# RAFFLES GIRLS' PRIMARY SCHOOL

## SEMESTRAL ASSESSMENT (1) 2017

| | |
|---|---|
| Section A | 56 |
| Section B | 44 |
| Your score out of 100 | 100 |
| Parent's signature | |

Name : _____ Index No: ____ Class: P 5 ___

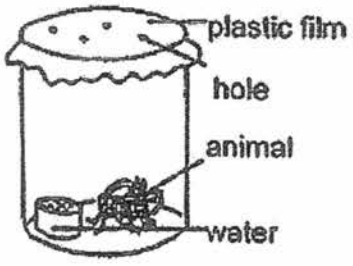
9 May 2017 **SCIENCE** Attn:1 h 45 min

**SECTION A (28 X 2 marks)**

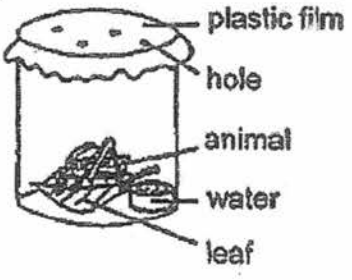
For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet.

1. Lily placed four identical animals in four different containers.
In which container will the animal be able to survive for the longest period of time?

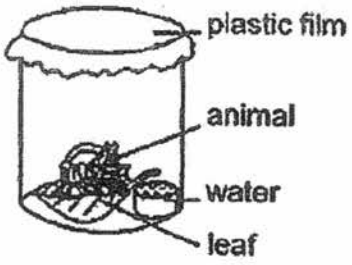
(1)



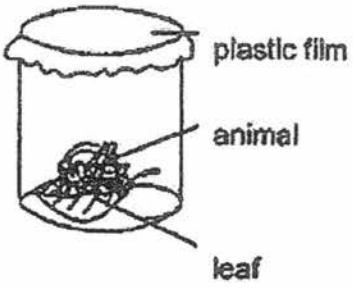

(2)



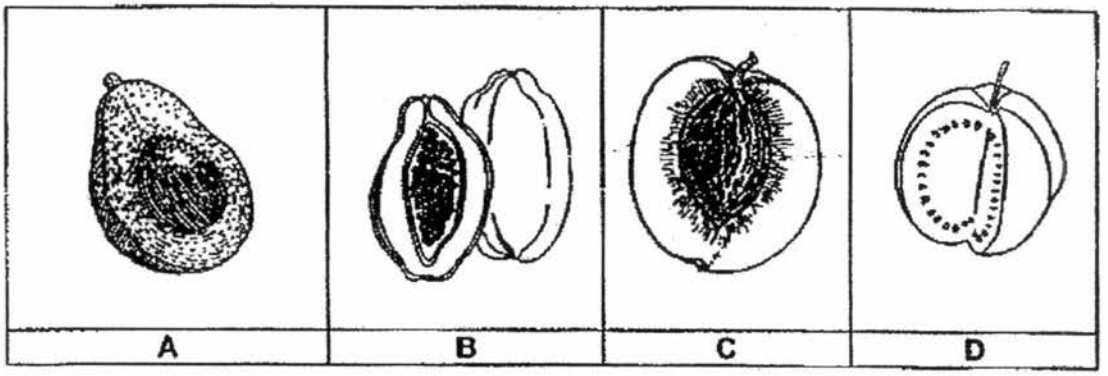

(3)




(4)



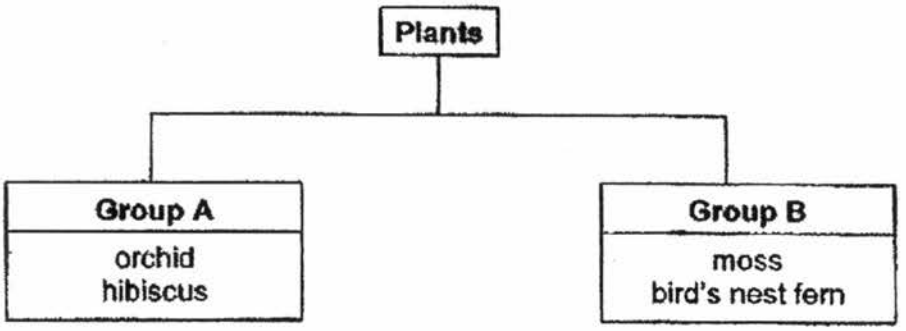
2. Study the pictures of fruits, A, B, C and D, as shown below.




Based on the pictures above, which one of the following shows the correct classification?

| | Fruits with many seeds | Fruits with one seed |
|---|---|---|
| (1) | A and B | C and D |
| (2) | A and C | B and D |
| (3) | B and D | A and C |
| (4) | B and C | A and D |

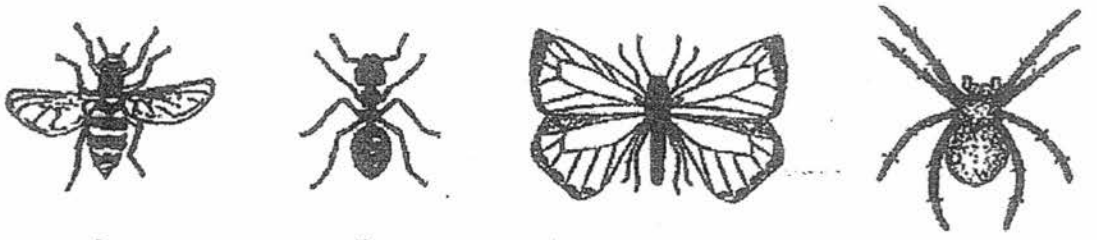
3. Study the classification diagram below.



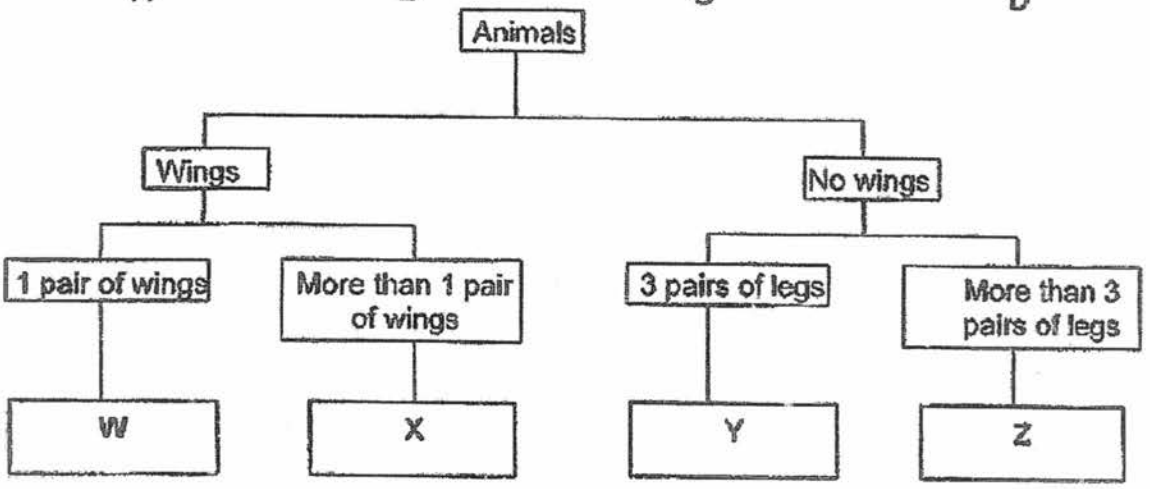

Which of the following shows the correct headings for Group A and B?

| | Group A | Group B |
|---|---|---|
| (1) | Grow on land | Grow in water |
| (2) | Bear flowers | Do not bear flowers |
| (3) | Have a weak stem | Have a strong stem |
| (4) | Reproduce from spores | Reproduce from seeds |

4. The following diagrams show animals A, B, C and D, not drawn to scale.



A B C D




Which of the following shows the correct classification of animals A, B, C and D?

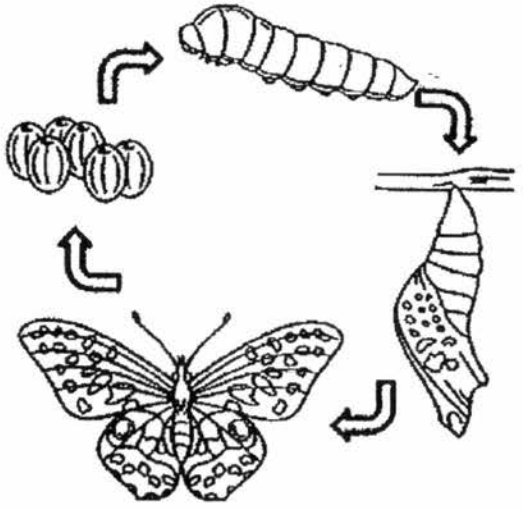
| | W | X | Y | Z |
|---|---|---|---|---|
| (1) | D | B | C | A |
| (2) | C | A | D | B |
| (3) | B | D | A | C |
| (4) | A | C | B | D |

5. Which of the following are characteristics of fungi?

A They do not bear flowers.
B They can only live in water.
C They can make their own food.
D They feed on organisms, dead or alive.

