



MAHA BODHI SCHOOL  
2009 CONTINUAL ASSESSMENT 2  
PRIMARY FIVE SCIENCE

Name : \_\_\_\_\_ (      )      Date : 27 August 2009

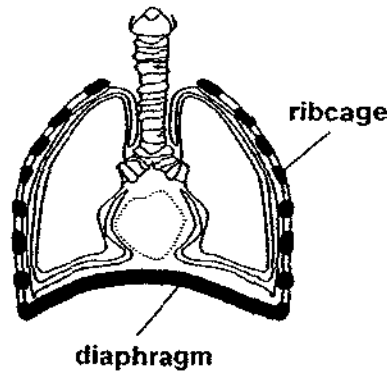
Class : Primary 5 (      )

Duration : 1 h 45 min (Section A and B)

**SECTION A : [27 x 2 marks = 54 marks]**

For each question from 1 to 27, 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.**

1. The diagram below shows part of the human respiratory system.



Which of the following shows the correct movements of the diaphragm and ribcage during inhalation and exhalation?

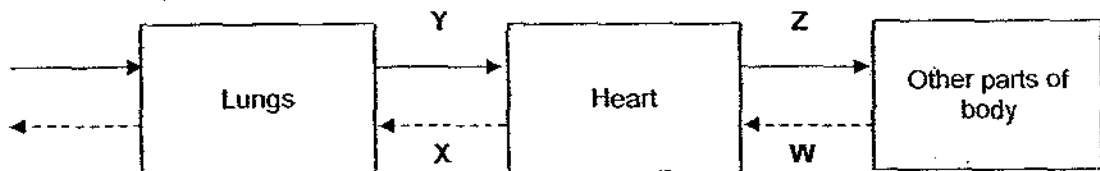
Diaphragm		Ribcage	
Inhalation	Exhalation	Inhalation	Exhalation
(1) moves upwards	moves downwards	down and inwards	up and outwards
(2) moves upwards	moves downwards	up and outwards	down and inwards
(3) moves downwards	moves upwards	down and inwards	up and outwards
(4) moves downwards	moves upwards	up and outwards	down and inwards

2. Which of the following statements about inhaled and exhaled air are **true**?

	Inhaled air	Exhaled air
A.	It contains more oxygen	It contains less oxygen
B.	Its temperature is lower	Its temperature is higher
C.	It contains less carbon dioxide	It contains more carbon dioxide
D.	It contains more water vapour	It contains less water vapour

- (1) A and C only
- (2) B and D only
- (3) A, B and C only
- (4) B, C and D only

3. Study the diagram below carefully.

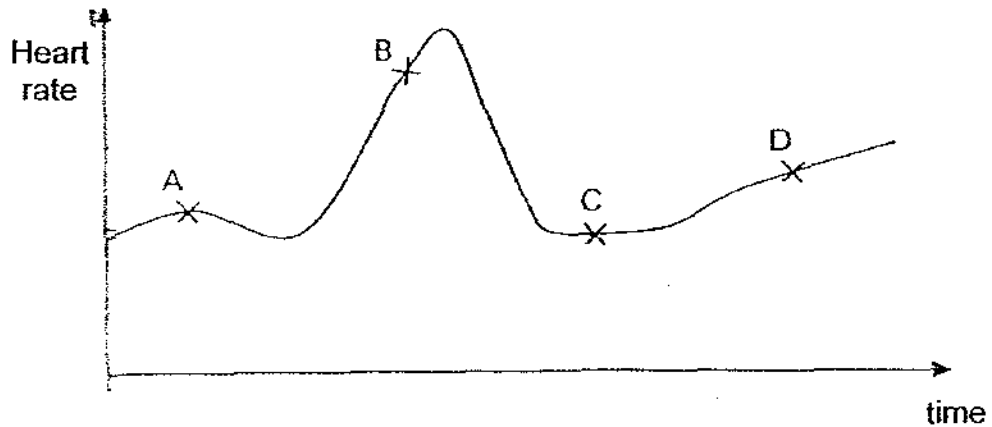


Based on the above diagram, which of the following statement(s) is/are correct?

- A. Y and Z carry blood rich in oxygen.
- B. X and W carry blood poor in oxygen.
- C. W and Z are the arteries of the heart.
- D. Z will branch into very fine blood vessels.

- (1) A only
- (2) A and B only
- (3) A, B and D only
- (4) B, C and D only

4. The following graph shows Amelia's heart rate over a few hours.



Based on the information given above, which of the options below best represents the activities Amelia had just completed?

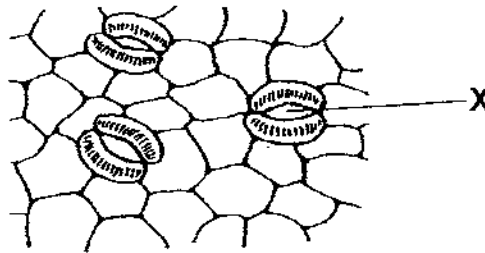
	A	B	C	D
(1)	talking	walking	running	swimming
(2)	sitting	running a marathon	sleeping	walking
(3)	running a marathon	jogging	reading	listening to music
(4)	swimming	running a marathon	walking	sleeping

5. Which of the following are carried by blood?

- A. Water
- B. Oxygen
- C. Carbon dioxide
- D. Dissolved food
- E. Waste substances

- (1) A and B only
- (2) C and E only
- (3) A, B and D only
- (4) A, B, C, D and E

6. The part labelled X in the diagram below helps plants to \_\_\_\_\_.



- A. take in oxygen
- B. take in water vapour
- C. give out oxygen
- D. give out carbon dioxide

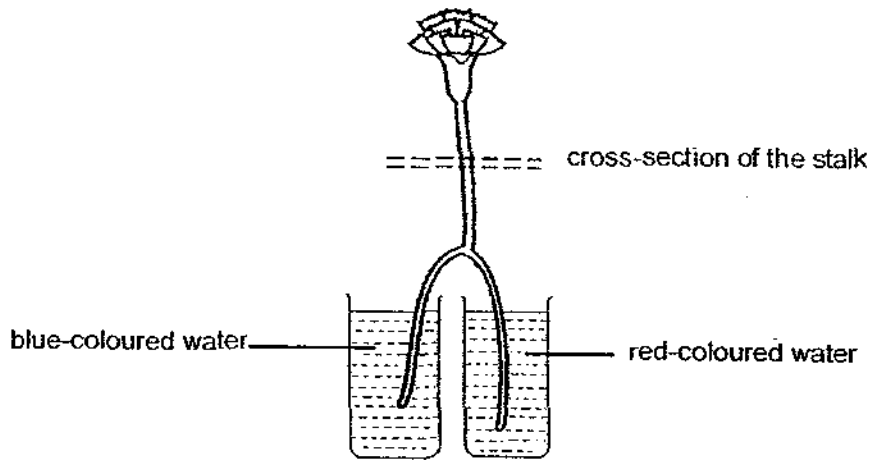
- (1) A and B only
- (2) A and C only
- (3) B and D only
- (4) A, C and D only

7. The plant and human circulatory system are similar because both transport \_\_\_\_\_ through tubes.

- A. food
- B. oxygen
- C. water
- D. carbon dioxide

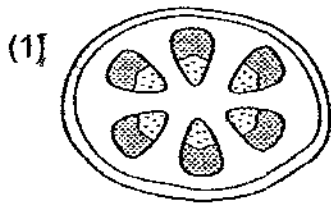
- (1) A and C
- (2) B and D
- (3) A, B and D
- (4) A, B, C and D

8. In an experiment, Alicia cut part of a stalk of white flower into half as shown below.

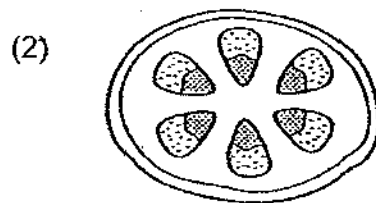


She put one half of the stalk of the flower in the jar with blue-coloured water while the other half was put in the jar with red-coloured water. Next day, she observed that half of the flower became blue and the other half became red.

