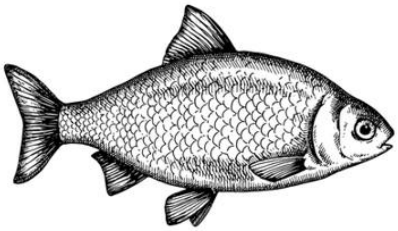
**SECTION A: (18 × 2 MARKS)**

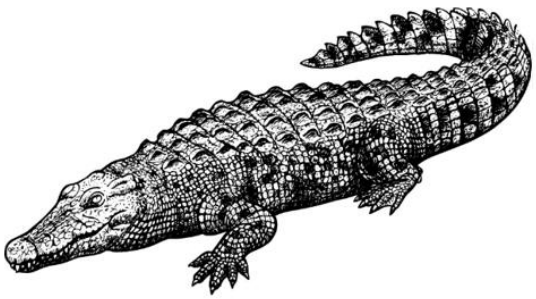
For each question from 1 to 20, three options are given. One of them is the correct answer. Make your choice (1, 2 or 3). Shade your answer on the Optical Answer Sheet (OAS) provided. [40 marks]

1. The living thing shown is a _____.

(1) fungi
(2) flowering plant
(3) non-flowering plant ( )

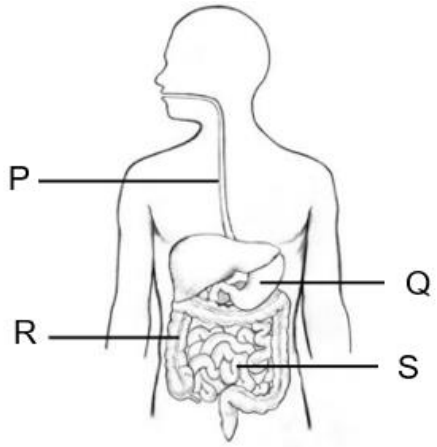
2. Which one of the following characteristics can be used to differentiate between a fish and a reptile?





(1) have gills
(2) have a tail
(3) have scales ( )

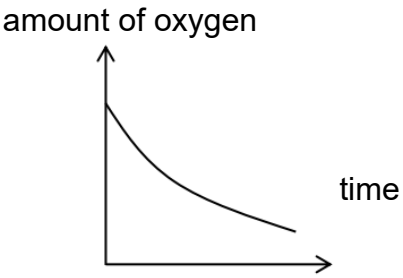
3. Which of the organs do not produce digestive juices?



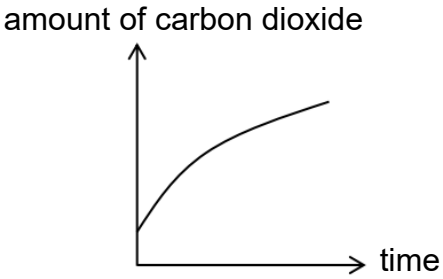

(1) P and Q
(2) R and S
(3) P and R ( )

4. A group of people was trapped in a lift. The following graphs show the changes in the amount of gases in the lift. Which one of the following graphs is incorrect?

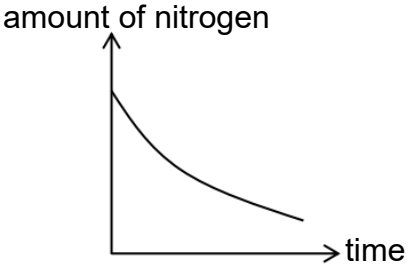
(1)




(2)




(3)




( )

5. The diagram below shows a food chain.

plant X → insect Y → bird Z

Which of the following statements is correct?