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

6. The diagram below shows the life cycle of a butterfly.

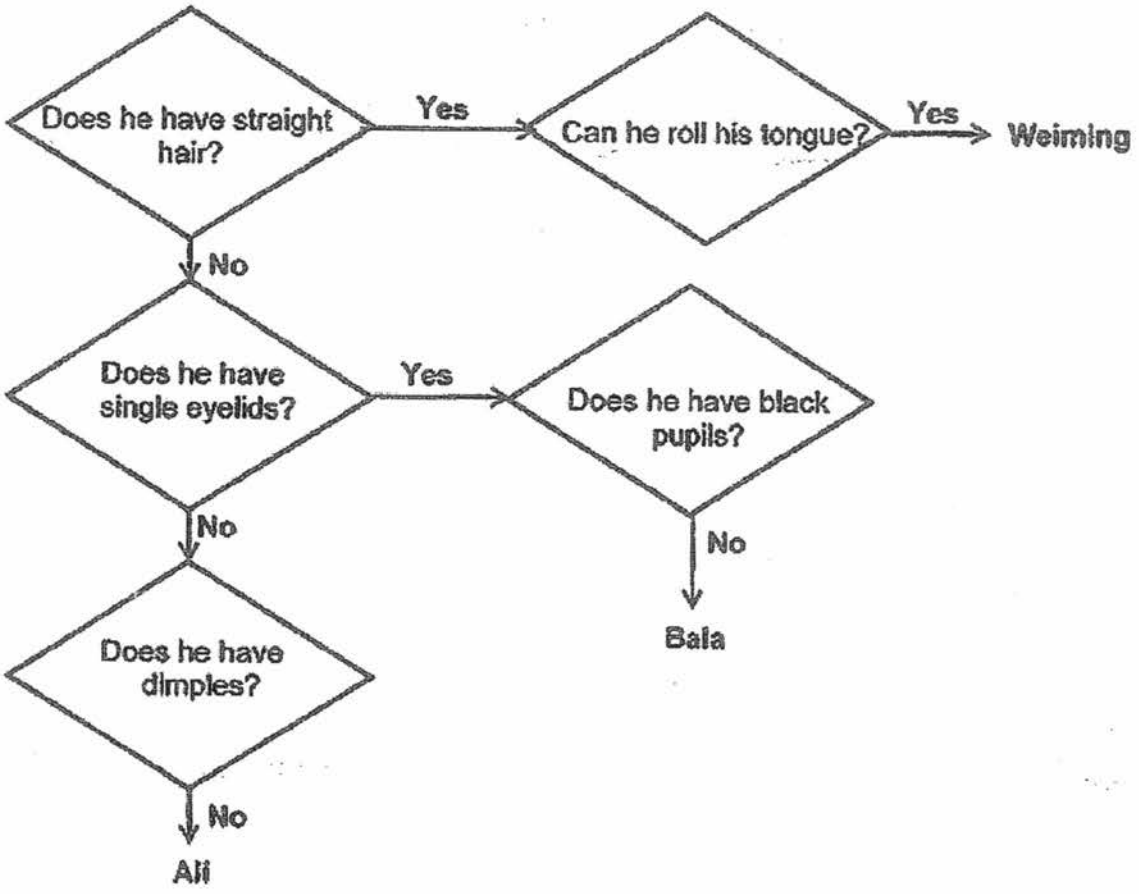


Which of the following statements describe(s) the animal in the adult and larval stage?

A Both have wings.
B Both live on land.
C They resemble each other.
D The animal moults in the larval stage but not in the adult stage.

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

7. The flow chart below is used to identify 3 pupils, Ali, Bala and Weiming based on their inherited characteristics.




Based on the information above, which of the following statements is true?

(1) Ali has curly hair and single eyelids.

(2) Bala has black pupils and straight hair.

(3) Ali has double eyelids but not Bala

(4) Weiming has curly hair and cannot roll his tongue

8. David put four seeds, P,Q, R and S, from the same lady's finger plant under the conditions as shown in the table below.

A tick (√) in the box indicates the conditions that are provided for the seed.

| Seed | Conditions | | | |
|---|---|---|---|---|
| | Air | Light | Water | Temperature (°C) |
| P | √ | | √ | 31 |
| Q | √ | √ | | 29 |
| R | √ | √ | √ | 35 |
| S | √ | | √ | 85 |

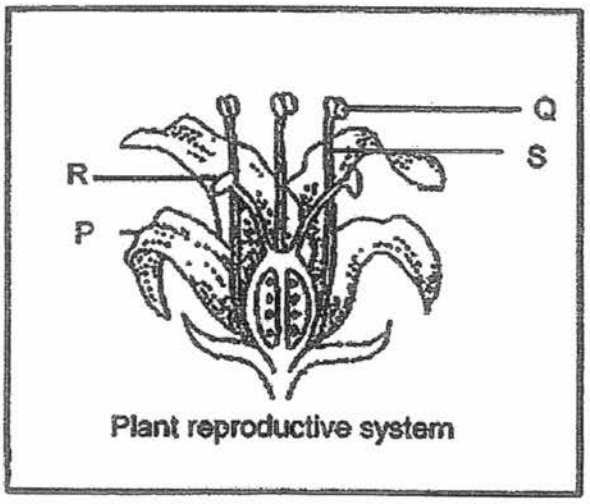
Which of the following seed(s) will most likely germinate?

(1) P only
(2) P and R only
(3) Q and S only
(4) P, Q and S only

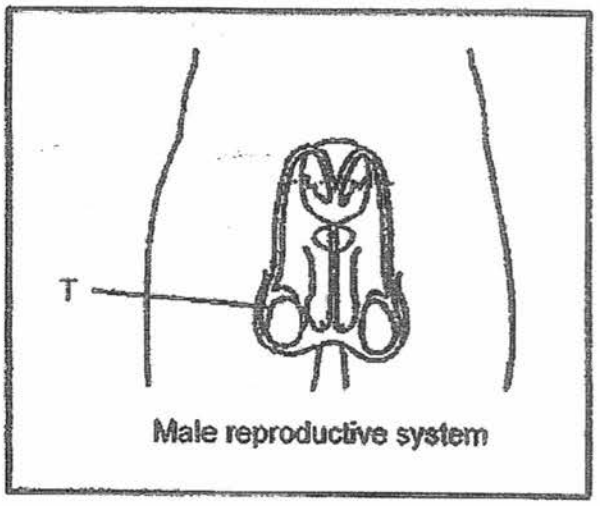
9. Which of the following statements about reproduction is not true?

(1) Reproduction in human involves cell division.
(2) Animals reproduce to ensure the continuity of their kind.
(3) Sexual reproduction involves male and female sex cells.
(4) Sexual reproduction only happens in animals and not plants.

10. The diagrams below show a plant and human reproductive system.



Plant reproductive system



Male reproductive system

Which part, P, Q, R or S, has the same function as Part T?

(1) P
(2) Q
(3) R
(4) S

11. The table below shows the physical characteristics of Tommy, his sister and his parents, Mr and Mrs Ho.

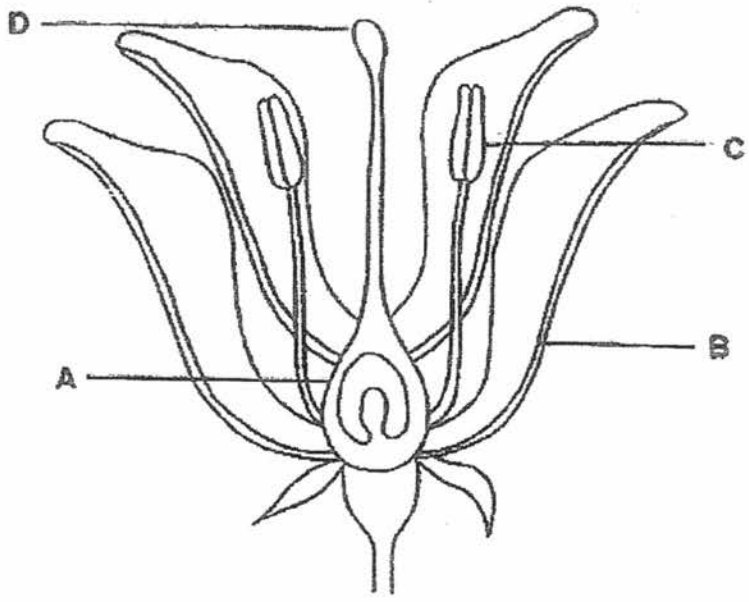
| | Physical Characteristics | | | |
|---|---|---|---|---|
| | **Hair length** | **Ability to roll tongue** | **Eyelids** | **Earlobes** |
| Mr Ho | Short | No | Double | Attached |
| Mrs Ho | Long | Yes | Single | Detached |
| Tommy | Short | Yes | Double | Detached |
| Tommy's Sister | Short | No | Double | Detached |

Based on the table above, which of the following statements are correct?