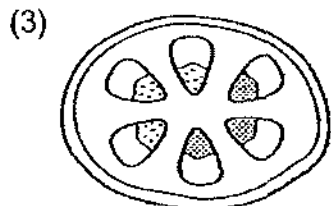
Which of the following shows the cross-section of the stalk of the flower correctly?



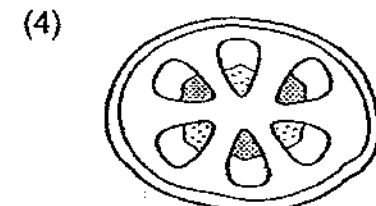
red  
blue



red  
blue



red  
blue



red  
blue

9. Five pupils observed some plant and animal cells under the microscope. They recorded their observations and conclusions in the table below.

Name of pupil	Observation on cell parts seen	Conclusion on type of cell
Alfi	Cytoplasm, nucleus, cell membrane	Animal
Marshal	Nucleus, cell wall, cell membrane, chloroplasts	Plant
Emily	Cell membrane, nucleus, chloroplasts	Animal
Ben	Cell membrane, cell wall, nucleus	Animal
Nathan	Cell membrane, cell wall, nucleus, cytoplasm	Plant

Which pupils made the correct conclusion?

- (1) Alfi, Emily and Ben
  - (2) Emily, Ben and Nathan
  - (3) Marshal, Emily and Ben
  - (4) Alfi, Marshal and Nathan
10. Four children made the following statements about cells.

- A. My heart is made up of cells.
- B. Cells in my body work in groups.
- C. All cells look alike.
- D. Different types of cells have different functions.

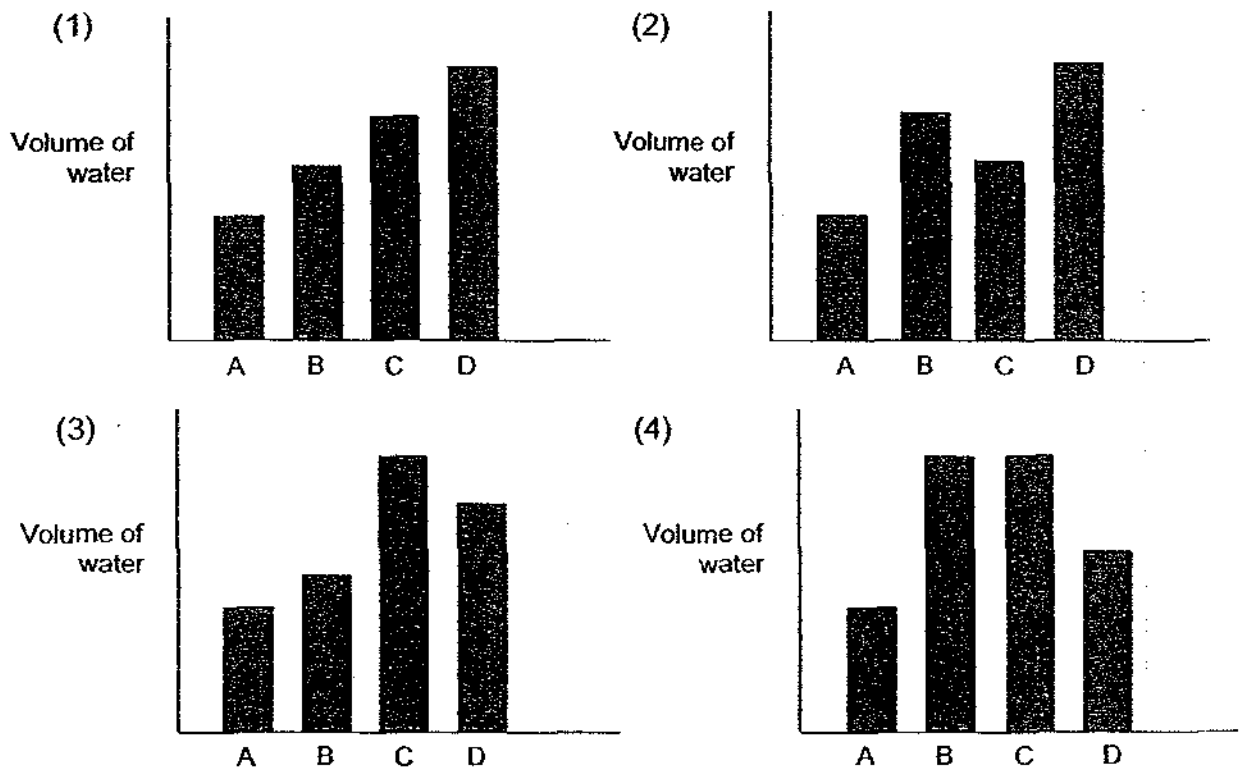
Which of these statements is/are incorrect?

- (1) A only
  - (2) C only
  - (3) A and D only
  - (4) B, C and D only
11. Which of the following living things are made up of only one cell?
- A. Bee    B. Yeast    C. Bacteria    D. Amoeba    E. Paramecium
- (1) A and C only
  - (2) B and E only
  - (3) A, D and E only
  - (4) B, C, D and E only

12. Four identical beakers, A, B, C and D, were filled with the same volume of water. They were left in four places with different conditions for 3 hours as shown in the table below.

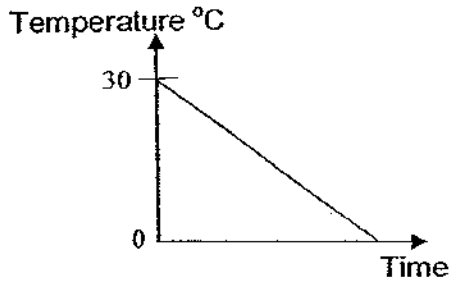
Containers	A	B	C	D
Conditions	Sunny Windy	Sunny Not windy	Cloudy Not windy	Cloudy Windy

Which one of the following graphs correctly shows the volume of the water left in A, B, C and D after 3 hours?

