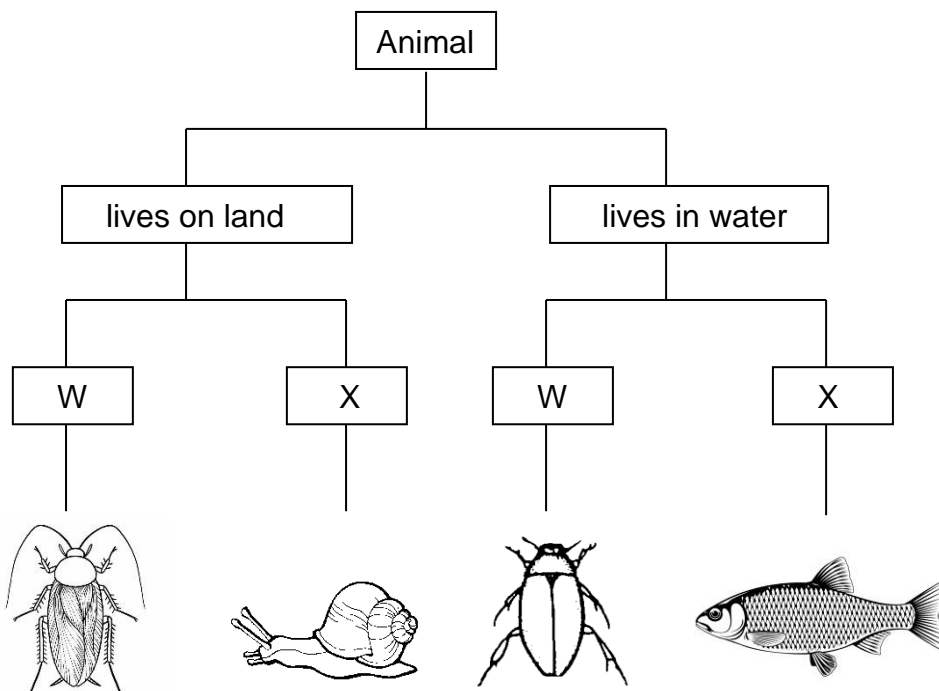


2021 PSLE SCIENCE – PAPER 1

PART I : (28 x 2) marks

For questions number 1 to 28, write 1,2, 3 or 4 in the brackets provided.

1. The classification table below shows how some animals in a pond are classified.



Which of the following correctly shows the characteristics of W and X?

	W	X
(1)	has wings	no feelers
(2)	has feelers	has a tail
(3)	has wings	no legs
(4)	has legs	no legs

()

2. The table below shows the freezing and boiling points of three substances W, X and Y.

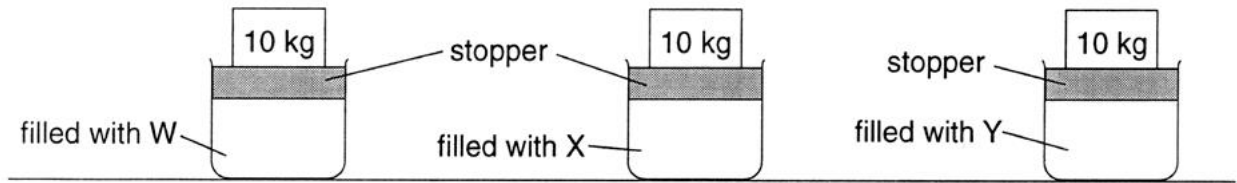
Substances	Freezing point (° C)	Boiling point (° C)
W	50	105
X	42	90
Y	38	190

Which substance(s) is/are a liquid at 95° C

- (1) W only
 (2) W and X only
 (3) X and Y only
 (4) W and Y only

()

3. Three identical containers are each filled with one of the following substances W, X and Y. Stoppers were then used to seal the three air-tight containers as shown below.

