SEMESTRAL ASSESSMENT 1 – 2016
PRIMARY 5

SCIENCE

BOOKLET A

28 Multiple Choice Questions (56 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		**/ 56**
Booklet B		**/ 44**
Total		**/ 100**

Name: _____ **(** **)** **Class: P 5** _____

Date : 6 May 2016 **Parent's Signature:** _____

Section A: **(28 x 2 marks = 56 marks)**

For each question from 1 to 30, 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 photograph below shows a picture of plant cells.

What is the part labelled X?

(1) Nucleus
(2) Cytoplasm
(3) Chloroplast
(4) Cell membrane

2. The diagram below shows the characteristics of four adult plants, R, S, T and U.

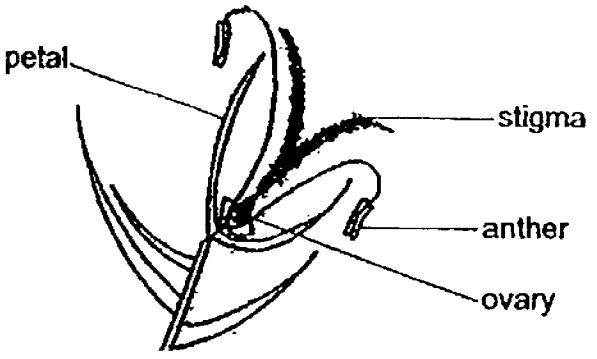
R	S	T	U
Sweet fruits	Large leaves	Sweet fruits	Large leaves
Large flowers	Long stem	Long stem	Large flowers

Two of them were used to breed a new young plant, V, which has sweet fruits, large flowers and large leaves.

Which two plants are most likely the parents of V?

(1) R and S
(2) R and T
(3) S and T
(4) S and U

3. The diagram below shows a wind-pollinated flower.

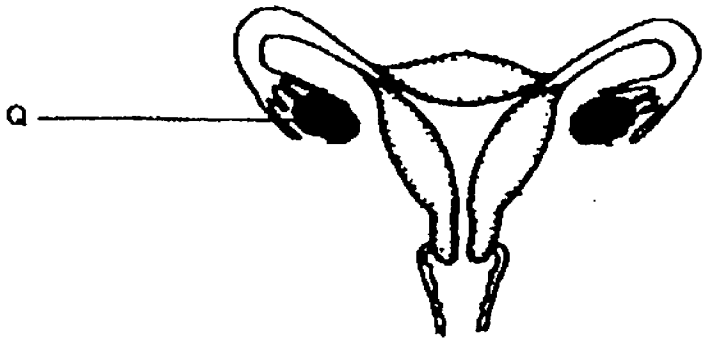


Which of the following characteristics show(s) that the flower is pollinated by wind?

A Feathery stigmas
B Ovary hidden in flower
C Anthers thinner than stigmas
D Anthers hanging out of flower

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

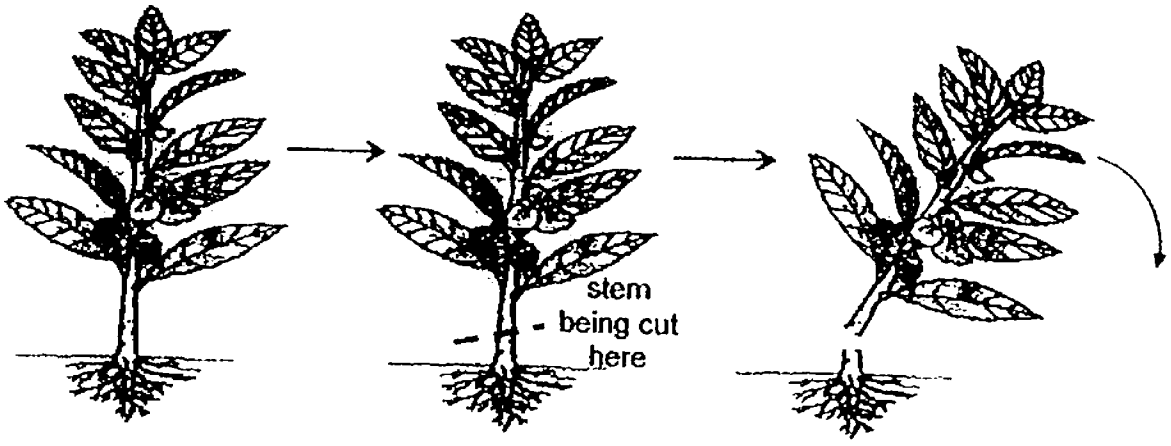
4. The diagram below shows the female human reproductive system.



In order for fertilisation to happen, Part Q has to release _____.

(1) sperms
(2) nutrients
(3) fertilised eggs
(4) unfertilised eggs

5. The diagram below show a plant being cut at the stem.



Based only on the diagram above, which statement(s) is/are correct about the function(s) of the roots?

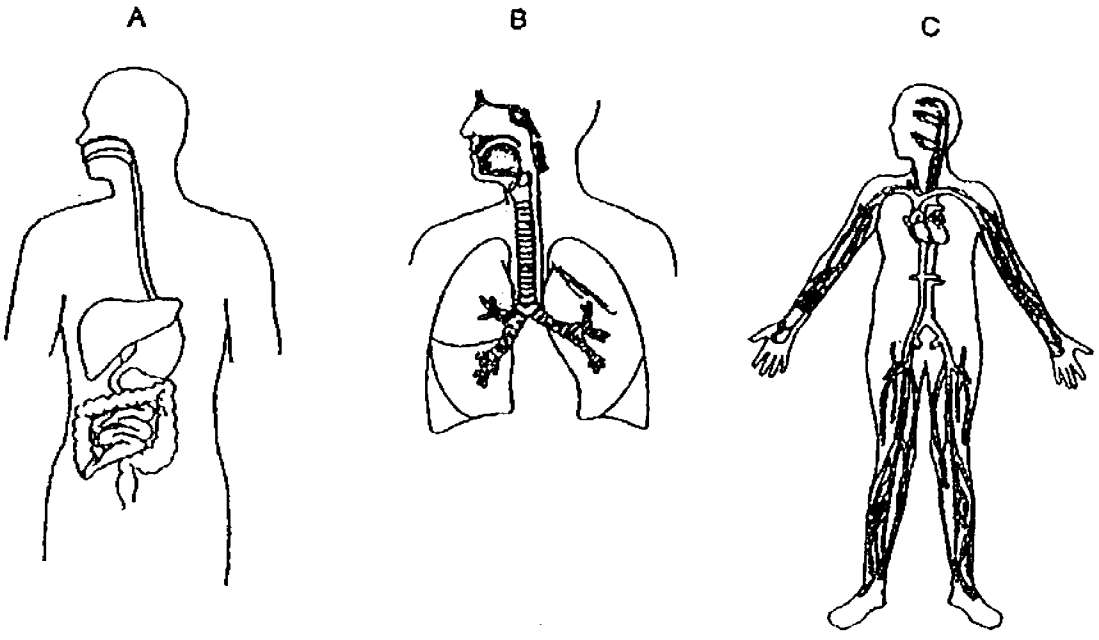
A The roots respond to changes.
B The roots absorb water from the soil.
C The roots hold the plant firmly to the ground.

(1) B only
(2) C only
(3) A and B only
(4) B and C only

6. Mr Tan has the habit of cutting all the hairs in his nostrils. He is advised by the doctor to leave sufficient hairs in his nostrils so that the air that he breathes into his lungs will _____.

(1) be dry
(2) be warm
(3) contain less dust particles
(4) contain more water vapour

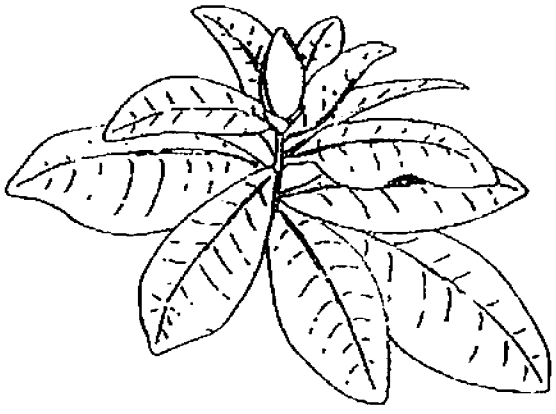
7. The following pictures show the various systems in a human body.



Which of the following shows the correct systems represented by A, B and C?

