

NANYANG PRIMARY SCHOOL
PRIMARY 5 SCIENCE
SECOND CONTINUAL ASSESSMENT
2011

BOOKLET A & B

Date : 25 August 2011

Duration : 1 h

Name : _____ ()

Class: Primary 5 ()

Marks Scored:

| | | |
|--------------------|--|-----------|
| Booklet A: | | 30 |
| Booklet B : | | 20 |
| Total : | | 50 |

Parent's signature:

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

The booklet consists of 20 printed pages including this cover page.

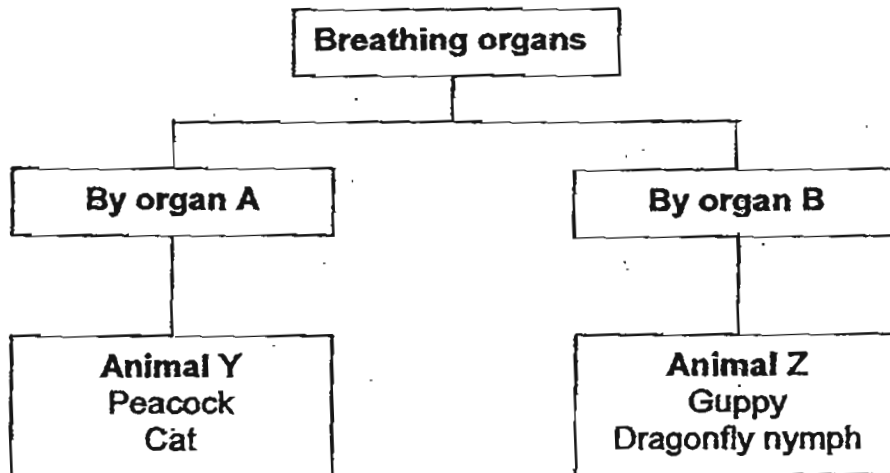
Section A (15 x 2 marks = 30 marks)

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Which one of the following comparison between the composition of inhaled air and exhaled air is correct?

- (1) Inhaled air contains more oxygen than exhaled air.
- (2) Inhaled air contains more water vapour than exhaled air.
- (3) Inhaled air contains more carbon dioxide than exhaled air.
- (4) Inhaled air contains mainly nitrogen while exhaled air contains mainly carbon dioxide.

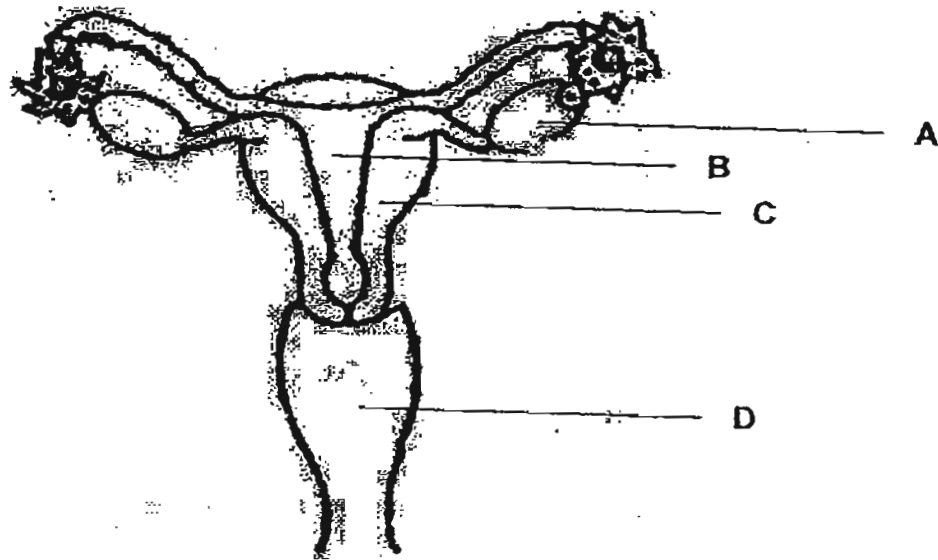
2. Study the classification chart below.