A Tommy inherited the ability to roll tongue from his parent.
B Tommy inherited the detached earlobes from his mother.
C Mr Ho passed down the short hair length to both children.
D Only Tommy inherited the double eyelid from his father.

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

12. The diagram below shows the cross section of a flower.




Which part of the flower becomes a fruit after fertilisation has taken place?

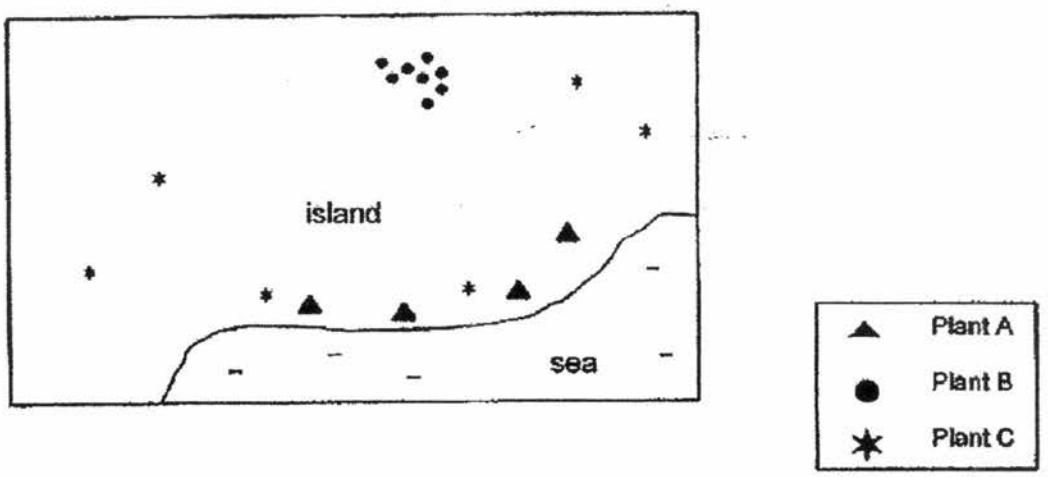
(1) A
(2) B
(3) C
(4) D

13. Jenny saw Flower X during a field trip and concluded that it was pollinated by wind. Which of the following features are likely to have helped her arrive at the conclusion?

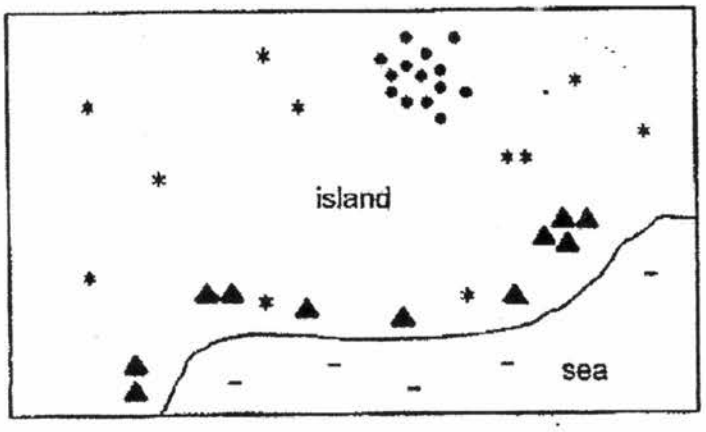
A The flowers are large.
B The flowers are red in colour.
C The flowers have no nectar and fragrance.
D The filaments are long and thin and are hanging out of the flowers.

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

14. The drawing below shows how three types of plants were found growing on parts of an island.



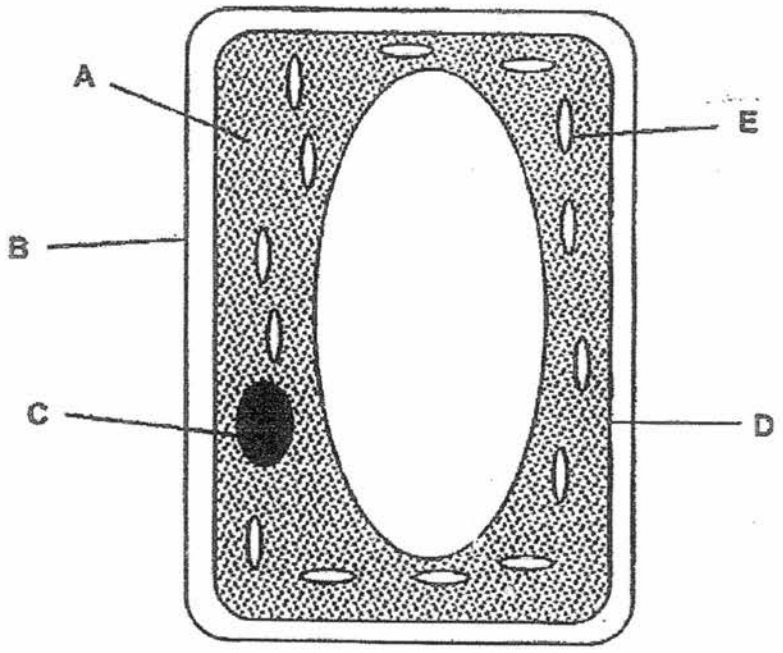

After two years, the plants were found growing on different parts of the island as shown in the diagram below.




Which of the following best describes the characteristics of the fruit / seed of each type of plant?

| | ▲ | ● | ✶ |
|---|---|---|---|
| (1) | Fibrous husk | Have hooks | Dry and light |
| (2) | Have hooks | Dry and light | Fibrous husk |
| (3) | Dry and light | Fibrous husk | Pod-like fruits |
| (4) | Fibrous husk | Pod-like fruits | Dry and light |

15. The diagram below shows a cell with its different parts labelled A, B, C, D and E.

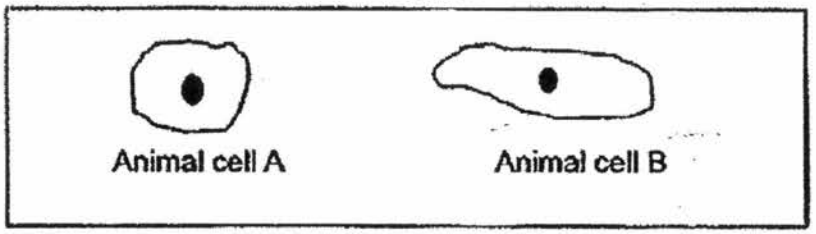



Which of the following identifies the parts of the cell correctly?

| | Traps light energy | Controls the entry of substances into the cell | Also found in animal cells |
|---|---|---|---|
| (1) | C | D | B, D, E |
| (2) | A | B | C, D, E |
| (3) | E | B | A, B, C |
| (4) | E | D | A, C, D |

16. The diagram below shows two animal cells, A and B, before an experiment.

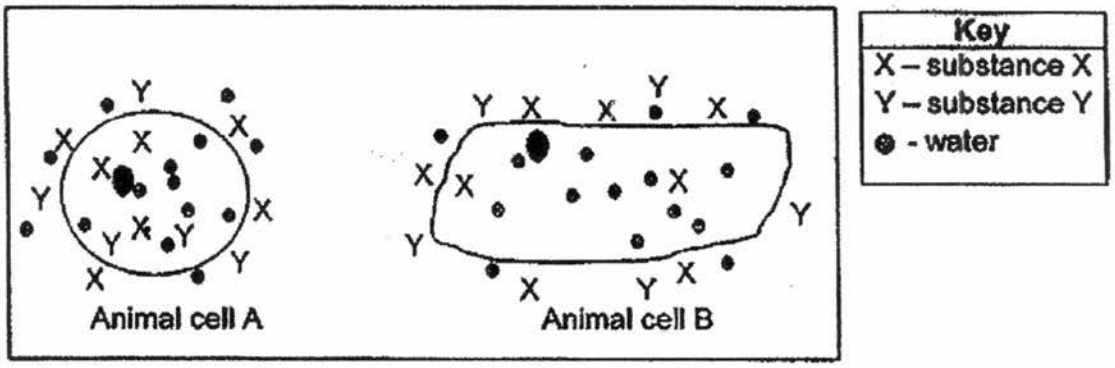
**Before the experiment**




Animal cells, A and B, were then placed in a container of water containing the same amount of dissolved substances, X and Y.

The diagram below shows how cells, A and B, look like after the experiment.

**After the experiment**




Which one of the following observations about the cells is/are correct?

A Water can enter both cells A and B.

B Substance Y is unable to enter cell B.