	A	B	C
(1)	digestive	circulatory	respiratory
(2)	digestive	respiratory	circulatory
(3)	circulatory	digestive	respiratory
(4)	respiratory	digestive	circulatory

8. The plant below grows on the forest floor with many tall trees. It is observed that the plant has broad green leaves.



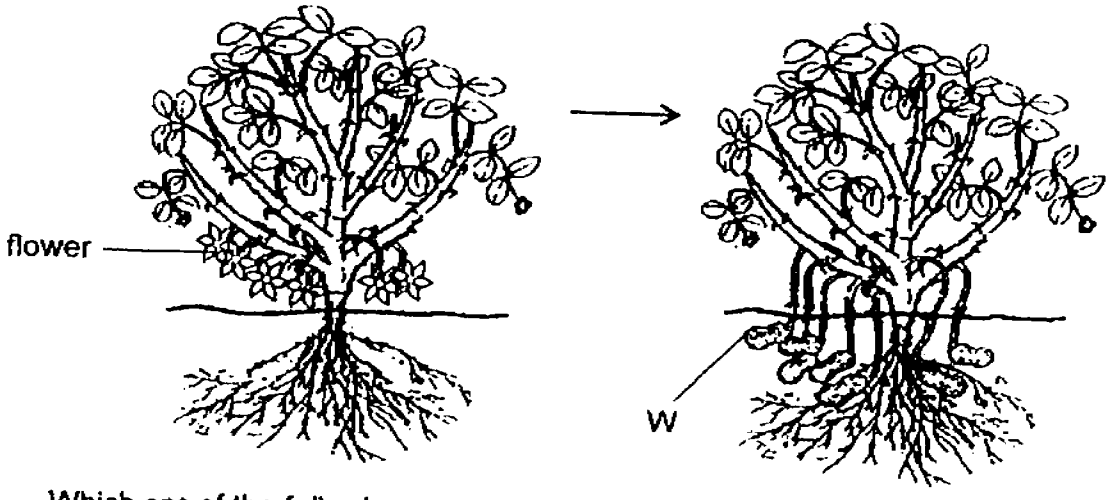
The plant has broad green leaves so that it is able to absorb more _____.

(1) oxygen from the surrounding
(2) nutrients from the forest floor
(3) sunlight reaching the forest floor
(4) water vapour from the surrounding

9. A plant is suffering from a disease that results in yellow leaves. Which of the following cell part is most likely affected?

(1) Cell wall
(2) Cytoplasm
(3) Chloroplasts
(4) Cell Membrane

10. The diagram below shows the development of structure W in a plant.



Which one of the following statements about W is correct?

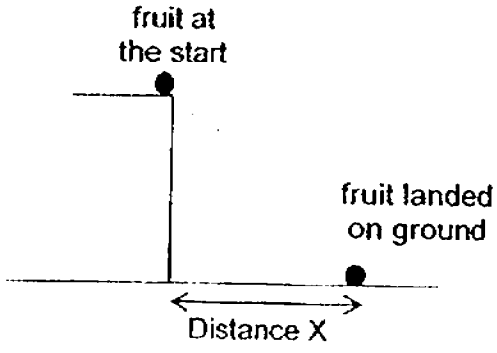
(1) Structure W is the fruit of the plant.
(2) Structure W is the root of the plant.
(3) Structure W is the stem of the plant.
(4) Structure W is the seed of the plant.

11. Two fruits, R and S, from the same tree were used in an experiment to find out how the wing-like structures affects the distance it travels.

R

S

The fruits were dropped at the same time from the 5th storey of a building. The distance the fruits travelled was recorded as distance X.



The table below shows the distance travelled by each fruit from the starting point to where it landed on the ground.

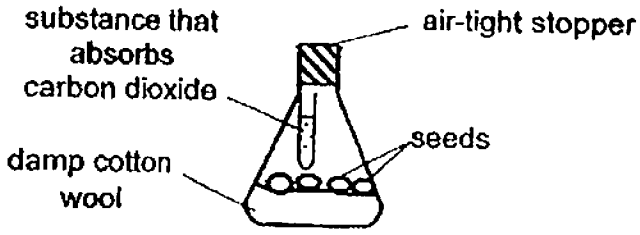
Fruit	R	S
X (cm)	320	150

Which of the following is/are **definitely** correct about how fruit R is able to travel a longer distance than fruit S?

A Fruit R can stay longer in the air.
B Fruit R and fruit S have the same mass.
C Fruit R has more wing-like structures than fruit S.
D Fruit R is dispersed by animals, but fruit S is dispersed by wind.

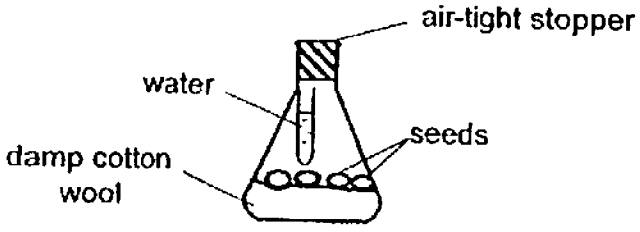
(1) D only
(2) A and C only
(3) B and D only
(4) C and D only

12. Shanthi wanted to find out how the germination of seeds is affected by carbon dioxide. Her set-up is shown below.

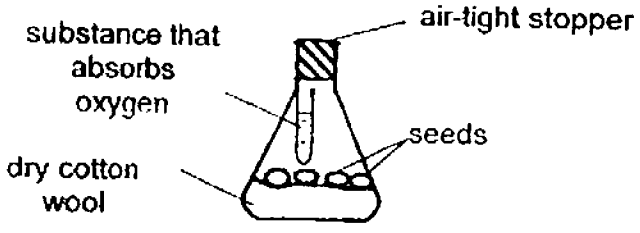


Which one of the following should Shanthi use as a control set-up for her experiment?

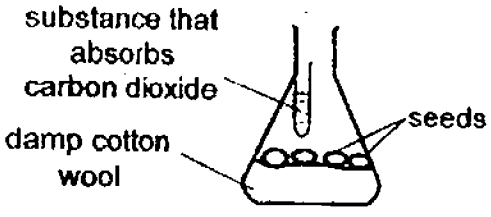
(1)



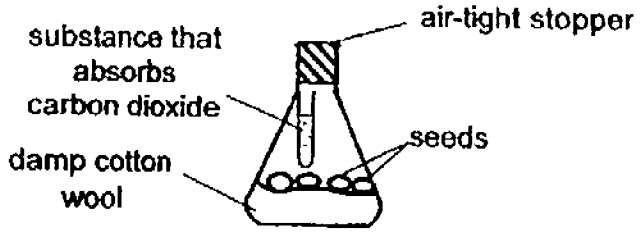
(2)



(3)



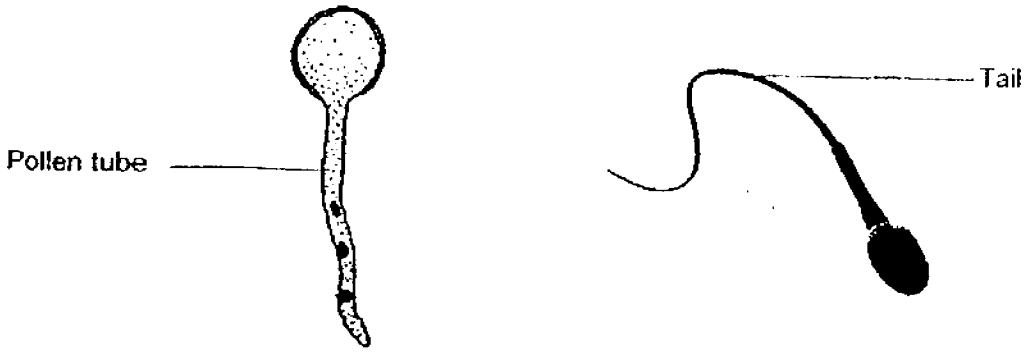
(4)



13. Married couples who are unable to produce a baby may undergo In Vitro Fertilisation (IVF). In IVF, the egg and sperm are made to fuse in the laboratory. The fertilised egg is then placed inside the human body. Where should the fertilised egg be placed so that the foetus can develop?

(1) Testis
(2) Ovary
(3) Womb
(4) Vagina

14. A pollen tube and the tail of a sperm have a common purpose in the process of sexual reproduction.



Which one of the following statements states this purpose correctly?

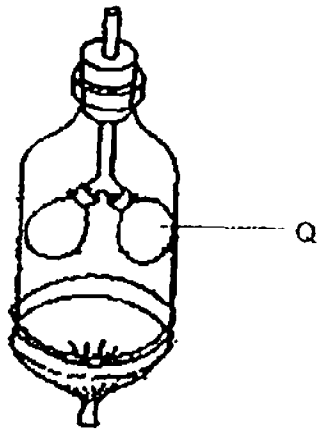
The pollen tube and the tail of a sperm allows the _____.