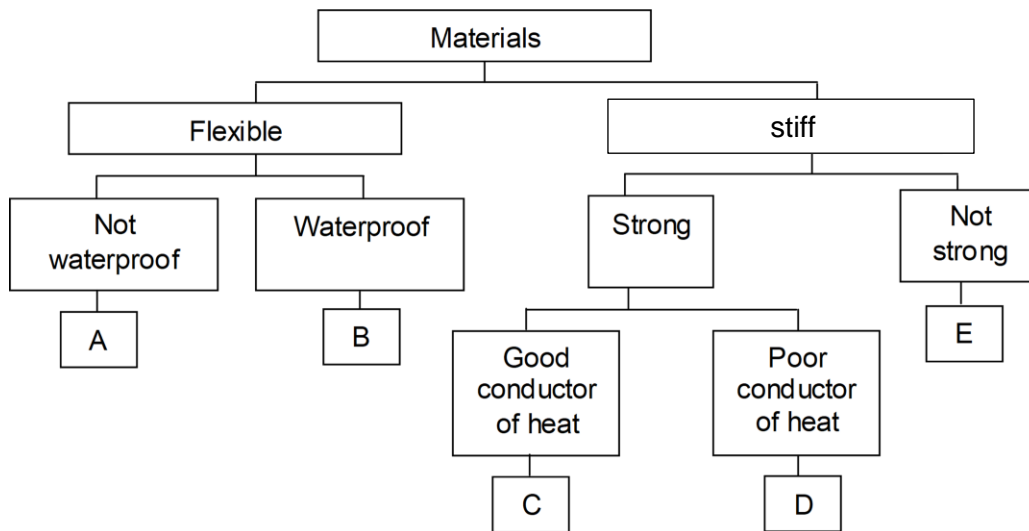


An object of mass 10 kg was placed on the stopper of each container. Only the stopper on X moved downwards. What could be a possible reason for this observation?

- (1) Substance X has no definite volume.
- (2) Substances W, X and Y are all matter.
- (3) Substance W is a gas and can be compressed.
- (4) Substance W is a solid but X and Y are both liquids.

()

4. Johan was instructed to select the most suitable materials for making a frying pan and a raincoat.



Based on the classification chart above, which of the following shows the best choice for making both objects?

	Frying Pan	Raincoat
(1)	C	B
(2)	D	A
(3)	C	E
(4)	D	B

()

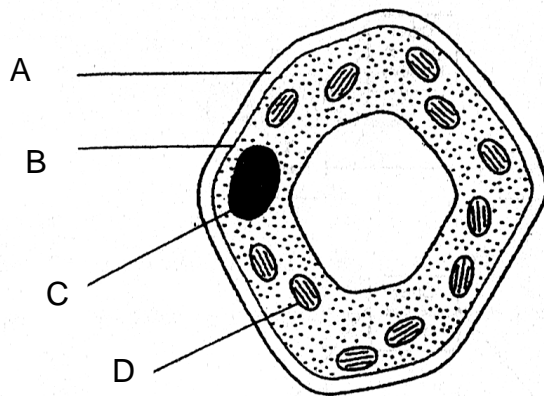
5. Four pupils came up with the following conclusions regarding decomposers.

- Jason: Decomposers help make the soil fertile.
- Gabriel: All decomposers make their own food and purify the air.
- Natalie: Decomposers help to get rid of dead organisms and waste.
- Grace: They speed up the process of decay by breaking down plant and animal waste into smaller pieces.

Who has/have made the correct conclusion(s)?

- (1) Gabriel only
- (2) Natalie and Grace only
- (3) Jason and Gabriel only
- (4) Jason, Natalie and Grace only. ()

6. The diagram below shows a plant cell.

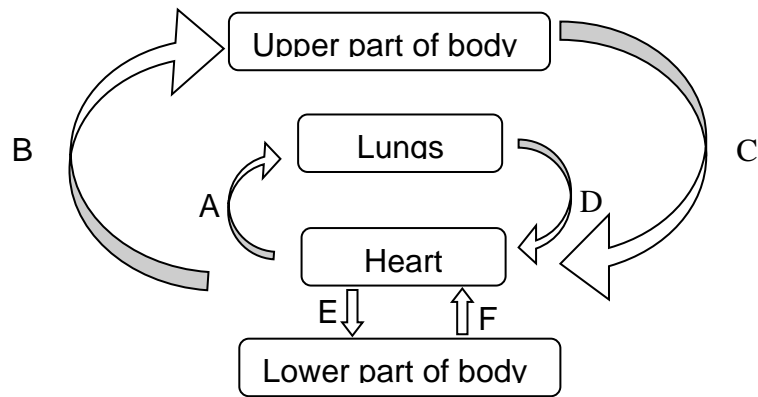


What is the function of each of the structures labelled A, B, C and D?

