RAFFLES GIRLS' PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2015

Section A	60
Section B	40
Your score out of **100** marks	
Parent's signature	

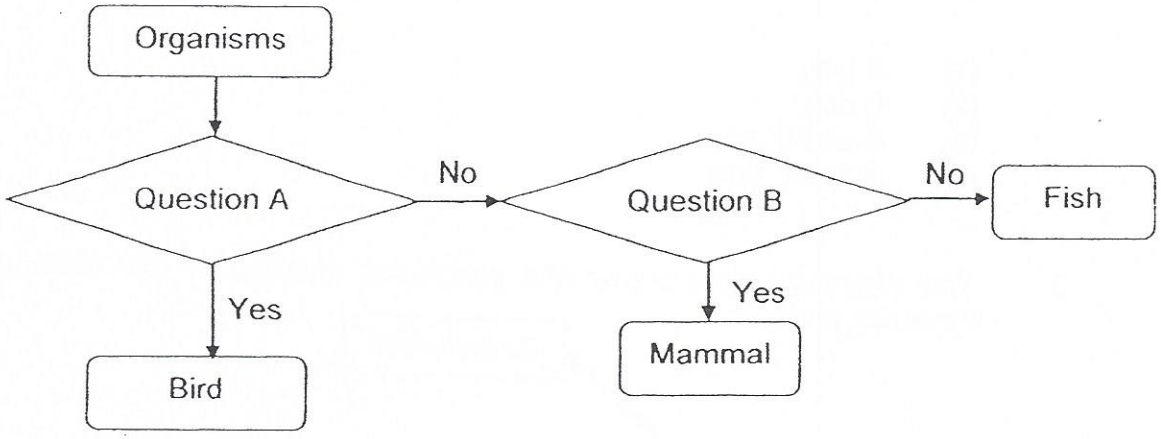
Name : _____ Index No: ____ Class: P6 ___

24 Aug 2015 **SCIENCE** Attn: 1h 45min

SECTION A (30 X 2 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 on the Optical Answer Sheet.

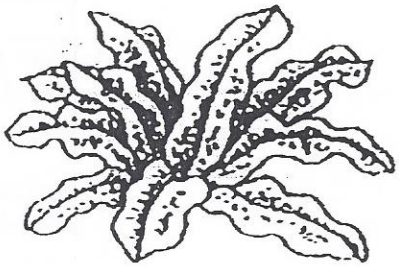
1. The flowchart below shows how some organisms are classified.



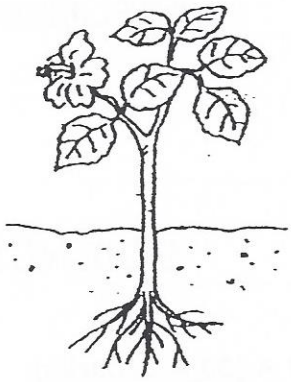
Which one of the following correctly identifies questions A and B?

	A	B
(1)	Does it have six legs?	Does it lay eggs?
(2)	Does it have wings?	Does it breathe through gills?
(3)	Does it breathe through lungs?	Does it have scales?
(4)	Does it have feathers?	Does it breathe through lungs?

2. The diagrams below show a fern and a hibiscus plant.



Fern



Hibiscus plant

Which of the following comparison(s) between the fern and the hibiscus plant is/are correct?

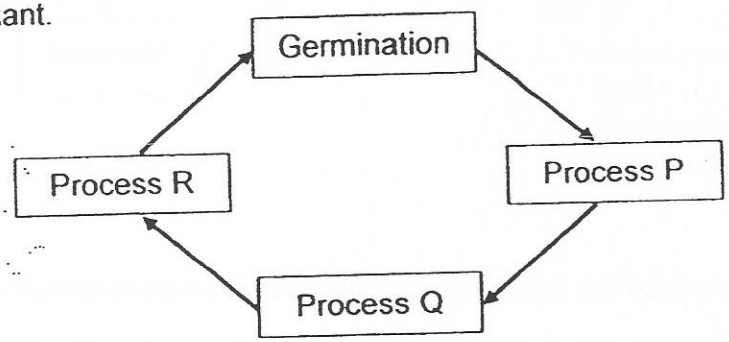
A Only the hibiscus plant can bear fruits.

B Both the fern and hibiscus plant can make their own food.

C Both the fern and hibiscus plant can reproduce from seeds.

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

3. The diagram below shows the processes involved in the reproduction of a flowering plant.



Which of the following correctly identifies processes P, Q and R?

	P	Q	R
(1)	Fertilisation	Seed dispersal	Pollination
(2)	Fertilisation	Pollination	Seed dispersal
(3)	Pollination	Fertilisation	Seed dispersal
(4)	Seed dispersal	Pollination	Fertilisation

4. The table below shows the characteristics of organisms A and B. A tick (✓) indicates the presence of the characteristic.

Characteristics	Organism A	Organism B
Lays eggs	✓	✓
Has six legs	✓	✓
Has a pupal stage	✓	
Has wings in adult stage	✓	✓

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

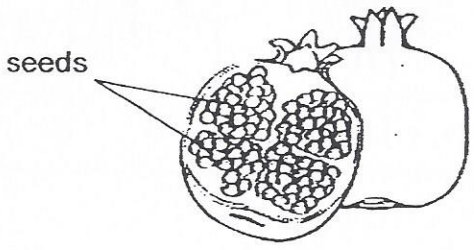
A Both organisms give birth to their young alive.

B Organism B lays more eggs than organism A.

C Organism A has a 4-stage life cycle while Organism B has a 3-stage life cycle.

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

5. Sophia cut a brightly coloured fruit in half and observed that it contained many seeds as shown in the diagram below.



Based only on her observation, which one of the following statements is definitely true about the flower that this fruit has developed from?

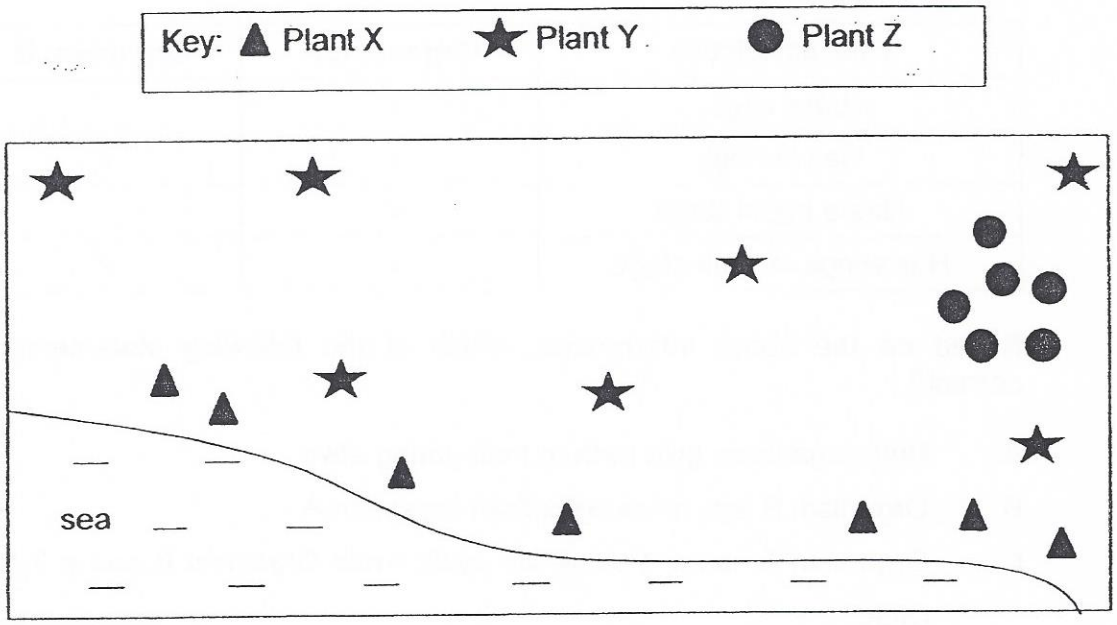
(1) The flower has many ovules.

(2) The flower has many ovaries

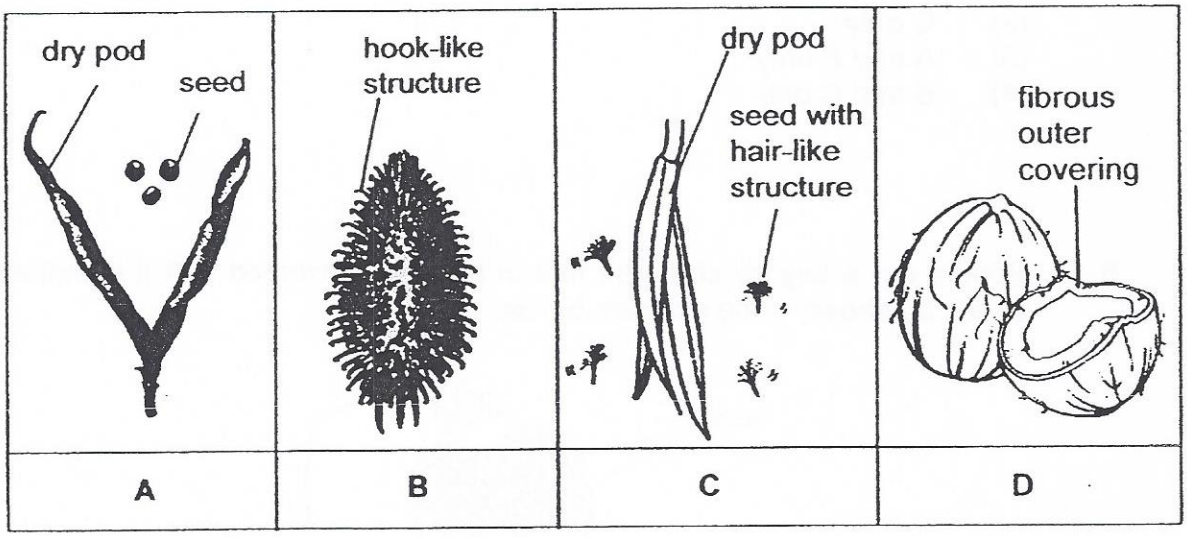
(3) The flower produced many pollen grains.

(4) The flower has been pollinated by animals.

6. The diagram below shows part of an island where three types of plants, X, Y and Z, are growing.



The diagrams below show the characteristics of fruits A, B, C and D.



Which of the following fruits most likely belong to plants, X, Y and Z?

	Plant X	Plant Y	Plant Z
(1)	A	C	D
(2)	D	C	B
(3)	C	A	B
(4)	D	B	A

7. Neutering is the process of removing an animal's reproductive organ. This is a safe and quick procedure done by a veterinarian (animal doctor).

In some countries, due to the lack of space in animal shelters, millions of stray cats and dogs are killed each year.

Which of the following correctly explain how neutering helps to prevent the killing of stray animals?

A Neutering of animals enables the animals to reproduce faster.