(1) male sex cell to reach the female sex cell
(2) male sex cell to choose which egg to fertilise
(3) female sex cell to be released from the ovary
(4) female sex cell to release its nucleus to the male sex cell

15. Which one of the following statements about the process of breathing is correct?

(1) Only oxygen is breathed into the human body
(2) Only carbon dioxide is breathed out of the human body.
(3) Only oxygen and carbon dioxide are breathed into and out of the human body.
(4) Nitrogen, oxygen, carbon dioxide, water vapour and other rare gases are breathed into and out of the human body.

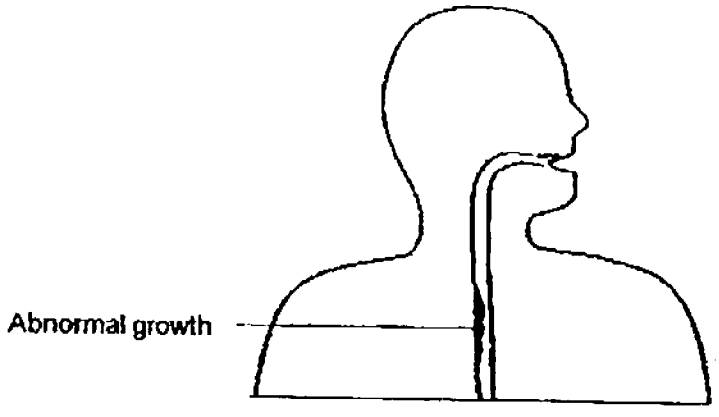
16. The diagram below shows a model of a human respiratory system.



Organ Q has the similar function as an organ in the fish respiratory system. Which one of the following correctly represents the organ in the fish respiratory system?

(1) Gills
(2) Nose
(3) Heart
(4) Lungs

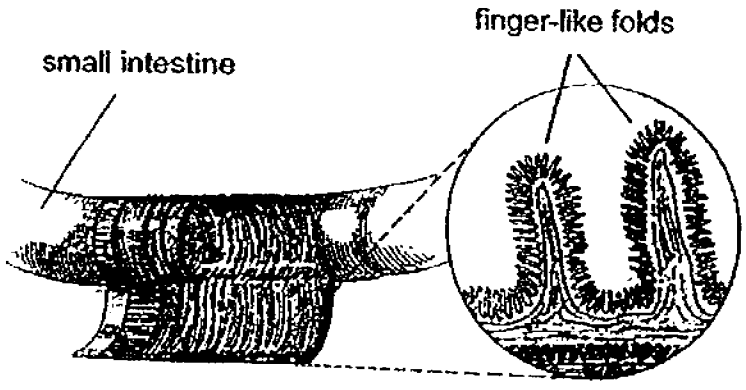
17. The diagram below shows a patient with an abnormal growth along the gullet.



How would the abnormal growth affect the function of the gullet?

(1) Less food will be digested.
(2) Food will be transported to the stomach slower.
(3) Water cannot be reabsorbed into the bloodstream.
(4) Less nutrients will be released into the bloodstream.

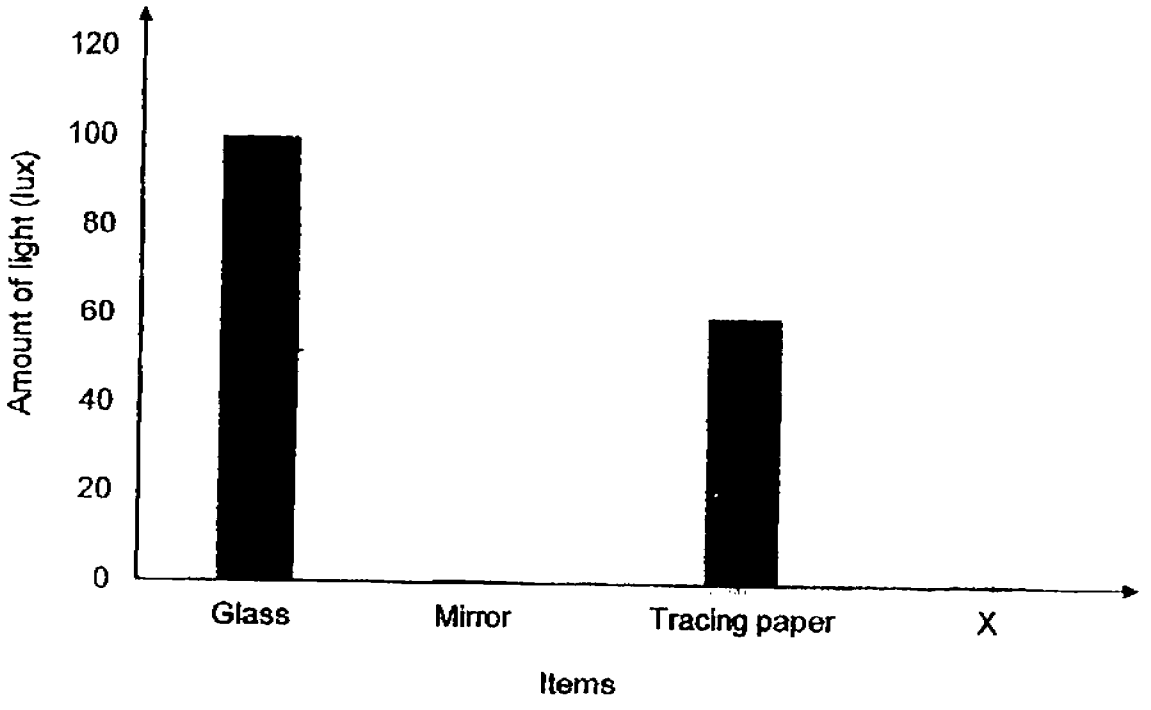
18. Small intestines do not have smooth walls. Instead, there are finger-like folds lining the walls as shown in the diagram below.



What is a possible reason for these finger-like folds?

(1) Increase the amount of water entering the small intestines.
(2) Decrease the amount of digested food entering the small intestines.
(3) Decrease the surface area for absorption of water into the bloodstream.
(4) Increase the surface area for absorption of digested food into the bloodstream.

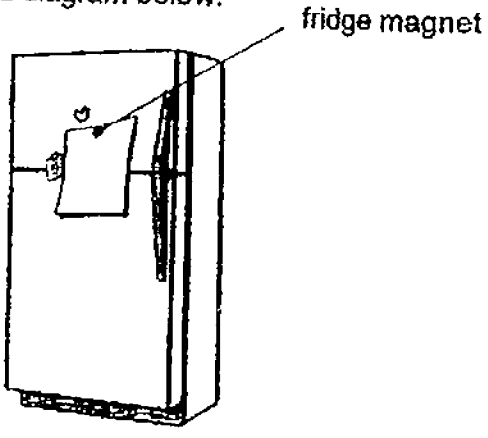
19. The graph below shows the amount of light that passes through various items.



What could X be?

(1) Cardboard
(2) Clear plastic
(3) Frosted glass
(4) Tissue paper

20. Sam was able to use a fridge magnet to attach a paper note onto the door of the refrigerator as shown in the diagram below.



Which of the following statements is/are most likely true about why the magnet was able to attach the paper note onto the refrigerator?

A Magnetism could pass through the paper.
B The paper note was attracted to the fridge magnet.
C The door of the refrigerator could be made of aluminium.

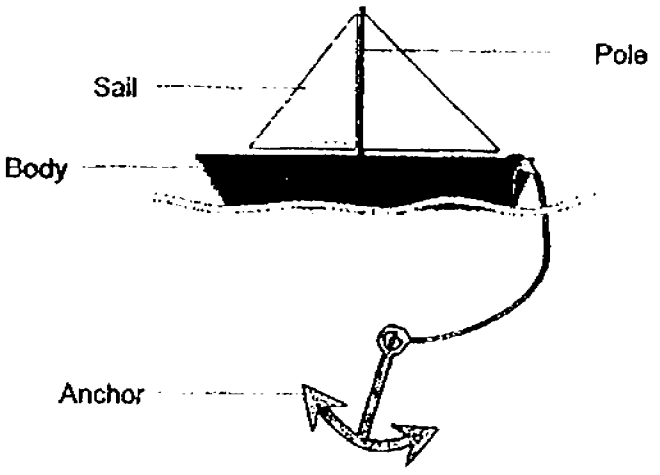
(1) A only
(2) C only
(3) A and B only
(4) A, B and C

21. Which of the following statements correctly show(s) how water usage at home can be reduced?

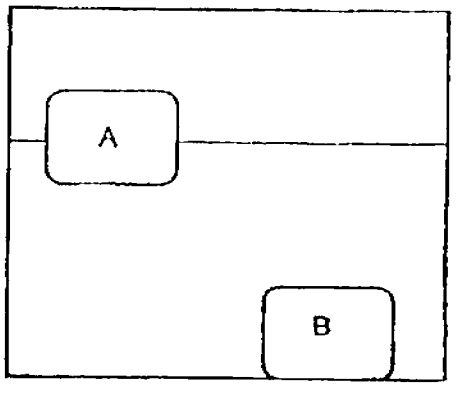
A Using water that had been used to wash the rice grains to water the plants.
B Install shower heads to allow large amount of water to gush out of the shower heads.
C Reduce the amount of water in the water tank for flushing by placing a plastic bottle of pebbles in the tank to take up the space of some water.

