NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 2 – 2010
PRIMARY 5

SCIENCE

BOOKLET A

30 Multiple Choice Questions (60 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

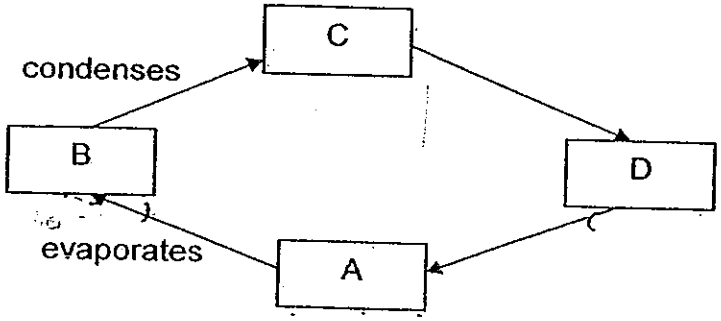
Booklet A		/ 60
Booklet B		/ 40
Total		/100

Name: _____ ( ) Class: P 5 _____

Date : 28 October 2010 Parent's Signature: _____

Section A: (30 x 2marks = 60marks)
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. Study the diagram shown below.



Which one of the following best represents A, B, C and D respectively?

	A	B	C	D
(1)	Clouds	Rain	Water	Water vapour
(2)	Water	Water vapour	Clouds	Rain
(3)	Water	Clouds	Water vapour	Rain
(4)	Clouds	Water vapour	Rain	Water

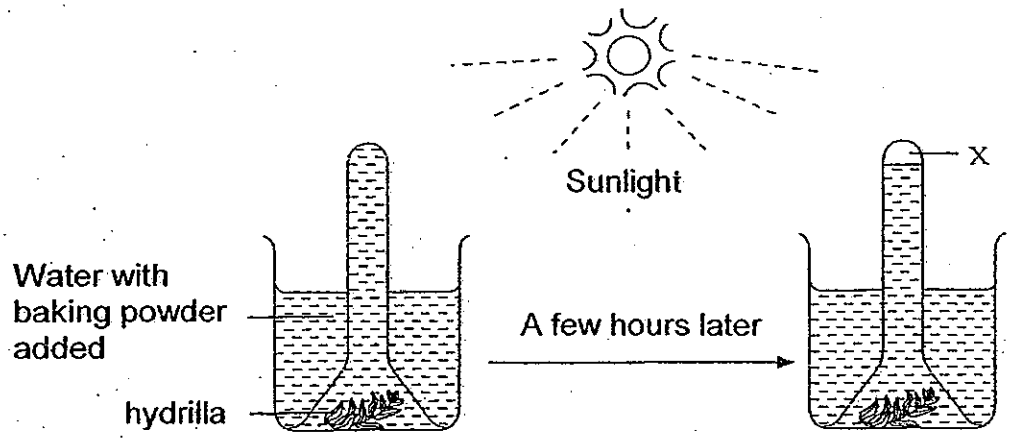
2. Which of the following shows the sequence of the process in the sexual reproduction of flowering plants correctly?

(1) pollination → fertilization → seed dispersal → germination
(2) pollination → fertilization → germination → seed dispersal
(3) seed dispersal → pollination → germination → fertilization
(4) germination → seed dispersal → fertilization → pollination

3. In country X, the death rate is consistently higher than the birthrate each year. What will happen to the country's population in future?

(1) The population of the country will increase.
(2) The population of the country will decrease.
(3) The population of the country will remain the same.
(4) The population of the country will increase and then decrease.

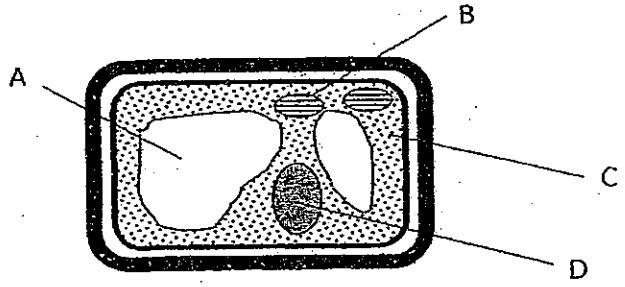
4. Peter set up the experiment as shown below.



After some time, a gas was collected at X. Which of the following statements about the gas collected is true?

(1) The gas will turn limewater chalky.
(2) The gas is required for photosynthesis.
(3) More gas would be collected if less hydrilla was used.
(4) The gas collected shows that the hydrilla is making food.

5. The diagram below shows the different parts of a cell.

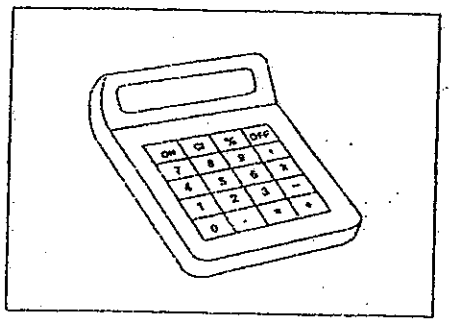


The part of the cell which controls all the activities within the cell is labelled _____.

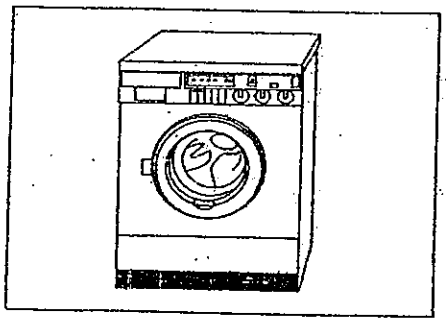
(1) A
(2) B
(3) C
(4) D

6. Which one of the following does not require the use of electricity?

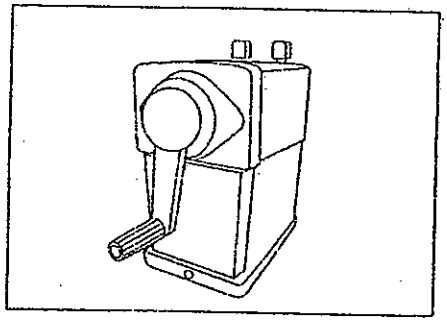
(1)



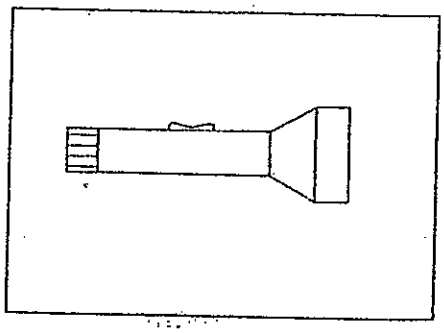
(2)



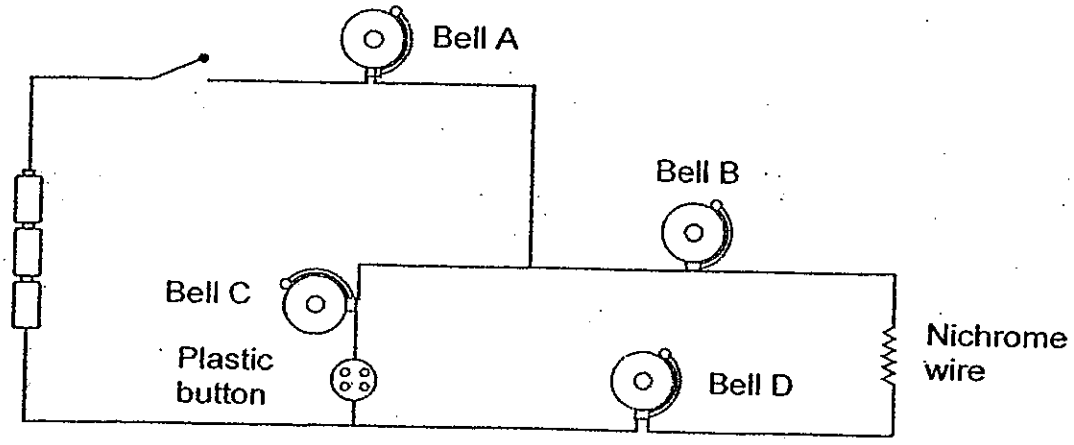
(3)



(4)



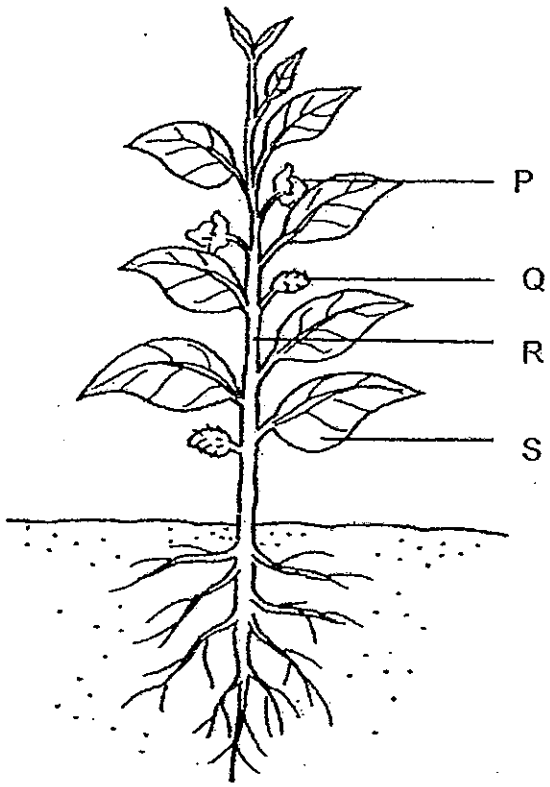
7. Andrew set up a circuit as shown below.