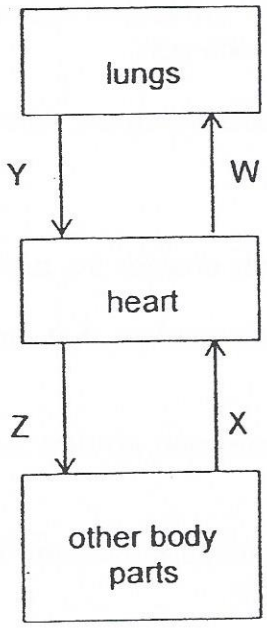
B The ovaries are removed so that fertilisation will not occur in the female body.

C The ovaries are removed so that fertilisation will only occur outside the female body.

D The testes are removed to prevent the release of male reproductive cells into the female body.

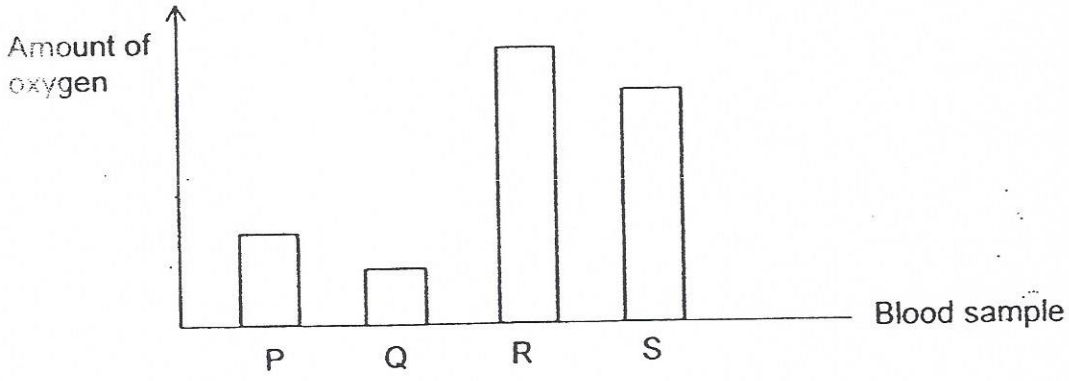
(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

8. The diagram below shows how blood flows through the blood vessels, W, X, Y and Z, in the human body.



Four blood samples, P, Q, R and S were taken from the different blood vessels in the above diagram.

The following graph shows the amount of oxygen in each of these blood samples.



Which one of the following blood samples, P, Q, R or S, was most likely taken from the blood vessel W?

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

9. The diagram below shows the different parts of human digestive system.

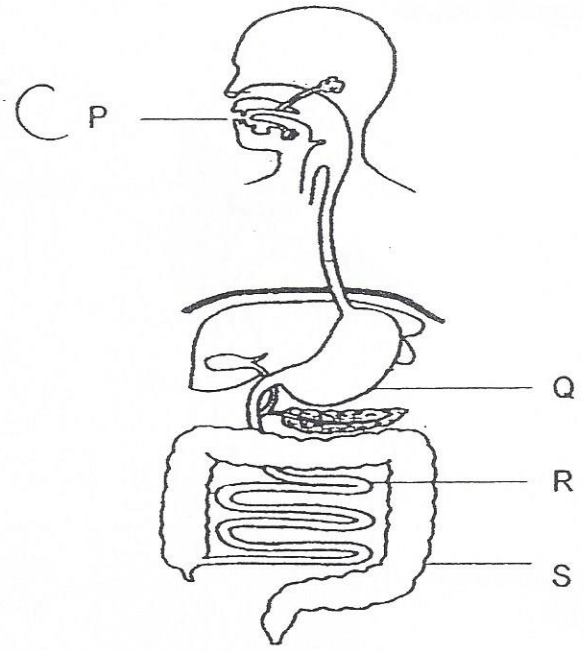
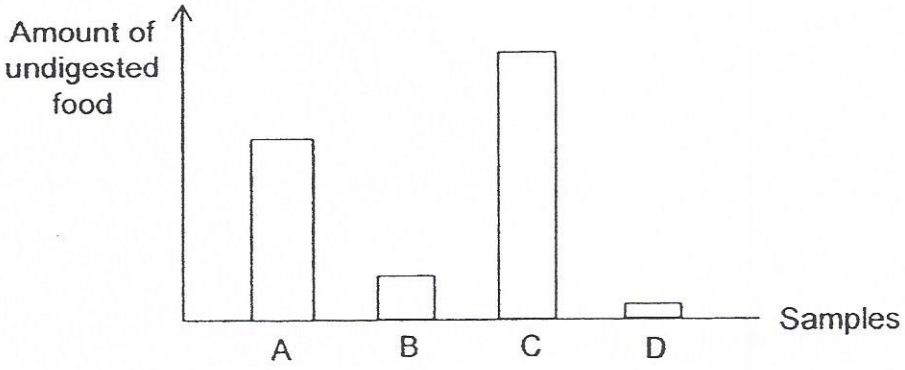


Diagram 1

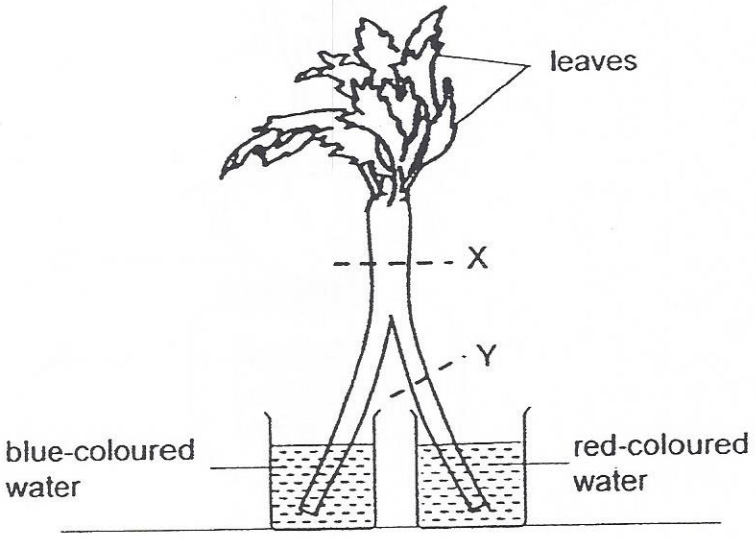
The graph below shows the amount of undigested food in the samples A, B, C and D obtained from different parts of the human digestive system in Diagram 1.



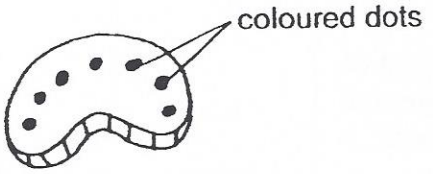
Which one of the following correctly matches the parts, P, Q, R and S, in Diagram 1 to the samples A, B, C and D, in the graph?

	Parts in Diagram 1	Samples in Graph
(1)	P	C
(2)	Q	D
(3)	R	A
(4)	S	B

10. Alice placed a partially split celery stalk into two beakers of coloured water as shown below. After half an hour, she cut across the stalks at positions, X and Y, as shown in the diagram below.



She observed that the cut sections, X and Y, had coloured dots.



Cut section of celery stalk

Which of the following observations is/are **not** possible?

A All the leaves appeared blue.

B All the dots on cut section Y were stained red.

C Cut section X had a mixture of red dots and blue dots.

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

11. Sarah observed three cells and recorded her observations in the table below. A tick (✓) indicates the presence of the cell structure.

Cell Structure	Cell W	Cell X	Cell Y
Nucleus	✓		✓
Cell wall	✓		✓
Chloroplast	✓		
Cell membrane	✓	✓	✓

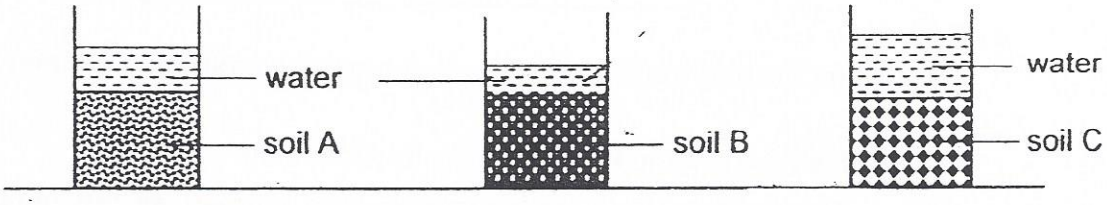
Which one of the following statements about the cells is correct?

(1) Only cells W and Y have fixed shape.
(2) Only cell W cannot carry out photosynthesis.
(3) Only cell X allows all substances to enter the cell.
(4) Cells W and X are plant cells and cell Y is an animal cell.

12. The table below shows the average size of soil particles suitable for growing plants X, Y and Z respectively.

Plant	Average size of soil particles
X	small
Y	medium
Z	large

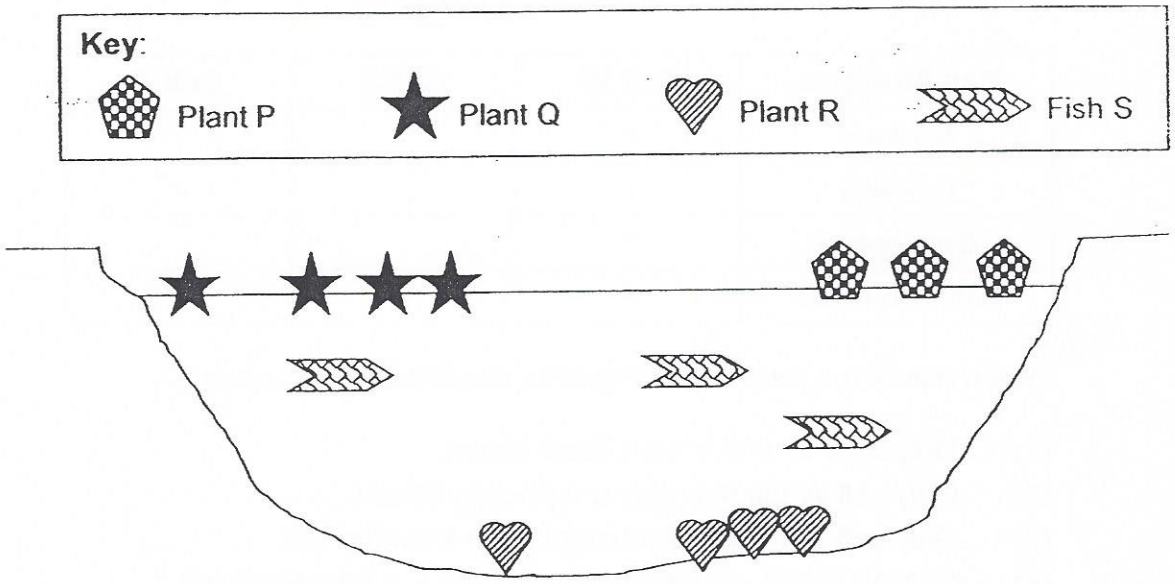
Natalie put equal amounts of soil samples, A, B and C, into 3 identical beakers. Then, she poured an equal amount of water into each beaker of soil at the same time. The diagrams below show the set-ups after the water was added.