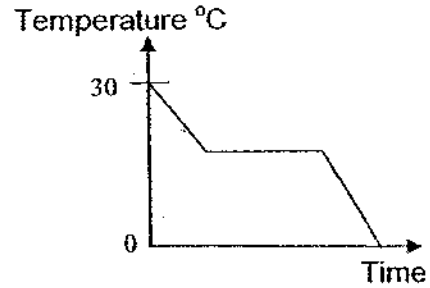


13. John took out some ice from the freezer and placed them in a glass. After an hour, the ice had changed its state. Which one of the following graphs best represents the temperature changes with respect to time?

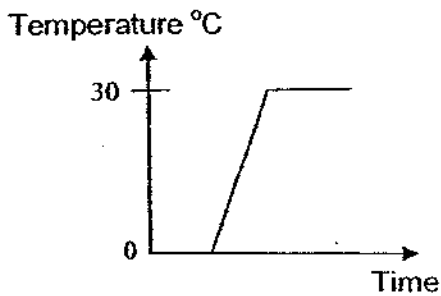
(1)



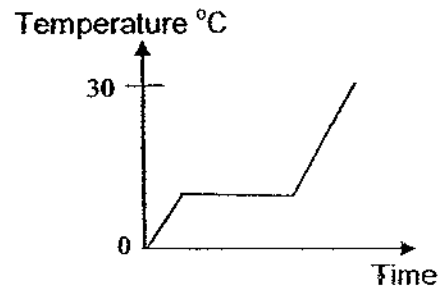
(2)



(3)



(4)

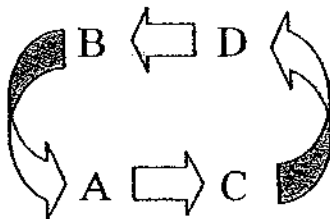


14. The following processes take place in the sexual reproduction of a flowering plant.

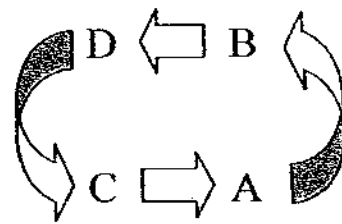
- A. Fertilisation
- B. Pollination
- C. Seed Dispersal
- D. Seed Germination

In which of the following are the processes arranged in the correct order?

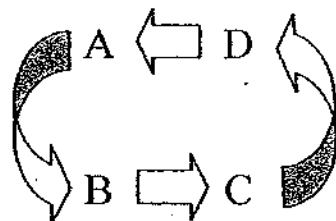
(1)



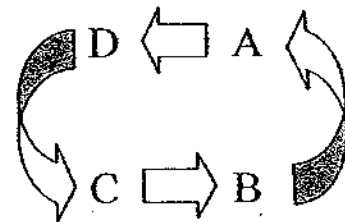
(2)



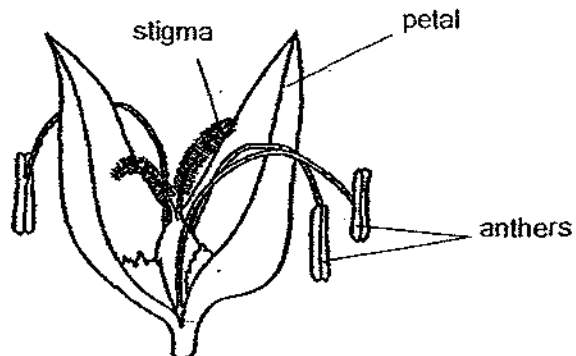
(3)



(4)

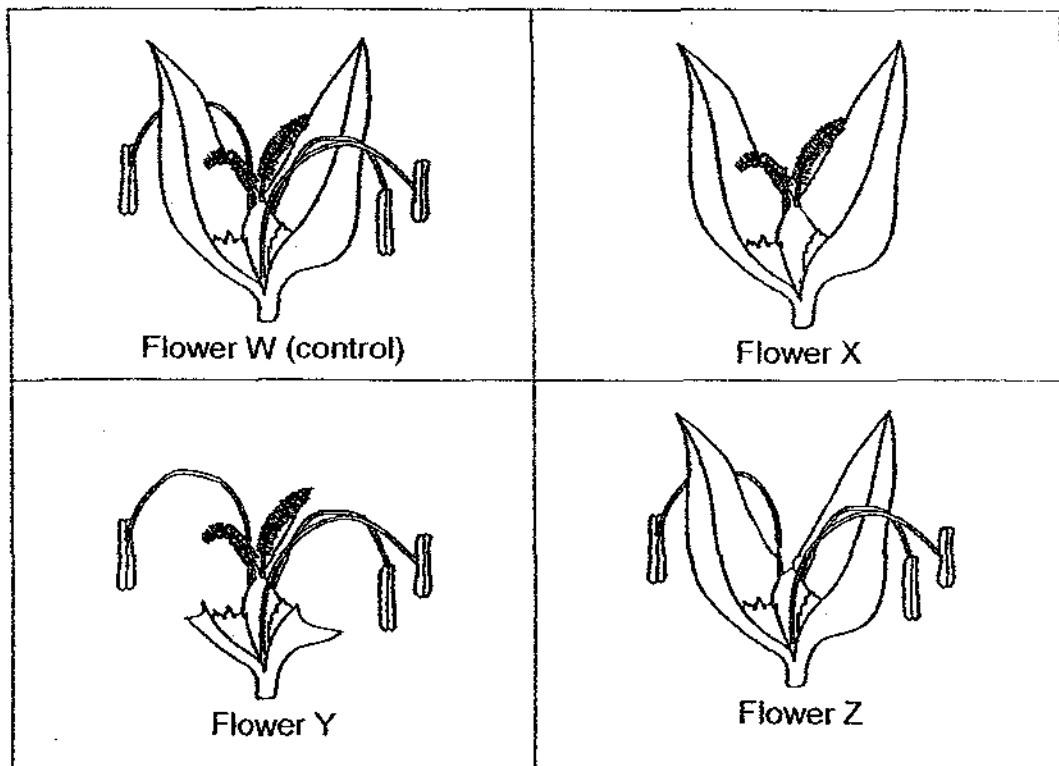


15. The diagram below shows the reproductive parts of a flower which is wind-pollinated.



Angelina wanted to investigate if a fruit can be produced when certain parts of a flower are removed.

She selected and labelled four flowers, W, X, Y and Z, from the same plant. She left Flower W as it was and cut a certain part from the remaining three flowers. The flowers she studied are shown below.



After some time, Angelina checked on the flowers. Which of the flowers is/are likely to have developed into a fruit?