Which of the following bells will ring when the circuit is closed?

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

8. The diagram below shows a plant.



Balsam plant

Identify the part(s) that help(s) the plant to ensure the continuity of its kind.

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

9. In which of the following organs are digestive juices added to the food we eat?

A: Gullet
B: Mouth
C: Large intestine
D: Small intestine
E: Stomach

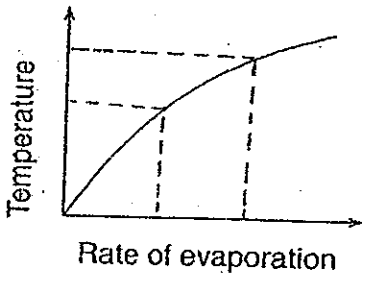
(1) A and C only
(2) B, D and E only
(3) B, C , D and E only
(4) A, B, C, D and E

10. There are four tanks. The table below records the capacity of each tank and the amount of air pumped into each tank. Which tank has the least volume of air in it?

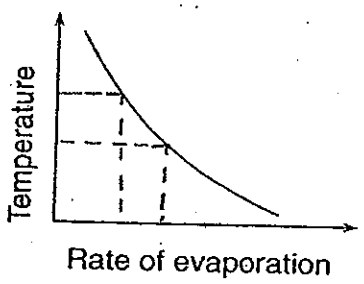
	Capacity of tank/cm^3	Amount of air pumped into the tank/cm^3
(1)	400	300
(2)	300	400
(3)	600	500
(4)	500	600

11. Which one of the following graphs shows the relationship between temperature and the rate of evaporation?

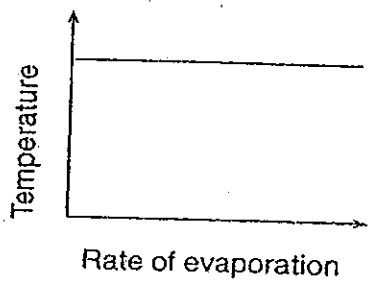
(1)



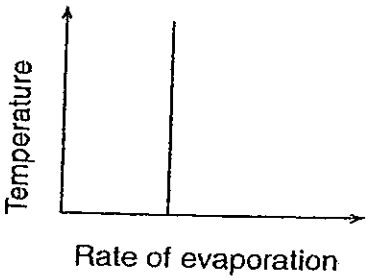
(2)



(3)



(4)

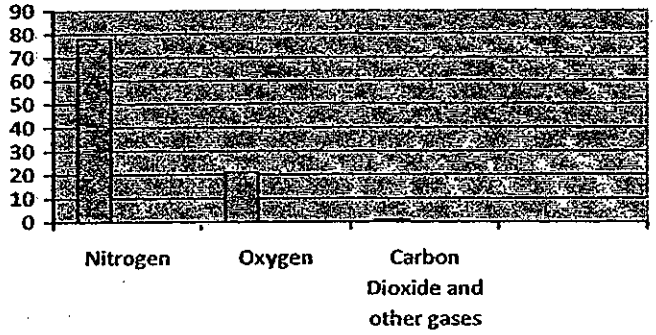


12. Which of the following statements about reproduction in animals are incorrect?

A: Sperms are produced by male animals
B: Eggs are produced by female animals
C: Usually one egg is fertilized by many sperms
D: Fertilization always takes place inside the body of the animals

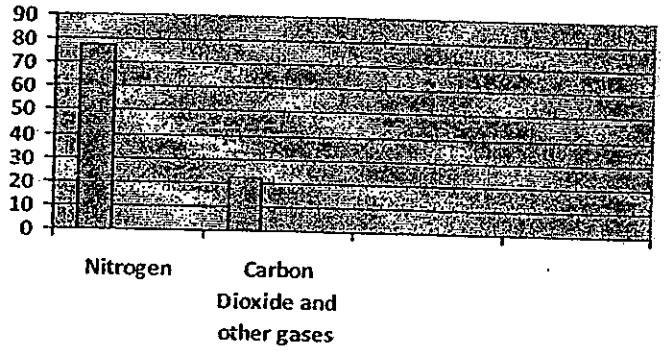
(1) A and B only
(2) B and D only
(3) C and D only
(4) B, C and D only

13. The graph below is the mixture of gases that we breathe in during respiration.

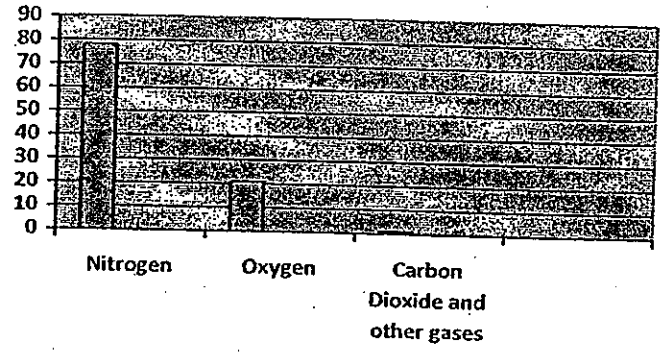


Which one of the following graphs below shows the mixture of gases that we breathe out during respiration correctly?

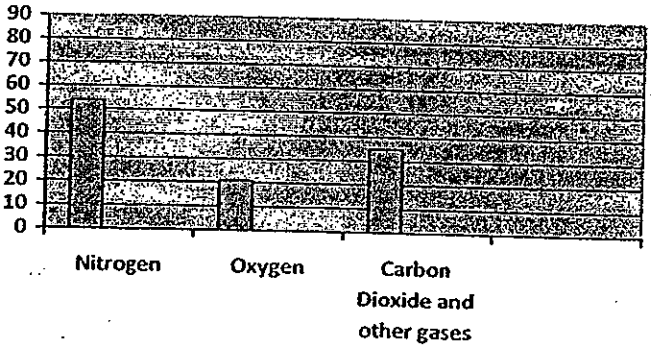
(1)


90
80
70
60
50
40
30
20
10
0
Nitrogen
Carbon Dioxide and other gases

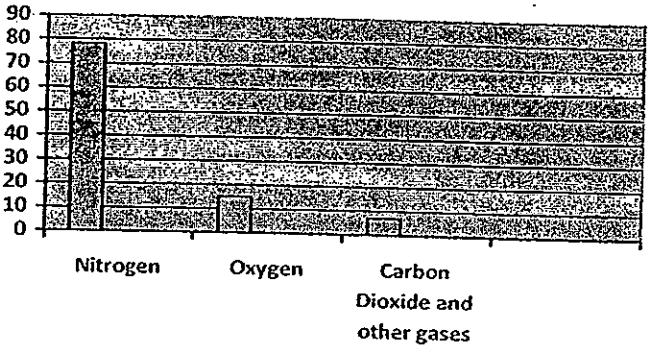
(2)