What could animal Y and animal Z be?

| | Animal Y | Animal Z |
|-----|-----------|------------|
| (1) | dolphin | seal |
| (2) | pigeon | penguin |
| (3) | whale | mudskipper |
| (4) | butterfly | seahorse |

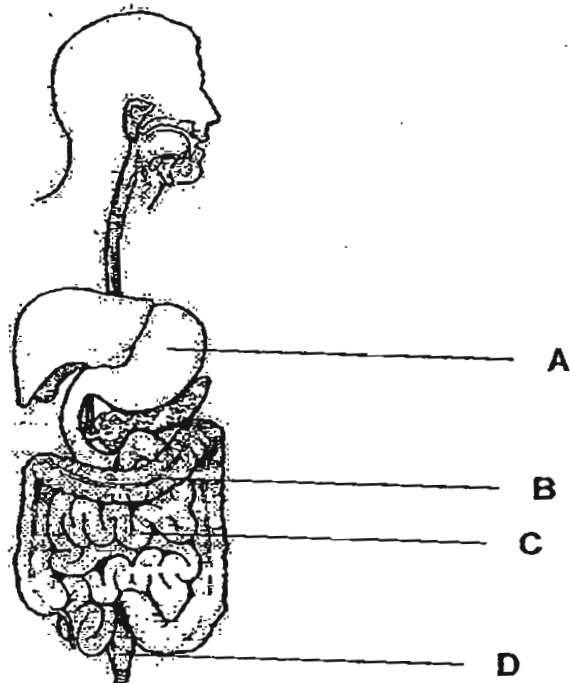
3. The diagram below shows the female reproductive system with parts labelled A to D.



Which part of the female reproductive system does the fertilised egg develop into a foetus?

- (1) A
- (2) B
- (3) C
- (4) D

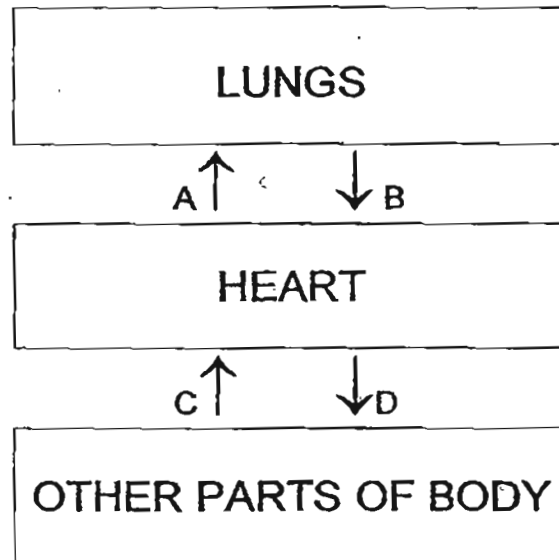
4. The diagram shows the human digestive system with parts labelled A to D.



Which one of the following options correctly matches the function to the parts labelled ?

| | Part | Function |
|-----|------|---|
| (1) | A | Digestion is completed here though not the absorption of digested food |
| (2) | B | Its only function is to move the waste to D |
| (3) | C | Digestion is completed and digested food absorbed into the bloodstream. |
| (4) | D | Absorption of water and mineral salts. |

5. The arrows A, B, C and D represent blood vessels carrying blood to and from the lungs, heart and other parts of the body.



Which blood vessels carry oxygenated blood?

- (1) A and C
 - (2) A and D
 - (3) B and C
 - (4) B and D
6. Four pupils compared the transport system of a plant and an animal and made the following statements.

Ahmad: Food and water are carried in different tubes for plants but same tube for animals.

Billy: Both transport systems have an organ to pump materials around.

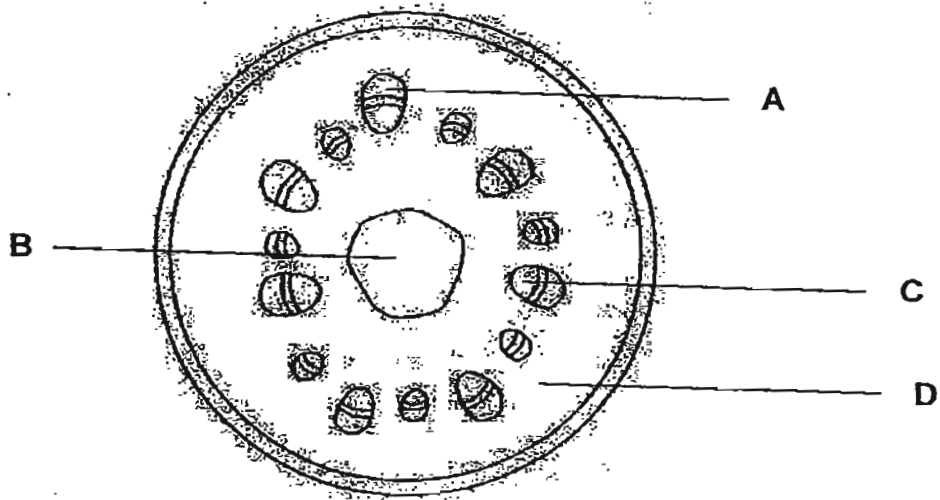
Caili: Gases are carried in the transport system of animals but not plants.