C Cell A does not allow any substance to enter it.

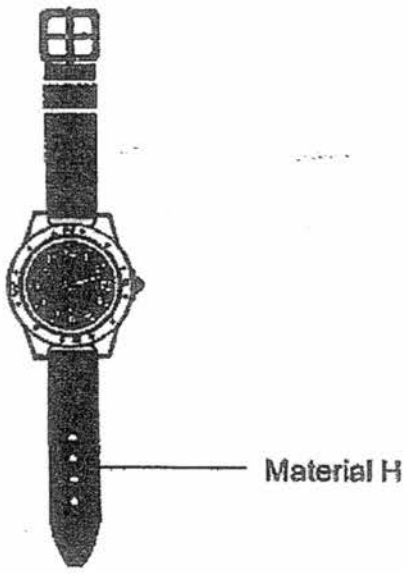
(1) A only

(2) B only

(3) A and B only

(4) A, B and C

17. Steven's diving watch strap is made of material H as shown below.

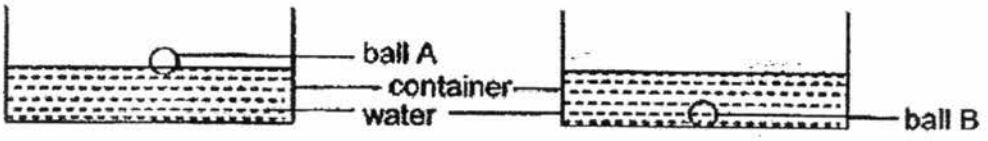



Which of the following propertie(s) is/are important when choosing material H to make the diving watch strap?

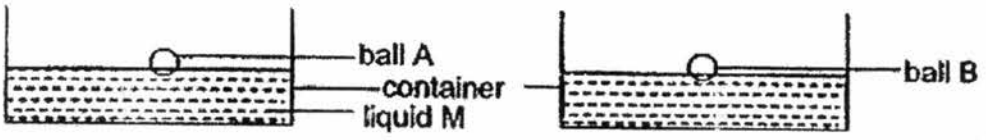
A Flexibility
B Float in water
C Waterproof
D Allows light to pass through

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

18. John placed two balls, A and B, of the same size but made of different materials, into two containers of water as shown below.




He replaced the water with the same amount of liquid M and placed balls A and B into the two containers as shown below.




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

A Both balls are waterproof.

B Ball A is stronger than ball B.

C Ball A sinks in water but floats on liquid M.

D Ball B sinks in water but floats on liquid M.

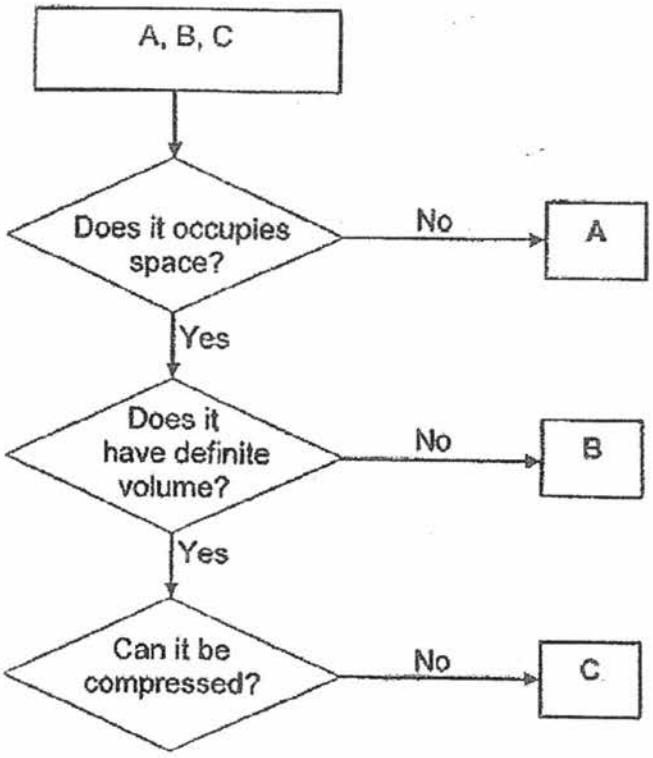
(1) D only

(2) A and B only

(3) B and C only

(4) C and D only

19. Study the flow chart shown below.




Which of the following are most likely to be A, B and C?

| | A | B | C |
|---|---|---|---|
| (1) | sound | oxygen | iron ball |
| (2) | shadow | lemon juice | stone |
| (3) | fire | brick | water |
| (4) | air | feather | rubber band |

20. The information of substance A is shown below.

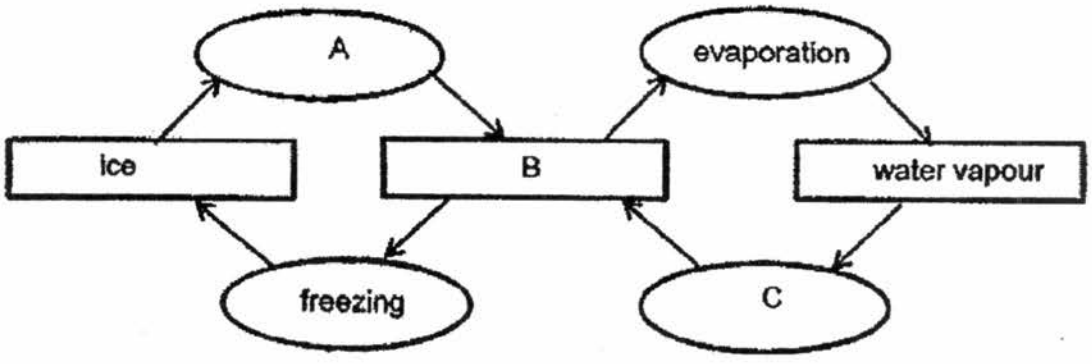
- It boils at 280 °C.
- It is a solid at 30 °C.
- It turns into a liquid at 44 °C.

Based on the information above, which of the following statement(s) about substance A is/are correct?

A It freezes at 150 °C.
B It is a gas at 320 °C.
C It remains at the liquid state at 120 °C.

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

21. The diagram below represents the changes of state in a water cycle.

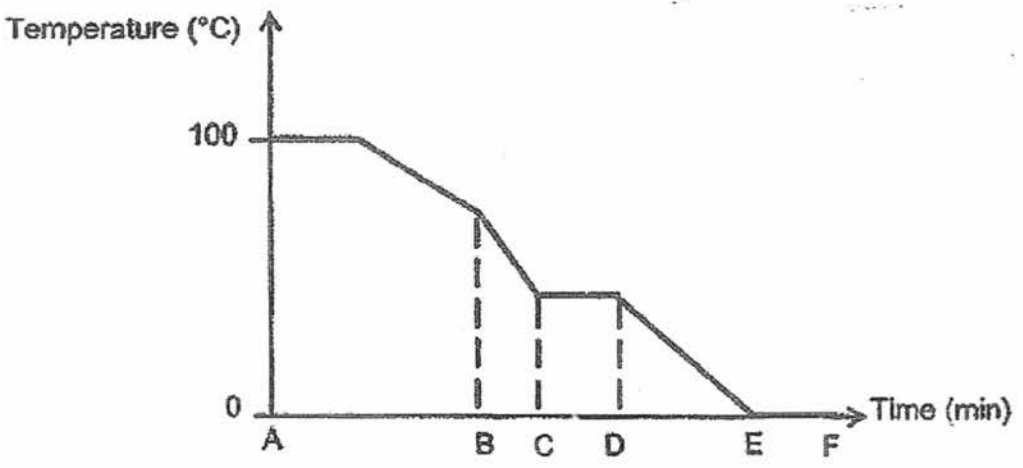



Which one of the following correctly describes A, B and C?

| | A | B | C |
|---|---|---|---|
| (1) | condensation | water | boiling |
| (2) | condensation | water | evaporation |
| (3) | melting | water vapour | condensation |
| (4) | melting | water | condensation |

For questions 22 and 23, refer to the diagram below.

The graph below shows the changes in the temperature of water at 100°C which was left on the table over a period of time.



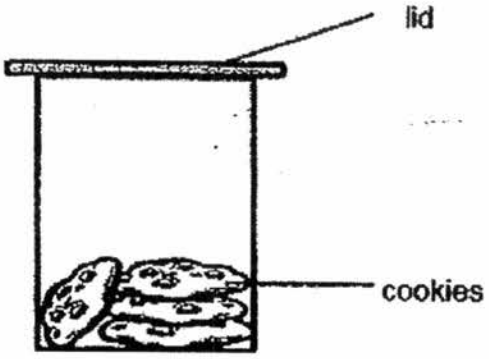

22. Which of the following statements is correct?

(1) Evaporation takes place at A.
(2) Water is placed in the freezer at D.
(3) A change of state of water takes place at C.
(4) Water gained heat from the surroundings at E.