Based on the observations above, which one of the following shows the soil sample that is most suitable for growing plants X, Y and Z respectively?

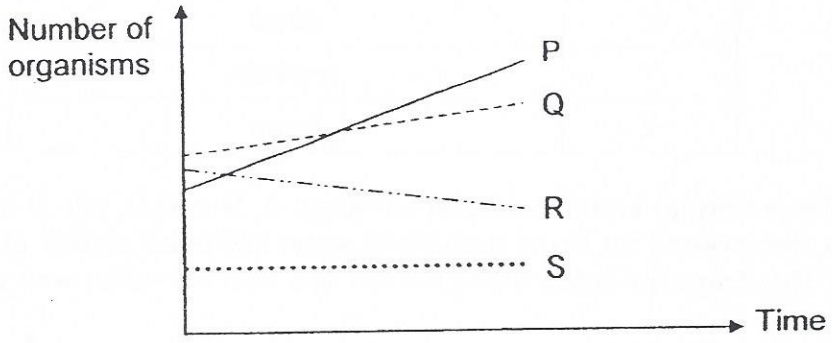
	Plant X	Plant Y	Plant Z
(1)	A	B	C
(2)	A	C	B
(3)	B	A	C
(4)	C	A	B

13. The diagram below shows 4 types of organisms living in a pond.



A farmer sprayed fertilizer on his vegetable farm which is just next to the pond.

The graph below shows the change in the number of the 4 types of organisms living in the pond over one month due to the runoffs and soil erosion from the fertilised vegetable farm during raining seasons.



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

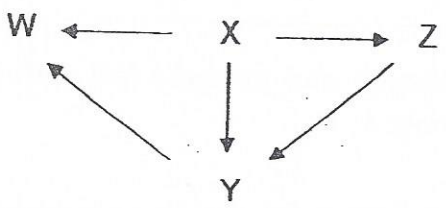
(1) Fish S depended on plants P and Q for food.

(2) The fertilizer from the vegetable farm harmed all the organisms in the pond.

(3) The amount of light received by Plant R increased over the one month period.

(4) The fertilizer from the vegetable farm helped plants P and Q to grow well but not plant R.

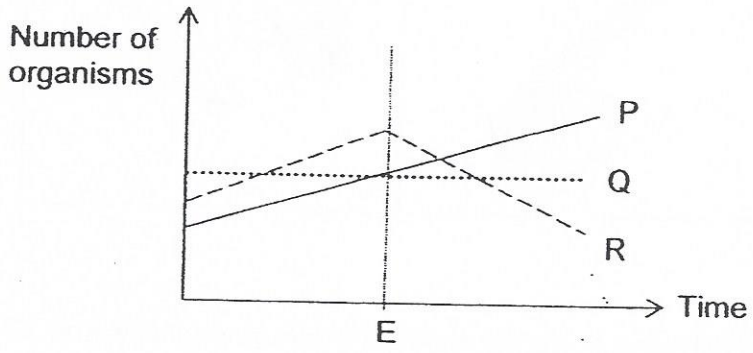
14. The diagram below shows a food web in a community.



Which one of the following correctly identifies organisms W, X, Y and Z?

	Producer	Prey	Prey and predator	Predator
(1)	X	Z	Y	W
(2)	X	W	Z	Y
(3)	W	X	Y	Z
(4)	W	Y	Z	X

15. The graph below shows how organisms P, Q and R in a habitat are affected when organism F is introduced at point E.



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

A R is eaten by F

B F is a food producer.

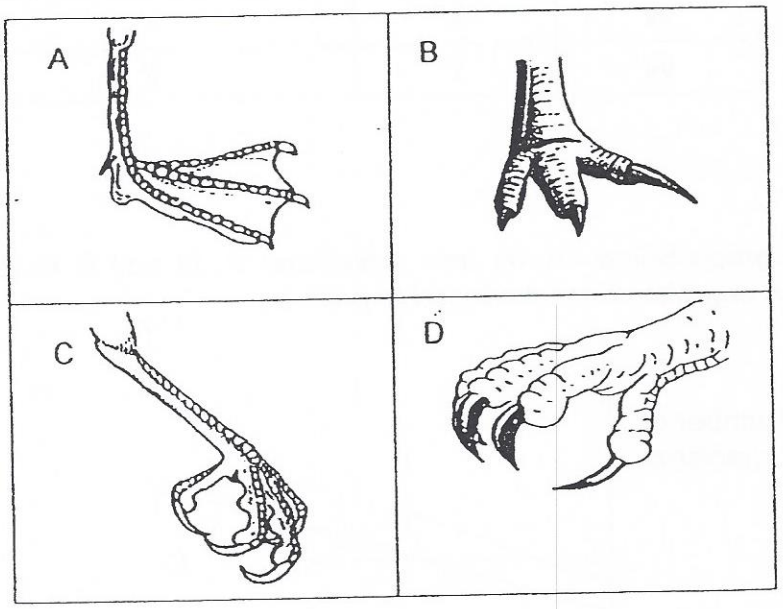
C P and Q compete with each other for food.

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

16. Susan recorded some information about the feet of birds X and Y as shown below.

- Bird X has muscular and powerful feet with sharp and curved claws to grab its prey firmly.
- Bird Y has webbed feet with a large surface area to help it paddle through water efficiently.

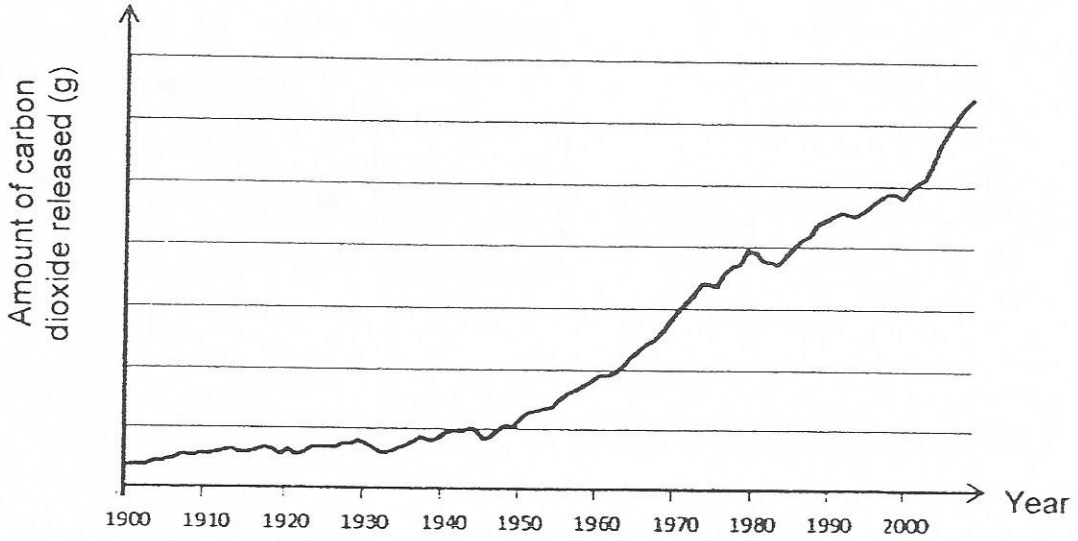
The diagrams below show different types of feet, A, B, C and D.



Which one of the following correctly matches the feet to birds X and Y?

	Bird X	Bird Y
(1)	A	D
(2)	B	C
(3)	C	B
(4)	D	A

17. The graph below shows the amount of carbon dioxide released into the atmosphere from the burning of fossil fuels since the year 1900



Which one of the following is a consequence of the change in the amount of carbon dioxide released into the atmosphere?

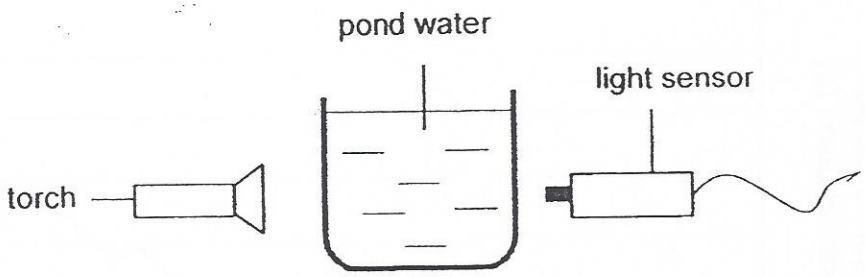
(1) Drop in sea level

(2) Melting of polar ice caps

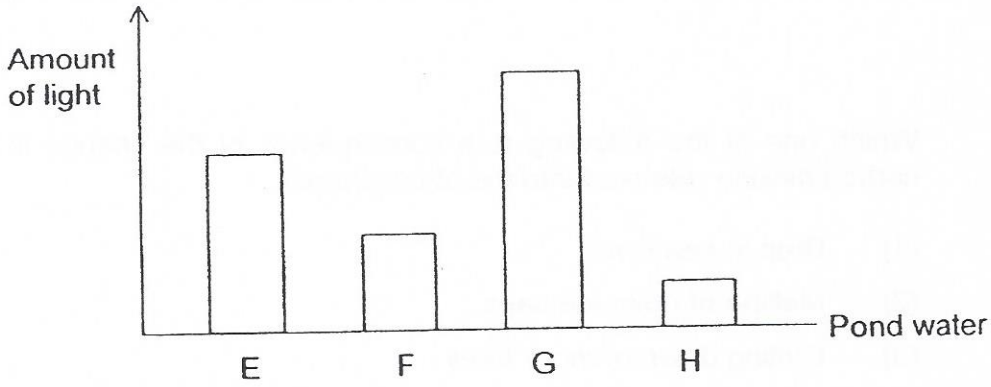
(3) Cutting down of more trees

(4) Increase in number of vehicles on the road

18. Jasmine collected four beakers of water from four ponds E, F, G and H. Using the set-up below, she measured the amount of light that passed through each beaker of pond water using a light sensor.



Jasmine presented her results on a graph as shown below.



Which one of the following pond water would be most suitable for fully submerged plants to grow well in?

(1) E
(2) F
(3) G
(4) H

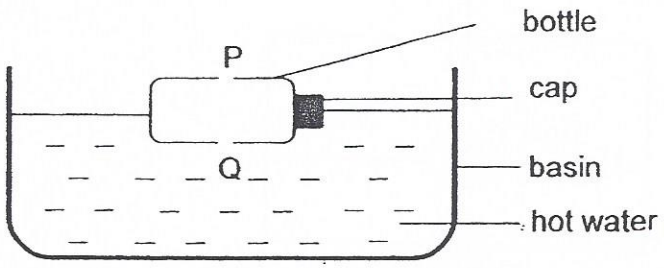
19. Siti was given a beaker containing a mixture of four substances P, Q, R and S. These substances cannot be dissolved in water. A tick (✓) indicates the presence of the property.

