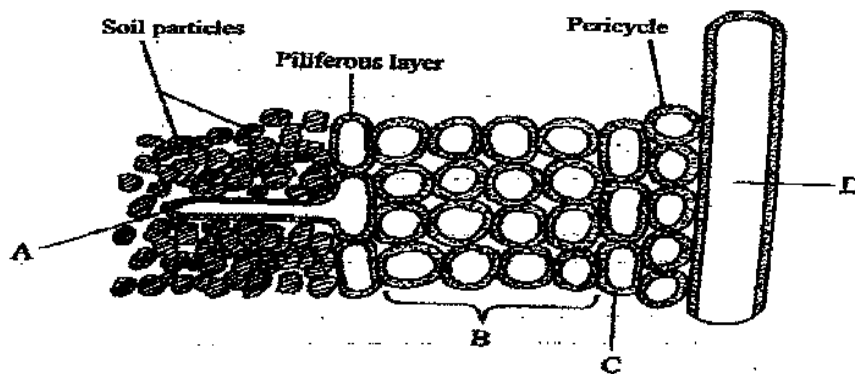
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(b) temperature

(2 mks)

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(c) cuticle

(2 mks)

10. The diagram below shows a longitudinal section of a plant.



(a) Name the organ from which this section was obtained.

(1 mk)

(b) Name the part labelled B.

(1 mk)

(c) What is the role of the part labelled C and D.?

(2 mks)

C

D

(d) State three adaptation of the part labelled A.

(3 mks)

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 .....  
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11. Give a reason why the following precautions are taken when setting up an experiment using a photometer.

(a) Cutting the shoot under water. (1 mk)

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(b) applying Vaseline on the cork (1 mk)

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12. What is the role of the following tissues in the cortex of a young dicot stem.

(a) parenchyma (1 mk)

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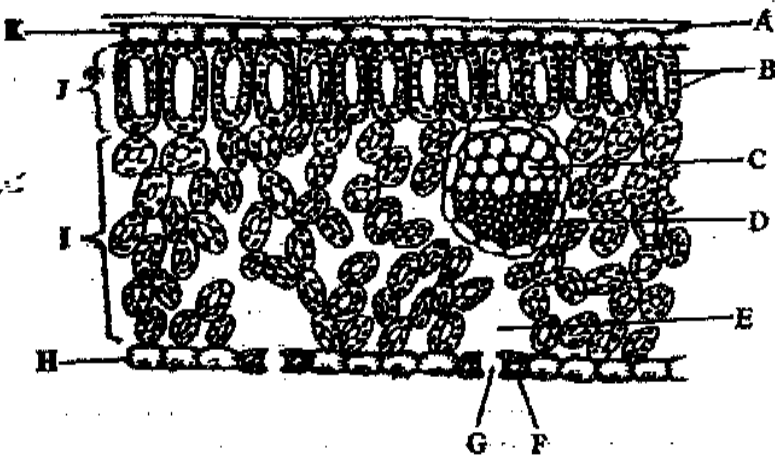
(b) collenchymas (1 mk)

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13. What is cytology? (1 mk)

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14. The diagram below is a transverse section of a leaf.



(a) Name the parts labelled G and I. (2 mks)

G.....



I.....

(b) What is the role of the part labelled B. (1 mk)

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(c) State two adaptations for each of the following parts to their functions.

(i) F (2 mks)

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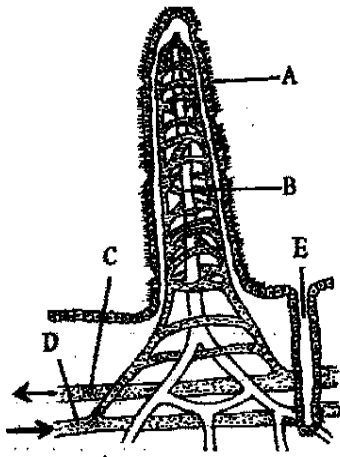
(ii) J

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15. The diagram below was obtained from the ileum. Study it and answer the questions that follow.



(a) Name the diagram: (1 mk)

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(b) Name the parts labeled D and E. (2 mks)

D.....

E.....

(c) What is the role of the part labeled B. (1 mk)

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(d) State three adaptations of this diagram to its function. (3 mks)

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16. In a meal a person is advised to take more vegetable and fruits. What are the roles of these food substances in digestion? (3 mks)

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17. Name the carbohydrate.

(a) Stored in the liver of a man (1 mk)

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(b) translocated by the phloem (1 mk)

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(c) stored in a plant seed (1 mk)

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18. State two adaptation of the phloem. (2 mks)

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19. Explain how the following forces lead to transport of water up the xylem.

(a) cohesion and adhesion forces (2 mks)

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(b) transportational pull (2 mks)

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20. Name the process by which roots absorbed the following substances.

(a) mineral salts (1 mk)

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(b) water (1 mk)

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21. State to importance of classification. (2 mks)

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