(1) A only
(2) B only
(3) A and C only
(4) B and C only

22. Gerald wants to make a toy boat as shown below.



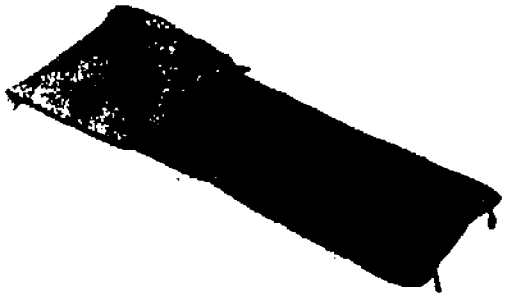
He placed two blocks of the same size, A and B, into a tank of water. A and B are made of different materials.



He also bent the blocks and realised that A is flexible while B is stiff. Which of the following correctly shows the materials that could be used to make the parts of the toy boat?

	A	B
(1)	Anchor	Pole
(2)	Sail	Body
(3)	Body	Anchor
(4)	Sail	Anchor

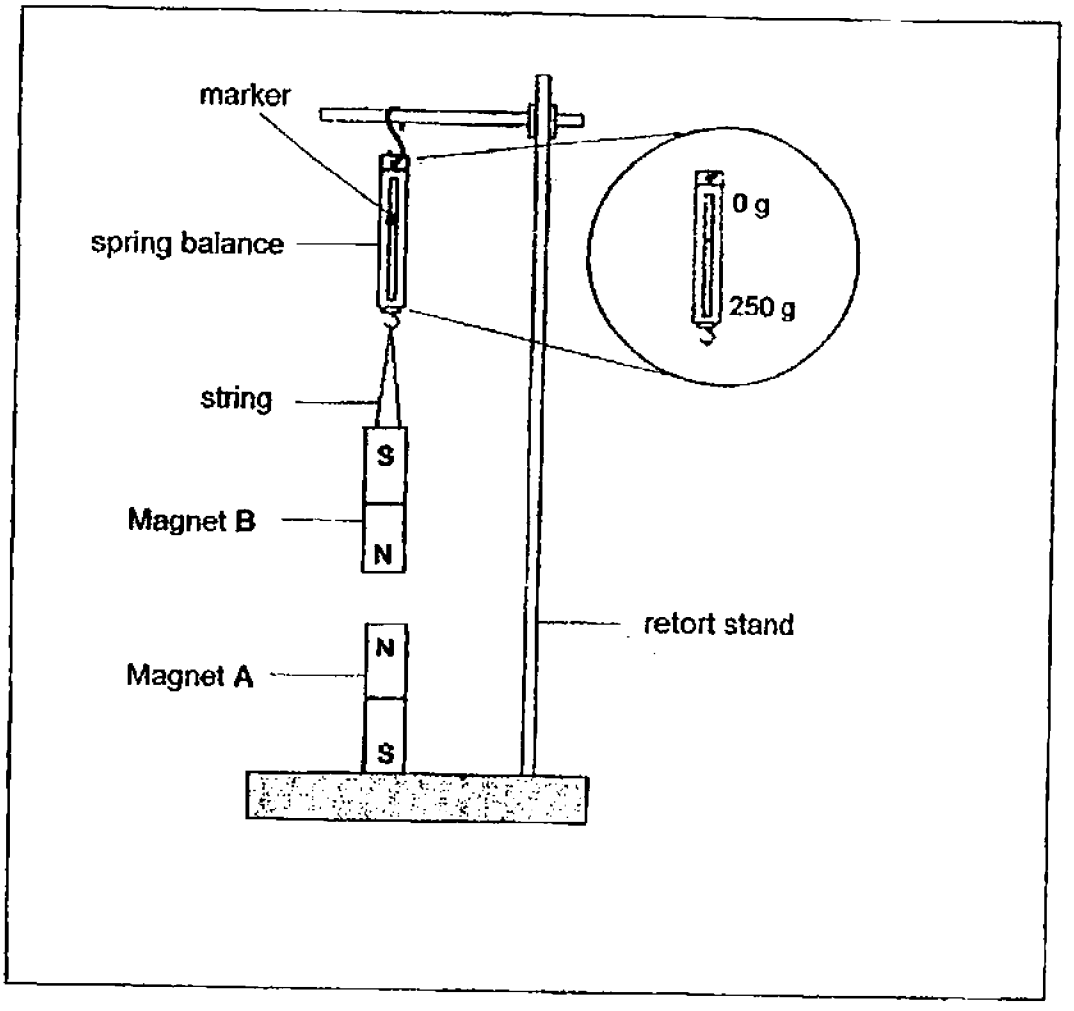
23. Paul wants to buy a sleeping bag for his hiking trip. He needs to carry the sleeping bag with him during the day as he moves from place to place and sleep in the cold and damp forests during the night.



What properties should he look out for when he selects the sleeping bag?

	Light	Waterproof	Conductor of heat
(1)	No	Yes	Poor
(2)	No	No	Good
(3)	Yes	Yes	Poor
(4)	Yes	No	Good

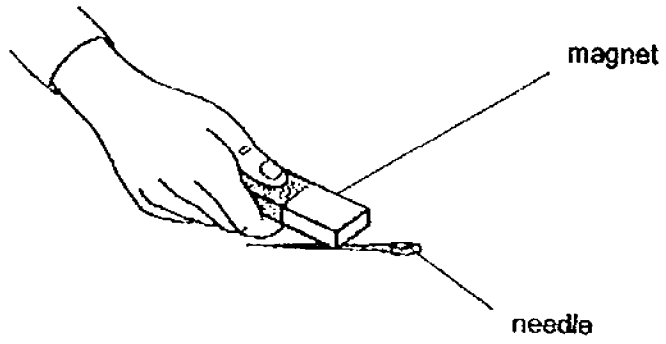
24. Mr Ali set up an experiment using two identical strong bar magnets as shown in the diagram below. Both Magnets A and B have the same mass.



Which one of the following statements is most likely correct when magnet B is hung above magnet A?

(1) Magnet B will move towards magnet A.
(2) Magnet A will move towards magnet B.
(3) The marker on the spring balance will move up and give a lower reading.
(4) The marker on the spring balance will move down and give a higher reading.

25. A needle is magnetised by using the stroking method. However, no paper clips can be picked up by the needle.

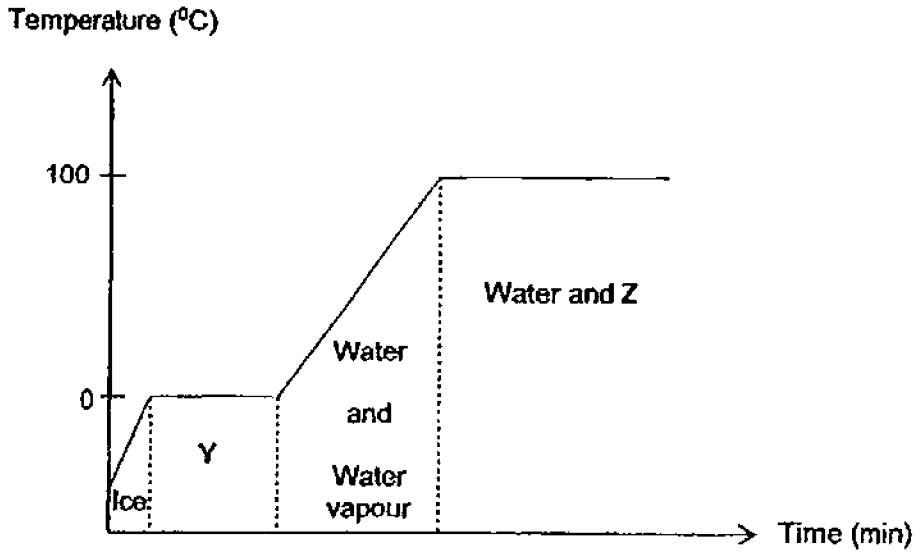


Which of the following could be the likely reason(s) why the needle could not pick up any paper clips?