Dinah: Tubes in plants only transport substances from the roots to other parts of the plant but tubes in animals transport substances to and from the heart.

Who made the correct comparison?

- (1) Ahmad and Billy
- (2) Ahmad and Caili
- (3) Billy and Dinah
- (4) Caili and Dinah

7. Jane put a plant X into a beaker of water in which some blue ink had been added. A few hours later, she observed that the flowers turned from white to blue. The diagram below shows the cross section of the stem of the plant.

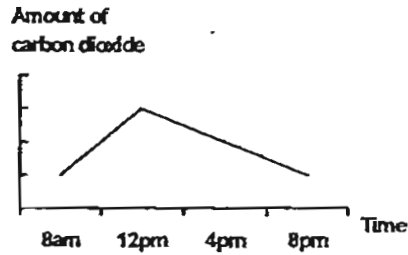


Which part of the stem A, B, C or D is responsible for this observation?

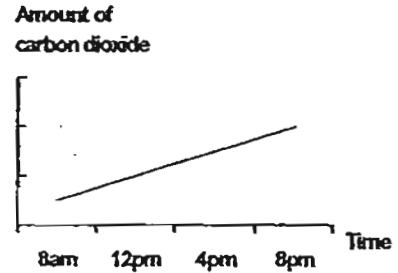
- (1) A
- (2) B
- (3) C
- (4) D

8. Ahmad put some totally submerged water plants in a tank of water in a field from 8 am to 8 pm. Which of the following graphs shows the amount of carbon dioxide dissolved in the water from 8 am to 8 pm?

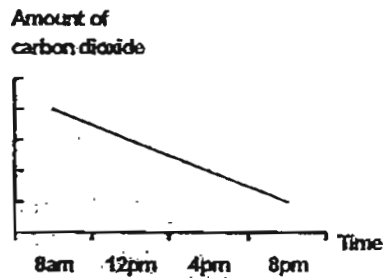
(1)



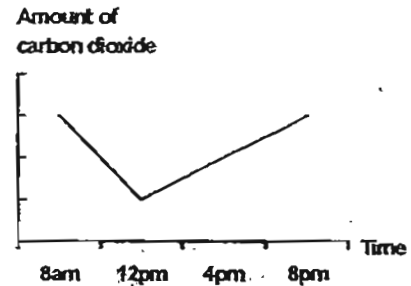
(2)



(3)

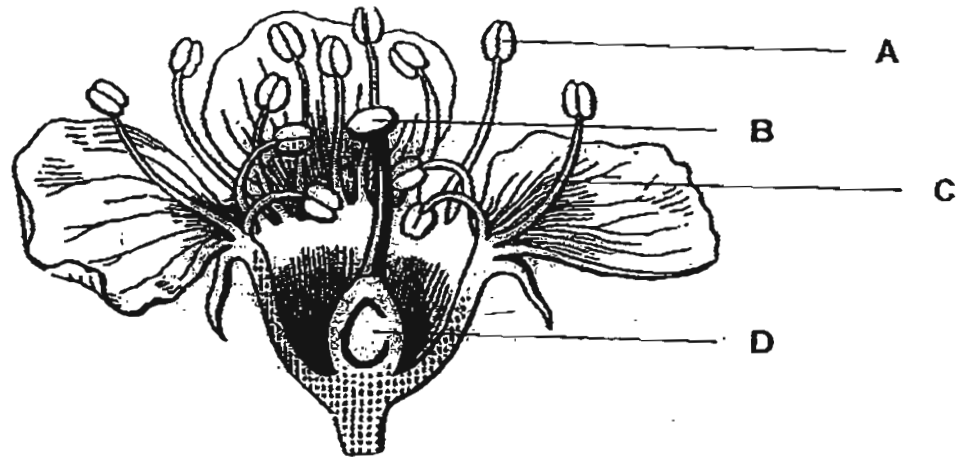


(4)



4

9. The diagram below shows a flower with parts labelled A, B, C and D.



Which part of the flower produces the male cells?