23. Which of the following correctly shows the state of water at A, C, D and E?

| | A | C | D | E |
|---|---|---|---|---|
| (1) | liquid | liquid | gas | liquid |
| (2) | gas | liquid | liquid | solid |
| (3) | gas | gas | liquid | liquid |
| (4) | liquid | liquid | solid | solid |

24. Alice placed some freshly baked cookies in a glass jar and covered it with a lid as shown in the diagram below.

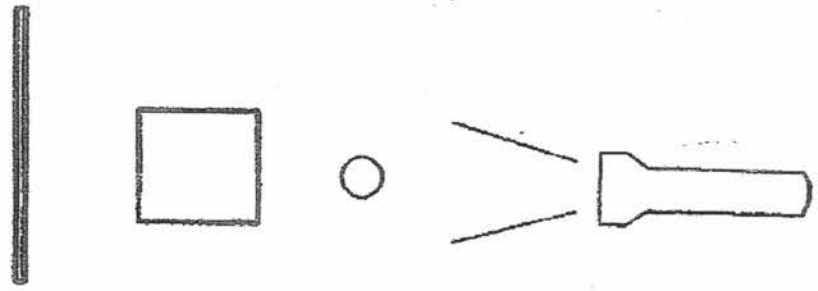



After 20 minutes, she removed the lid and found some cookies were damp.

Which of the following correctly explains her observation?

(1) Water vapour in the jar condensed on the cookies.
(2) The surrounding air in the jar condensed onto the cookies.
(3) Water vapour in the surrounding air condensed the cookies.
(4) Steam from the cookies evaporated and condensed on the cookies.

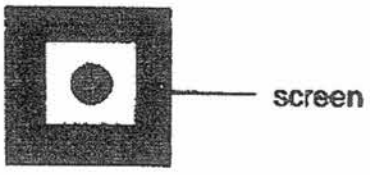
25. Study the diagram below.



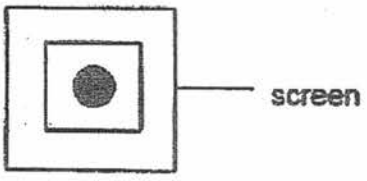
screen wooden box marble torch

Which of the following shadows will be observed on the screen?

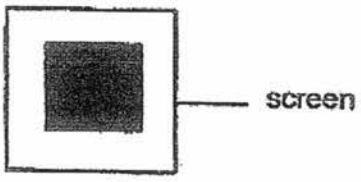
(1)



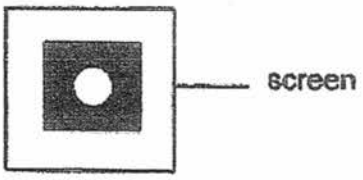

(2)



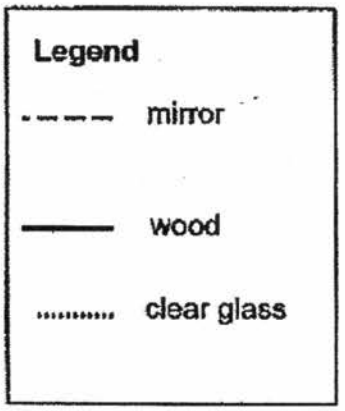

(3)

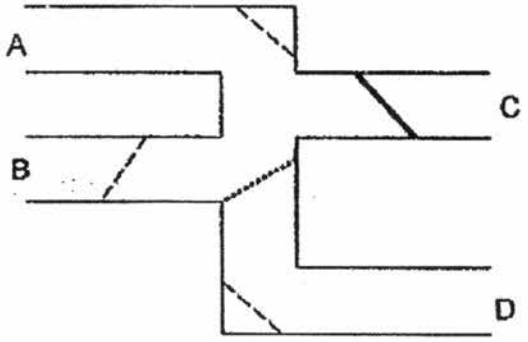



(4)



26. The diagram below shows a connection of pipes. Different materials are placed inside the pipes.

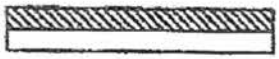



In order to see an object through the pipes, where should the eye and the object be placed?

| | Eye at position | Object at position |
|---|---|---|
| (1) | A | C |
| (2) | D | A |
| (3) | B | D |
| (4) | C | B |

27. A bimetallic strip is made of two different metals. The diagram below shows the observation of the two bimetallic strips, X and Y, after being heated for five minutes.


| Bimetallic strips | Before heating | After heating |
|---|---|---|
| X |  |  |
| Y |  |  |

Based on the information above, which of the following statements is most likely to be correct?

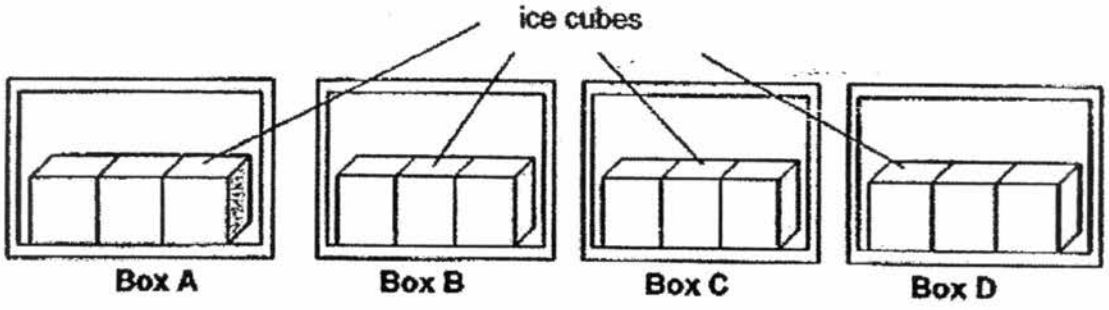
(1) Metal A expands the least.

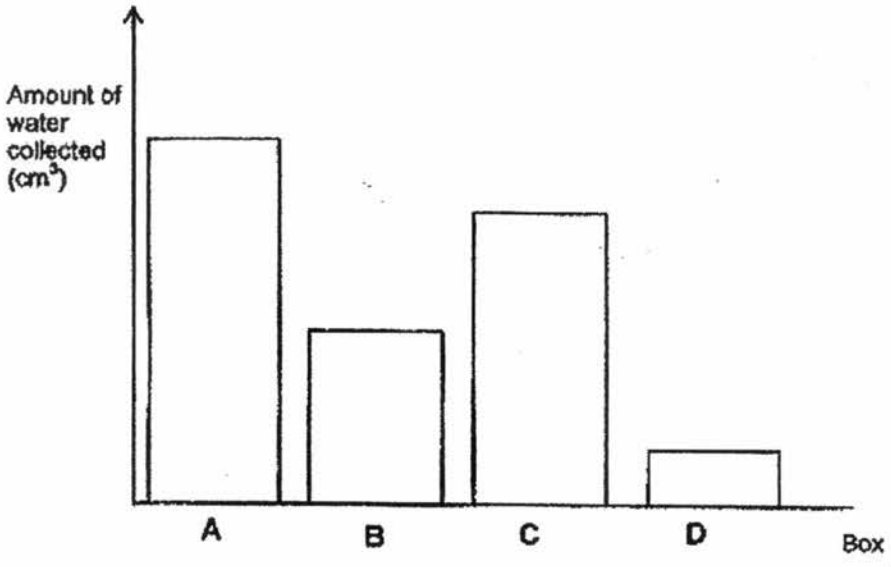
(2) Metal B expands the most.

(3) Metal B and C have the same rate of expansion.

(4) Metal A expands less than metal C but more than B.

28. Fatimah put ice cubes of equal volume into four similar boxes, A, B, C and D. The boxes were made of different materials. She left the ice cubes in the boxes for twenty minutes and measured the amount of water collected in each box. Then she recorded her findings in the graph below.




Based on the results above, which one of the following boxes should Fatimah use to keep her cans of soya bean drinks cold for the longest time?

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

Name: _____ Index No: _____ Class: P5 _____ 44

**SECTION B (44 marks)**
For questions 29 to 41, write your answers clearly in the spaces provided.
The number of marks is shown in brackets [ ] at the end of each question or part question.

29. The table below shows the characteristics of four things, A, B, C and D.
A tick (✓) indicates the presence of the characteristics.

| Thing | Able to reproduce | Able to decrease in size | Able to produce its own food | Able to move from place to place |
|---|---|---|---|---|
| A | | ✓ | | ✓ |
| B | ✓ | | ✓ | |
| C | ✓ | | | ✓ |
| D | ✓ | | ✓ | |

(a) Which thing(s) above is/are definitely plant(s)? Give a reason for your answer. [1]

_____

_____

(b) Ali commented that A and C are non-living things.
Do you agree? Explain your answer clearly. [2]

_____

_____

SCORE 3

30. The table below shows the characteristics of the stages in the life cycles of four animals, A, B, C and D. A tick (✓) indicates the presence of the characteristics.

| Characteristic | Animal A | Animal B | Animal C | Animal D |
|---|---|---|---|---|
| It lays eggs in water | | ✓ | | ✓ |
| The young lives in water. | ✓ | | | ✓ |
| It has 3-stage life cycle. | ✓ | ✓ | ✓ | |

Based on the information in the table above, answer part (a) and (b).