90
80
70
60
50
40
30
20
10
0
Nitrogen
Oxygen
Carbon Dioxide and other gases

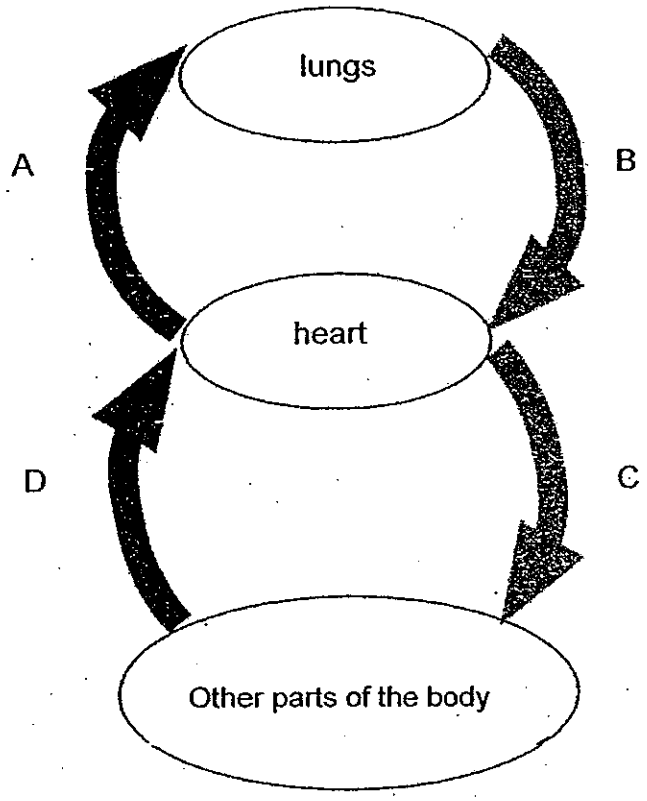
(3)


90
80
70
60
50
40
30
20
10
0
Nitrogen
Oxygen
Carbon Dioxide and other gases

(4)


90
80
70
60
50
40
30
20
10
0
Nitrogen
Oxygen
Carbon Dioxide and other gases

14. The diagram shows how blood is circulated in our body.



Which one of the options below correctly shows the amount of oxygen in our blood at A, B, C and D?

	Less oxygen at	More oxygen at
(1)	A and B	C and D
(2)	A and D	B and C
(3)	B and C	A and D
(4)	B and D	A and C

15. Which of the following is/are most likely to explain why a person faints after losing too much blood?

A: The body loses strength after losing too much blood.
B: The food in the body is lost together with the blood.
C: The shortage of blood results in not having enough warmth being supplied to the various parts of the body.
D: The shortage of blood results in not having enough oxygen and sugar being supplied to the brain.

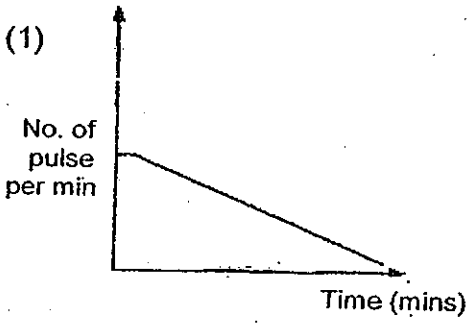
(1) A only
(2) D only
(3) B and C only
(4) A, B , C and D

16. Which one of the following statements about the similarity between the plant and human transport system is incorrect?

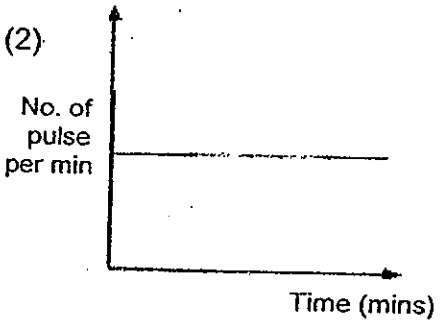
(1) Both systems require liquid as a medium of transport.
(2) Both systems use tubes to transport various materials.
(3) Both systems require oxygen to break food into energy.
(4) Both systems require an organ to help move the materials.

17. Which of the following graphs shows the change in a person's pulse during exercise?

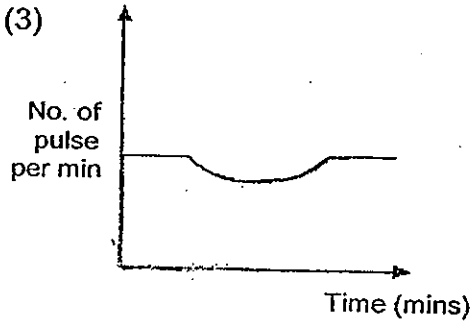
(1)



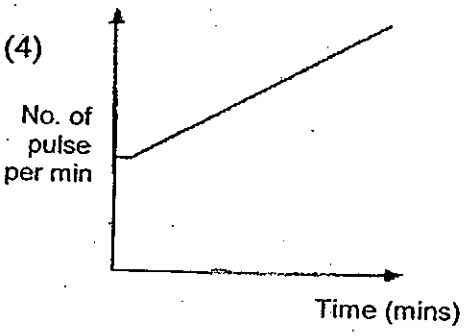
(2)



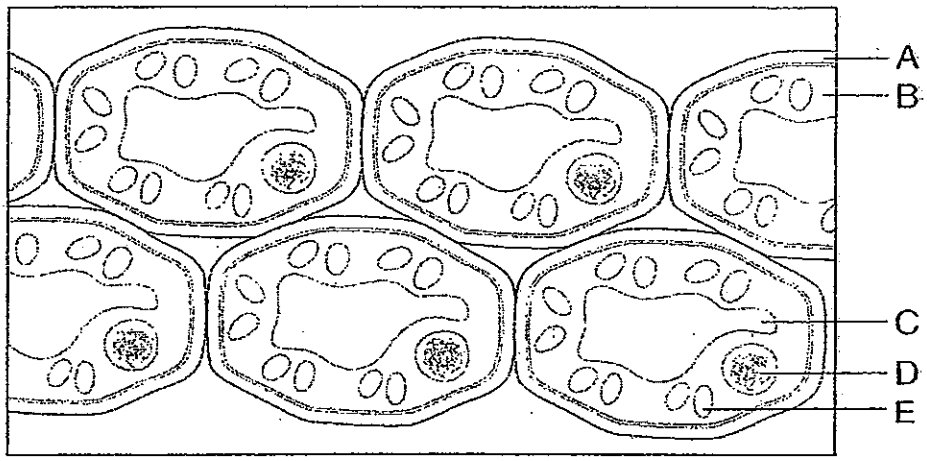
(3)



(4)



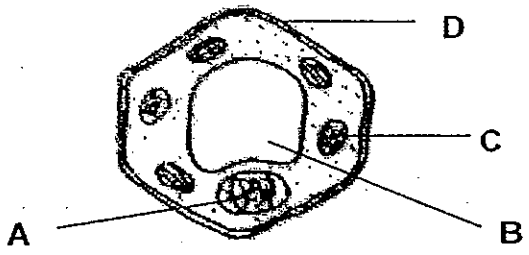
18. The diagram shows some cells as observed through a microscope.



Which part(s) of the cells above tells us that they are plant cells and not animal cells?

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

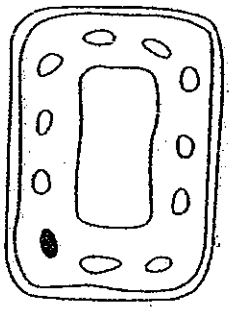
19. Mr. Lim's farm produces ~~manges~~ mangoes that are easily destroyed by pests. His son introduces him to genetic engineering and promises him that will yield crops that are resistant to pests.



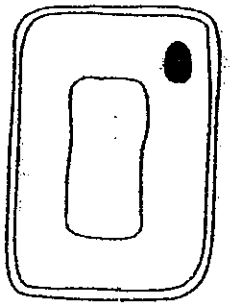
Which part(s) of the cell is/are most likely to have undergone changes in order for the mango plants to adapt to becoming more resistant to pests?

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

20. The cells below are taken from a plant.



Cell A

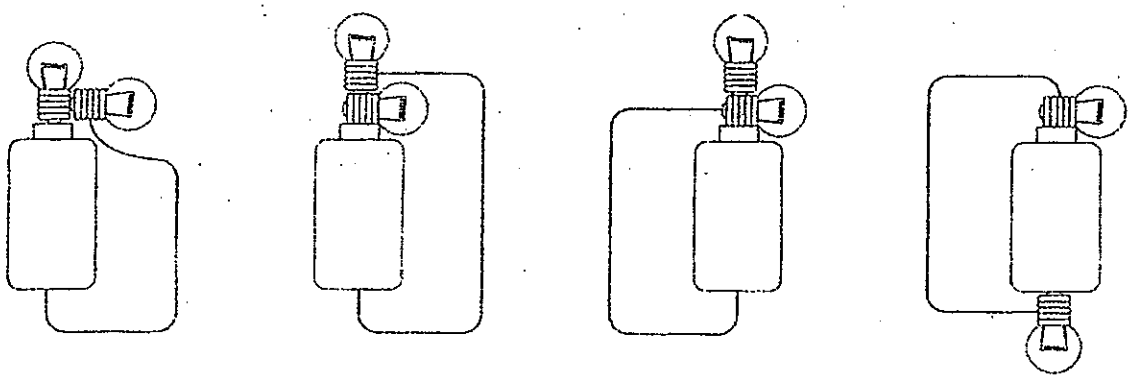


Cell B

Which of the following best represents the parts of the plant where Cell A and Cell B have been taken from respectively?