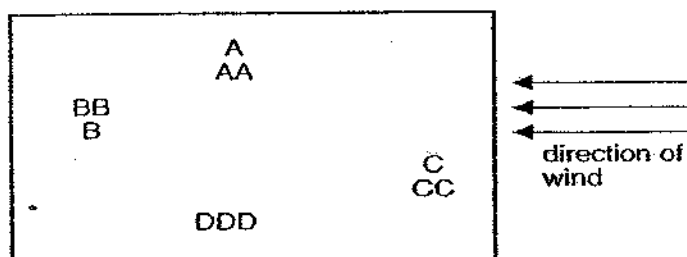
- (1) X only
- (2) Y only
- (3) X and Y
- (4) Y and Z

16. Which of the following statements are true about sexual reproduction in both plants and animals?

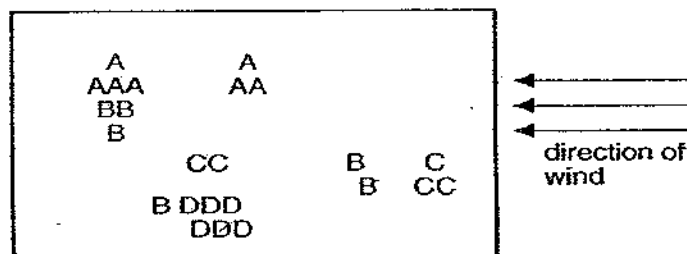
- A. The male and female reproductive cells have to fuse for fertilization to take place.
- B. Pollination takes place before fertilization.
- C. The male reproductive cells are called sperms.
- D. The female egg cells are stored in the ovary.

- (1) A and D only
- (2) B and C only
- (3) A, B and C only
- (4) A, C and D only

17. Four types of plants (A, B, C and D) were grown in a field as shown below.



A few months later, the plants had reproduced and were found growing in the field as shown below.



Which plant(s) had seeds which were dispersed by wind?

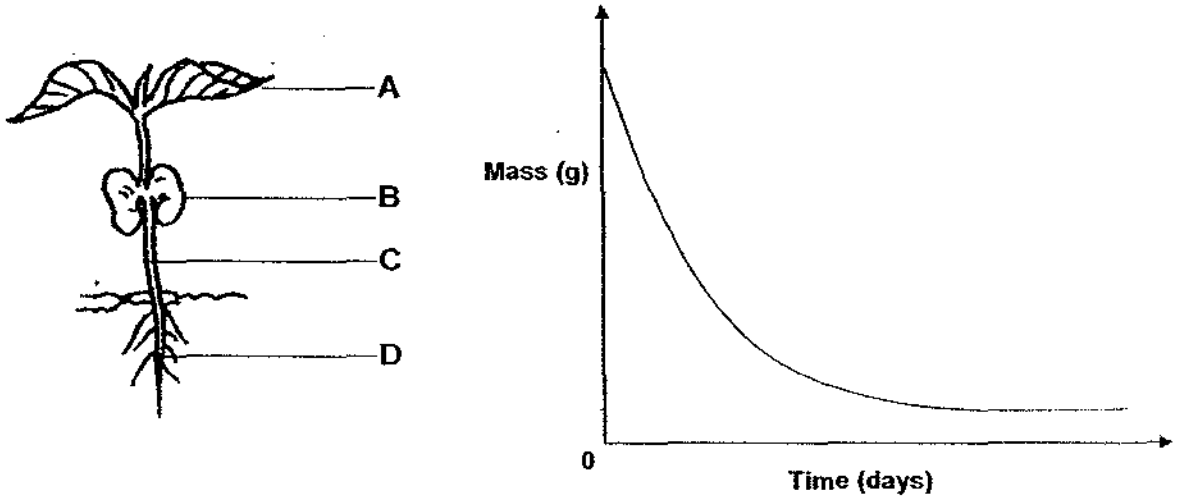
- (1) B and C only
- (2) A and C only
- (3) A, B and D only
- (4) A, B, C and D

18. Which of the following statements about fertilisation in animals are true?

- A. Eggs are produced in the womb.
- B. The fertilised egg will develop in the ovary.
- C. Male reproductive organ produces the sperm.
- D. Female reproductive cells are called the eggs.
- E. An egg is fertilised when a sperm fuses with it.

- (1) B and D only
- (2) C, D and E only
- (3) A, C and D only
- (4) A, B, D and E only

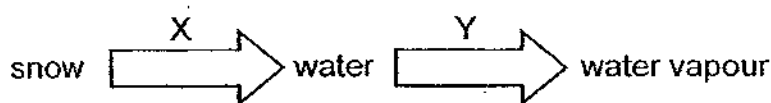
19. The graph below shows the change in mass of a part of the plant as the plant develops from a seedling into an adult.



Which part of the plant does the graph show?

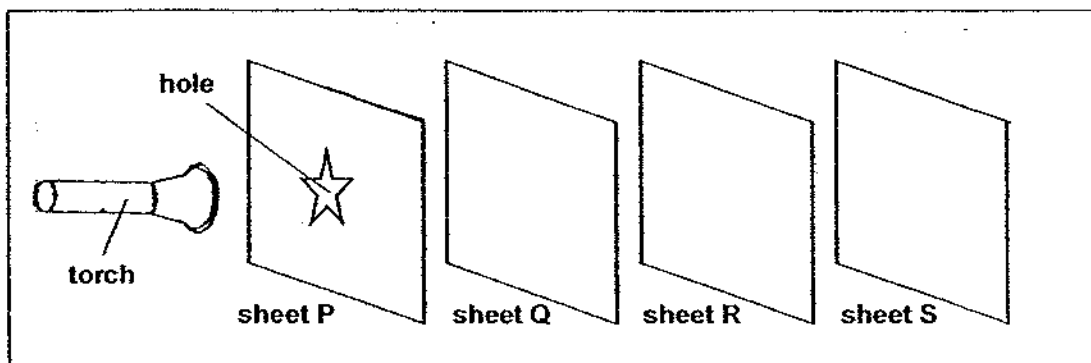
- (1) A
- (2) B
- (3) C
- (4) D

20. Water changes from one state to another as shown below. X and Y represent the processes.



Which of the statements below is true about processes "X" and "Y"?

- (1) In both processes, snow and water lose heat.
  - (2) In both processes, snow and water gain heat.
  - (3) In X, snow gains heat but in Y, water loses heat.
  - (4) In X, snow loses heat but in Y, water gains heat.
21. Kenneth carried out an experiment to find out whether light can pass through certain materials. He set up the experiment in a dark room.

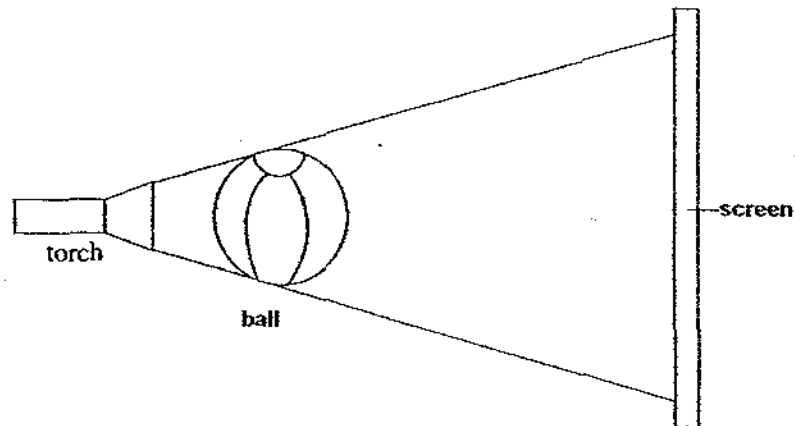


He arranged 4 sheets of different materials, P, Q, R and S one behind another in a straight line. He also cut a hole in sheet P before shining the torch through the hole. He observed a bright star-shaped patch of light on sheet R.