(a) State one difference between Animals A and D.
[1]

_____

_____

(b) Which of the following animals, A, B, C or D, are most likely to be a chicken and a mosquito? Write the letters, A, B, C or D in the correct boxes below.
[1]

| | Chicken | Mosquito |
|---|---|---|
| Animal | | |

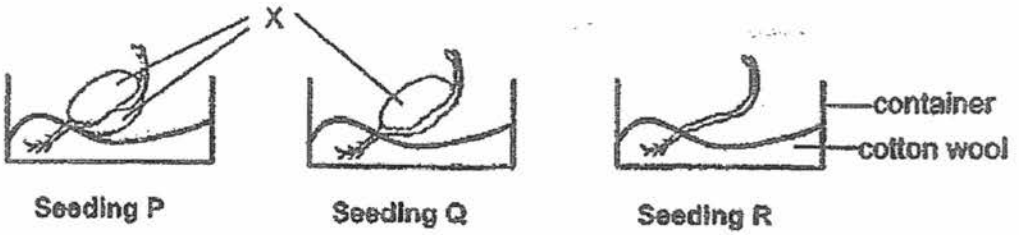
(c) Give a reason why it is easier to get rid of mosquitoes in its egg stage rather than its adult stage.
[1]

_____

_____

| SCORE | 3 |
|---|---|

31. John carried out an experiment on three seedlings, P, Q and R. He removed half of Part X from seedling Q and the entire Part X from seedling R as shown below.




Seeding P Seeding Q Seeding R

He placed each seedling in a container on a wet cotton wool. Then he placed the containers on a table in the science laboratory and observed their growth over a period of two weeks.

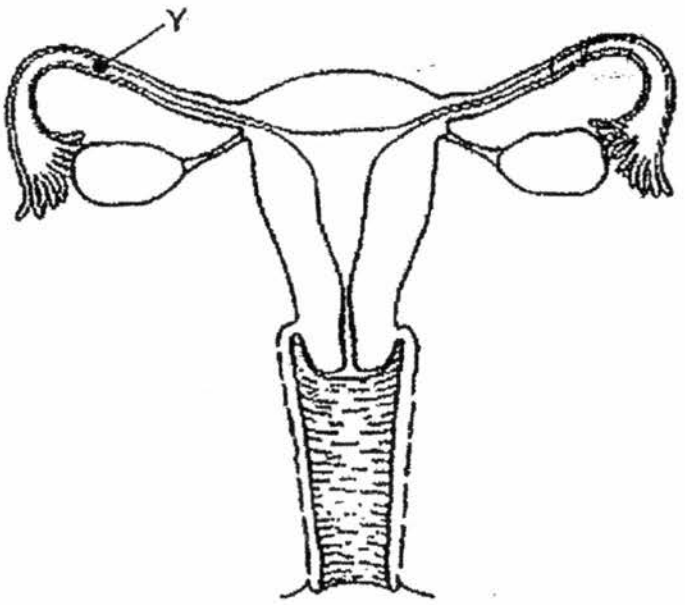
(a) Name Part X. [1]

(b) Which seedling(s) will continue to grow? Explain your answer. [1]

(c) Explain why John did not place all the containers under direct sunlight during the first few days of the experiment. [2]

| SCORE | 4 |
|---|---|

32. The diagram below shows the female reproductive system.




(a) In the diagram above, label part X where a fertilised egg will develop. [1]

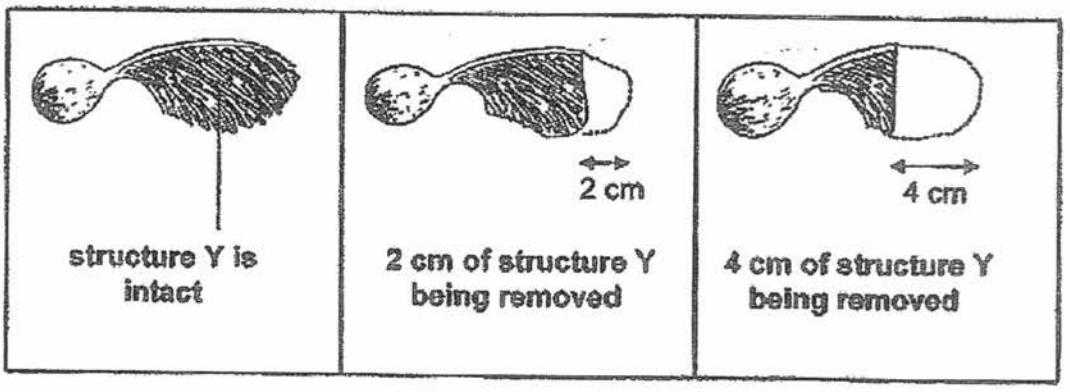
(b) Ruth was told that there was a complete blockage at part Y of her reproductive system as shown in the diagram above.
Can fertilisation still take place? Explain your answer. [2]

_____

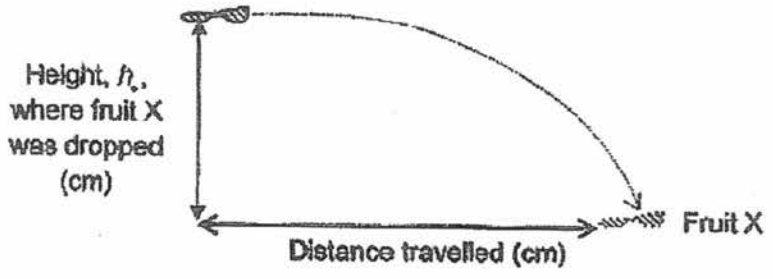
_____

| SCORE | 3 |
|---|---|

33. Sarah wanted to find out if the distance travelled by the fruit is affected by the length of its structure, labelled Y, when dropped from a height, *h*.




First, she dropped the fruit, with structure Y intact, from a height, *h*, and measured the distance travelled by it. She repeated the experiment twice by using the same fruit, first with 2cm of structure Y removed and finally with 4 cm of structure Y removed.




She recorded the distance travelled by the fruit in the table below.

| Length of structure Y removed from the fruit (cm) | Distance travelled by the fruit (cm) |
|---|---|
| 0 | 110 |
| 2 | 80 |
| 4 | 20 |

**Continue on the next page**

**Continued from previous page**

(a) Based on the information above, name the method of seed dispersal of the fruit. [1]

_____

_____

(b) Based on the information above, what is the relationship between the distance travelled by the fruit and the length of structure Y? [1]

_____

_____

(c) Sarah removed the whole of structure Y from the fruit as shown below.

**with structure Y removed**

What would most likely be the distance travelled by the fruit when dropped from the same height? Explain your answer clearly. [2]

_____

_____

(d) Explain why plants need to disperse their seeds to prevent overcrowding. [1]

_____

_____

| SCORE | 5 |
|---|---|

34. Kim Seng observed 3 types of cells under the microscope. He recorded his observations in the table below. A tick (✓) indicates the presence of the cell parts.

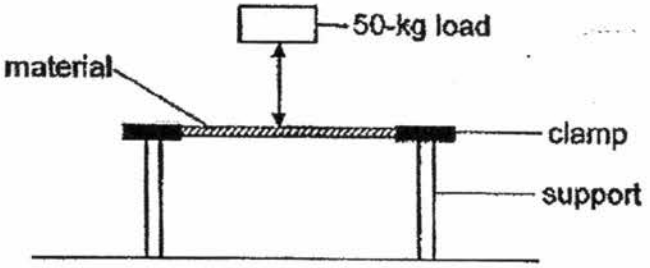
| Cell Part | Cell A | Cell B | Cell C |
|---|---|---|---|
| Nucleus | ✓ | ✓ | ✓ |
| Cell Wall | | ✓ | |
| Chloroplast | ✓ | | |
| Cell Membrane | ✓ | ✓ | ✓ |

(a) Kim Seng made a mistake in his recording. Which cell, A, B or C, did he most likely record wrongly? Give a reason for your answer. [1]

(b) Which cell is most likely to be taken from the roots of a plant? Give a reason for your answer. [1]

SCORE 2

35. Joe set up an experiment to find out the strength of materials A, B, C and D. He clamped both ends of material A to a support and gently released a 50-kg load from the height as shown in the diagram below. He repeated the experiment by replacing the material and then recorded his observations.




The table below shows his observations.

| Material | Observations of the material |
|---|---|
| A | break into two pieces |
| B | fine cracks |
| C | no cracks |
| D | break into a few pieces |

Based on the information given, answer the following questions.