	Cell A	Cell B
(1)	Roots	Leaf
(2)	Leaf	Roots
(3)	Fruit	Flower
(4)	Flower	Stem

21. Look at the circuits shown below. In which of the following circuits will one bulb light up only.



A B C D

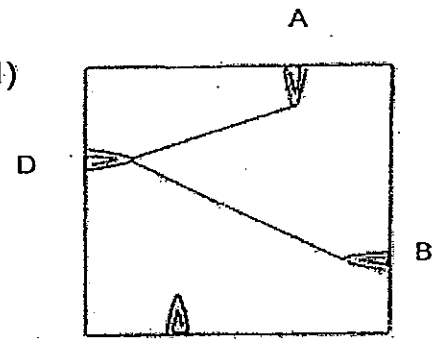
(1) A only
(2) B and C only
(3) B, C and D only
(4) A, B, C and D

22. The table below shows the results of tests done to light up the bulb of a circuit tester on a circuit card. The card has steel paper clips A, B, C and D.

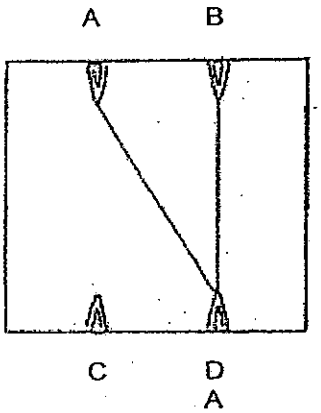
Clips tested	Bulb of circuit tester
A and B	Does not light up
A and C	Does not light up
A and D	Does not light up
B and C	Lights up
B and D	Lights up
C and D	Lights up

Which one of the following shows how the circuit card has been connected?

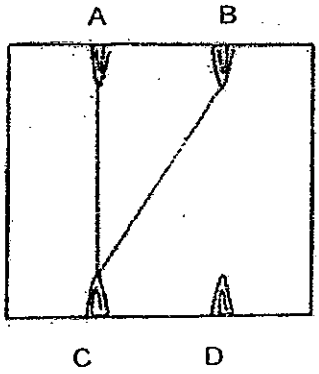
(1)



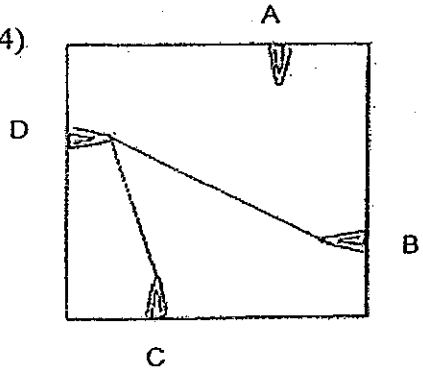
(2)



(3)

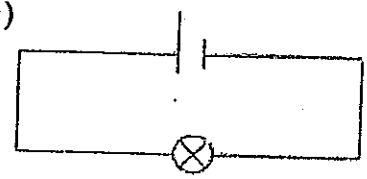


(4)

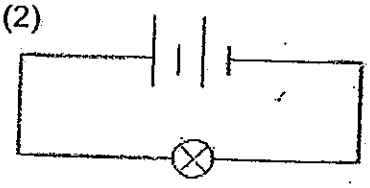


23. In which of the following electric circuits will the bulb shine the brightest?

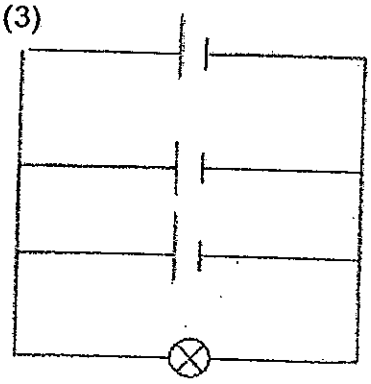
(1)



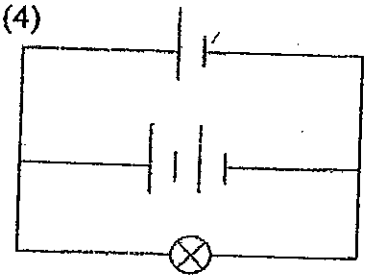
(2)



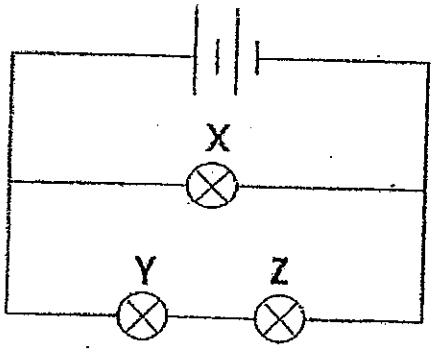
(3)



(4)



24. In the electrical circuit below, two identical dry cells and three identical bulbs are connected as shown below.

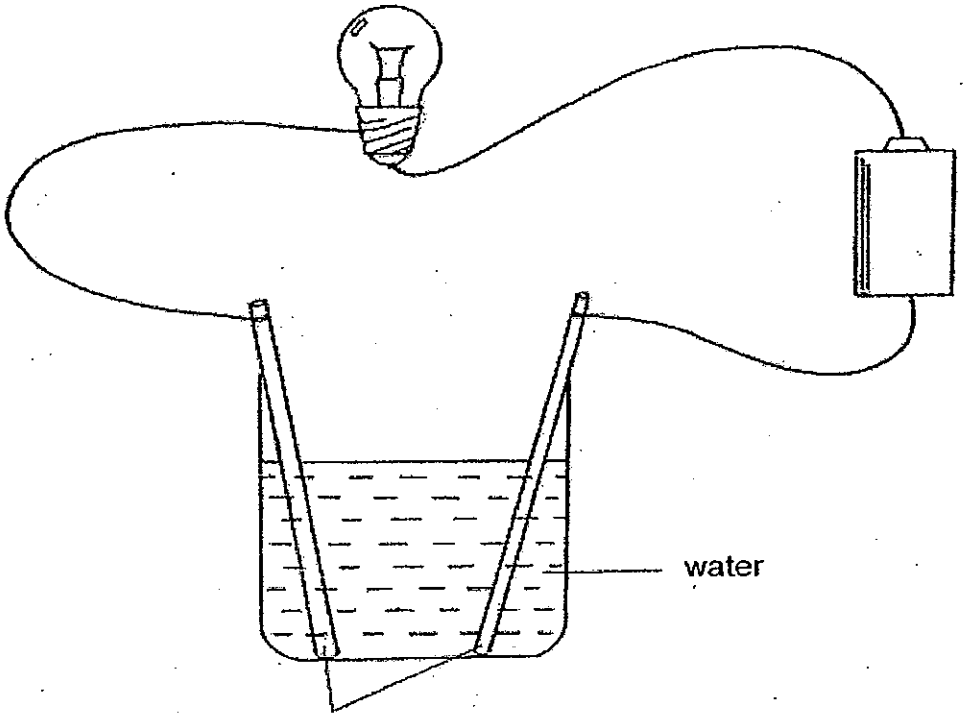


Which of the following statements are true for the setup?

A: Bulb X is brighter than bulb Y.
B: Bulb Y is as bright as Bulb Z.
C: If Bulb X fuses, Bulbs Y and Z will still be lighted up.
D: If Bulb Z fuses, Bulb Y will still be lighted up.