Functions			
Carries out photosynthesis	Controls the activities in the cell	Maintains and supports the shape of the cell	Controls substances entering and leaving the cell
(1) A	B	C	D
(2) C	D	B	A
(3) D	C	A	B
(4) D	C	B	A

()

7. The diagram below shows the circulatory system in Man.



Blood vessels that carry oxygen-rich blood are shown by arrows _____.

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

()

8. The picture below shows a hoverfly.



Which structure(s) of the hoverfly is/are most useful in identifying it as an insect?

- A: Number of legs
- B: Number of wings.
- C: Presence of 3 body segments
- D: Length of the feelers on its head

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

()

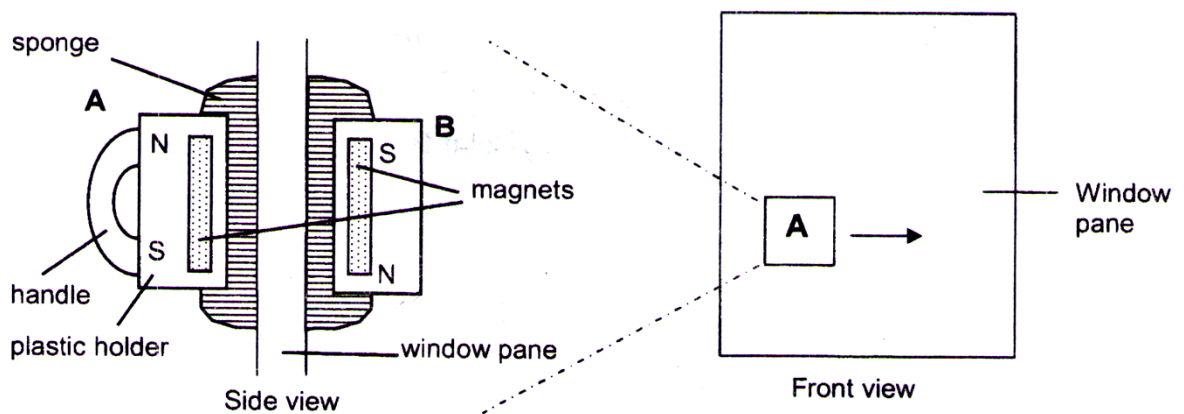
9. Which of the following characteristics are true for all living things?

- A They need water, food and air.
- B They move around from place to place.
- C They reproduce by giving birth to young alive.
- D They respond to changes in their environment.

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

()

10. The diagram below shows a two-piece device designed for cleaning both sides of a window pane at the same time.



When Part A moves over the inside surface, Part B follows it and moves over the outer surface. What properties of a magnet are applied in this device?

- A: Like poles of a magnet repel each other.
- B: Unlike poles of a magnet attract each other.
- C: The pull of a magnet is strongest at its middle.
- D: Magnetic force can pass through non-magnetic materials.

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

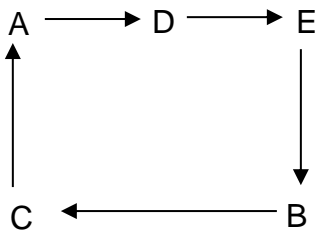
()

11. The following statements describe the different stages of the water cycle.

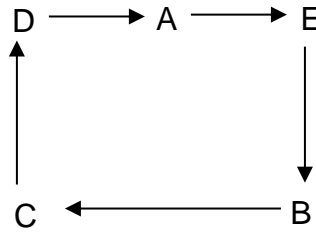
- A Water droplets form clouds.
- B Sun's heat energy warms the Earth.
- C Water gains heat and starts to evaporate.
- D Water vapour condenses at a greater height.
- E When the water droplets become bigger, it rains.

Which of the following is a correct representation of the water cycle?