(a) Which type of materials, A, B, C or D, is most suitable to make into a chair for an adult? Give a reason for your answer. [1]

_____

_____

**Continue on the next page**

SCORE 1

Continued from previous page

(b) Other than the variables given in the question, state another two variables that should be kept the same to ensure a fair test. [2]

| | |
|---|---|
| Variable 1 | |
| Variable 2 | |

SCORE 2

36. Irene measured the mass of a deflated and inflated balloon and recorded her results in the table below.

| Balloon | Mass (g) |
|---|---|
| Deflated | 1.9 |
| Inflated | 5.4 |

(a) State the property of matter that explains why there is a difference between the mass of the deflated and inflated balloon. [1]

---

Irene folded her quilt blanket and placed it into a storage bag as shown in diagram 1 below. She weighed the blanket together with the storage bag.

Then she used a vacuum pump to remove all the air from the storage bag as shown in diagram 3. She weighed the blanket together with the storage bag shown in diagram 4.

**Diagram 1**

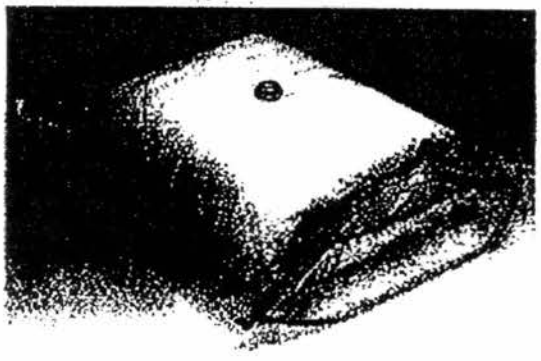
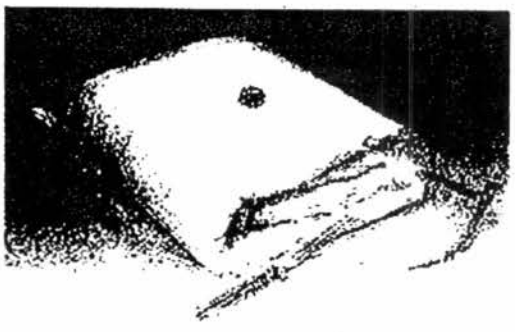


**Diagram 2**



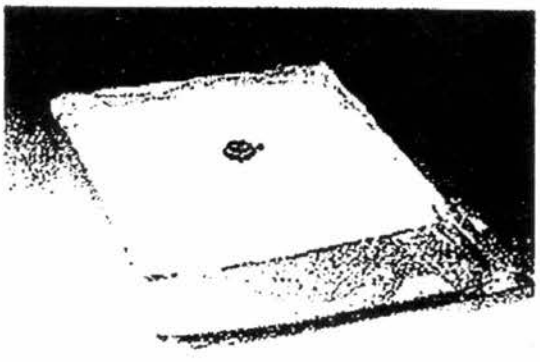


**Diagram 4**

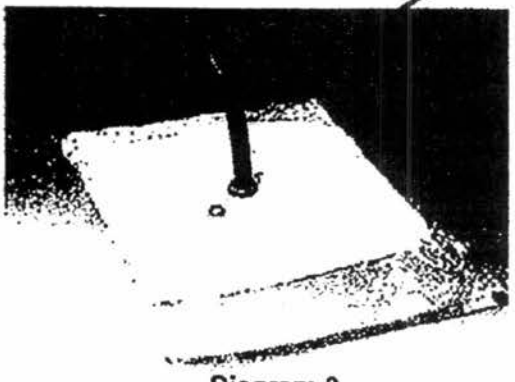



**Diagram 3**

**Continue on the next page**



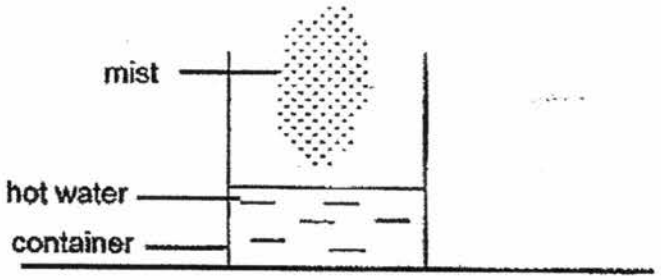
| SCORE | 1 |
|---|---|

Continued from previous page

(b) Will the mass of the storage bag and its content shown in diagram 4 be more than, less than or the same, as the one shown in diagram 2? Explain your answer clearly. [2]

| SCORE | 2 |
|---|---|

37. Alex poured some hot water into a container. He observed some mist was formed in the container above the hot water.




(a) State the process and the change of state of water when the mist was formed. [2]

| Process | Change of state of water |
|---|---|
| | From _____ to _____ |

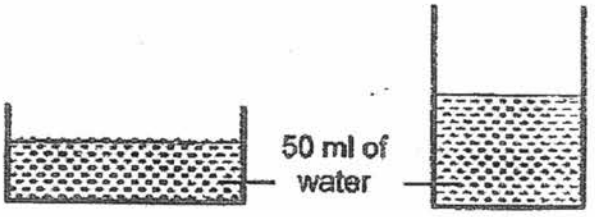
(b) List two ways to reduce the amount of mist in the container. [2]

(i) _____

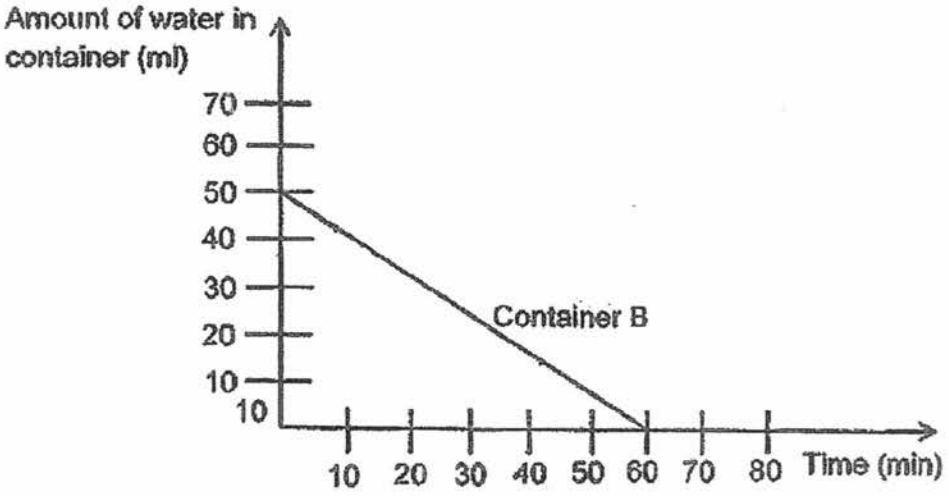
(ii) _____

| SCORE | 4 |
|---|---|

38. Bala poured 50 ml of water into 2 containers, A and B, as shown in the diagram below.




He placed the two containers next to an open window and measured the time taken for the water in each container to evaporate completely. His results are shown below.



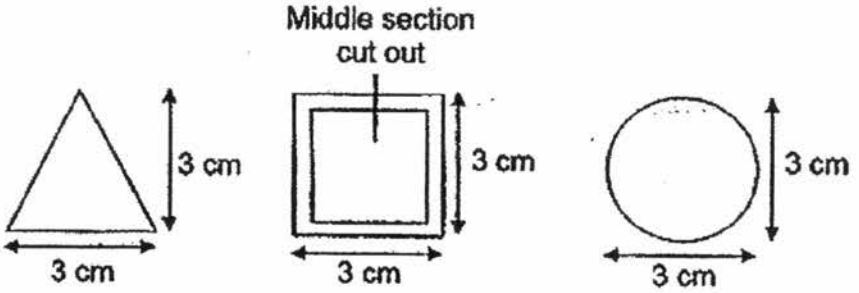

(a) <u>Draw and label</u> the line graph for container A in the graph above. [1]

(b) Explain your answer in (a). [2]

(c) Without changing containers A and B, suggest two ways to increase the rate of evaporation of the water in containers A and B. [2]

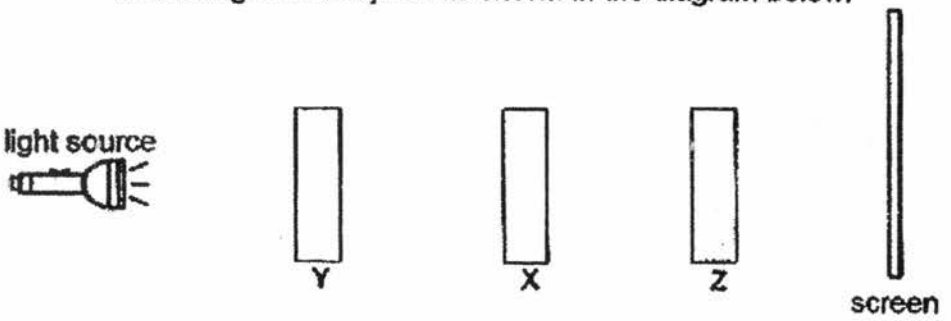
| SCORE | 5 |
|---|---|

39. Ahmad used different materials to cut out three different shapes; a triangle, a square with the middle section being cut out and a circle as shown in the diagram below.