- (1) A
- (2) B
- (3) C
- (4) D

10. Why is there a need for seed dispersal?

- (1) To ensure the plants reproduce itself.
- (2) To ensure the continuity of its own kind.
- (3) To allow the germination of seeds and enable the seeds to grow into young plants.
- (4) To prevent overcrowding of the seedlings and competition for sunlight, water, space and nutrients.

11. The picture below shows two types of organisms.



Organism X

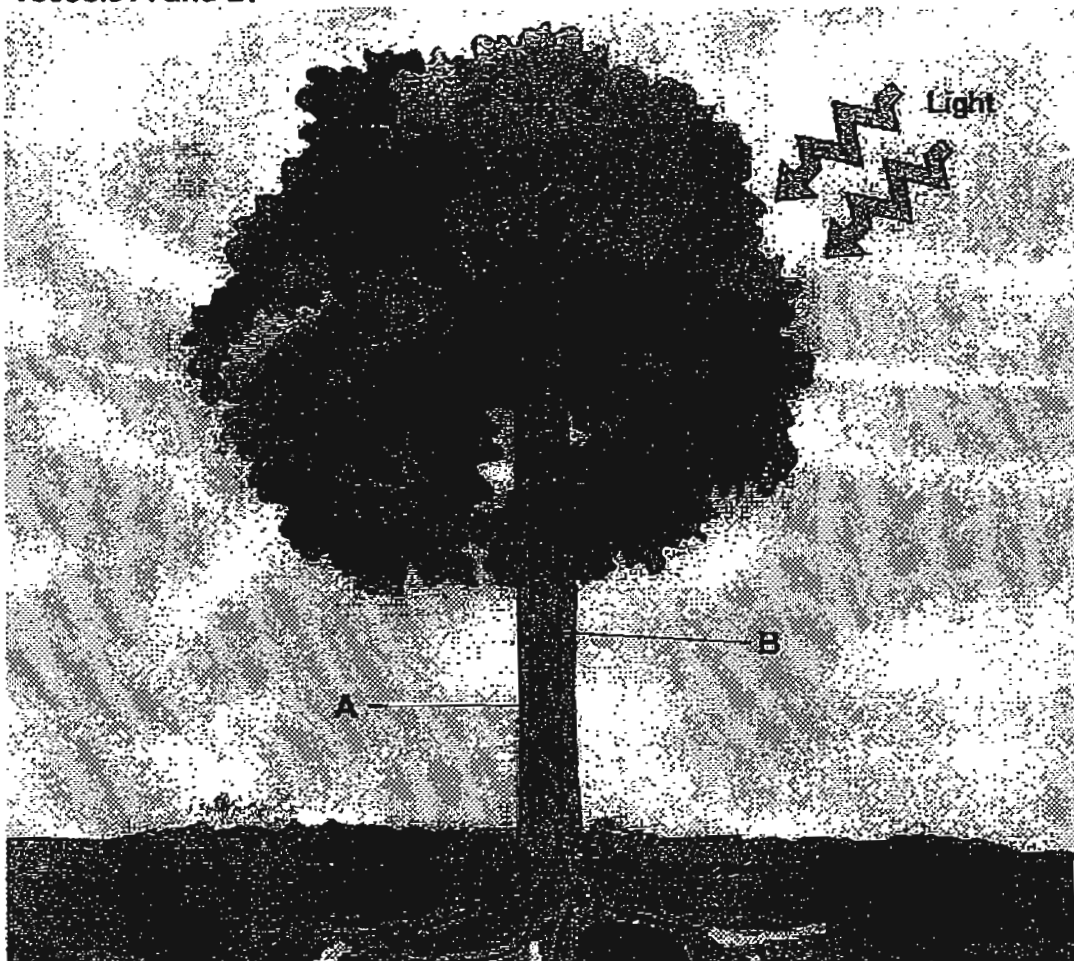


Organism Y

Which of the following options is correct?