A The needle is made of copper.
B The needle was stroked in more than one direction.
C Only the North pole of the magnet is used to stroke the needle.

(1) B only
(2) C only
(3) A and B only
(4) A and C only

26. The graph below shows the different states of water when it gains heat.



Which of the following correctly shows what Y and Z represent?

	Y	Z
(1)	Ice	Water vapour
(2)	Water	Steam
(3)	Ice and water	Water vapour
(4)	Ice and water	Steam

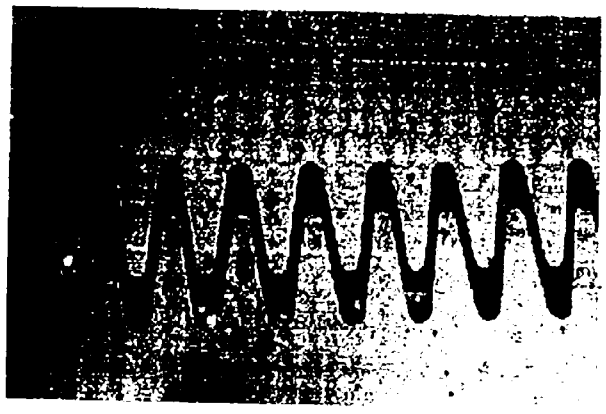
27. The table below shows the temperature of a can of cold drink placed in an air-conditioned room. The temperature of the room is 25°C.

Time (mins)	0	30	60	90	120
Temperature (°C)	10	15	20	25	?

What would be the temperature of the can of drink 120 minutes later?

(1) 20 °C
(2) 25 °C
(3) 30 °C
(4) 35 °C

28. The following diagram shows a part of a metal bridge.



On a hot day, the gaps on the bridge will become smaller. What process will result in such an observation?

(1) Melting
(2) Expansion
(3) Contraction
(4) Condensation

SEMESTRAL ASSESSMENT 1 – 2016
PRIMARY 5

SCIENCE

BOOKLET B

12 Open-ended questions (44 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Marks Obtained

Section B		/ 44

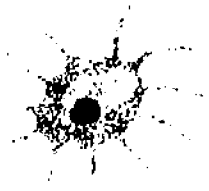
Name: _____ ( ) **Class: P 5** _____

Date : 6 May 2016 **Parent's Signature:** _____

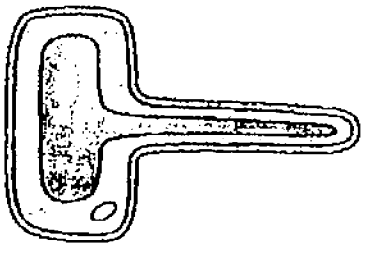
Section B: (44 marks)

Write your answers to questions 29 to 40.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

29. The diagrams below show an animal cell and a root hair cell found in a plant.



Animal Cell



Root Hair Cell

(a) Based on your observations, name one cell part that is found in both the root hair cell and the animal cell. [1]

_____

(b) A part in the root hair cell is not found in the animal cell. Label it "X" on the diagram above. [1]

(c) Explain why there are no chloroplasts in a root hair cell. [1]

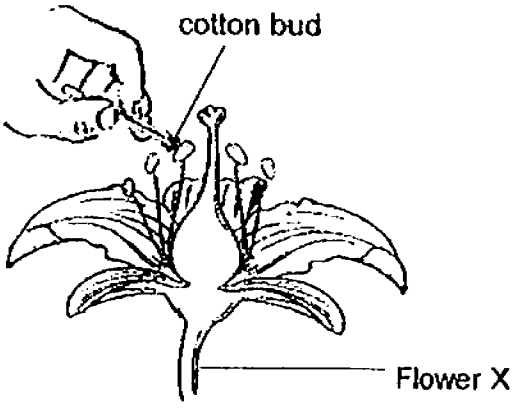
_____

_____

Score	3

30. The diagram below shows a gardener brushing one part of flower X with a cotton bud.

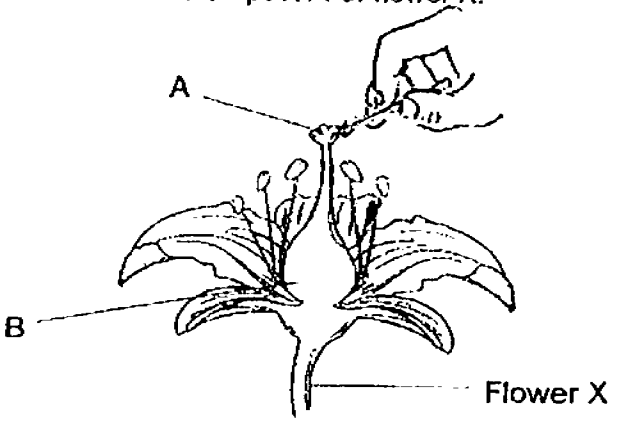
Step 1



(a) What are the powdery substances found on the cotton bud? [1]

Next, he brushed the substances on part A of flower X.

Step 2



(b) Name the reproduction process that is taking place during the brushing in step 2. [1]

(Go on to the next page)

Score 2

(c) One week later, B started to grow into a fruit. What could have taken place after the brushing? [1]

_____

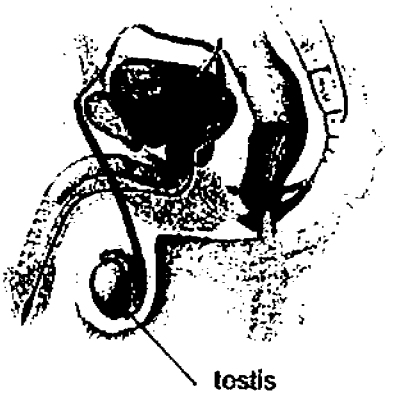
_____

(d) Name the part of the flower that would develop into seeds. [1]

_____

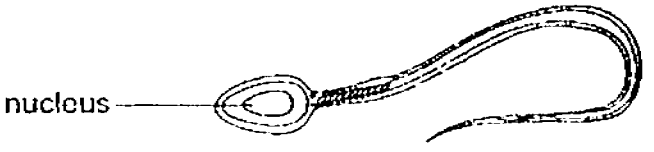
Score	2

31. The diagram below shows the male human reproductive system.



(a) What is the function of the testis? [1]

The diagram below shows a sperm.



(b) What is found inside the nucleus of a sperm? [1]

(Go on to the next page)

Score	2

Gestation period is the period of time when the young develops in the mother's womb before it is born. The table below shows the gestation periods of four different animals R, S, T and U.

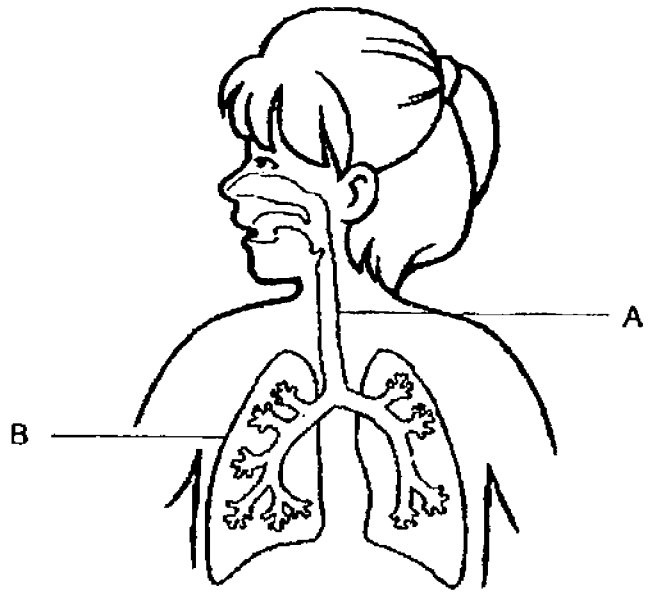
Animal	Gestation Period (days)	Mass of young at birth (kg)
R	253	3
S	336	22
T	450	?
U	510	113

(c) What is the relationship between the gestation period and the mass of young at birth? [1]

(d) State a possible mass of the young at birth of animal T. [1]

Score 2

32. Study the diagram below.



(a) The human body contains many different systems working together. What system is shown above? [1]

_____

(b) Name the organs labelled A and B. [1]