Which one of the following correctly describes the properties of the materials that sheets P, Q, R and S are made of?

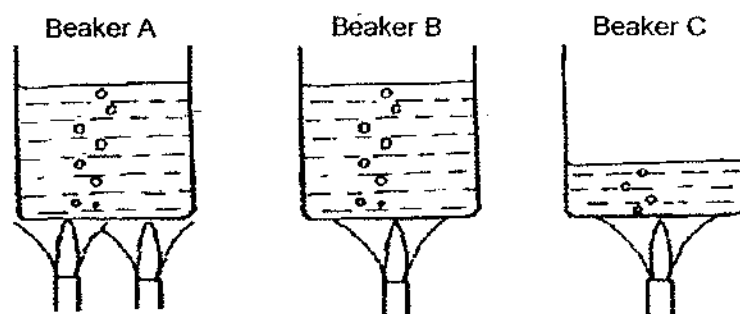
	Allows light to pass through	Does not allow light to pass through	Not possible to tell
(1)	Q	R	P and S
(2)	R and S	P	Q
(3)	P, Q and R	None	S
(4)	Q	P and R	S

22. Study the experiment set up below.



The light from the torch casts a shadow of the ball on the screen as shown above. How can we get a smaller shadow of the ball on the screen?

- A. Move the ball closer to the screen.
  - B. Move the torch further away from the ball.
  - C. Move the screen further away from the ball.
- (1)- A only  
(2) B only  
(3) A and B only  
(4) B and C only
23. The three beakers as shown below were continuously heated even after the water reached boiling point. Beakers A and B contained 400ml of water and Beaker C contained 200ml of water.



Which of the following statement about them is correct?

- (1) The final temperature of the water in Beaker A is the highest.
- (2) The final temperature of the three beakers is the same.
- (3) The final temperature of the water in Beaker A is higher than that in Beaker B.
- (4) The final temperature of the water in Beaker C is higher than that in Beaker B.

24. Nicole wanted to find out the effect of temperature on the rate of evaporation of water.

She carried out 4 experiments (A, B, C and D) as shown below. She used containers made of the same material to hold the water.

Experiment	Amount of water used (cm <sup>3</sup> )	Wind speed (km/h)	Air temperature (°C)	Exposed area of container (cm <sup>2</sup> )
A	50	15	24	30
B	50	20	24	50
C	50	20	29	50
D	50	15	29	60

Which pair of experiments should she use for comparison so that it is a fair test?

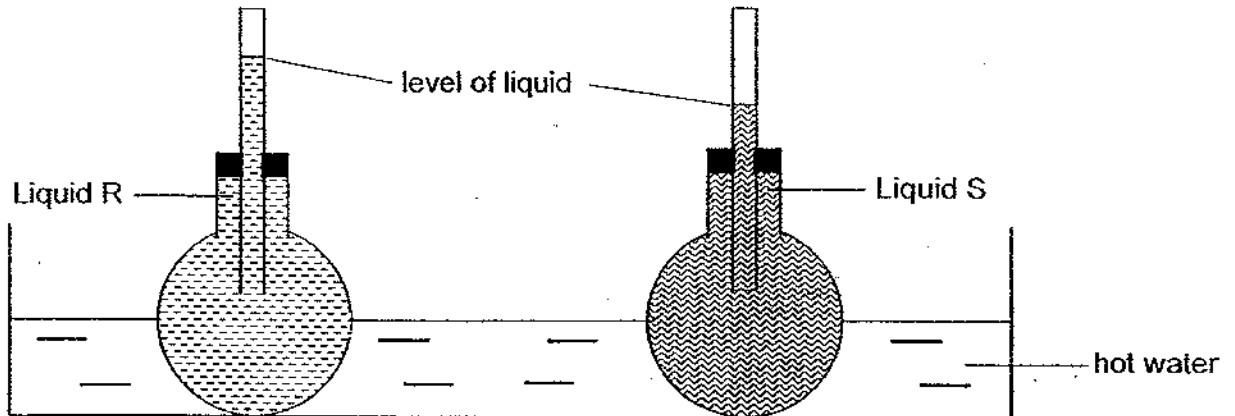
- (1) A and B only
  - (2) A and D only
  - (3) B and C only
  - (4) C and D only
25. The table below shows the freezing point and boiling point of the four substances.

Substance	Freezing Point	Boiling Point
W	0 °C	100 °C
X	21 °C	75 °C
Y	23 °C	145 °C
Z	16 °C	94 °C

Which substance(s) is/are in the solid state at 19°C?

- (1) W only
- (2) W and Z only
- (3) X and Y only
- (4) W, X, Y and Z

26. Madam Tan carried out an experiment on 2 types of liquids, R and S. She filled one flask with liquid R and a similar flask with the same amount of liquid S. Madam Tan then heated the two flasks in a hot water bath as shown below.



After half an hour, the water level in each of the tubes was observed.

What was Madam Tan trying to find out in her experiment?

- A. Which liquid evaporates faster when heated.
  - B. Which liquid contracts more when cooled.
  - C. Which liquid expands more when heated.
- (1) B only  
(2) C only  
(3) A and C only  
(4) A, B and C
27. Which of the following statement(s) is/are true about fungi?
- A. Fungi are plants.
  - B. Fungi obtain energy from the Sun.
  - C. Fungi feed on plants and animals that are dead or alive.
  - D. Fungi are micro-organisms which feed on other living things.
- (1) C only  
(2) A and C only  
(3) B and D only  
(4) A, C and D only



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 2009 CONTINUAL ASSESSMENT 2  
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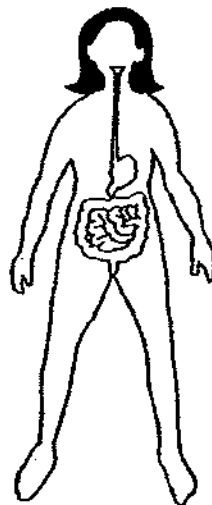
Parent's Signature: \_\_\_\_\_

Section A (54 marks)	
Section B (36 marks)	
Project (10 marks)	
Total (100 marks)	

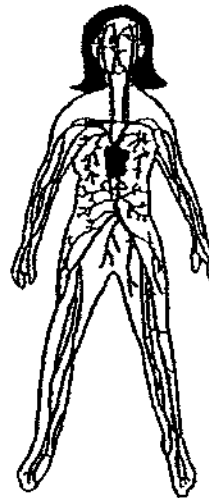
**SECTION B : [36 marks]**

For questions 28 to 40, write your answers in the spaces provided. The number of marks available is shown in the brackets [ ] at the end of each question or part-question.