Substance	Float in water	Magnetic	Good heat conductor
P	✓		
Q			
R		✓	✓
S			

Based only on the above information, which two substances will Siti **not** be able to separate?

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

20. Megan placed an empty bottle with two holes at points P and Q into a basin of hot water as shown below.



Which of the following would Megan observe?

A The cap popped out.
B Air entered the bottle through P.
C Water entered the bottle through Q.

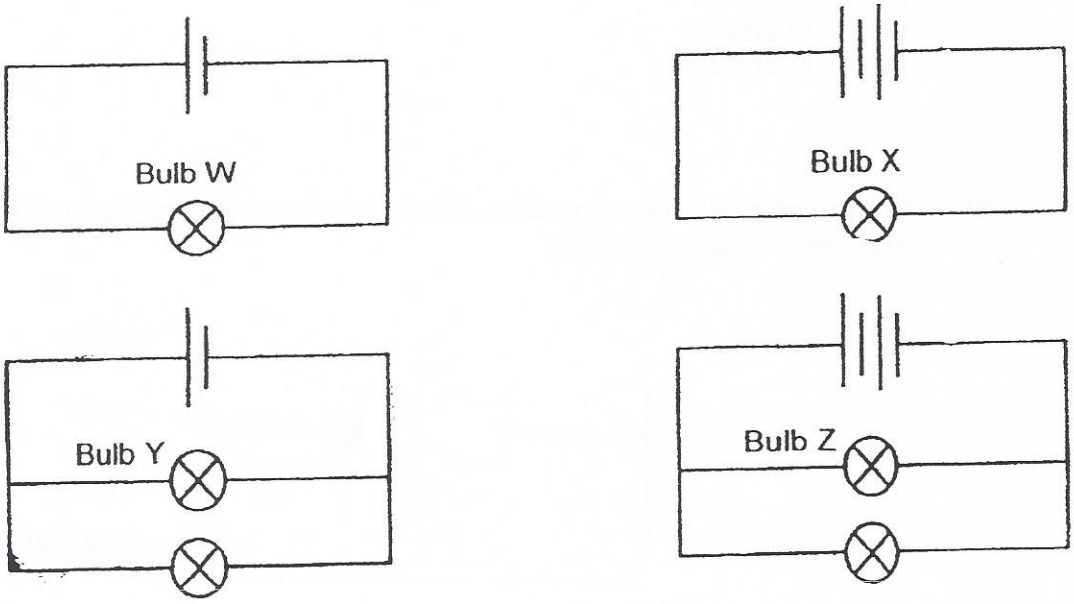
(1) A only
(2) C only
(3) B and C only
(4) A, B, and C

21. At 30°C, substance Z has a definite volume and does not take the shape of the container. However, at 200°C, substance Z can be compressed.

Which one of the following is most likely the melting point and boiling point of substance Z?

	Melting point of Z	Boiling point of Z
(1)	15	200
(2)	25	120
(3)	35	180
(4)	45	300

22. Vishnu set up four electrical circuits using identical batteries and identical bulbs. The batteries and bulbs are working properly.



Which of the following statement(s) is/are correct?

A Bulb W is the brightest.

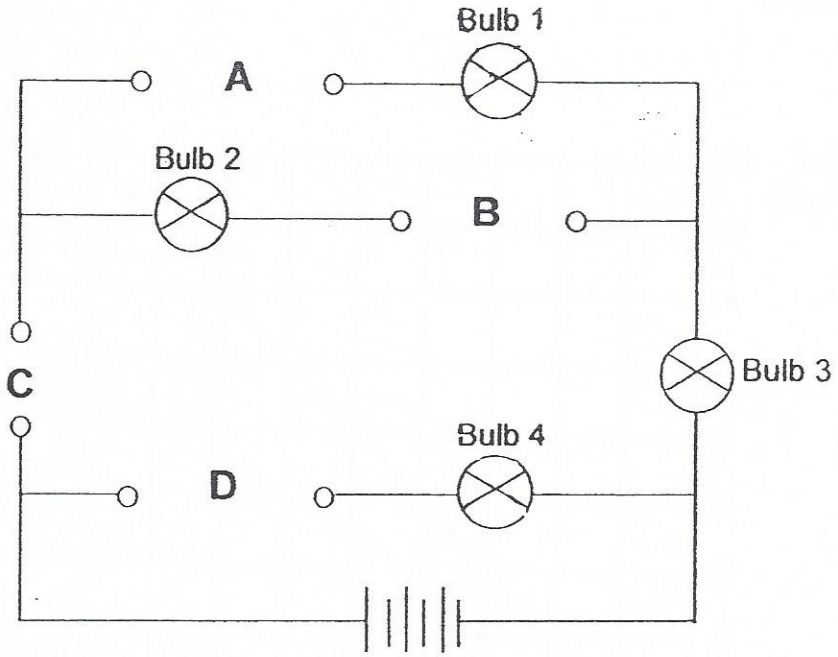
B Bulb Z is dimmer than Bulb W.

C Bulb Z is brighter than Bulb Y.

D Bulb X and Bulb Z have the same brightness.

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

23. Ethan set up the circuit below.

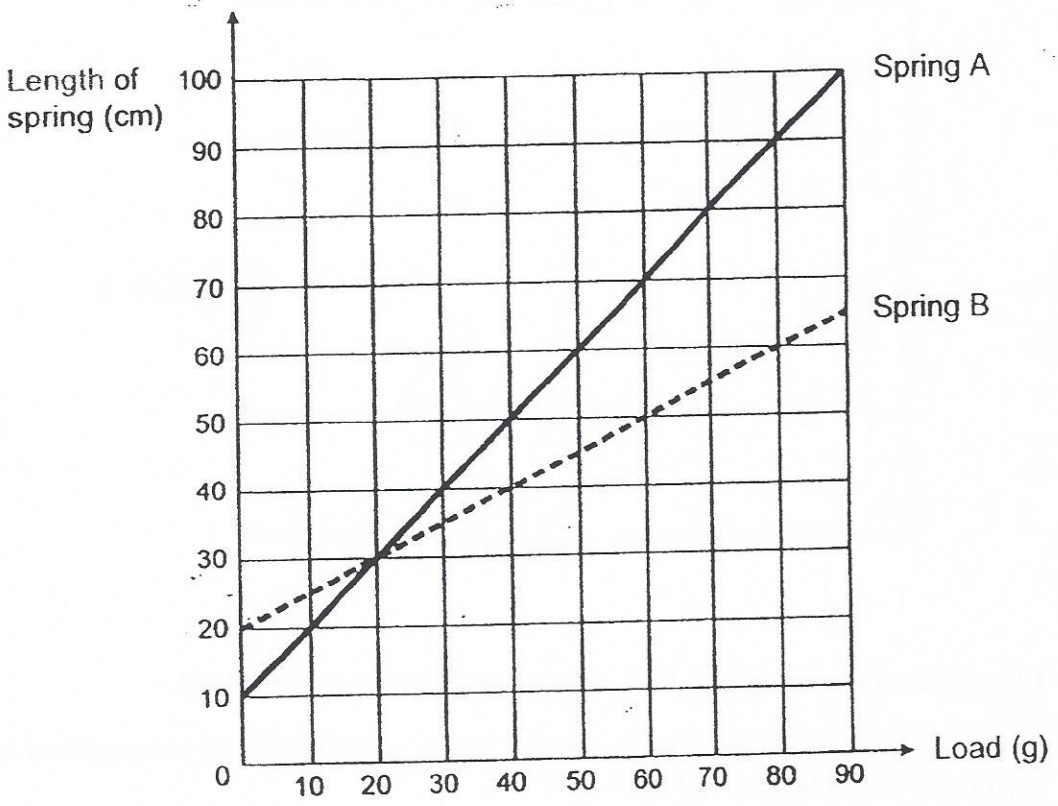


Ethan has 3 rods made of iron, copper and plastic respectively.

At which position, A, B, C or D, should Ethan place each rod respectively so that only Bulb 2 and Bulb 3 will light up?

	Copper rod	Iron rod	Plastic rod
(1)	B	A	D
(2)	C	A	B
(3)	C	B	A
(4)	D	B	C

24. Serene conducted an experiment on springs A and B. She hung different loads one at a time and recorded the length of the spring. Her results are shown in the graph below.



Which one of the following statements is true?

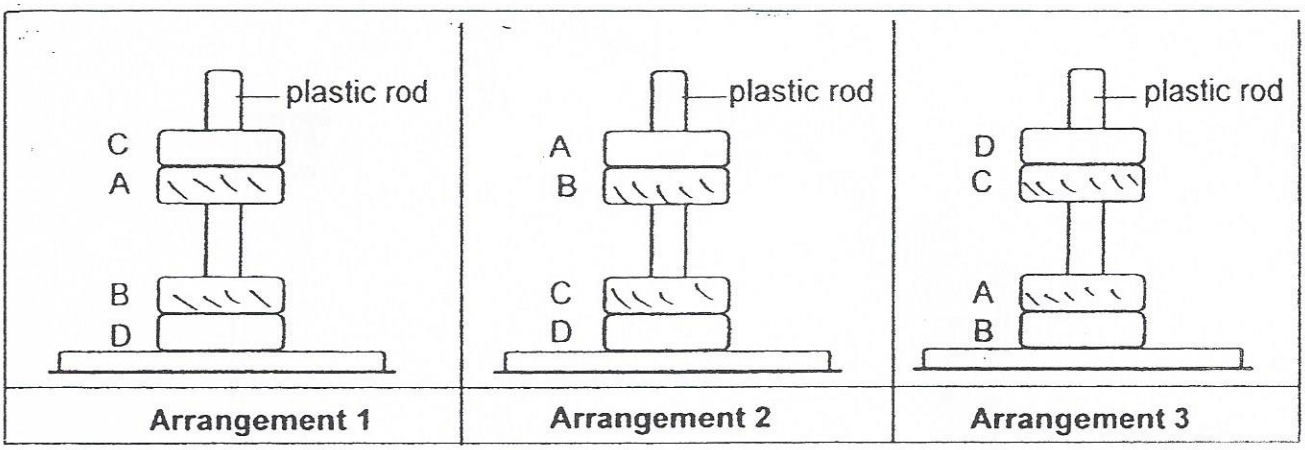
(1) Spring B extended by 50 cm when the load is 80 g.

(2) Spring B stretched more than Spring A for the same load.

(3) Spring A is longer than Spring B before the start of the experiment.

(4) Spring A and Spring B have the same length when the load is 20 g.