A : _____

B : _____

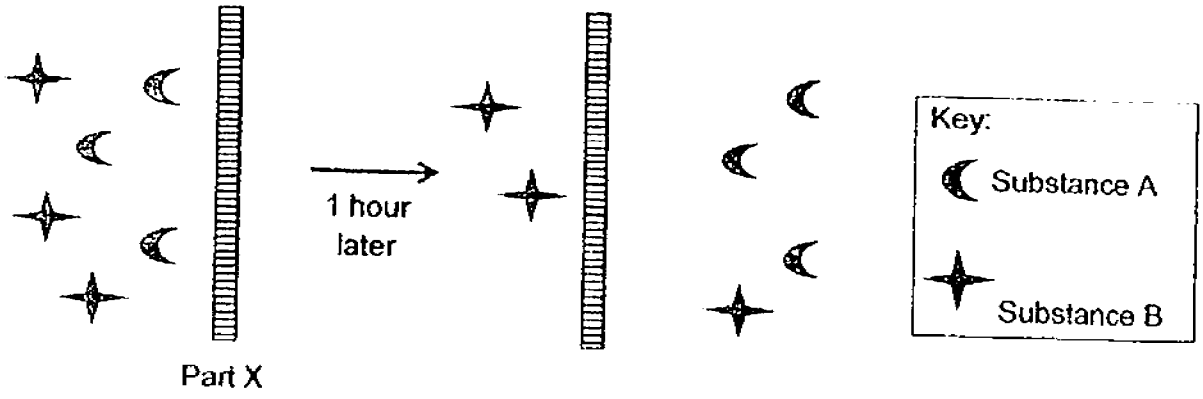
(c) What is the function of B? [1]

_____

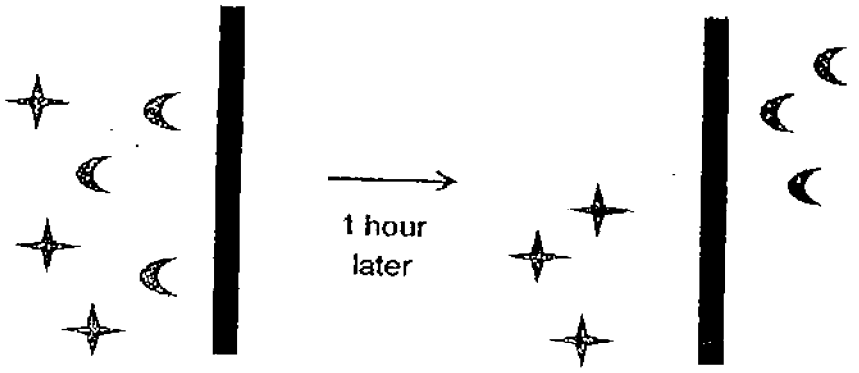
_____

Score	3

33. Part X and Part Z represent certain parts of a plant cell. The diagrams below show the reactions of Part X and Part Z to substances A and B.



Part X



Part Z

(a) Which parts of the cell do X or Z represent? [1]

(i) Part X: _____

(ii) Part Z: _____

(b) Give a reason for your answer in a(ii). [1]

_____

_____

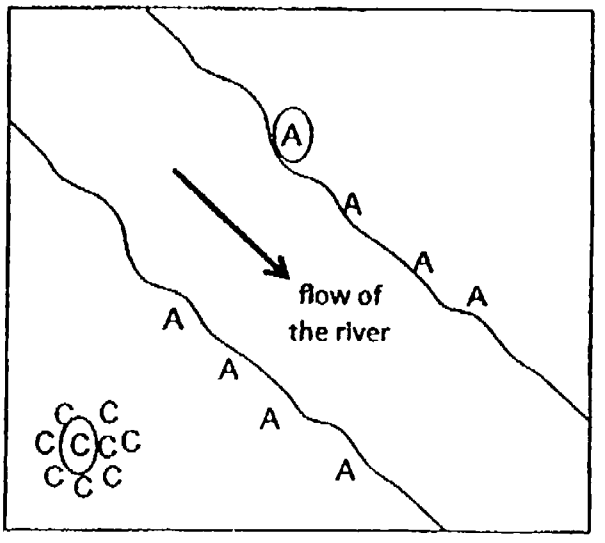
(c) Will water be able to pass through parts X and Z? Give a reason for your answer. [1]

_____

_____

Score 3

34. The diagram below shows the dispersal patterns of Plant A and Plant C.



Key:

(A) parent plant of A

(C) parent plant of C

(a) What is the method of seed dispersal for Plant C? [1]

_____

_____

(b) Based on the diagram above, give a reason for your answer in part (a). [1]

_____

_____

(c) Compare the dispersal methods of Plant A and Plant C. What advantage does the dispersal method of Plant A have over Plant C? [1]

_____

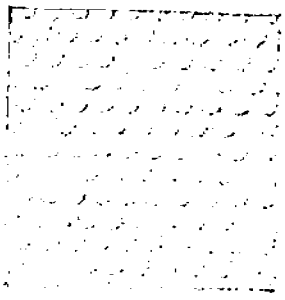
_____

(Go on to the next page)

Score 3

Ali was given a marble to be used as the seed for Plant A.

He was also given a piece of bubble wrap and some cotton balls. He was told to use the marble and one of the objects below to make a model of the fruit of plant A.



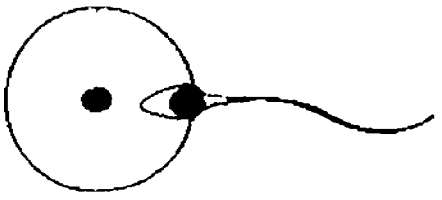
bubble wrap

cotton balls

(d) Which object, bubble wrap or cotton ball, should he used to make the outer covering of the fruit so that the seed can be dispersed by water? Explain your answer clearly. [2]

Score 2

35. A sperm enters an egg in the diagram below.



(a) State the process of sexual reproduction shown. [1]

_____

Diagrams X and Y are stages in the reproduction of human and flowering plant.

Diagram X

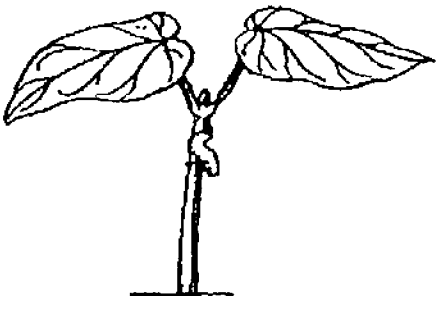


Diagram Y

(b) Label the seed leaves in Diagram Y. [1]

(c) Compare how the young in Diagrams X and Y obtain food. [2]

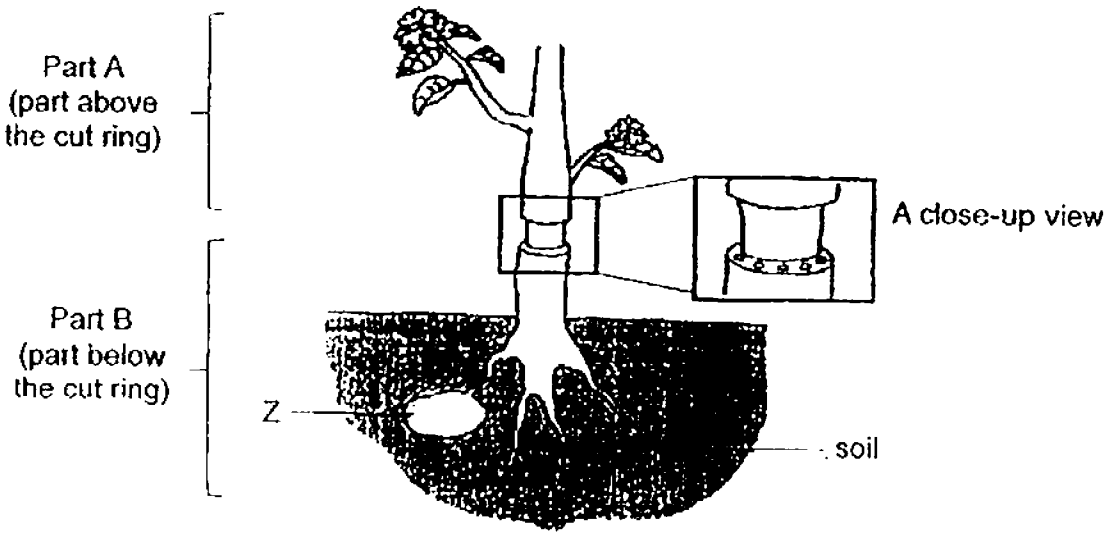
_____

_____

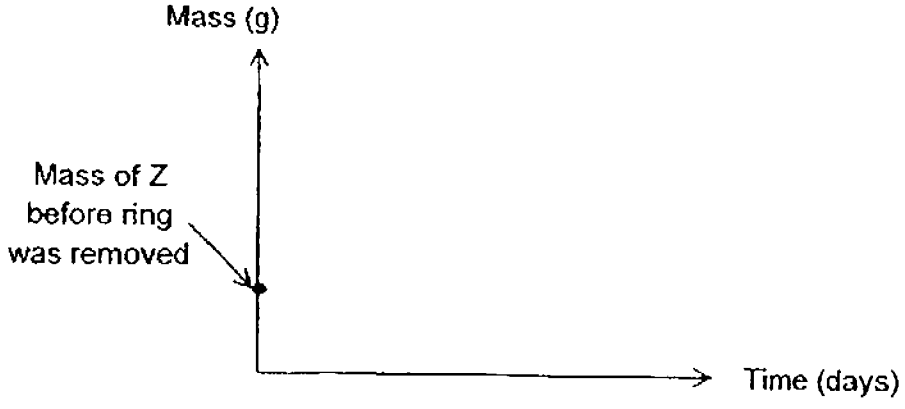
_____

Score	4

36. An outer ring of a stem was removed from a green plant, as shown below. As a result, the tubes carrying food and water were removed.