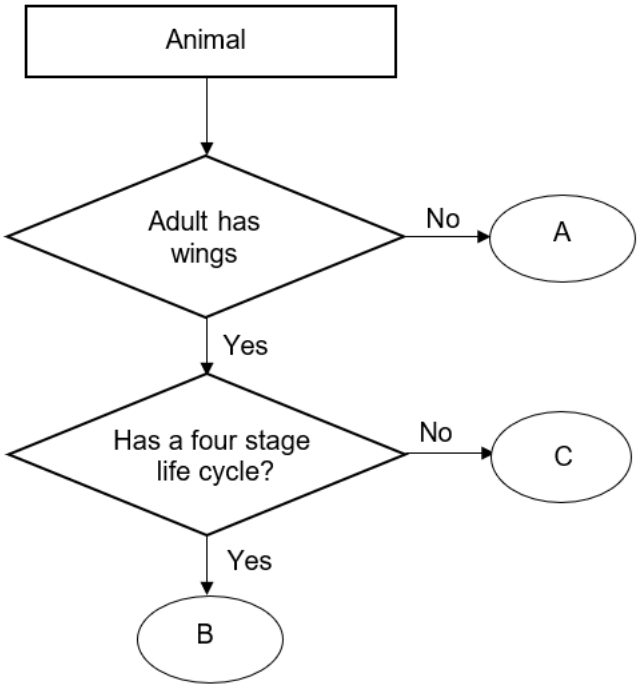
(1) Plant X is a consumer.
(2) Bird Z is a prey of insect Y.
(3) Population of Insect Y is more than population of Bird Z. ( )

6. Which of the following substances are carried in the plant transport system?

A: food
B: water
C: chlorophyll

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

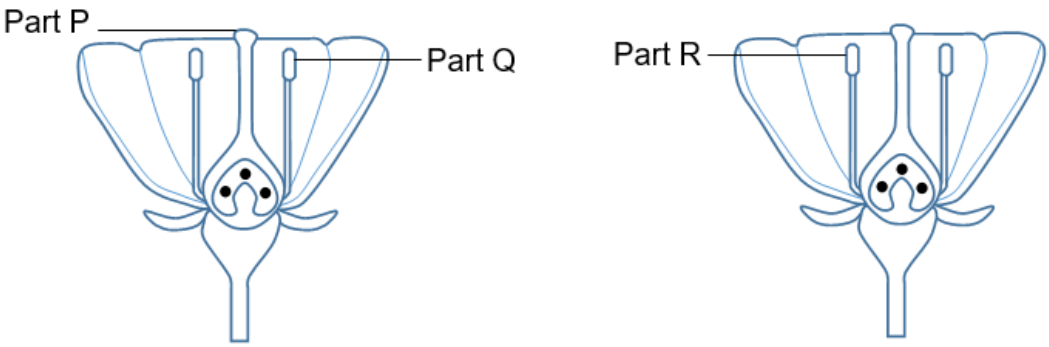
7. Study the flowchart.




Which animal is most likely to be a cockroach?

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

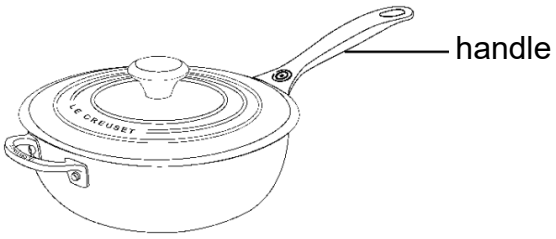
8. Study the diagram below.




Pollination takes place when pollen grains are transferred from _____ .

(1) P to Q
(2) Q to R
(3) R to P ( )

9. The diagram below shows a cooking pot with a handle.



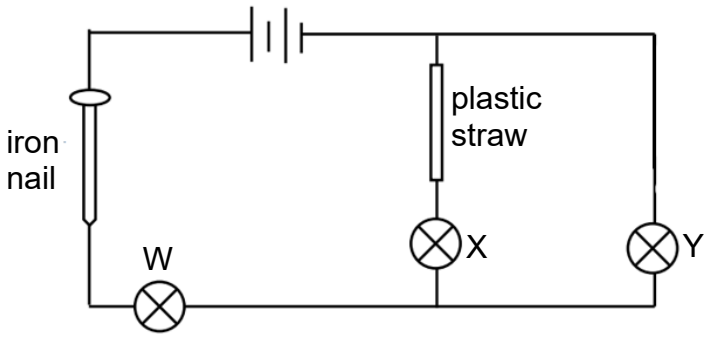

Study the properties of three materials shown below.

| Material | Property of material | |
|---|---|---|
| | Bend easily without breaking? | Conduct heat easily? |
| X | yes | no |
| Y | no | yes |
| Z | no | no |

Which material is most suitable for making the handle?