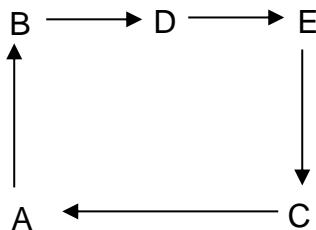
(1)



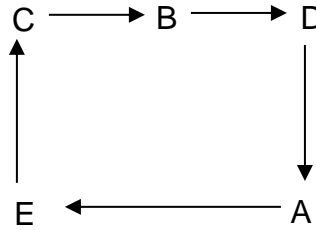
(2)



(3)

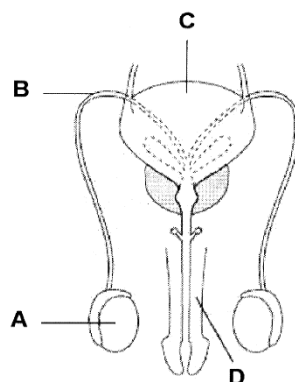


(4)



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12. The diagram below represents the human male reproductive system.

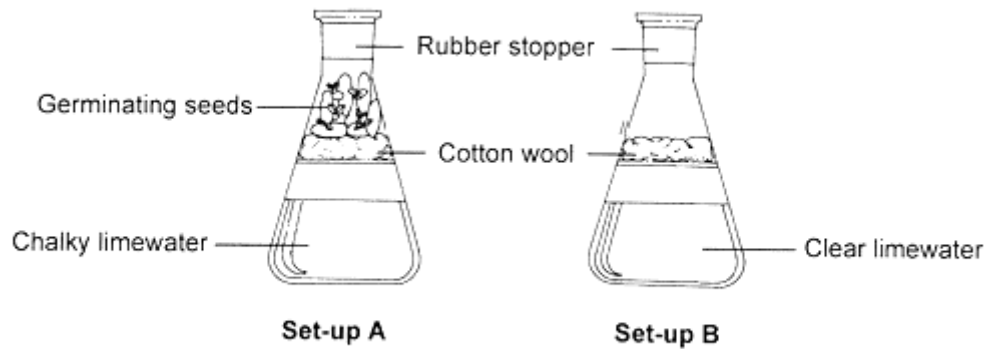


Which of the letters, A, B, C or D, indicates a structure that produces the reproductive cells for fertilisation?

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

()

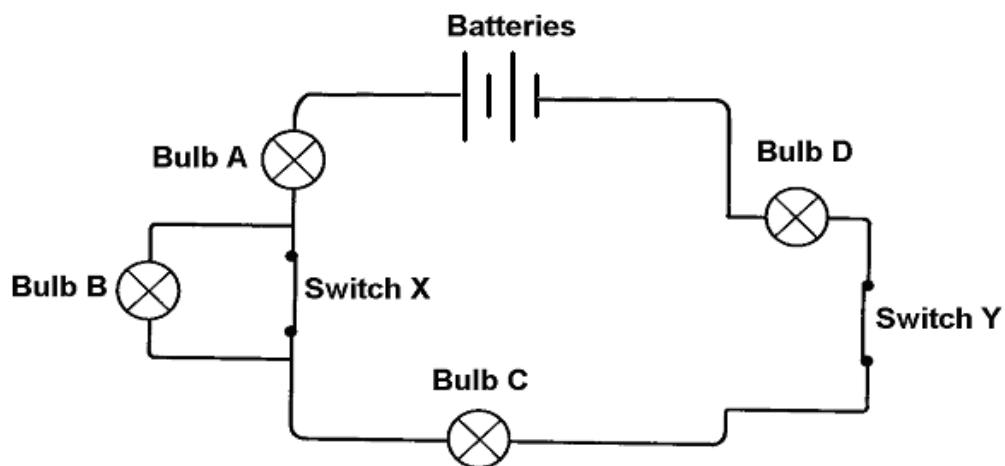
13. Aiko set up the apparatus as shown in the diagram below. She left both set-ups in a warm dark place for 24 hours. The limewater in Set-up A turned chalky but the limewater in Set-up B remained unchanged.



She was trying to find out if _____.