28. The diagram below shows 2 important systems in the human body.



System A



System B

(a) Name these two systems. [1]

(i) System A: \_\_\_\_\_

(ii) System B: \_\_\_\_\_

Marks: 

/ 1
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(b) How do these two systems work together? [2]

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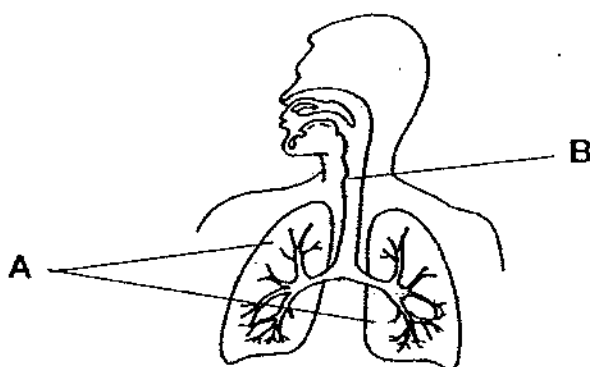
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29. (a) The diagram below shows the human respiratory system.



(i) Name the parts labelled A and B. [1]

A: \_\_\_\_\_

B: \_\_\_\_\_

(ii) What is the function of part A? [1]

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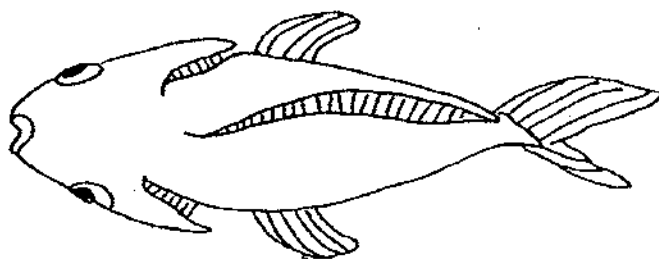
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Marks: 

/ 4
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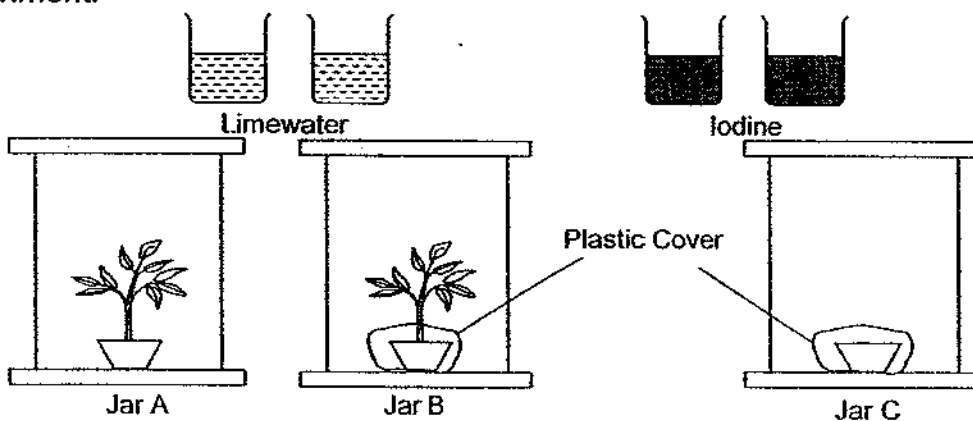
- (b) The diagram below shows a fish viewed from its top.



Show how the fish takes in oxygen, by marking on the diagram using the arrow (  $\longrightarrow$  ) to show the flow of water rich in oxygen and the dotted arrow (  $\cdots\cdots\longrightarrow$  ) to show the flow of water poor in oxygen.

[1]

30. Alvin wanted to show that plants produce carbon dioxide when they respire. The diagram below shows the materials which may be useful for his experiment.



- (a) Which items should he choose to conduct his experiment? Put a tick [✓] against the items chosen.

[2]

Jar A	
Jar B	
Jar C	
Limewater	
Iodine	

- (b) What do you think is the purpose of the plastic cover?

[1]

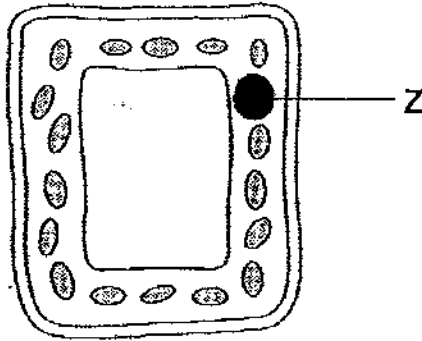
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Marks: / 4

31. Ben placed some cells on a slide and then placed the slide under the microscope. He drew what he saw under the microscope as shown below.



- (a) Where do you think these cells come from? [1]

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- (b) Explain your answer in part (a). [1]

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- (c) State the function of the part labelled Z. [1]

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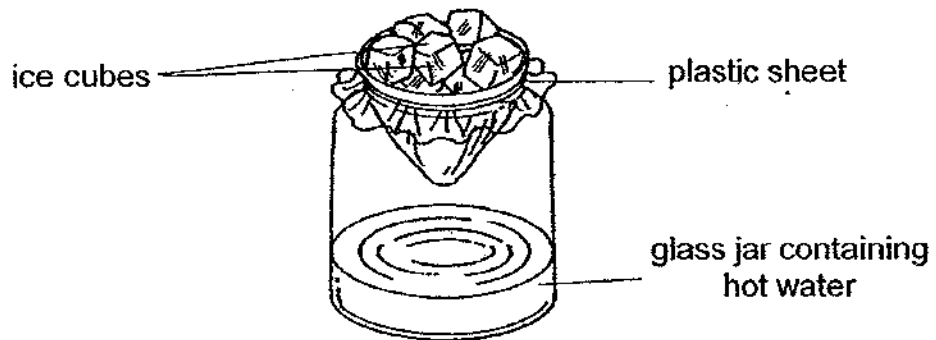
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Marks:

13

57

32. Rick was told to set up a model to show the water cycle. He poured some hot water into a glass jar and covered it with a plastic sheet. Then he placed some ice-cubes onto the plastic sheet as shown in the diagram below and observed it for 5 minutes.



- (a) He observed water dripping from the plastic sheet in the bottle. Explain how the water droplets were formed on the plastic sheet in the bottle. [2]

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- (b) If Rick had used cold water at  $10^{\circ}\text{C}$ , instead of hot water, explain why he would not have observed the water dripping from the plastic sheet into the glass jar. [1]

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Marks: 

/ 3
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33. Many human activities cause water pollution. State two possible causes of water pollution. [2]