(1) X
(2) Y
(3) Z ( )

10. Study the circuit below.




Which of the following bulb(s) will light up?

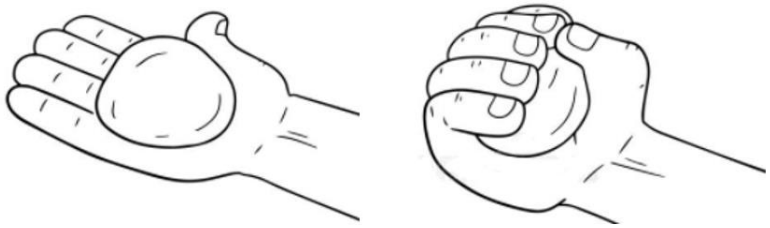
(1) W only
(2) W and Y
(3) W, X and Y ( )

11. Derrick wants to find out whether the amount batteries in the circuit can affect the brightness of a bulb. Which one of the following variables must he keep constant?

A: type of wire
B: length of wire
C: number of batteries

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

12. Francis squeezed some plasticine into a ball as shown below.



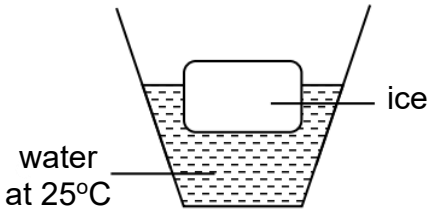
What happened to the mass of the plasticine?

(1) increases
(2) decreases
(3) remains the same ( )

13. Steven wanted to measure the volume of some orange juice. Which of the following equipment should he use?

(1) beam balance
(2) weighing scale
(3) measuring cylinder ( )

14. A glass containing a block of ice and some water at 25°C was placed in a room.




Which of the following statements is correct?

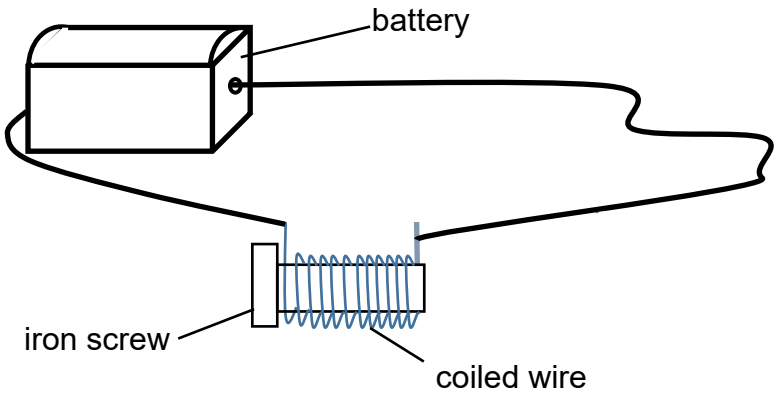
(1) The ice will change its state.
(2) The ice will lose heat to the water.
(3) The water will gain heat from the ice. ( )

15. Mandy placed Object P near a magnet. Object P was attracted to the magnet.


Object P is made of _____.

(1) aluminium
(2) copper
(3) steel ( )

16. David set up an electromagnet as shown below.



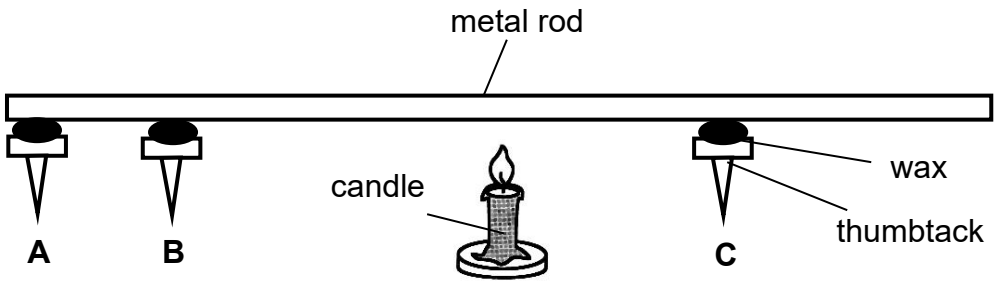

He counted the number of paper clips that can be attracted by the electromagnet. How can he increase the number of paper clips attracted?