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

25. Kelvin set up an electrical circuit as shown below.

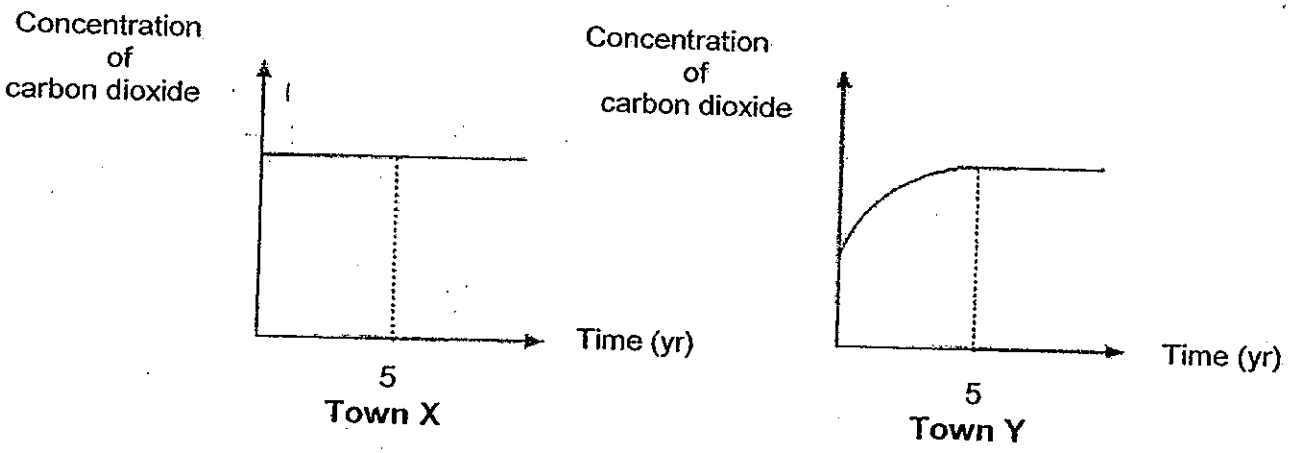


The bulb does not light up in the circuit above. However, after he has dissolved a tablespoon of salt into the water in the same setup above, the bulb lights up. What conclusion can he make from the experiment?

A: Water is a conductor of electricity.
B: Water does not conduct electricity.
C: Salt can make water become an electrical insulator.
D: Salt can make water become an electrical conductor.

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

26. Study the two graphs below carefully. They show the amount of carbon dioxide in the air of 2 towns, X and Y, over a period of five years.



From the graphs above, we can infer that:

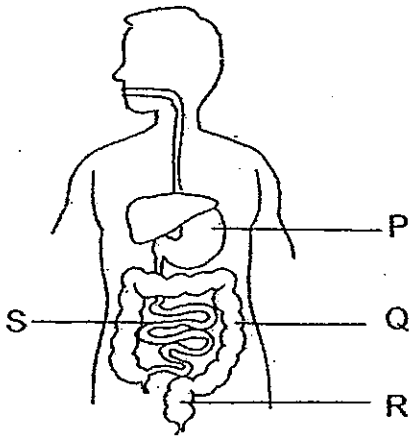
A: the air in Town X is more polluted than that in Town Y.
B: industrial activities in Town Y have increased over the five years.
C: both towns produced different amounts of carbon dioxide until the 5^{th} year.
D: the number of motor vehicles in Town Y could have decreased over the five years.

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

27. The diagram below shows parts of our digestive system.

The following statements A, B, C and D describe the activities that take place at the various part of our digestive system.

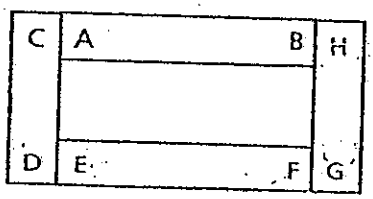
A: Solid waste can be passed out from here.
B: Digested food enters the blood stream from here.
C: A mixture of water and ~~digested~~ undigested food is found here.
D: The swallowed food is in liquid and can remain here for 2 to 3 hours.



Which of the following best matches the activities to the parts of the digestive system P, Q, R and S respectively?

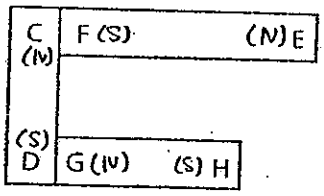
	P	Q	R	S
(1)	C	A	D	B
(2)	D	C	A	B
(3)	D	B	A	C
(4)	C	D	A	B

28. The diagram below shows the arrangement of four bar magnets that form a rectangular frame.

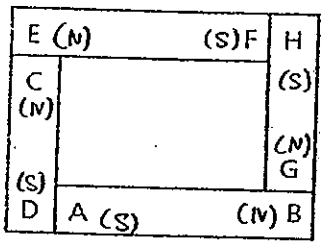


Which of the following arrangements is/are not likely to be the interaction between the magnets?

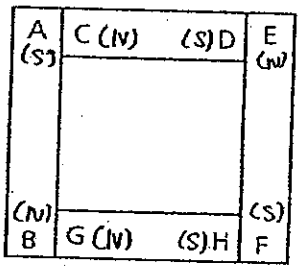
A:



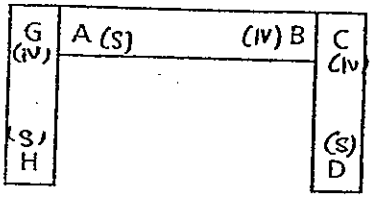
B:



C:



D:



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

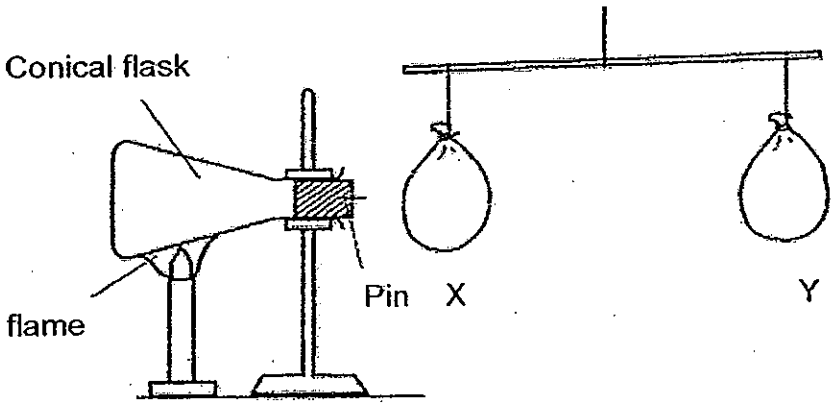
29. The table below shows the comparisons between the life cycles of a butterfly and a housefly.

		Butterfly	Housefly
A	Feeds on leaves when young?	√	√
B	Has wings in the larval stage?	x	x
C	Has a 4-stage life cycle?	√	x
D	Resembles its parent in many ways when young?	x	x

Which of the following set of comparison between the life cycle of the two organisms is/are incorrect?

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

30. Mary set up the apparatus as shown below.



Inflated balloons X and Y were balanced on a balance. What will Mary observe if she heats up the conical flask as shown?

A: Air in the flask contracts.
B: The balance tilts towards Balloon X.
C: The balance tilts towards Balloon Y.
D: The cork shoots out of the conical flask

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

NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2010
PRIMARY 5

SCIENCE

BOOKLET B

14 Open-ended questions (40 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

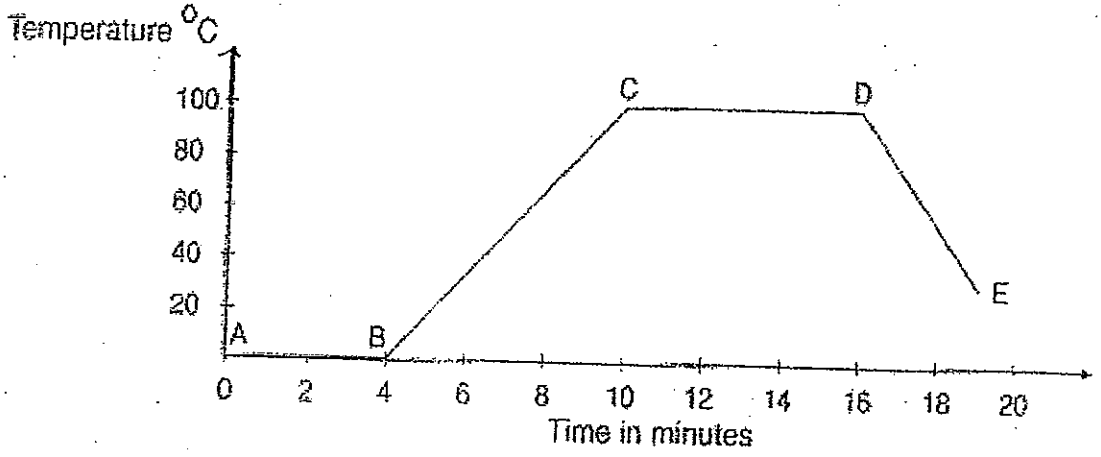
Section B		/40

Name: _____ ( ) Class: P 5 _____

Date : 28 October 2010 Parent's Signature: _____

Section B: (40marks)
Write your answers to question 31 to 44.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Some ice-cubes are heated and the changes in temperature are recorded in the graph below.