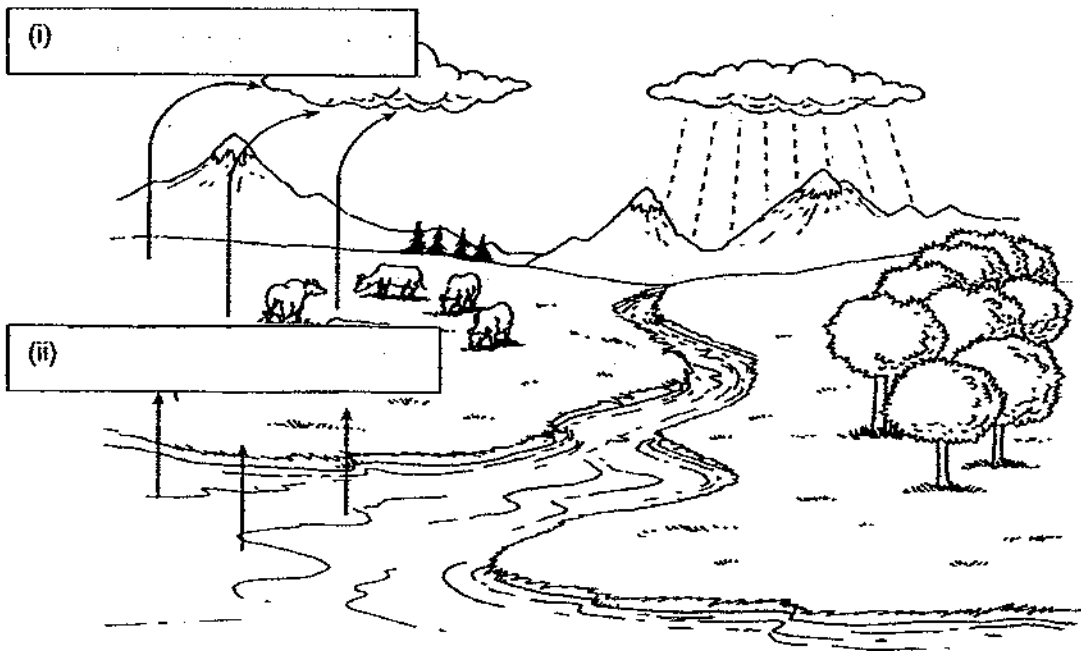
(i) \_\_\_\_\_

\_\_\_\_\_

(ii) \_\_\_\_\_

\_\_\_\_\_

34. The diagram below shows some processes of the water cycle taking place.



(a) State the processes (i) and (ii), indicated on the diagram, in the boxes provided. [2]

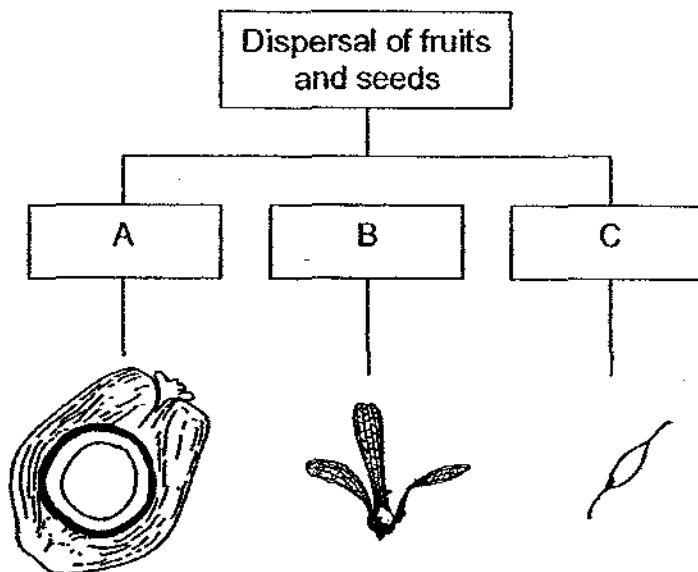
(b) Explain why the Sun is important for the water cycle. [1]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Marks: 

/ 5
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35. The chart below shows the grouping of the dispersal methods of some fruits and seeds. (The diagrams are not drawn to scale.)



Based on the chart above, state:

- (i) the method of seed dispersal and
- (ii) one characteristic of the fruits and seeds, shown above, that enable them to be dispersed.

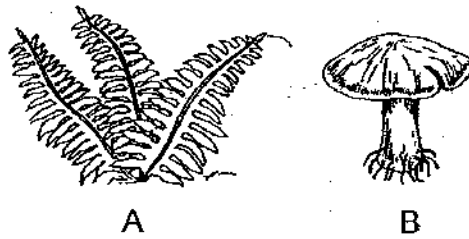
[3]

	Method of dispersal	Characteristics of the fruit and seed
A		
B		
C		

Marks:

/ 3

36. The diagram below shows two organisms.



(a) Name the group that each organism belongs to. [1]

A: \_\_\_\_\_

B: \_\_\_\_\_

(b) Compare these two GROUPS of organisms by stating:

(i) one similarity based on the way they reproduce: [1]

\_\_\_\_\_  
\_\_\_\_\_

(ii) one difference based on how they obtain food: [1]

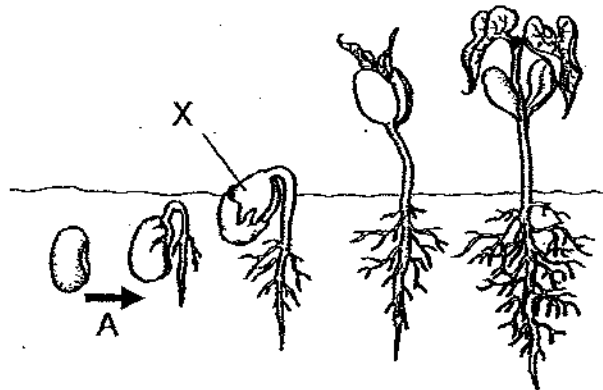
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Marks: 

/ 3
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 61

37. The diagram below shows the stages of growth of a seed.



(a) State the conditions required for Stage A to take place. [1]

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(b) Name the part of the seedling labelled as X. Explain why this part is important for the growth of the seedling. [2]

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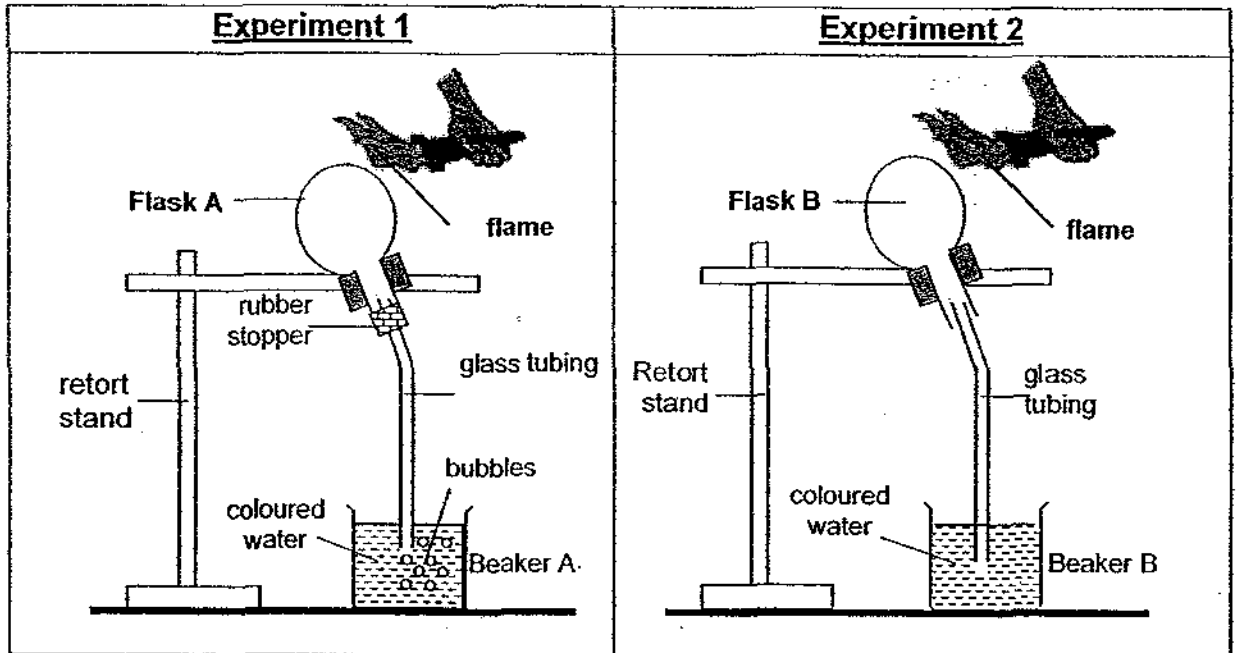
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Marks: 

/ 3
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38. Betty set up the two experiments as shown below.