| Method of reproduction | | Method of obtaining food | |
|--------------------------|----------------------|---|---|
| Organism X | Organism Y | Organism X | Organism Y |
| (1) Reproduces by spores | Reproduces by seeds | Makes own food | Breaks down decaying matter for nutrients |
| (2) Reproduces by seeds | Reproduces by spores | Makes own food | Makes own food |
| (3) Reproduces by spores | Reproduces by spores | Breaks down decaying matter for nutrients | Makes own food |
| (4) Reproduces by spores | Reproduces by spores | Makes own food | Makes own food |

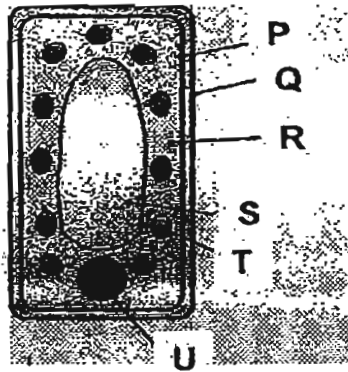
12. The diagram below shows a plant with 2 different types of conducting vessels A and B.



Which one of the following correctly identifies the substances that are transported by the vessels A and B in the plant?

| | Vessel A | Vessel B |
|-----|-----------------------------------|-----------------------------------|
| (1) | sugar | water and dissolved mineral salts |
| (2) | water and dissolved mineral salts | sugar |
| (3) | water | sugar and mineral salts |
| (4) | sugar and mineral salts | water |

13. The diagram below shows a plant cell, labelled P, Q, R, S, T and U.



Choose the option that matches the part of the plant cell to its correct function.

| Functions of the part of the cell | | | |
|--|---|--------------------------------------|---------------------------------|
| Controls the substances that move in and out of the cell | Most of the cell's activities are carried out in here | Controls the activities of the cells | Traps light energy to make food |
| (1) P | R | U | T |
| (2) P | S | T | U |
| (3) Q | S | U | T |
| (4) Q | R | T | S |

14. Diagram 1 shows the bottom view of a ring magnet. Diagram 2 shows the ring magnet being lowered onto a pile of paper clips.

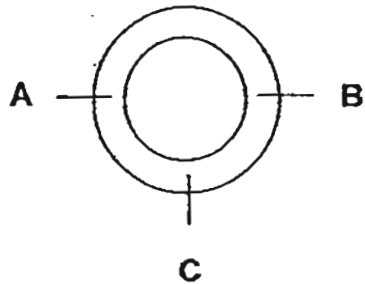


Diagram 1

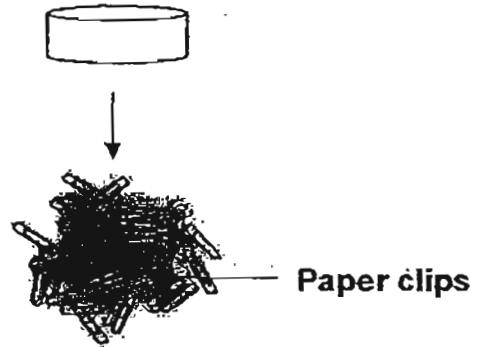
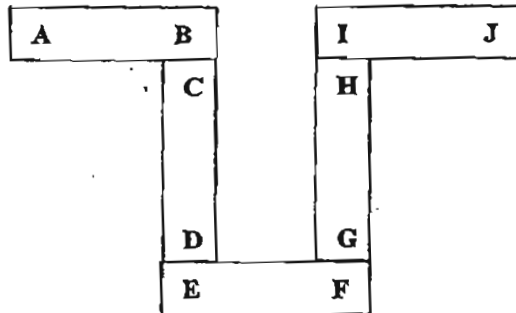


Diagram 2

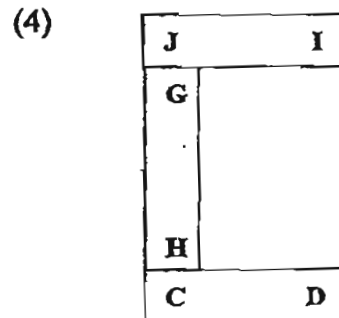
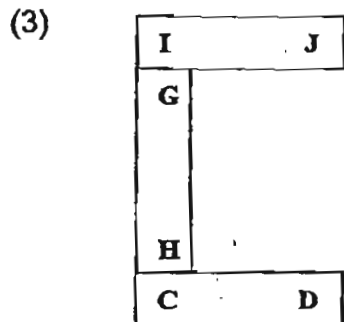
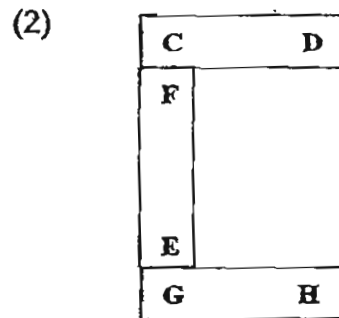
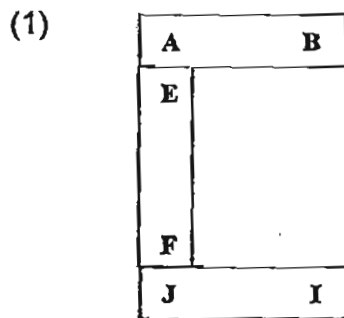
Which one of the following most likely shows the number of paper clips attracted to the bottom of the magnet at positions A, B and C?