(a) In the graph below, draw a line graph to represent the mass of structure Z after the ring was removed. The mass of structure Z before the ring was removed is given on the graph. [1]



(b) Part A of the plant died first compared to part B. Explain why. [2]

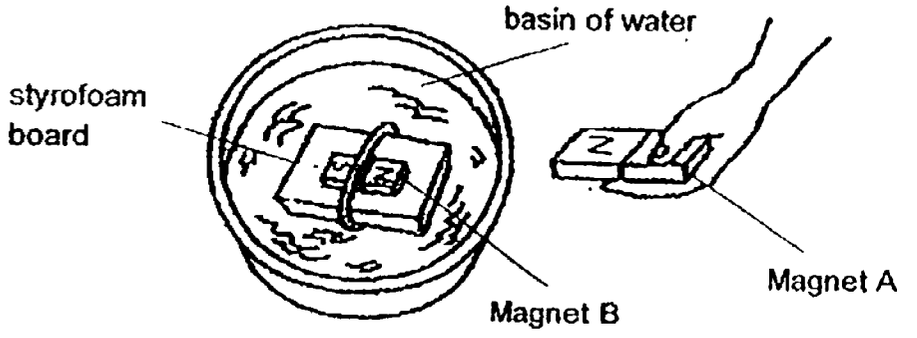
_____

_____

_____

Score 3

37. Study the experimental set-up below.



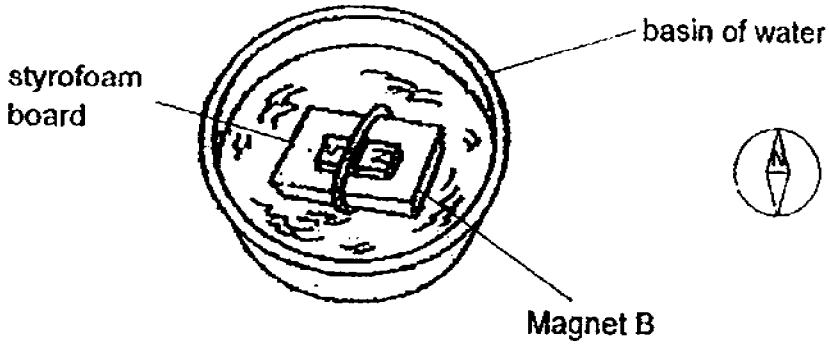
(a) What will happen when Magnet A is brought near Magnet B? [1]

(b) Give a reason for your answer in part (a). [1]

(c) What should be done to magnet A to make the styrofoam board moves towards Magnet A? Explain your answer. [2]

(Go on to the next page)

Score 4



(d) The styrofoam board is spinned a few times, in what direction will the styrofoam board come to a rest? [1]

_____

_____

Score	1

38. Below shows a picture of a phone that has cracked when a heavy object fell on it.

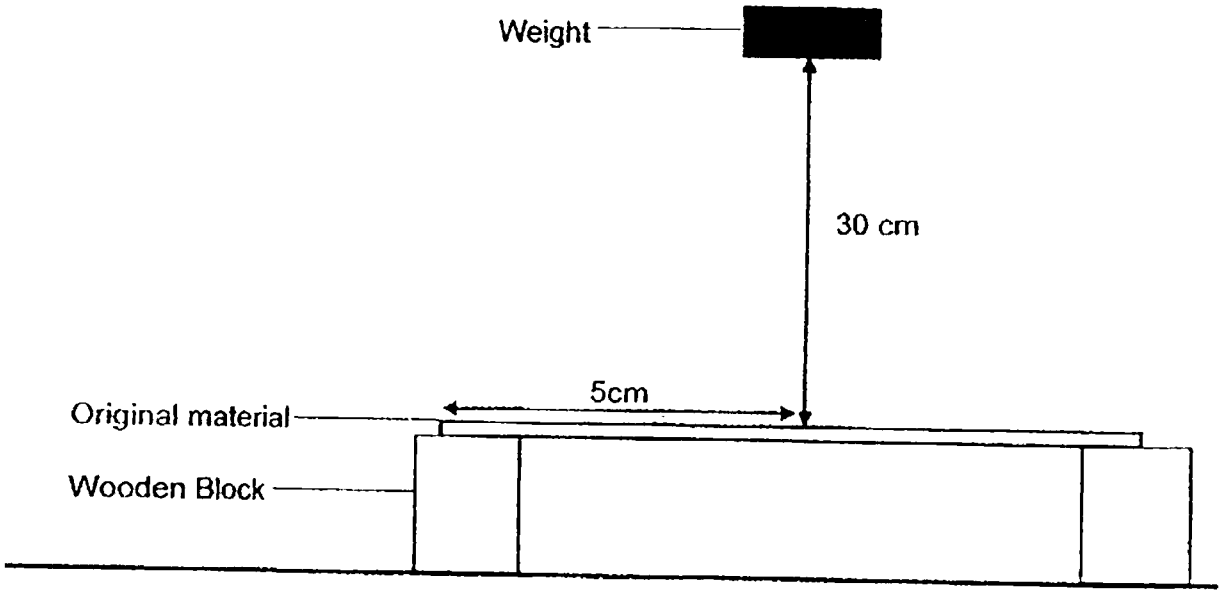
(a) Based on the given situation above, which physical property of the phone screen needs to be improved? [1]

Properties	Needs to be improved
Strength	
Waterproof	
Transparency	

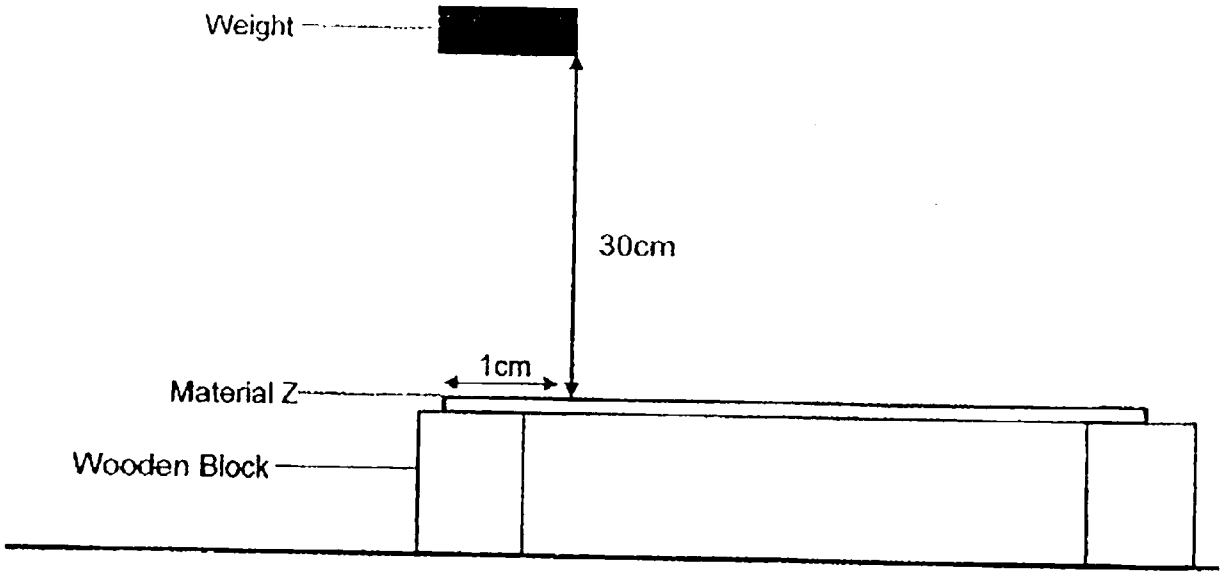
(Go on to the next page)

Score	1

The phone company would like to improve the quality of the phone. An experiment was carried out in the laboratory to determine if Material Z is a better material to be used to make the phone screen. A weight of 1kg was dropped at a height of 30 cm on a square piece of Material Z and a square piece of the original material respectively.