(a) Which part of the graph shows the ice-cubes were in the process of melting? [1]

_____

(b) What does the part CD show you? [1]

_____

_____

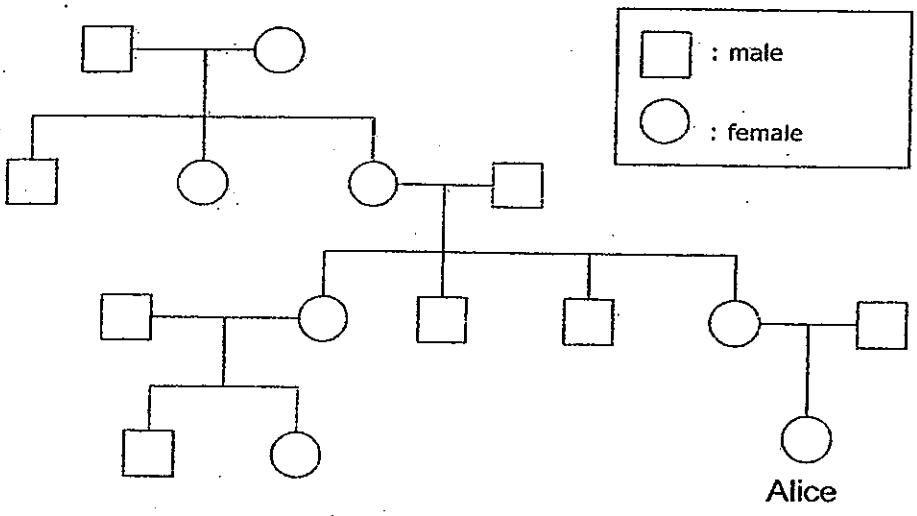
(c) If the heating did not stop, what could be a possible reason for the part represented by DE? [1]

_____

_____

Score	3

32. Study Alice's family tree shown below.



(a) How many aunts does Alice have? [1]

_____

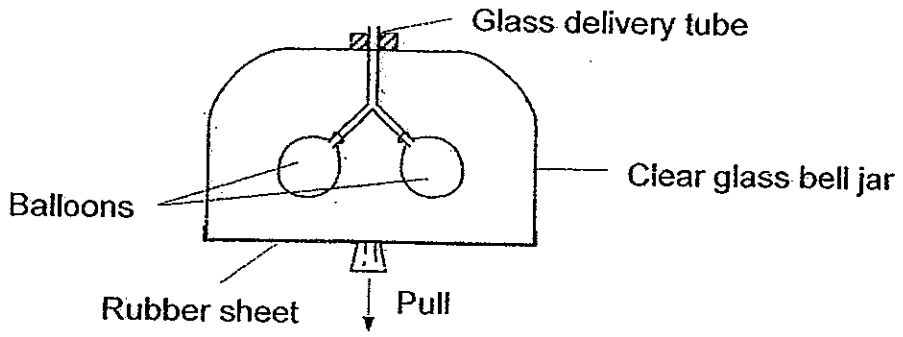
(b) How many cousins does Alice have? [1]

_____

(c) **Circle** Alice's grandmother in the diagram above. [1]

Score	/3

33. The diagram below shows a model of the human respiratory system.



(a) What happens to the balloons when the rubber sheet is pulled down? [1]

_____

_____

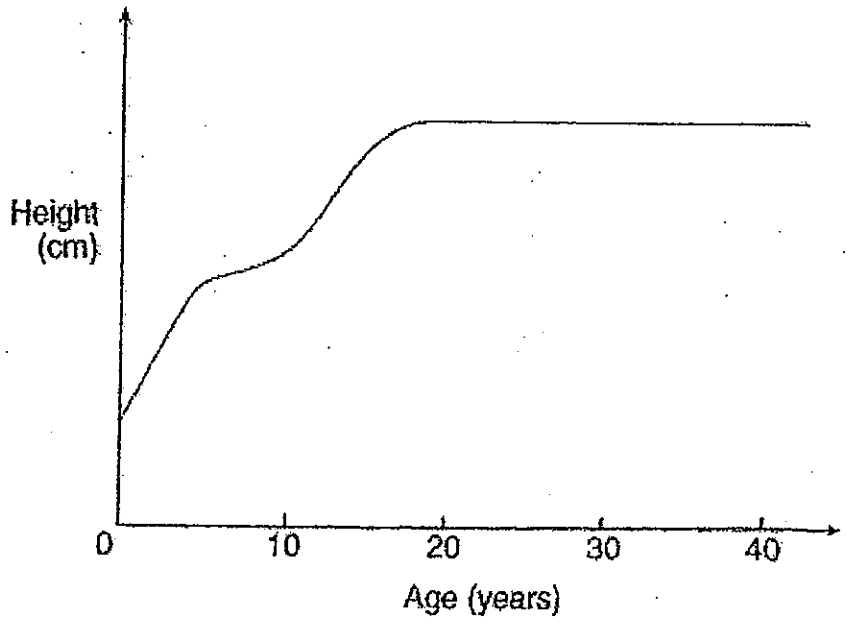
(b) If there was a ribcage in this model, how would it move when the rubber sheet was pulled down? [1]

_____

_____

Score	2

34. The graph below shows Mr Tan's height from birth till he was 40 years old.



(a) Mr Tan concluded that the increase in his height through the years was due to cell division. What other factors contributed to his increase in height over the years? [1]

_____

_____

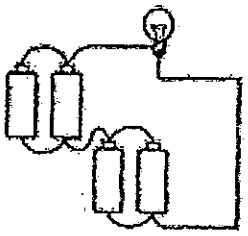
(b) Mr Tan claimed that cell division in his body stopped when he reached 21 years old. Do you agree with him? State a reason for your answer. [1]

_____

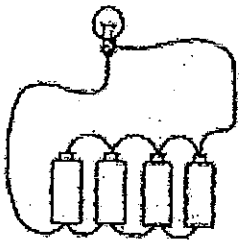
_____

Score	/2

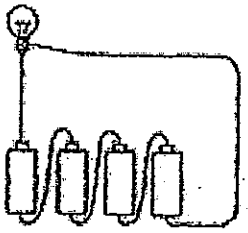
35. Ali, Ben, Carl and Dan were each given four dry cells, a bulb and some wires to make a closed circuit. The diagram below shows how each of them arranged their dry cells and bulbs.



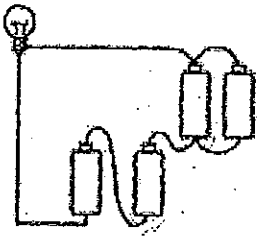
Ali



Ben



Carl



Dan

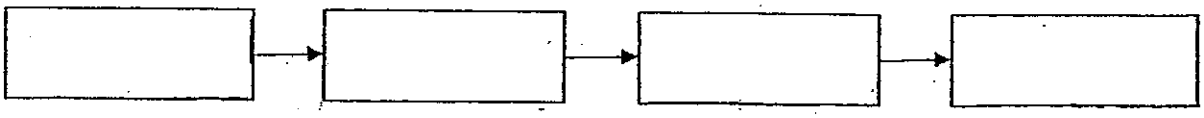
(a) Whose arrangement would ensure that he gets a supply of light for the longest possible time? [1]

_____

(b) Whose bulb would light up the brightest? [1]

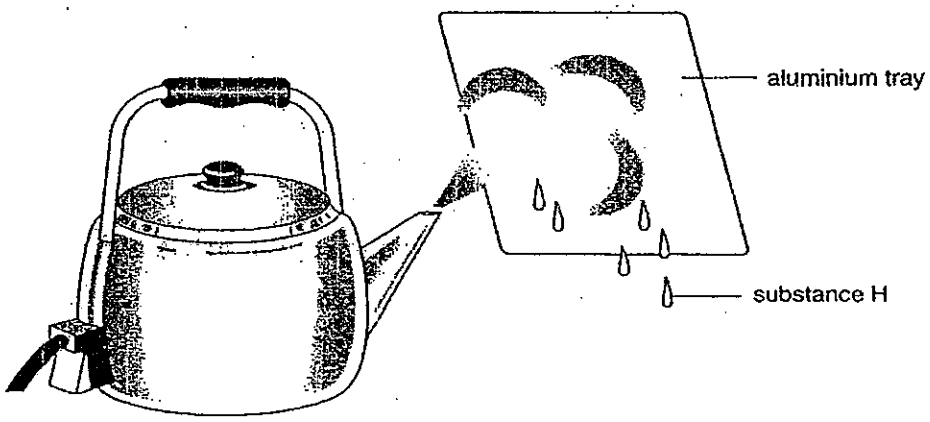
_____

(c) Write down the pupil's names in the boxes below, in order of the brightness of the bulb on their circuit starting with the brightest. [2]



Score	/4

36. Some water is boiled in an electric kettle as shown in the diagram.



When an aluminium tray is held at a short distance from the spout of the kettle, drops of substance H are formed as shown in the diagram above.