(1) Reduce the number of coils
(2) Increase the number of batteries in series.
(3) Replace the iron screw with wooden block. ( )

17. Which of the following correctly shows the path of light that allows Helen to read?

(1) (2) (3)

18. Three thumbtacks are attached to a metal rod using small pieces of wax. The metal rod is then heated with a lighted candle as shown in the diagram below.




Which of the thumbtacks will be the last to drop?

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

**SOME USEFUL WORDS***

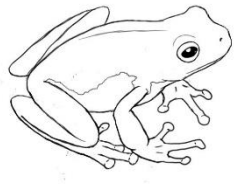
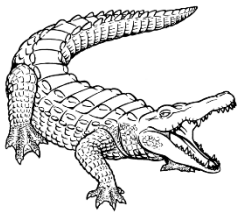
| | | | |
|---|---|---|---|
| 1 | anus | 40 | mammal |
| 2 | attract / repel | 41 | mass / weight |
| 3 | battery | 42 | measuring cylinder |
| 4 | blood (vessel) | 43 | melt / melting |
| 5 | boil / boiling | 44 | metal |
| 6 | breathe | 45 | mouth |
| 7 | bulb | 46 | muscles |
| 8 | butterfly | 47 | mushroom |
| 9 | carbon dioxide | 48 | nitrogen |
| 10 | chicken | 49 | (north / south / like) poles |
| 11 | circulation | 50 | nose |
| 12 | cockroach | 51 | oxygen |
| 13 | condense / condensation | 52 | plastic / rubber / wood |
| 14 | conductor / insulator | 53 | pollinate / pollination |
| 15 | contract / contraction | 54 | pollute / pollution |
| 16 | (electric) current | 55 | predator |
| 17 | digestion | 56 | prey |
| 18 | earth | 57 | |
| 19 | electricity /electrical circuit | 58 | push/pull |
| 20 | evaporate / evaporation | 59 | reflect |
| 21 | expand / expansion | 60 | reproduce |
| 22 | fertilise / fertilisation | 61 | respiration |
| 23 | flexible | 62 | root |
| 24 | float /sink | 63 | seed (dispersal) |
| 25 | freeze / freezing | 64 | shadow |
| 26 | frog | 65 | shape |
| 27 | fungi | 66 | skeleton |
| 28 | gas | 67 | solid |
| 29 | germinate / germination | 68 | space |
| 30 | heart | 69 | spore |
| 31 | heat (gain / loss) | 70 | spring balance |
| 32 | insect | 71 | steam |
| 33 | (large/small) intestine | 72 | steel |
| 34 | iron | 73 | stem |
| 35 | leaf | 74 | stomach |
| 36 | light | 75 | switch |
| 37 | liquid | 76 | temperature / thermometer |
| 38 | lung | 77 | volume |
| 39 | magnet / magnetic material | 78 | water (vapour) |

***This list is not exhaustive. Candidates may be required to use words not found in the list.***

**SECTION B: (34 MARKS)**

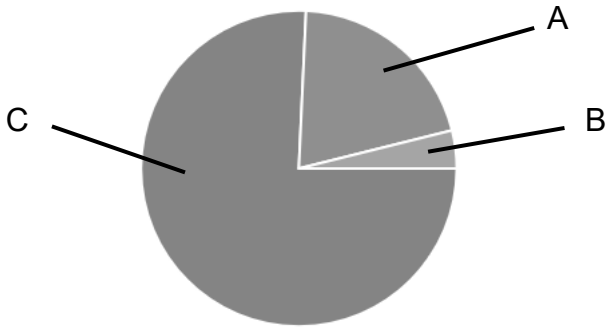
Write your answers in the blanks provided. The number of marks available is shown in brackets [ ] at the end of each question or part question. [34 marks]

21. Match the animals below to the correct outer covering. [3]

| | | |
|---|---|---|
| ● | ● | ● |
| ● | ● | ● |
| dry scales | fur | smooth, moist skin |