She heated Flask A gently with a flame. After some time, she observed some bubbles in the coloured water of Beaker A in Experiment 1.

- (a) How were the bubbles formed? [1]

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- (b) What would Betty observe if she removed the burner in Experiment 1 and allowed the Flask A to cool? [1]

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- (c) Later, Betty carried out Experiment 2. However, she could not see any bubbles coming out from the glass tubing. Explain why. [1]

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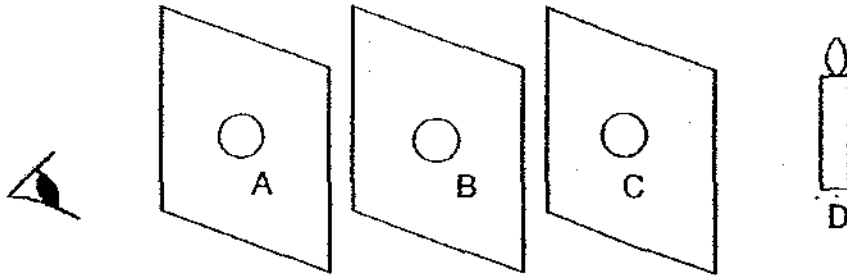
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Marks: / 3 <sup>63</sup>

39. Dorothy set up the following experiment to show one of the properties of light. She placed 3 sheets of cardboard in a row so that the holes at A, B and C form a straight line. When Dorothy looked through the hole at A, she could see the candle flame at D.



- (a) Which property of light was she trying to show in her experiment? [1]

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- (b) What should she do in her experiment to help her confirm that light has this property? [1]

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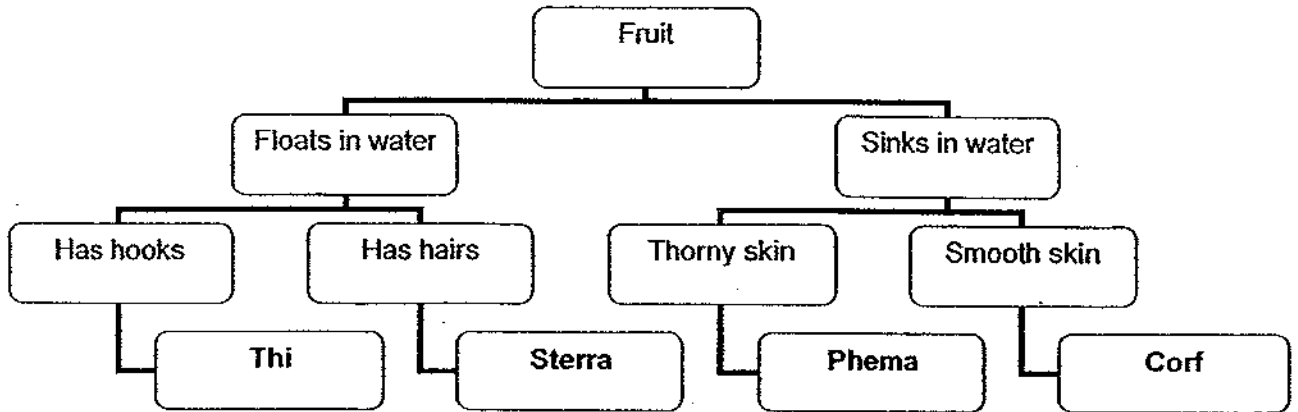
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Marks: 

12
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40. Study the classification diagram below.



Use the diagram above to identify Fruits X and Y shown below.



(a) Fruit X is called \_\_\_\_\_ [1]

(b) Fruit Y is called \_\_\_\_\_ [1]

~ END OF PAPER ~

Marks:

12

# ANSWER SHEET

## EXAM PAPER 2009

SCHOOL : MAHA BODHI PRIMARY  
SUBJECT : PRIMARY 5 SCIENCE

TERM : CA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
4	3	3	2	4	4	1	3	4	2	4	3	3	1	3	1	2

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27
2	2	2	4	3	2	3	3	2	1

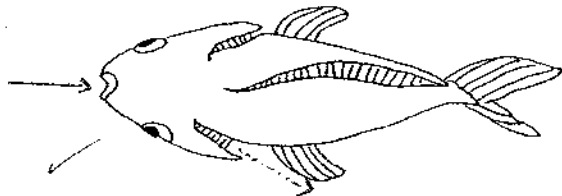
28)a)i) Digestive System.      ii)Circulatory System.

b)The digestive system breaks down food into simple substances so that it can be absorbed and transported by the blood in the circulatory system. The blood delivers oxygen from the respiratory system to the digestive system and other parts of the body.

29)a)i)A: Lungs      B: Windpipe.

ii)It allows the exchange of gases between the blood and the respiratory system.

b)



30)a)Jar B    Jar C    Limewater

b)It is to prevent carbon dioxide from the soil from escaping into the jar.

31)a)These cells come from a plant.

b)The cell has chloroplast and cell wall which are found in plant cell.

c)Z controls all the activities of the cell.

32)a)When the hot water evaporates, it turns into hot water vapour. When the hot water vapour touches the cool surface of the plastic sheet it condenses into the tiny water droplets on the plastic sheet in the bottle.

b) There would be less water vapour formed as less water evaporated from the cold/colder water. Hence the rate of condensation would also be reduced.

33) i) Littering on the beach.

ii) Oil spill in the sea.

34) a) i) Condensation      ii) Evaporation

b) The heat from the sun causes the evaporation of water.

35) A---Water      Has fibrous husk

B---Wind      Has wing-like structure

C---Animal      Has hooks

36) a) A: Plant      B: Fungi

b) i) They both have spores for reproduction.

ii) A can make its own food while B feeds on dead or alive plants and animals.

37) a) Air, water and warmth.

b) Seed leaves. Before the seedling has its own leaves the seed leaves provide the young seedling with food.

38) a) When Flask A is heated the air in it expands and the air goes down the glass tubing and causes the bubbles to form.

b) The water goes up the glass tubing.

c) The expanded air in Flask B could escape from the opening of the flask.

39) a) Light travels in a straight line.

b) She should put one of the cardboard's holes out of line and if she is able to see the candle flame.

40) a) Phema.

b) Sterra.