- (1) oxygen will turn limewater chalky
- (2) carbon dioxide will turn limewater chalky
- (3) oxygen was given out during germination
- (4) carbon dioxide was given out during germination ()

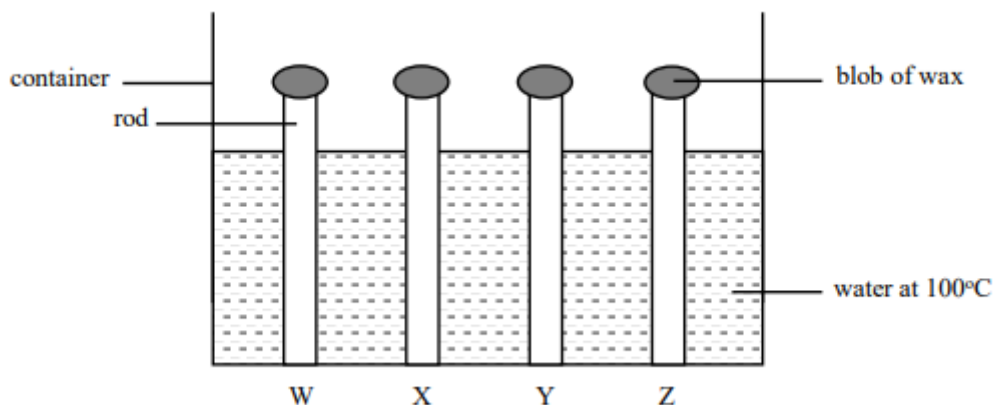
14. Study the electrical circuit below.



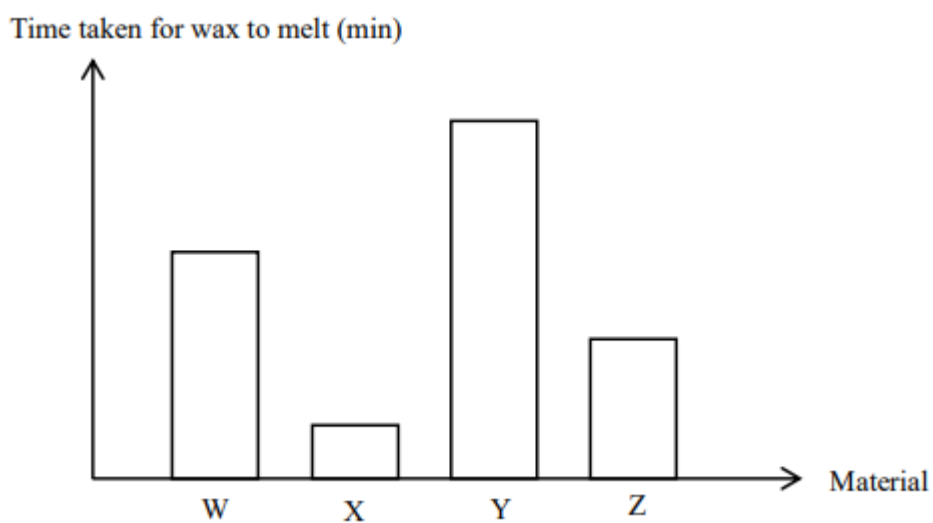
If Switch X remains closed and Switch Y is opened, which bulbs will light up?

- (1) C and D only
- (2) A and B only
- (3) A, C and D only
- (4) None of the bulbs ()

15. Paul set up an experiment as shown below.



All the rods were of the same size but made of different materials. He placed the same amount of wax on the tip of each rod and poured boiling water into the container as shown above. He recorded the time taken for all the wax on rods W, X, Y and Z to melt. He plotted his results in the graph shown below.

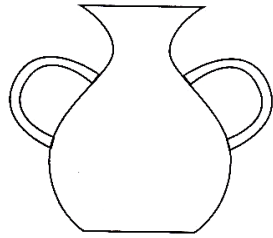


Which one of the rods is made of a material that is the most suitable for making boxes to store ice cream so that the ice cream will melt the slowest?

- (1) W
- (2) X
- (3) Y
- (4) Z

()

16. Study the object below carefully



Which of the shadows shown below can be cast by the object?