22. Study the pie chart below. [3]



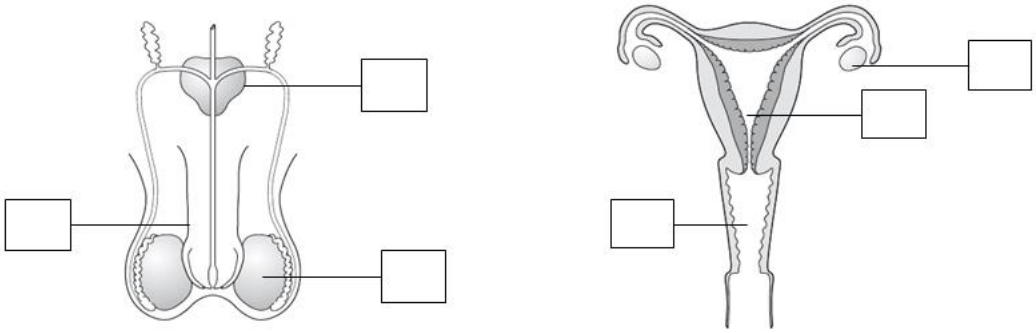

Tick (✓) the appropriate boxes to identify Gases A, B and C.

| | oxygen | nitrogen | carbon dioxide and other gases |
|---|---|---|---|
| A | | | |
| B | | | |
| C | | | |



| SCORE | 6 |
|---|---|

23. The diagram below shows the male and female reproductive systems.



male female

(a) Tick (✓) in the boxes above where the sperm and egg are produced. [2]

(b) What is fertilisation? [1]

_____

_____

24. Fill in the blanks with the one of following words. [4]

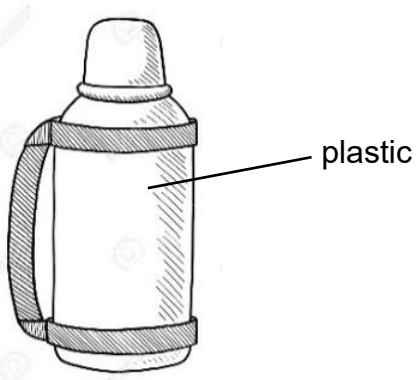
increase, food, decreases, hunt

(a) The population of organism decreases if there is a shortage of _____.

(b) When the population of the predator _____ due to a disease, the population of its prey will _____.

(c) Camouflage helps a predator to _____ its prey.

25. A water flask is made of plastic.




Hendra accidentally drops his flask but it did not break.

(a) State the property of plastic that prevents the flask from breaking [1]

_____

(b) If the water flask was made from paper instead of plastic, can it still function? Explain. [1]

_____

_____

26. Study the circuit given below.

(a) Explain why the bulb will light up only when the switch is closed? [1]

_____

_____

(b) Construct a circuit diagram below to represent the circuit. [2]

27. Fill in the blanks with the words given below.

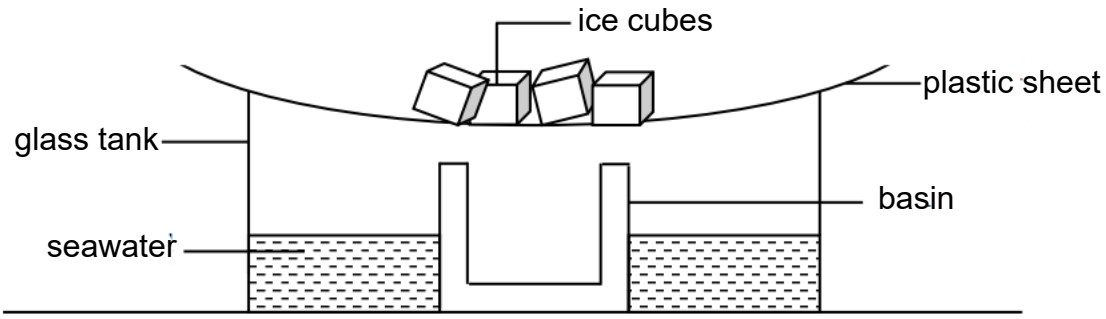
| shape | volume | size |
|---|---|---|

3

(a) Air can be compressed because it has no definite _____. [1]

(b) Water can fill up the spaces between some marbles in a beaker because it has no definite _____. [1]

28. Roger set up the experiment as shown in the diagram below and placed it under the hot sun.




(a) State the temperature at which the ice cube will start to melt. [1]

_____

(b) After some time, water droplets were seen on the underside of the plastic sheet at where the ice cubes are.