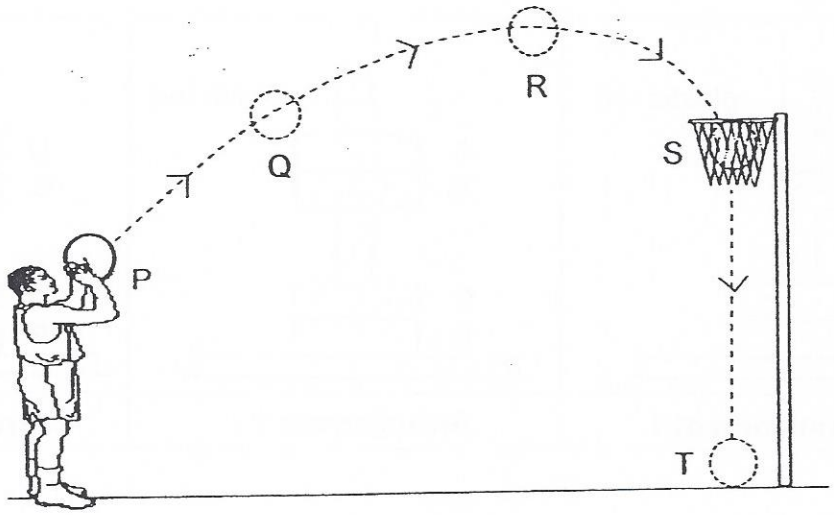
25. Chloe put four metal rings A, B, C and D through a smooth plastic rod in three different arrangements as shown below.



Based on the observations above, which of the following metal rings are definitely magnets?

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

26. Kim Huat threw a ball into the net as shown in the diagram below.



Which of the following statement(s) is/are correct?

A There are no forces acting on the ball at T.

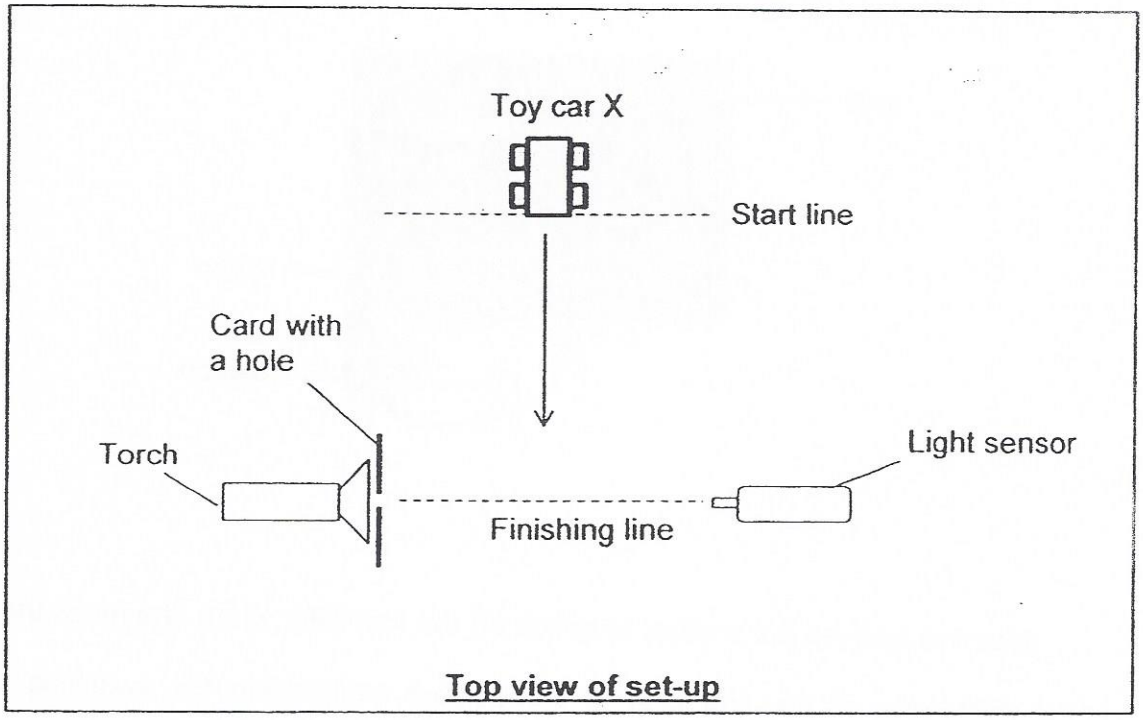
B Kim Huat exerted a force on the ball at P to move the ball.

C There is more gravitational force acting on the ball at R than at Q.

D The gravitational potential energy of the ball decreases from R to S only.

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

27. Chloe conducted the experiment in a completely dark room as shown below. She exerted a force on toy car X , such that it moved past the finishing line.



Top view of set-up

Chloe repeated the procedure with toy car Y, using the same amount of force. She recorded the amount of light detected by the light sensor over a period of time in the table below.

Time (s)	Amount of light detected by light sensor (Lux) after exerting a force on	
	Toy car X	Toy car Y
0	2000	2000
1	2000	2000
2	0	2000
3	2000	1000

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

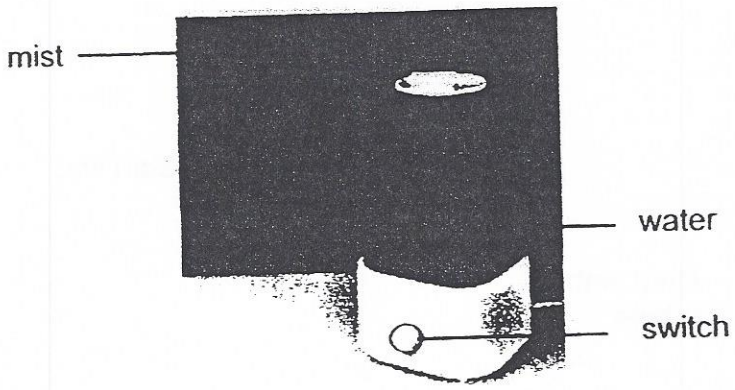
A Toy car X is opaque.

B Toy car Y is transparent.

C Toy car Y travels at a greater speed than Toy car X

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

28. Jasmine's mother bought a humidifier which releases tiny water droplets in the form of mist into the air, as shown below.



Jasmine advised her mother to switch off the humidifer when she mops the floor.

Which one of the following is the correct explanation for switching off the humidifer when mopping the floor?

(1) The water on the floor will gain more heat from the surrounding mist to evaporate faster.

(2) This will lower the temperature of the air, increasing the rate of evaporation of water on the floor.

(3) This will lower the amount of water vapour in the air, increasing the rate of evaporation of water on the floor.

(4) This will increase the amount of water vapour in the air, increasing the rate of condensation of water vapour on the floor.

29. David filled 4 containers, P, Q R and S, with equal amount of water at 75°C. The 4 containers are of the same size and shape but made of different materials. He left the 4 containers on a table in the Science laboratory with a constant room temperature.

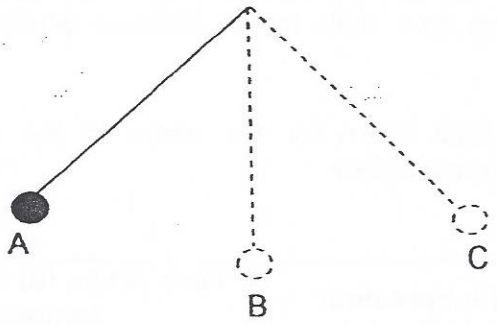
He recorded the time taken for the water in the containers to reach room temperature in the table below.

Material of the container	Time taken for water to reach room temperature (min)
P	28
Q	14
R	66
S	42

Based on the results above, which one of the following materials, P, Q, R or S, would be most suitable to make a mug to keep drinks cold for the longest time?

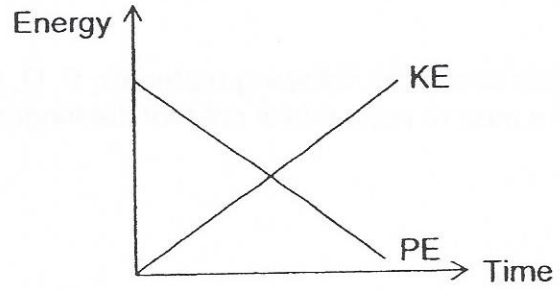
(1) P
(2) Q
(3) R
(4) S

30. Prithi released a bob at position A, which moved to position B and then to position C, as shown in the diagram below.

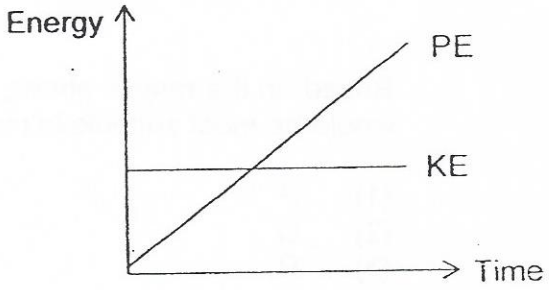


Which one of the following graphs correctly shows the change in kinetic energy (KE) and potential energy (PE) of the bob as it moved from B to C?

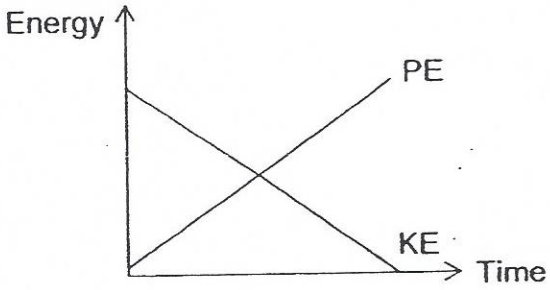
(1)



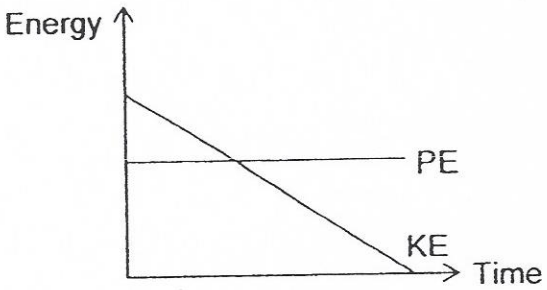
(2)



(3)



(4)



Name : _____ Index No : ____ Class : P6 ____ 40

SECTION B (40 marks)

For questions 31 to 44, write your answers clearly in the spaces provided.
The number of marks available is shown in the brackets [ ] at the end of each question or part question.

31. Sally prepared three identical set-ups by burying 20 seeds in the same amount of moist soil. Then she placed the three set-ups at different temperatures. She recorded her observations over a period of 6 days in the table below.