| | A | B | C |
|-----|---|---|---|
| (1) | 3 | 9 | 3 |
| (2) | 6 | 3 | 6 |
| (3) | 7 | 5 | 2 |
| (4) | 5 | 5 | 5 |

15. The diagram shows how 5 bar magnets are attracted to each other and the letters representing the poles of the magnets.



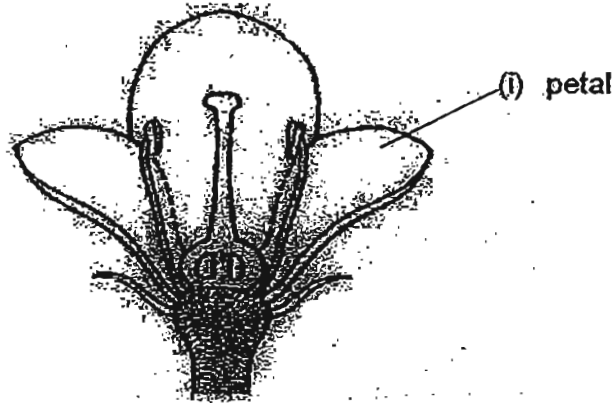
If 3 of the magnets are selected and placed next to each other, which one of the following arrangements below is a possible arrangement?



Section B (20 marks)

Write your answers to questions 16 to 22 in the spaces provided. Marks will be deducted for misspelt key words.

16. The diagram below shows a flower.

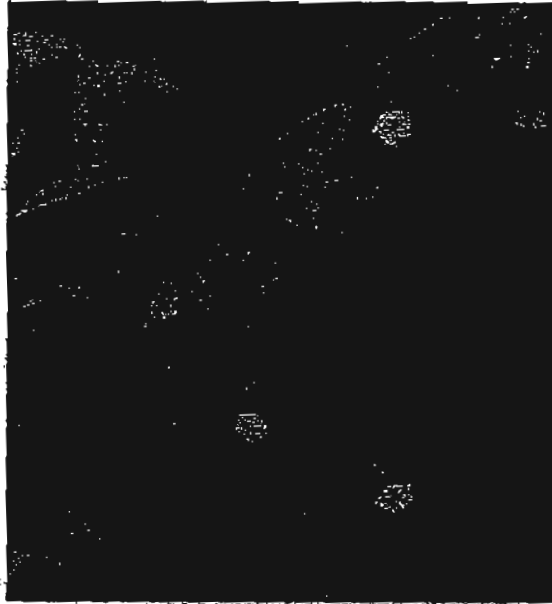


- a) Number, name and label in the diagram the following parts :
(i) has been completed as an example.

- (i) the part that attracts insect
- (ii) the part that the pollen grain will land for pollination.
- (iii) the part that will develop into a fruit.

[1]

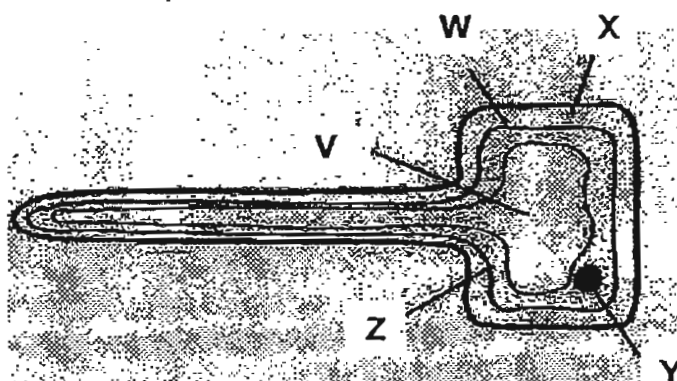
- b) The figure below shows a plant with small flowers. Besides green leaves, this plant has developed modified leaves (which are brightly coloured) around the flowers.