(a) What is substance H? [1]

_____

(b) Explain how substance H is formed. [2]

_____

_____

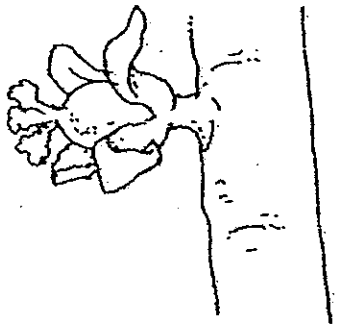
(c) It is noticed that as time passes, less and less substance H is formed. Why is it so? [1]

_____

_____

Score	4

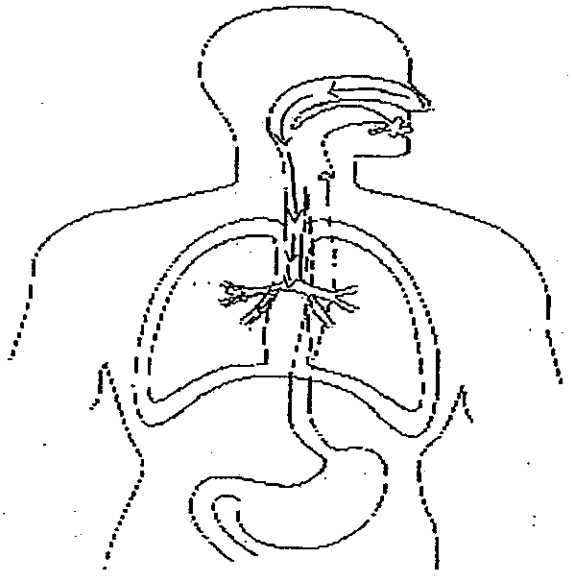
37. Mr Lim wants to pollinate the flowers of his papaya trees so that they can bear fruits quickly. He has a cotton bud that is dusted with pollen grains.



(a) **Draw an arrow** to show where exactly on the flower, to show where the cotton bud should touch in order to transfer the pollen. [1]

(b) **Label** the part identified in (a) correctly. [1]

38. (a) Use arrows to show the passage of air moving as we breathe in [1]

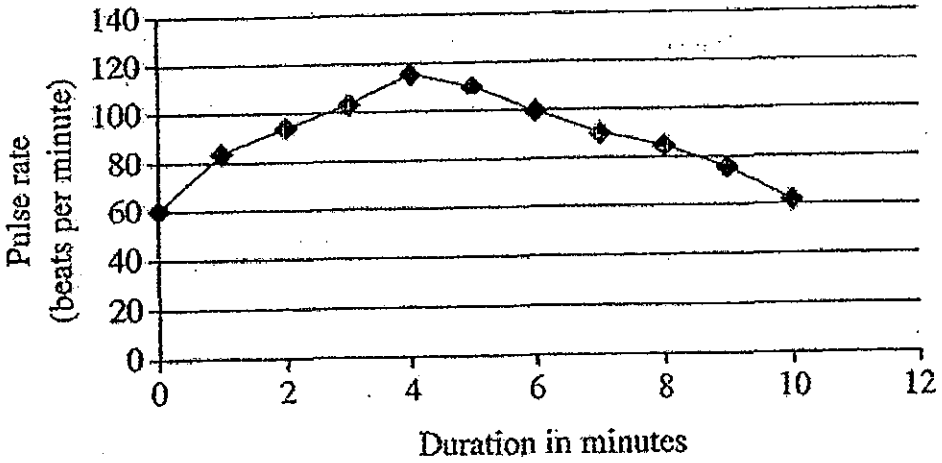


(b) Why is it vital for our heart to beat all the time? [1]

_____

Score	/4

39. Kelvin wants to find out what happens to his pulse rate when he exercises. He measures his pulse his pulse every minute for 10 minutes and then draws the following graph.



(a) Based on the graph, what is Kelvin's normal pulse rate? [1]

_____

(b) Kelvin's ~~William's~~ pulse rate increases as he exercises. Explain why? [2]

_____

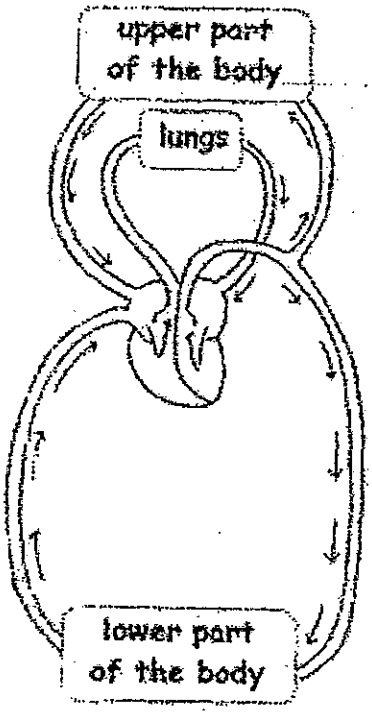
_____

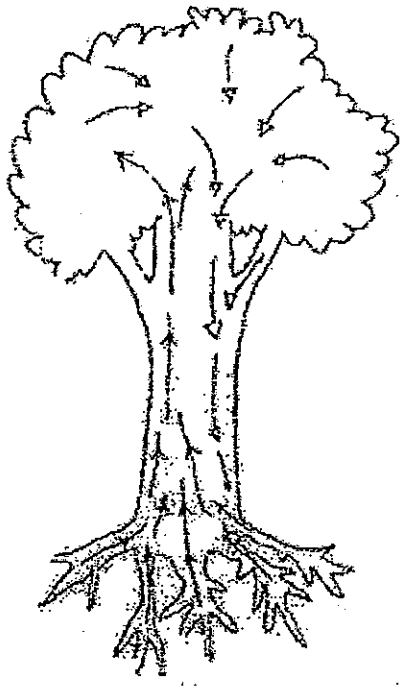
_____

_____

Score	3

40. Study the two diagrams below carefully.





The transport systems in plants and in human beings are both similar and special in their own ways. Write down one similarity and one difference about them.

(a) Similarity: [1]

_____

_____

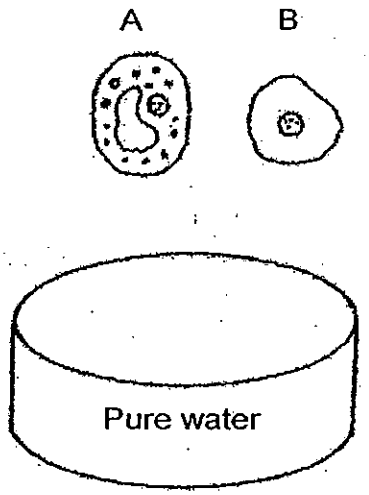
(b) Difference: [1]

_____

_____

Score	/2

41. Lily carries out an investigation with a pair of cells, A and B respectively. She places one pair of plant cell and animal cell in pure water.