Temperature (^{0}C)	Total number of seeds germinated					
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
5	0	0	?	0	1	1
15	0	0	0	1	?	9
25	0	2	8	13	17	19

(a) Predict the total number of seeds germinated: [1]

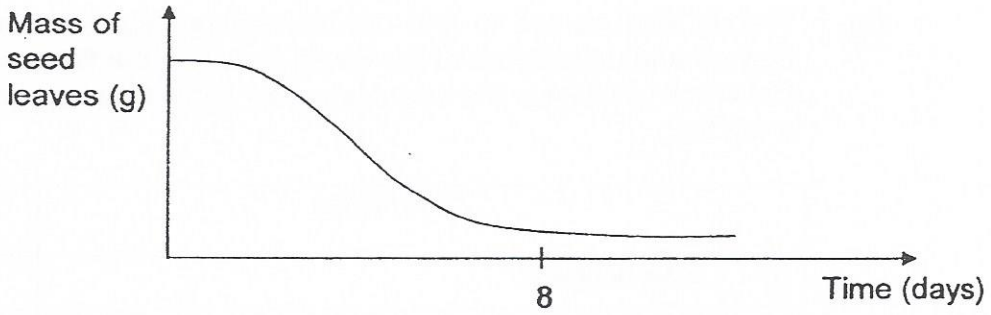
(i) at 5^{0}C, on Day 3 : _____ (ii) at 15^{0}C, on Day 5 : _____

(b) Based on the above information, what can Sally conclude about the effect of temperature on germination? [1]

_____

_____

The graph below show the changes in the mass of the seed leaves of a seed during germination.



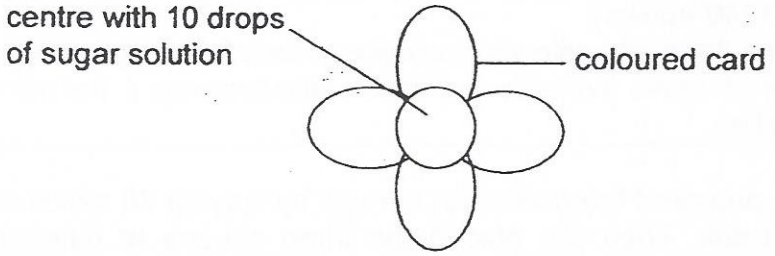
(c) How did the seedling get its food after day 8? [1]

_____

_____

Score 3

32. Wendy wanted to find out the colour of the flowers that insects X, Y and Z prefer. She used flowers made from different coloured cards. She put 10 drops of sugar solution in the centre of each flower. The flowers were left in the open field.



Wendy then counted the number of each type of insects that visited the flowers over 2 hours. The results were recorded in the table below.

Colour of flower	Number of insect visiting the flower		
	Insect X	Insect Y	Insect Z
Red	12	2	1
Yellow	4	16	3
White	3	2	11

(a) Based on Wendy's results, which colour attracted most insects? [1]

_____

(b) Using the same materials, what could Wendy do to ensure reliability of her results? [1]

_____

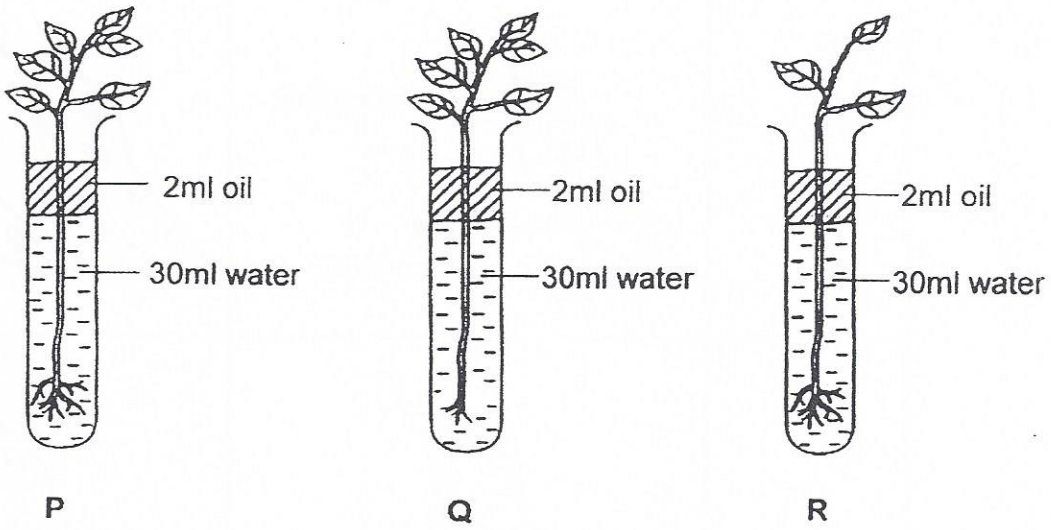
_____

(c) Wendy also wanted to find out the relationship between the size of the flowers and the number of the insect Z visiting the flowers.
Put a tick (✓) beside the variable(s) that should be kept constant to ensure a fair test. [1]

	Variables	To be kept constant
(i)	Size of flower	
(ii)	Colour of flower	
(iii)	Number of insect Z visiting each flower	
(iv)	Amount of sugar solution added to each flower	

Score	/ 3

33. Cathy prepared three set-ups, P, Q and R, using the same type of plants as shown below. Some roots were removed from the plant in set-up Q while some leaves were removed from the plant in set-up R.



Cathy placed all the set-ups in the open field for 4 hours.

Which set-up, P, Q or R would she observe the greatest decrease in the water level? Explain your choice clearly. [2]

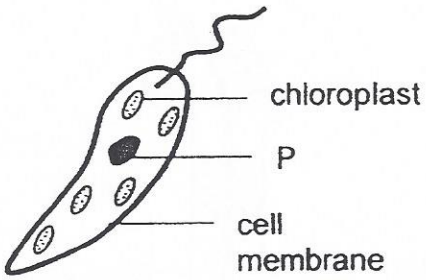
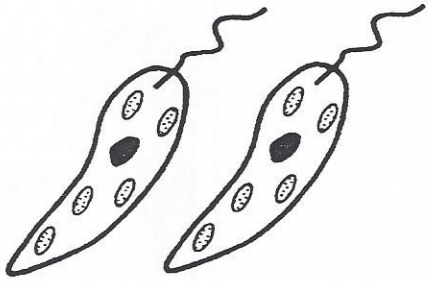
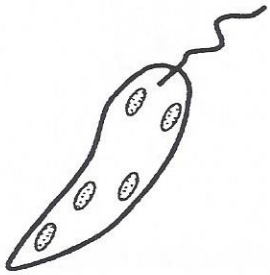
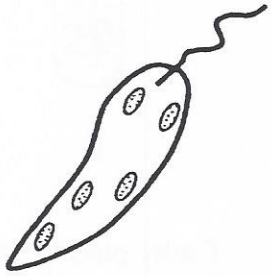
_____

_____

_____

Score	
	2

34. Jack was given two single-celled organisms, X and Y, of the same species. Part P of organism Y has been removed. He observed the organisms for the same period of time and recorded his observations below.

Organism	At the start	After some time
X		
Y		

(a) Based on Jack's observation above, what can he conclude about the function of part P? [1]

_____

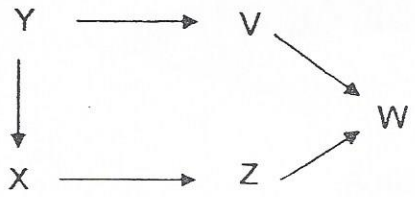
_____

(b) Identify one difference between organism X and a leaf cell. [1]

_____

Score	2

35. The diagram below shows a food web in a certain community.



(a) State two benefits that tree Y could provide for animal X. [1]

_____

_____

Both animals X and V are found on Tree Y. Animal X lives in a large group but not animal V.

(b) What advantage does animal X have over animal V by living in a large group? [1]

_____

_____

(c) A disease wiped out the whole population of animal Z.
Explain how this would affect the population of animal V. [2]

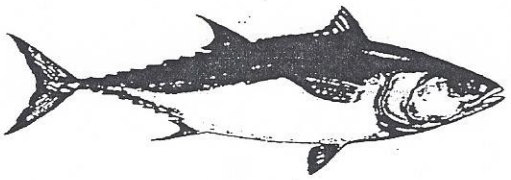
_____

_____

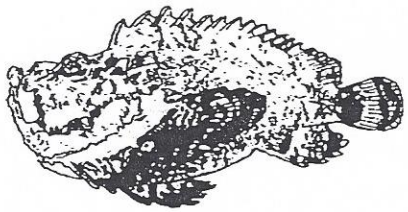
_____

Score	/ 4

36. The diagrams below show 2 fishes, A and B.



Fish A



Fish B

(a) Based on the diagrams above, explain why Fish A is a faster swimmer than Fish B. (Do not compare the texture of the body.) [1]

_____

_____

Fish B has a rough, brown-greenish body. Its diet consists of small fish and shrimps. It is normally found among corals, sand and rocks.

(b) Explain how having a rough, brown-greenish body helps Fish B in their survival. [1]

_____

_____

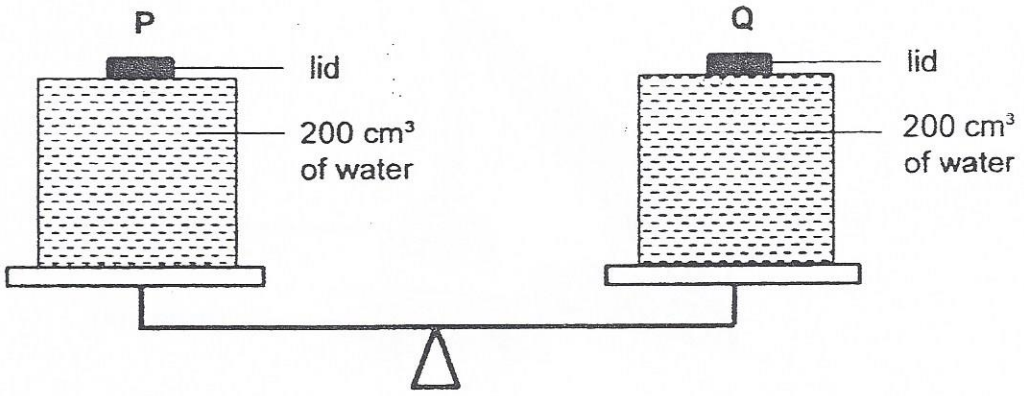
(c) Fish B is a slow swimmer. Suggest a behaviour of Fish B that can help it to increase its chance of catching its prey. [1]

_____

_____

Score	3

37. Jason placed two identical containers, P and Q, on a balance as shown in the diagram below.



Jason poured away all the water in both containers. Then he pumped 300 cm³ of air into P and 100 cm³ of air into Q.