- (i) Suggest the method of pollination for this plant. [1]

- (ii) Explain your answer in (i) [1]

17. The figure below shows a cell taken from a plant.

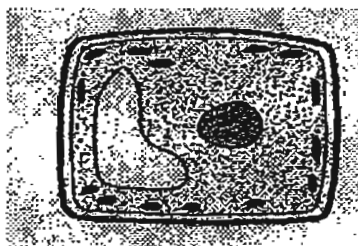


Cell 1

a) Name the part V, W, X, Y and Z of the cell. [2]

| Parts of cell | |
|---------------|--|
| V | |
| W | |
| X | |
| Y | |
| Z | |

b) Another cell was taken from the leaf of the same plant is as shown below.



Cell 2

i. State two differences between Cell 1 and 2. Do not compare size and colour. [1]

ii. Name the part of the plant where Cell 1 is taken from. [1]

18. An animal cell was placed in a dish of water. After 2 hours, it was observed that the cell burst.



Animal cell at the start of experiment

Animal cell in a dish of water after 2 hours

The experiment was repeated again using a plant cell.



Plant cell at the start of experiment

Plant cell in a dish of water after 2 hours

Explain the differences in the observation between the plant cell and the animal cell after 2 hours. [1]

19. The figure below shows part of the human respiratory system.



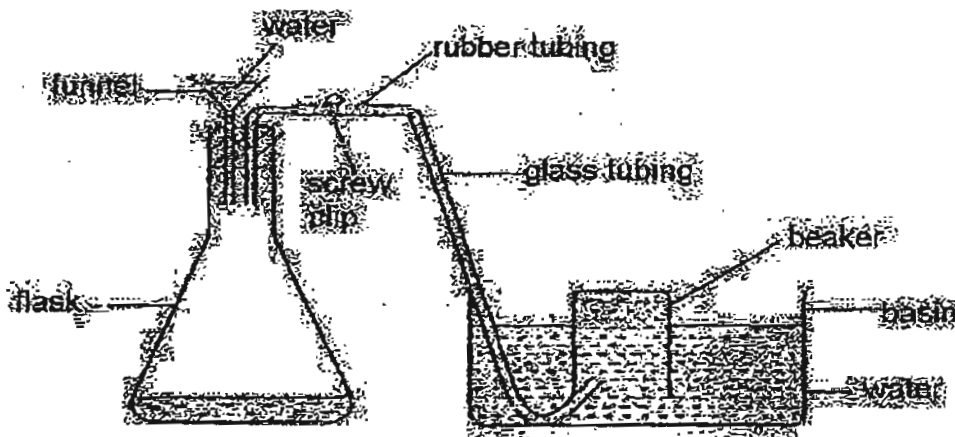
- a) Identify structure X. [1]

- b) Explain why structure X is surrounded by many tiny blood vessels? [1]

- c) A plant does not have a respiratory system but it still needs gases like oxygen for respiration and carbon dioxide for photosynthesis. Explain how a plant obtains the gases it needs. [1]

20. Explain why the heart beat and breathing rate increase when one exercises vigorously? [2]

21. Ming set up the experiment as shown below. 150 ml of water was poured into the funnel. The screw clip was tightened at the start of the experiment. He measured the amount of water collected in the flask after some time when the screw clip was loosened.



- a) Besides water flowing into the flask, what will Ming observe when he loosens the screw clip? [1]

Ming set up another experiment using the same setup as above. He wanted to find out how different type of soil affects the amount of water collected in the flask. He put different type of soil in the funnel before adding water. He measured the amount of water collected in the flask after some time. The results are as shown below.