**Object X** **Object Y** **Object Z**

He arranged the objects as shown in the diagram below.



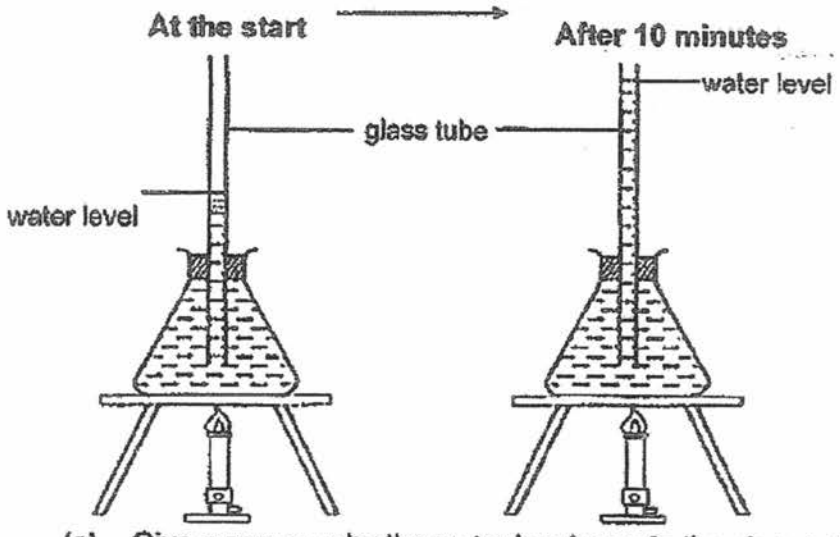

The following diagram shows the shadow that was cast on the screen.

Based on the information above, put a tick (✓) in the correct box against each object. [3]

| Objects | Transparency of the materials | | |
|---|---|---|---|
| | **Allow most light to pass through** | **Allow some light to pass through** | **Does not allow light to pass through** |
| X | | | |
| Y | | | |
| Z | | | |

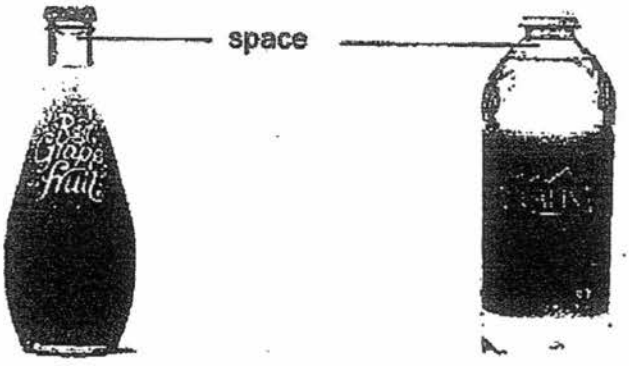
| SCORE | 3 |
|---|---|

40. Shi Ling conducted an experiment as shown below. She observed that the water level in the glass tube increase after the water in the flask had been heated for 10 minutes.




(a) Give a reason why the water level rose in the glass tube. [1]

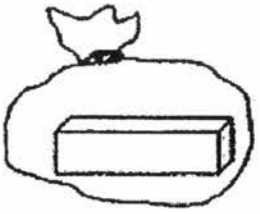
The diagram below show some bottled drinks.



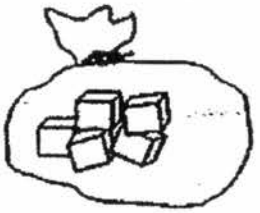

(b) Explain why the drinks are often not filled to the brim in bottles during packaging. [2]

| SCORE | 3 |
|---|---|

41. Sally put a block of ice in Bag Y and ice cubes in Bag Z. The two bags of ice are of the same mass. She left the two bags on a table in the kitchen.



Bag Y



Bag Z

The table below shows the time taken for the ice in each bag to melt completey.

| Ice in | Time taken for the ice to melt completely |
|---|---|
| Bag Y | 15 min 20 s |
| Bag Z | 7 min 15 s |

(a).Explain why the ice in Bag Z took a shorter time to melt completely. [1]

Sally wanted to use a cooler bag to keep her cold drinks which she would be bringing for her picnic in a park.

cooler bag

(b) Which bag of ice, Y or Z, should Sally put in her cooler bag? Explain your answer. [2]

| SCORE | 3 |
|---|---|



Setters: Ms Lee S.K., Mdm Roziyana & Ms Lim S. H.

EXAM PAPER 2017 (P5)

SCHOOL : RAFFLES GIRLS'

SUBJECT : SCIENCE

TERM : SA1

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

29)a)Things B and D. Plants are able to reproduce, unable to decrease in size, able to produce its own food and unable to move from place to place like Things B and D.

b)No, I disagree A is a non-living thing as it cannot reproduce and make its own food. C is a living thing as it can reproduce and move from place to place.

30)a)Animal A does not lay eggs in water but Animal D lay eggs in water.

b)C D

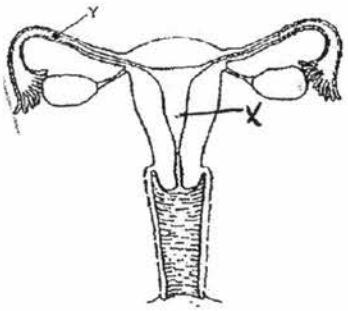
c)Mosquitoes in its egg stage lives in water and does not feed or move but mosquitoes in its adult stage are small and can fly, making it more difficult to be get rid of.

31)a)The seed leaf.

b)Seedling P and Q. Seedlings P and Q still have their seed leaves to provide them with stored food for growth until they had grown true leaves to make food by photosynthesis.

c)As the seedling has not developed any leaves yet, it does not need sunlight to make food as it depends on the seed leaves for food.

32)a)




b)Yes. Sperm can still reach her mature egg released by the other ovary to fuse with her egg, allowing fertilization to take place.

33)a)The fruit is dispersed by wind.

b)The longer the length of structure Y, the greater the distance travelled by the fruit.

c)10cm. There is an absence of wing-like structure to help it stay afloat in the air for a longer period of time and to be blown by the wind to a further distance.

d)Plants need to disperse their seeds away from their parent plant to prevent overcrowding to reduce completion for light, nutrients, water and space.

34)a)Cell A, It is a plant cell as it has chloroplasts therefore it should also have a cell wall.

b)Cell B. It has a cell wall but no chloroplast.

35)a)Material C. Material C does not have any cracks or broke when a 50kf load was released, indicating that it was the strongest material. Since a chair needs to be strong to hold an adult's weight, Material C is most suitable to make into a chair.

b)1)The thickness of the materials, A, B, C, D.

2)The distance between the two supports.

36)a)Air has mass.

b)The mass of the storage bag with its content shown in Diagram 4 would be less than the one shown in Diagram 2. Air occupied space in the storage bag and has mass. Hence, when she used the vacuum pump to remove all the air from the storage bag, the mass would decrease.

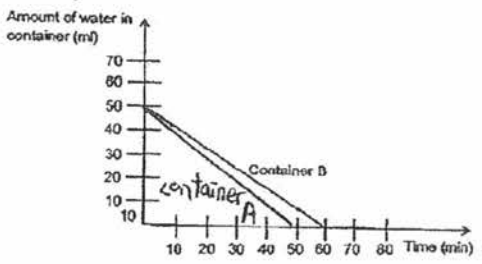
37)a)

| Process | Change of state of water |
|---|---|
| Condensation | From Gas to Liquid |

b)i)Change the water in the container to a lower temperature than the hot water.

ii)Higher temperature of the surroundings.

38)a)



38)b)The water in container A had a greater exposed surface area than the water in Container B, resulting in a greater rate of evaporation then the water in Container B.

c)Increase the temperature of the surroundings or put a fan near container A and B.

39)

| | | | |
|---|---|---|---|
| X | | | √ |
| Y | | | √ |
| Z | √ | | |

40)a)The water in the flask gained heat from the flame, expanded and occupied more space, causing the water level in the glass tube to rise.

b)The dinks in the bottle would eventually gain heat from the surrounding air, expand and occupy more space. Hence, the drinks are often not filled to the brim to prevent the bottles from cracking when the drinks expands.

41)a)The ice in bag Z took a shorter time to melt completely in due to the greater exposed surface area, which leads to a greater rate of heat gain.

b)She should use Bag Y. It is because with a smaller exposed surface area, the rate of heat gain would be slower, and the ice would take a longer time to melt. Hence, the cold drinks can be kept cold for a longer period of time.