(a) Describe clearly what Jason would observe of the balance. [1]

_____

_____

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

_____

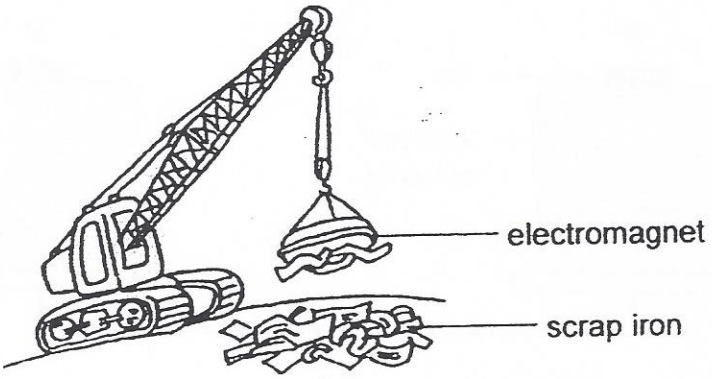
_____

(c) Fil in the table below to indicate the final volume of air in both containers. [1]

Volume of air (cm³)	
Container P	**Container Q**

Score	/ 3

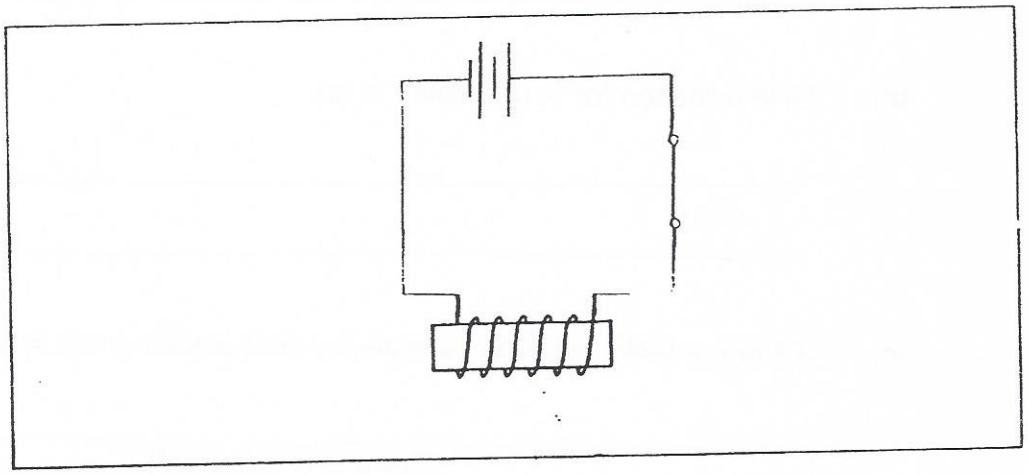
38. The diagram below shows a crane that is used to transfer heavy scrap iron from one place to another.



When the switch is closed, the electromagnet picks up the scrap iron. The crane will then transfer the scrap iron to another location. When the switch is opened, the scrap iron drops to the ground.

(a) Complete the circuit diagram below to show how the electromagnet works, using 2 batteries, 1 switch and wires.

An iron rod with a piece of insulated wire coiled around it, which forms part of the circuit, has been drawn for you. [1]



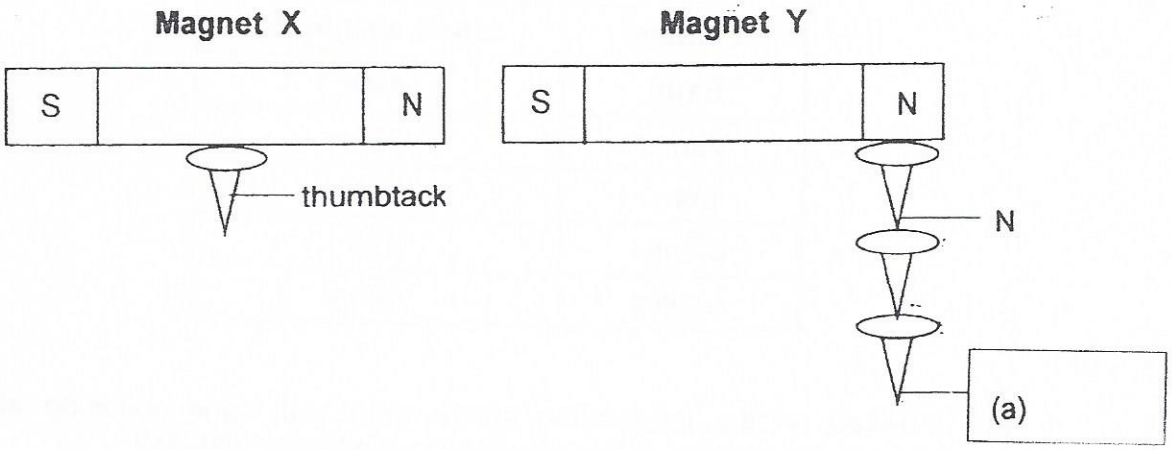
(b) Using the same type of batteries, switch, iron rod, wires and circuit arrangement in part (a), suggest 2 ways to enable the electromagnet to attract more scrap iron. [2]

(i) _____

(ii) _____

Score	3

39. Angie wanted to find out which magnet, X or Y is stronger. She set up the experiment below.



(a) Label 'N' for north-seeking pole or 'S' for south-seeking pole in the box in the above diagram. [1]

(b) Angie observed that Magnet Y attracted more thumbtacks than Magnet X. She concluded that Magnet Y is stronger than Magnet X.

Explain why Angie cannot conclude that Magnet Y is stronger than Magnet X. [2]

_____

_____

_____

Score 3

40. Jane's mass is 40kg. The table below shows how much Jane weighs on different planets.

Planets	Jane's weight (N)
Earth	400
Venus	362
Mars	150
Saturn	425
Jupiter	945

(a) Based on the information above, what can Jane conclude about the gravitational force acting on objects on different planets? [1]

_____

_____

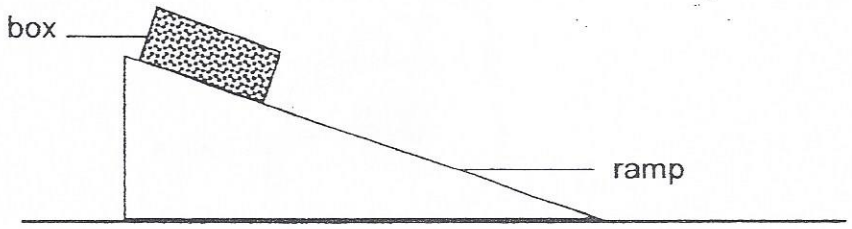
(b) What is Jane's mass on planet Mars? Give a reason for your answer. [1]

_____

_____

Score	/2

41. Siti wanted to find out if the surface texture of a box affects the time taken for it to slide down a ramp. She pushed 3 boxes, P, Q and R, made of different materials, down a ramp one at a time as shown in the set-up below.



Siti recorded her results in the table below.

	Time taken for box to reach the ground (s)			
Box	**1st try**	**2nd try**	**3rd try**	**Average**
P	5.5	6.2	4.9	5.53
Q	2.3	3.1	2.9	2.77
R	8.9	9.7	9.3	9.30

(a) Which box, P, Q or R, is the smoothest? Explain your answer. [2]

_____

_____

_____

(b) Siti kept the starting point of the box sliding down the ramp constant in her experiment.
How did this make her experiment a fair test? [1]

_____

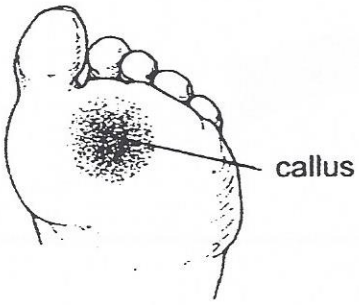
_____

Score	
	3

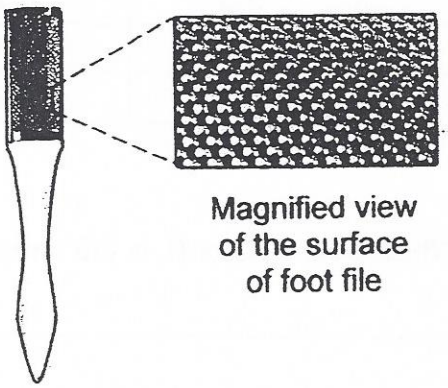
Continue on Pg 36

Continue from Pg 35

The diagram below shows the callus, a layer of hardened skin, on the sole of Siti's foot.



Siti wanted to remove the callus by rubbing it with a foot file, as shown in the diagram below.



Foot file

Siti has two foot files, X and Y. X has a rougher surface than Y.

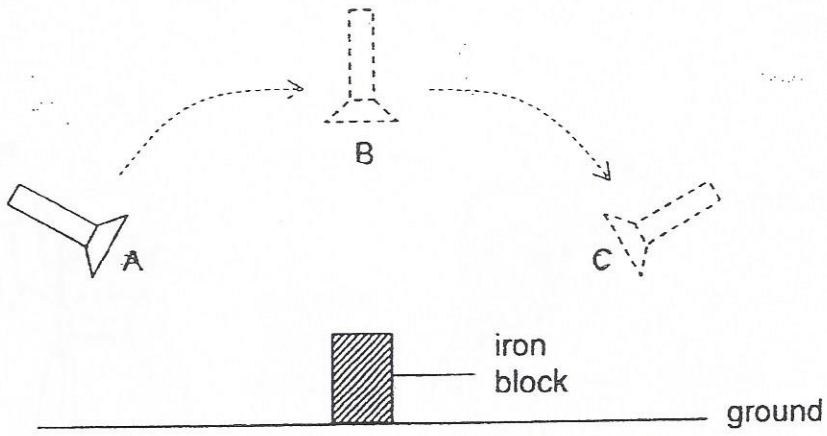
(c) Which foot file, X or Y, should she use to remove the callus more quickly? Explain your answer. [1]

_____

_____

Score	/ 1

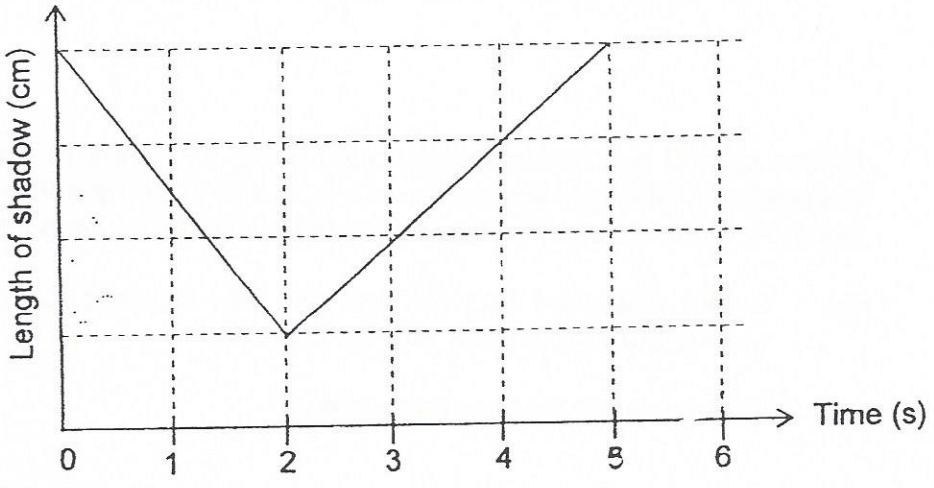
42. Monica conducted the experiment as shown below.