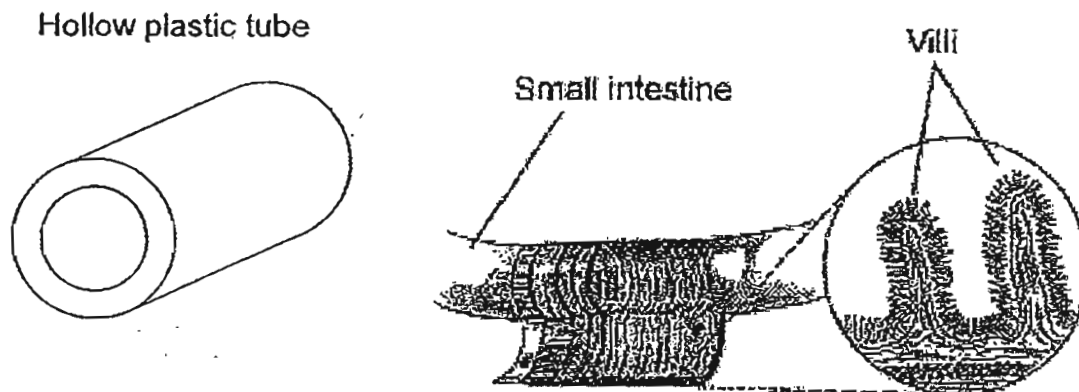
| Type of Soil | Amount of water collected (ml) |
|--------------|--------------------------------|
| Sand | 100 |
| Silt | 60 |
| Clay | 20 |

- b) Name one variable that must be kept constant to ensure a fair test. [1]

- c) What can Ming conclude from the experiment? [1]

- d) How can Ming make his results more reliable? [1]

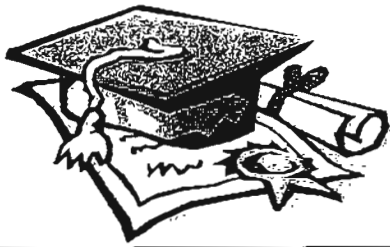
22. David noticed that unlike a hollow plastic tube with smooth surface, the inner wall of the human intestines is covered in folds. The inner wall has finger-like projections called Villi.



- a) Name the substance that is produced by the small intestine for the digestion of food? [1]

- b) Explain how the folds and villi of the inner wall help in the function of the small intestine. [2]

-----END OF PAPER-----

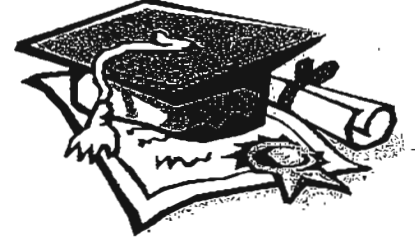


ANSWER SHEET

EXAM PAPER 2011

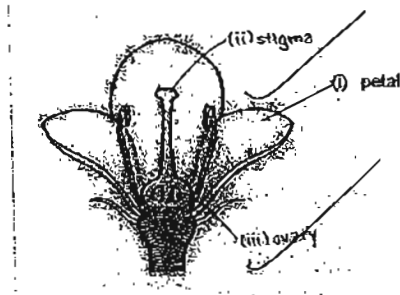
**SCHOOL : NANYANG
SUBJECT : PRIMARY 5 SCIENCE**

TERM : CA2



| | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
| 1 | 3 | 2 | 3 | 4 | 2 | 3 | 4 | 1 | 4 | 3 | 2 | 1 | 4 | 4 |

16)a)



b)i) Pollination by animals.

ii) The plant's brightly coloured modified leaves helps to attract animals to help in their pollination.

17)a) V: Vacuole W: Cell membrane X: Cell wall Y: Nucleus Z: Cytoplasm

b)i) Cell 2 contains chloroplast while Cell 1 does not.

ii) The root of the plant.

18) The animal cell burst and died because it did not have a cell wall while the plant cell only bloated up, but did not burst, because it had a cell wall to prevent it from bursting.

19)a) Structure X is the Alveoli.

b) The tiny blood vessels help transport gases such as oxygen from the Alveoli to the heart and carbon dioxide from the heart to the Alveoli.

c) There are tiny opening on the underside of a plant's leaf called stoma. They help the plant in gaseous exchange, obtaining oxygen and carbon dioxide when needed.

20)When one exercises vigorously, more energy is needed. Thus, the breathing rate increases as it needs to take in more oxygen to the heart that will also increase in heart beat and needs to transport oxygen faster to the bloodstream with digested food to be converted into energy at a faster rate.

21)a)He will observe air bubbles forming in the beaker.

b)The amount of soil put in the funnel must be kept constant.

c)Sand allows the most amount of water to pass through, followed by silt while clay allows the least amount of water to pass through.

d)He can do the same experiment a few more times.

22)a)The substance is digestive juices.

b)The folds and villi of the inner wall increase the amount of exposed surface area of the small intestine so that digested food can be absorbed at a faster rate.