Which part of the water cycle is best represented by the water droplets? Circle your answer.

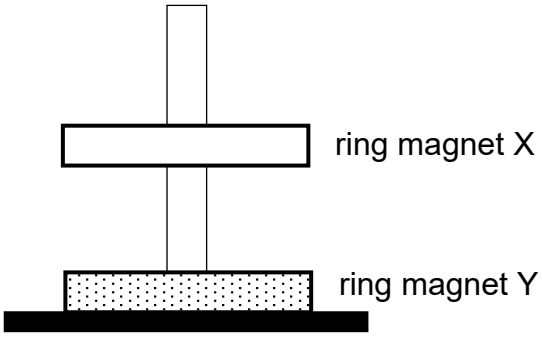
[ rain , clouds , water bodies ] [1]

(c) Explain how pure water is collected in the basin after some time. [2]

_____

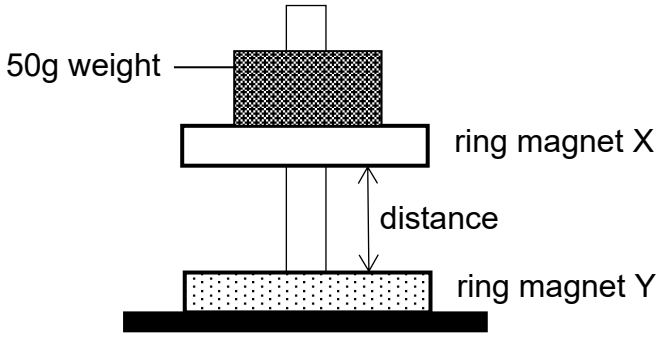
_____

29. Anderson placed ring magnet X above ring magnet Y as shown below.



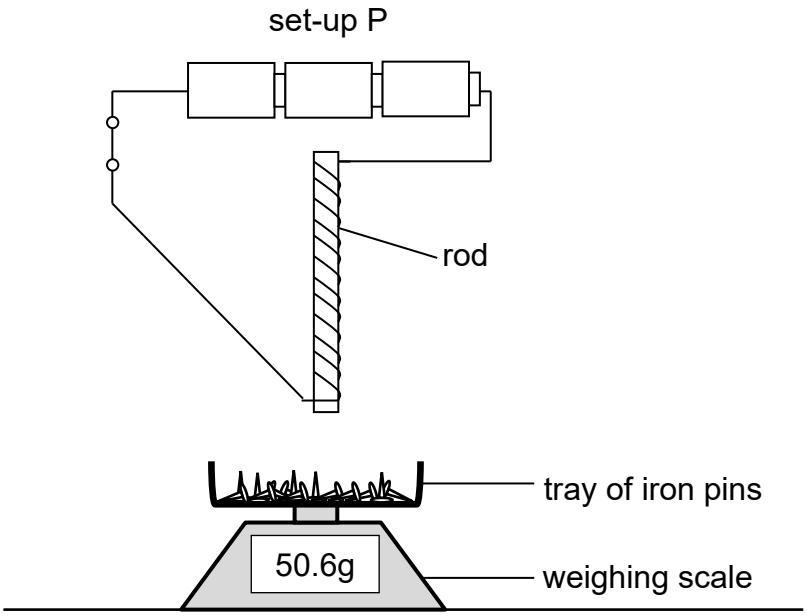

(a) Explain why ring magnet X is 'floating' above ring magnet Y. [1]

Anderson added a 50g weight on ring magnet X as shown below.