(a) What will happen to the cell A and B respective in pure water after a few hours? [2]

_____

_____

(b) Give a reason for your answer in (a). [2]

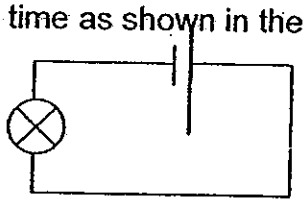
_____

_____

_____

Score	4

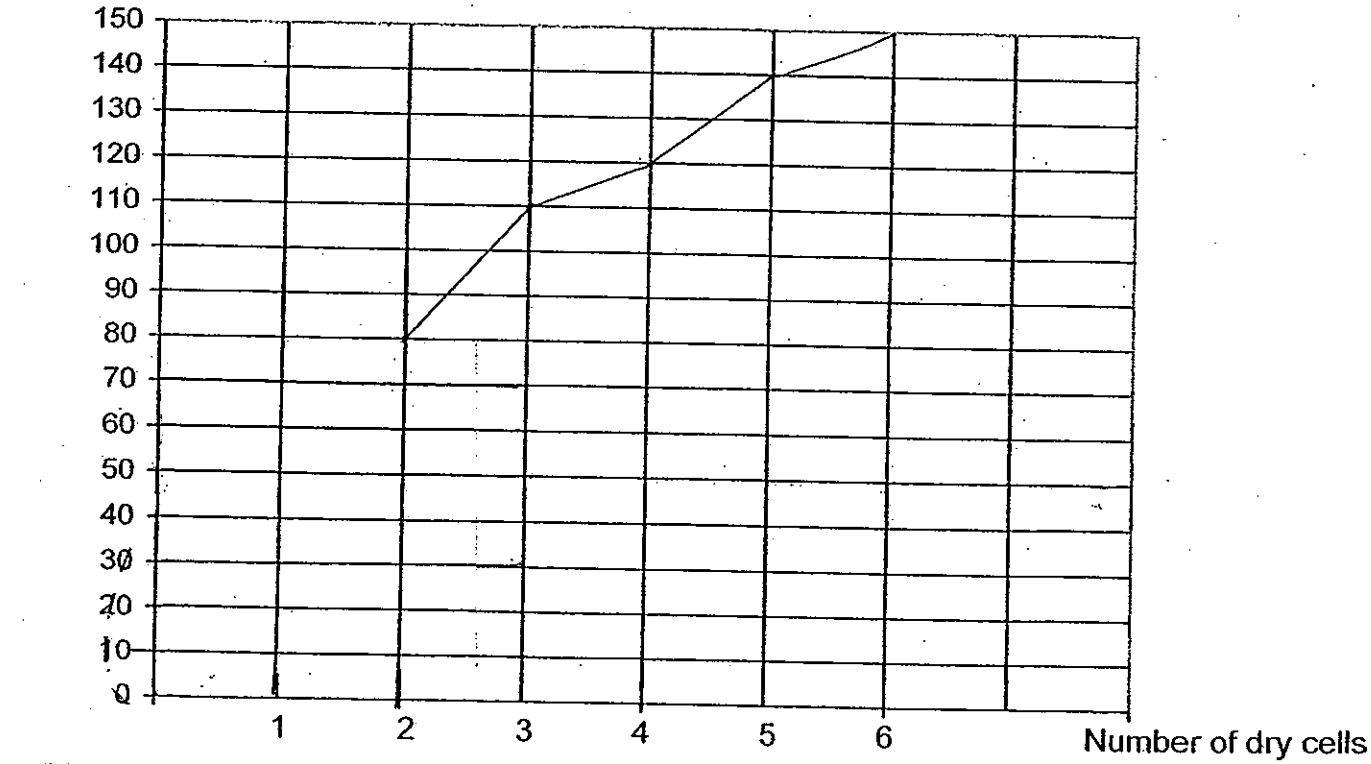
42. Ali wanted to test the brightness of the bulbs by increasing the number of dry cells each time as shown in the diagram below.



He used a datalogger to record the brightness of each bulb when he increased the number of dry cells. He recorded his findings on the table below.

Number of dry cells	Light intensity of bulb (Lux)
1	60
2	80
3	110
4	120
5	140
6	150

(a) **Plot a line graph** based on the data provided in the table above. [3]

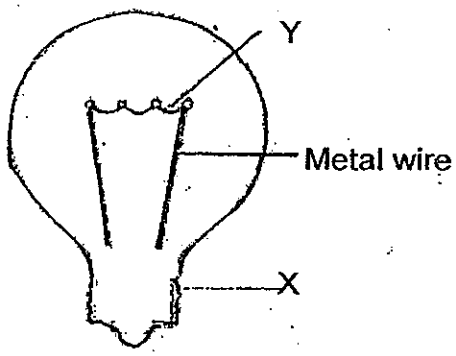


(b) What is the relationship between the number of batteries and the light intensity of bulb? [1]

_____

Score	4

43. The diagram below shows an incomplete diagram of the internal parts of a bulb.



(a) **Complete the diagram** by **drawing** to show how the wires are connected within the bulb. [2]

(b) What is being produced at Part Y other than light? [1]

_____

_____

44. Alex wanted to design a circuit with a bulb, 3 dry cells and some wires. He wanted to conserve the energy of the dry cells for the circuit. Draw the circuit that best suits his needs in the box provided with all the materials provided. [2]

End of Paper

Score	/5

Ans

EXAM PAPER 2010

SCHOOL : NAN HUA PRIMARY
SUBJECT : PRIMARY 5 SCIENCE

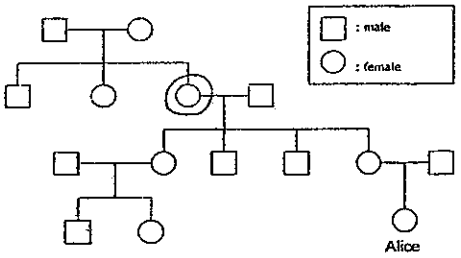
TERM : SA2

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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	1	2	3	4	2	2	4	2	2	4	3	3

31a) Part AB
31b) It shows me that the water had reached its boiling point.
31c) Ice cubes were added.

32a) Alice has only aunt.
32b) Alice has two cousins.
32c)



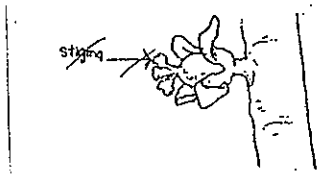
33a) The balloons will inflate.
33b) The ribcage will move up and outwards.

34a) Cell growth also lead to the height increase.
34b) No, because his cells still divide, but only to replace the old and dead cells.

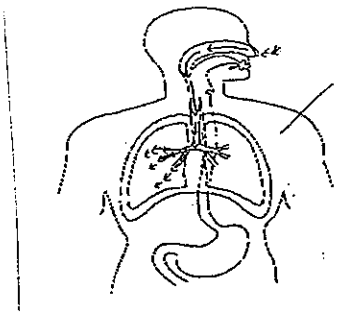
35a) Ben
35b) Carl
35c) Carl → Dan → Ali → Ben

36c) As time passes, the tray gains more heat and increases in temperature thus slows down the rate of condensation of the steam.

37a)
37b)



38a)



38b) So our heart can pump blood, carbon dioxide and oxygen around our body all the time.

39a) 60 beats per minute

39b) His pulse rate increases as he exercises because when he was exercising, he needs more oxygen, food and nutrients, to respire t provide more energy, so his heart must pump faster.

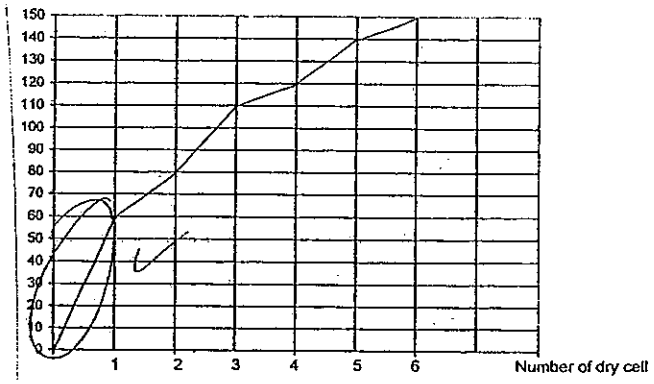
40a) They both transports materials around.

40b) The human transport system has an organ to pump materials around, but the plant transport system does not have an organ.

41a) The plant cell becomes swollen and hard and does not burst whilst the animal cell will swell up and burst.

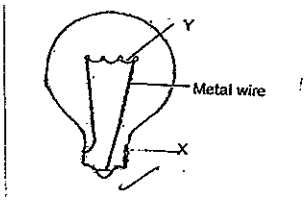
41b) The plant cell has a cell wall which protects it and preventing it from bursting. The animal cell does not have a cell to support the cell membrane.

42a)



42b) The larger the number of batteries, the brighter the light intensity of the bulb.

43a)



43b) Heat

44)