A



B



C



D



- (1) D only
- (2) B and D only
- (3) B, C and D only
- (4) All of the above

()

17. Malik observed a fruit as shown below. He wanted to determine if the fruit is dispersed by water.

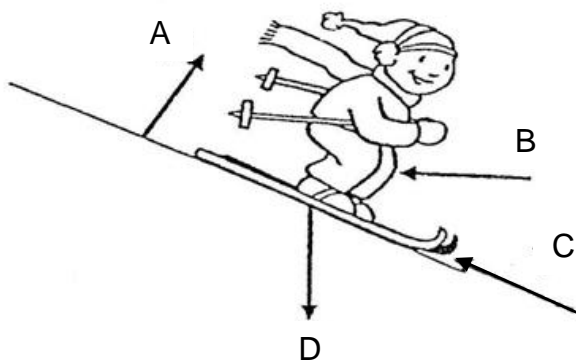


What can be done to test if the fruit is suitable for water dispersal?

- (1) weigh the fruit
- (2) check if it floats in water
- (3) look for fibrous covering
- (4) check for explosive action of fruit

()

18. The diagram below shows a person skiing down a slope.



Which of the above arrows show the directions of forces experienced by the skier?

	Friction	Gravity
(1)	C	D
(2)	D	A
(3)	C	E
(4)	D	B

()

19. Four pupils kicked the same ball from the same spot on a soccer field. The table below shows the distance travelled by the ball along the ground before it stopped.

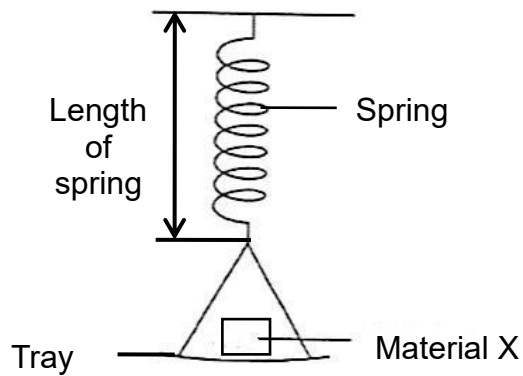
Pupil	Ali	Billy	Cathy	Darren
Distance travelled by the ball (m)	8	10.5	11	7.5

Who has applied the greatest force on the ball?

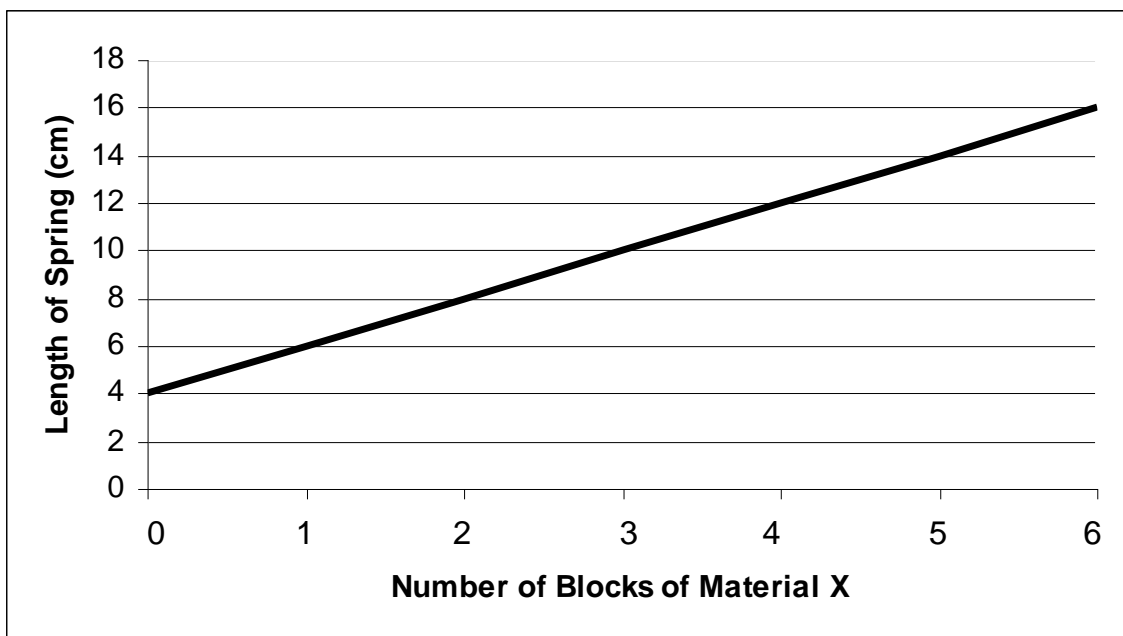
- (1) Ali
- (2) Billy
- (3) Cathy
- (4) Darren

()

20. Jon measured the length of a spring each time he put a block of material X on the tray.



He plotted the graph below to show his results.