Monica took 2 seconds to move the torch from A to B, and then another 3 seconds to move the torch from B to C. She measured the length of the shadows cast by the iron block at the different positions of the torch.

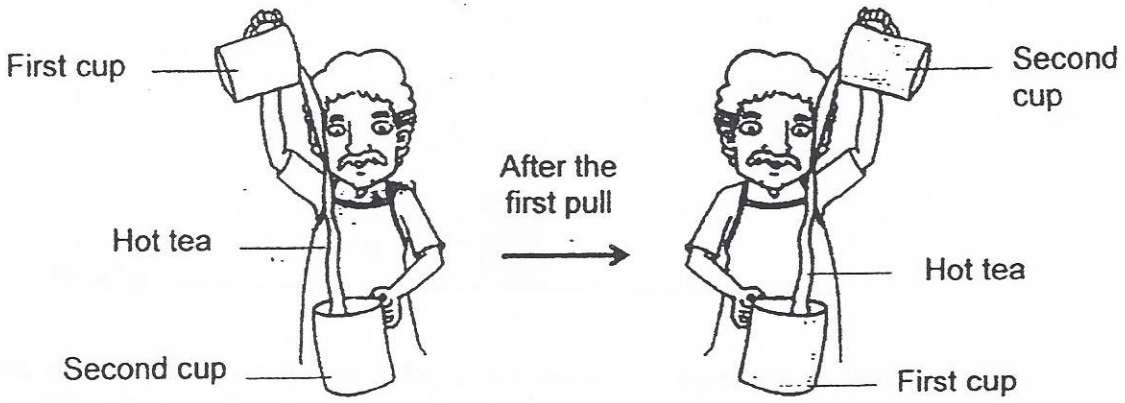
The distance between the torch and the iron block were kept the same at the different positions of the torch. Positions A and C have the same height from the ground.

Draw a line graph below to show how the length of the shadow changes when the torch moves from A to B and then to C. [2]



Score	2

43. Esther noticed that her father poured hot tea from one cup to the other continuously for a few times as shown in the diagrams below. Her father explained that the hot tea will cool down more quickly after it was "pulled" several times.



(a) Explain why the hot tea will cool down more quickly this way. [2]

_____

_____

_____

Esther carried out another experiment using two cups of hot tea of the same temperature. She had two cubes of ice, X and Y, of the same mass. She placed ice cube X into a cup and crushed ice cube Y before putting it into another cup.

(b) Esther observed that the hot tea with crushed ice cube Y cool more quickly than the hot tea with ice cube X.

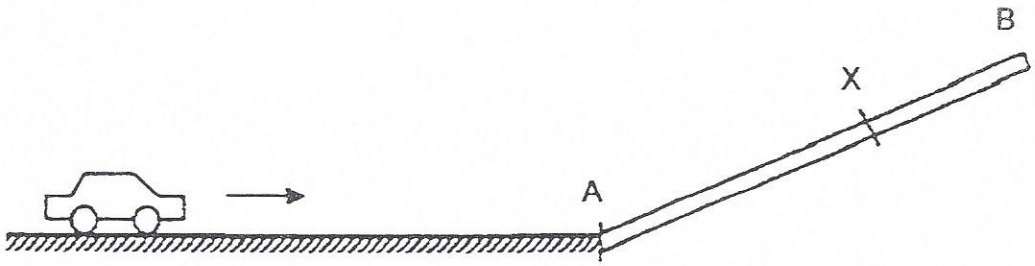
Give a reason for her observations. [1]

_____

_____

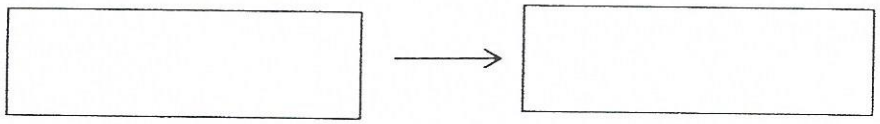
Score	/ 3

44. Joanna pushed a toy car towards a wooden plank AB as shown in the diagram below.



The toy car moved up the plank, stopped at X and then it rolled down the plank.

(a) State the energy conversion that took place when the car moved from A to X. [1]



(b) Explain why the toy car stopped at X clearly. [1]

_____

_____

(c) Explain why the toy car rolled down from point X. [1]

_____

_____

- END OF PAPER -

Setters : Mrs Christina Lim, Mdm Lim Sok Yen & Miss Ho Win Nie

Score 3

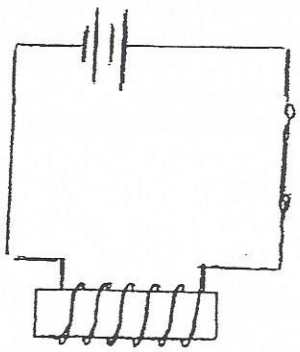
EXAM PAPER 2015
LEVEL : PRIMARY 6
SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : PRELIMINARY EXAMINATION

BOOKLET A

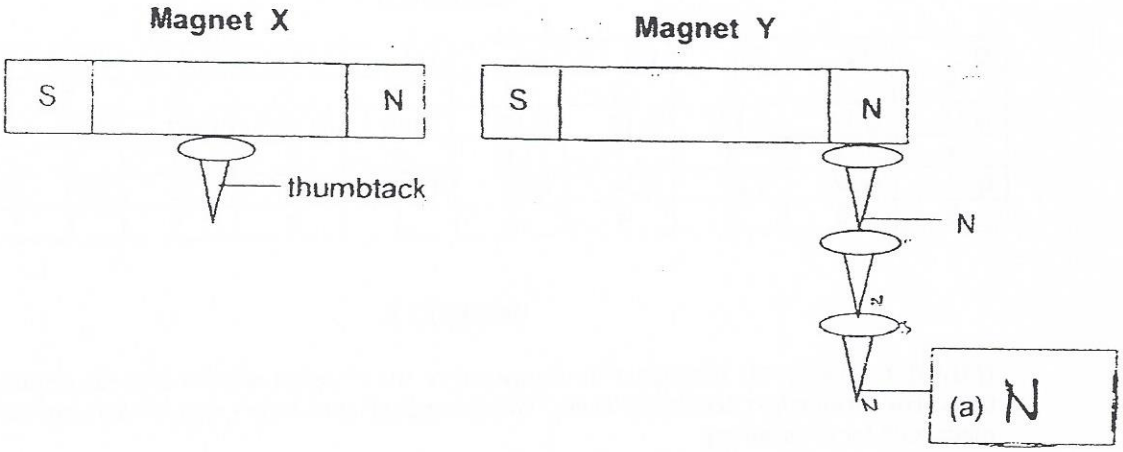
Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
4	3	3	2	1	4	3	2	1	1
Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
1	4	4	1	1	4	2	3	3	2
Q 21	Q 22	Q 23	Q 24	Q 25	Q 26	Q 27	Q 28	Q29	Q30
3	2	3	4	3	1	1	3	3	3

BOOKLET B

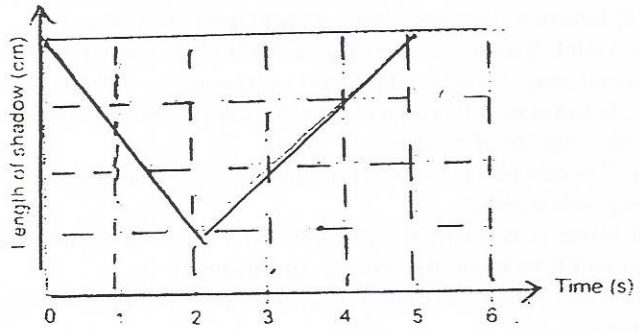
Q31a. i) 0 ii) 4 Q31b. The higher the temperature, the more the number of seeds germinated .
Q31c. The seeding had developed leaves. The chlorophyll in its leaves trapped light and the leaves made food for the seedling.
Q32a. Yellow Q32b. Repeat the experiment thrice and take the average of number of I sects visiting the flowers. Q32c. Colour of flower, Amount of sugar solution added to each flower.
Q33. P. The plant in P has more roots than the plant in Q to take in more water and more leaves than the plant in R for increased rate of transpiration. Thus, more water vapor will escape through the stomata.
Q34a. Part P controls cell division in cells. Q34b. A leaf cell has cell wall but organism X does not.
Q35a. It could provide food and shelter for animal X.
Q35b. Animal X has a better chance of fighting off other predators than Animal V.
Q35c. Animal V's population will decrease. Since animal Z has been wiped out, Animal v will have less source, Hence, it will rely on its other food source and will prey on a greater number of animal V, hence animal V's population will decrease.
Q36a. Fish A has a streamlined body to help it to reduce water resistance and so it can swim faster. Fish B, however does not have a streamlined body shape.
Q36b. Fish B is able to camouflage as its body is similar to the texture and colour of the cerals, rocks and sand it is normally found in. Therefore, fish B is less visible to predators and preys.
Q36C. It can stay still to blend in with its surroundings which are the corals, sand and rocks, toa void detection by their prey.
Q37a. The side of the balance holding container P will tip downwards, lower than the other side holding container Q.
Q37b. More air is pumped into container P than container Q, hence container P contains more mass of air thus it will tip towards the ground.
Q37c. Mass: Amount of matter / substance in an object . Volume : Amount of space a matter occupies.
Q38a. **SEE PICTURE** Q38bi) Increase the number of coils around the iron rod. Q38bii) Add more batteries to the circuit.



Q39a. **SEE PICTURE** Q39b. The thumbtack on Magnet X is placed in the middle of it, while the 3 thumbtacks on the Magnet Y are placed at the magnet's north pole as that is where the magnet is strongest. The thumbtacks should all be placed at the same part of the magnet, which are the poles, which are the strongest to ensure a fair test is carried out.



Q40a. The gravitational forces acting on objects on different planets are different.
Q40b 40kg. Jane's mass, which is the amount of substance or matter she contains, remains constant wherever she goes, and whichever planet she is on.
Q41a. Box Q. It took the shortest time to reach the ground which means that the least amount of friction between the box Q and the camp. This shows that box Q was the smoothest.
Q41b. This ensures that the time taken for the box to reach the ground is only affected by the box surface and not affected by other factors.
Q41c. Foot file X. There is more friction between X and the callus and thus result in more wear and tear. Q42. **SEE PICTURE**



Q43a. The hot tea has more amount of exposed surface area to the surrounding air, when it is "pulled", so it will lose heat at a faster rate. Therefore, the hot tea will cool down more quickly this way. Q43b. There was more exposed surface areas of the crushed ice cube Y than ice cube X, allowing the cup of hot tea containing crushed ice cube Y to lose more heat to the crushed ice cube Y, thus losing heat at a faster rate.
Q44a. Kinetic energy → Gravitational Potential Energy
Q44b. All the kinetic energy has been converted to other forms of energy,which are, sound, heat, and gravitational potential energy.
Q44c. Gravitational force pulled the toy car down.

THE END