Set-Up A



Set-Up B

(Go on to the next page)

(b) State one other constant variable related to the material used. [1]

_____

(c) It was observed that the experiment was not a fair test. What should be done to Set-up **B** to improve the fairness of the experiment? [1]

_____

_____

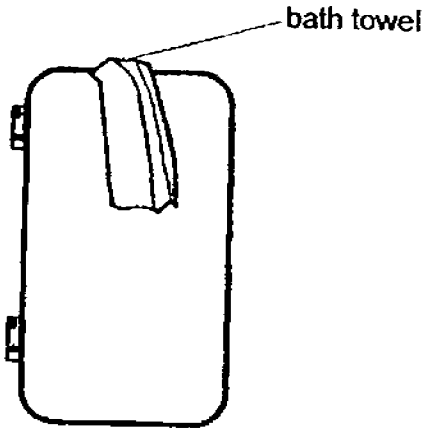
(d) After improving on the fairness of the experiment, scientists repeated the experiment a few times before drawing a conclusion. Why is there a need to repeat the experiment? [1]

_____

_____

Score	/ 3

39. The diagram below shows how Tom hang his wet bath towel to dry on the bathroom door. His mother told him that his towel will take a long time to dry when the towel is all clumped together.



(a) Explain clearly why the towel will take a long time to dry when the towel is all clumped together? [2]

_____

_____

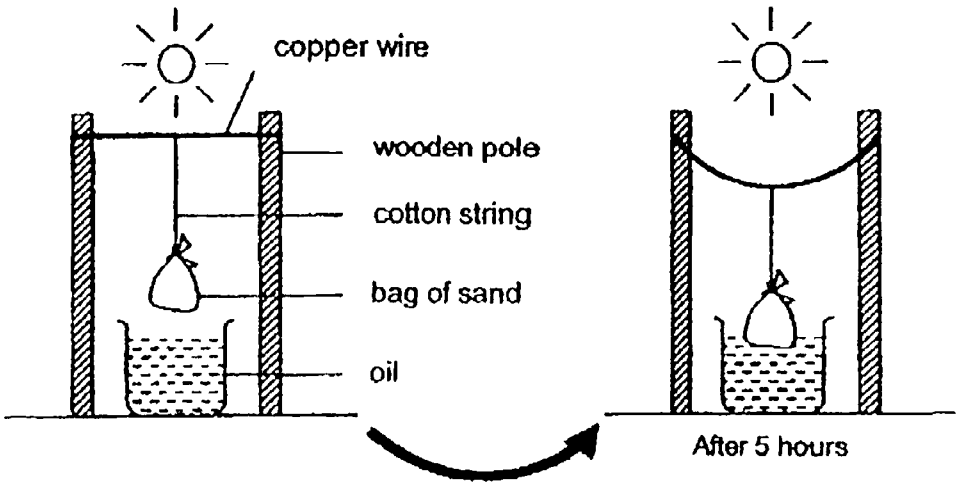
(b) Suggest what Tom should do with the towel so that it will dry faster on the bathroom door without using any household appliances? [1]

_____

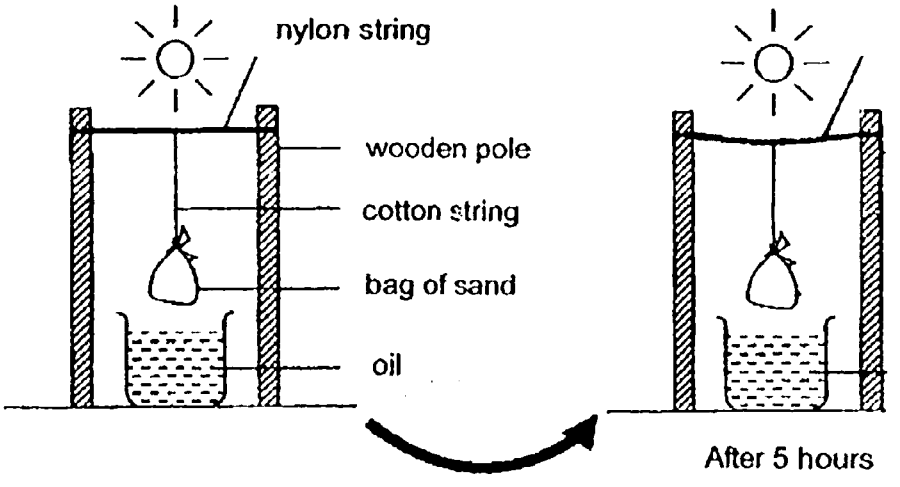
_____

Score	3

40. An experiment was set up on a hot day and observed after five hours.



Set- up A



Set- up B

(a) Explain the difference in the positions of the bags in set-up A and set-up B five hours later. [2]

(Go on to next page)

Score 2

Clothes that have been washed are hung along laundry lines to be dried on a sunny day.

(b) What is the advantage of using nylon instead of copper as a laundry line?[1]

_____

_____

End of Paper

Score	1

EXAM PAPER 2016 (P5)

SCHOOL : NAN HUA

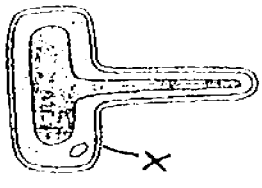
SUBJECT : SCIENCE

TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	3	4	2	3	2	3	3	1
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	1	3	1	4	1	2	4	1	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
3	4	3	3	3	4	2	2		

29)a)The Nucleus.

b)



Root Hair Cell

c)The root hair does not make food for the plant.

30)a)Pollen grains.

b)Pollination.

30)c)Fertilisation had occurred.

d)Ovules.

31)a)To produce sperms for fertilisation.

b)The nucleus contains genetic in formation.

c)The more number of days for the gestation period the more mass the young is at birth.

d)72kg.

32)a)Respiratory system.

b)A: Windpipe.

B: Lungs.

c)Lungs is where gaseous exchange will take place.

33)a)i)Cell wall.

ii)Cell membrane.

b)A cell membrane only allow certain substance to enter as it controls the movement of the in and out of the cell.

c)Yes. Water is needed for survival as cells are living things.

34)a)Explosive action .

b)The seeds are not far away from the parent plant as explosive action will gather round the parent plant.

c)The seeds of plant A will be dispersed further away from the parent plant than the seeds of plant C.

d)Bubble wrap. Bubble wrap is water proof and traps air. The fruit will be able to float on water.

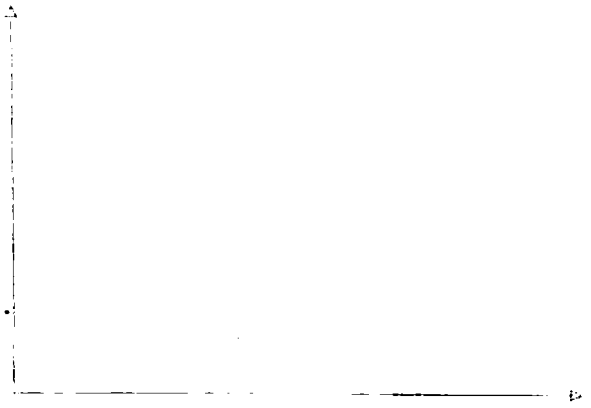
35)a)Fertilization.

b)

Diagram Y

35)c)The young in diagram X obtains food, water, air and nutrients from the mother through the umbilical cord while diagram Y obtains food from its seed leaves and make its own food with chloroplast and sunlight.

36)a)



b)The leaves at Part A could not receive water and could not make food. The plant parts at Part B soil and receive food from Z.

37)a)Magnet B will repel from Magnet A.

b)Magnet A and Magnet B are facing like poles as like poles of magnets repel.

c)Make Magnet B and Magnet A face unlike poles Unlike poles of the magnet attracts to each other causing Magnet B to move towards Magnet A.

d)North and south direction.

38)a)Strength

b)The thickness of the material.

c)Drop the weight at the same place area point as set-up A.

d)To get a more reliable result.

39)a)The towel has less exposed surface area so less water will evaporate.

b)He should spread out the towel.

40)a)both the copper wire and the nylon string gained heat but the copper wire, being a better conductor of heat gained more heat and expanded more.

b)The washed clothes will not touch the ground and get dirtied.