(b) Explain why the distance between the two magnets decreased. [1]

30. Lilian put some iron pins on a weighing scale and placed set up P above the tray as shown below. 2




(a) When the switch is closed, will the reading on the weighing scale increase, decrease or remain the same? [1]

_____

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

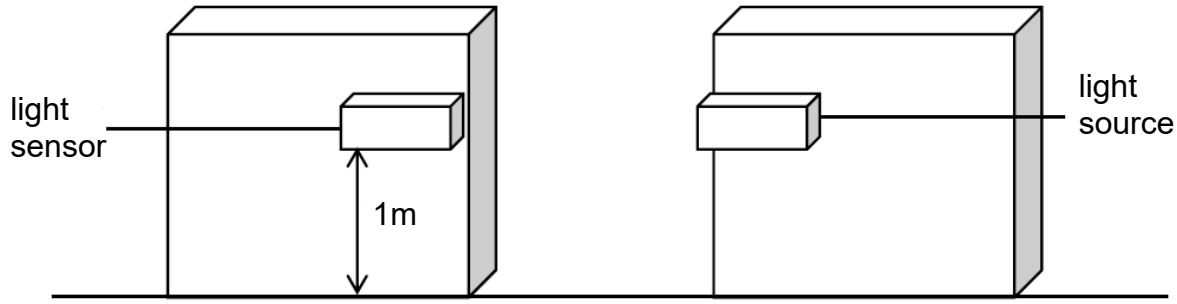
_____

_____

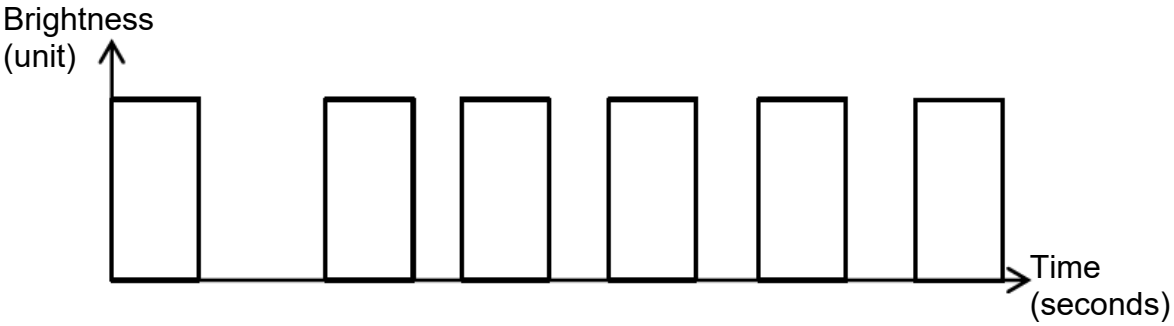


| SCORE | 5 |
|---|---|

31. A shopping mall uses the set up shown below to count the number of visitors passing through its entrance. Both the light sensor and light source are fitted at 1 m above the ground. The light sensor can only detect 1 person at a time.




The data recorded is shown in the graph below.




(a) State the property of light for the set up to work. [1]

_____

_____

(b) The set up however fails to accurately count the number of young children who visits the mall. Suggest a change that can be made to improve this without removing or adding anything else to the setup. [1]

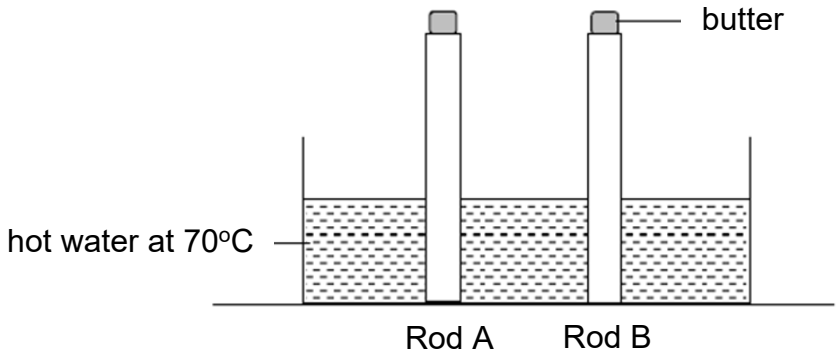
_____

_____



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

32. Samy placed two rods, made of material A and B, into a tank of hot water as shown below. Equal amount of butter were put on both rods.




He observed that the butter on Rod A melted first.

(a) What can you conclude about the two different materials? [1]

_____

_____

(b) State two variables that needs to be kept constant. [2]

1. _____

2. _____

(c) Describe the difference between heat and temperature. [1]

_____

_____

- End of Paper -