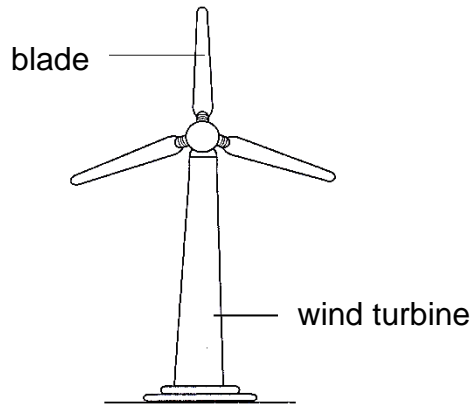


Jon then placed some blocks of material X on the tray. If the extension of the spring is 6 cm, how many blocks of material X did he place on the tray?

- (1) 2 block
- (2) 3 blocks
- (3) 4 blocks
- (4) 5 blocks

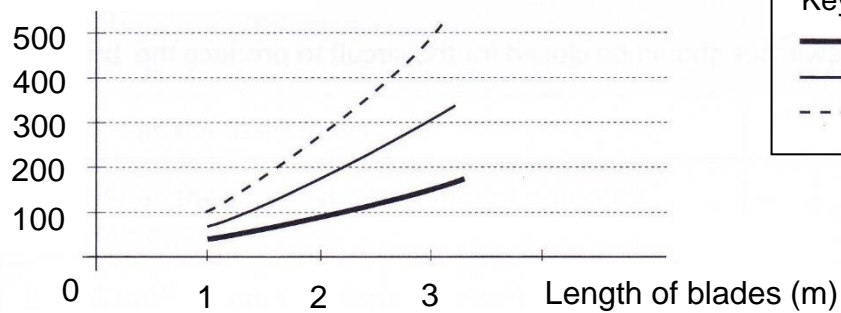
()

21. Electricity can be generated with the use of wind turbines. The diagram below shows a wind turbine.



The graph below shows the amount of electrical energy generated by wind turbines with different lengths of blades at different wind speeds.

Amount of electrical energy generated



Key

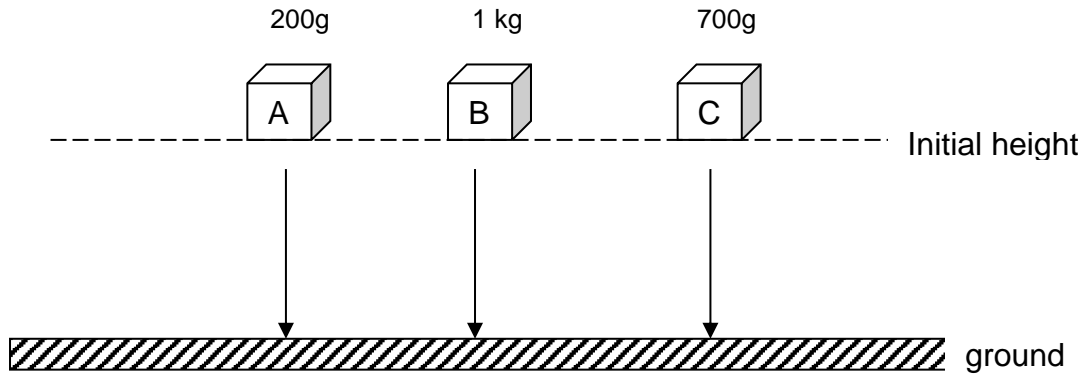
- wind at low speed
- wind at medium speed
- - - wind at high speed

From the graph, which pair of conditions shown below will enable the wind turbine to generate more electrical energy?

	Wind speed	Length of blade
(1)	lower wind speed	longer blades
(2)	higher wind speed	longer blades
(3)	lower wind speed	shorter blades
(4)	higher wind speed	shorter blades

()

22. Three cubes of the same size but different masses were raised to the same initial height before they were dropped.

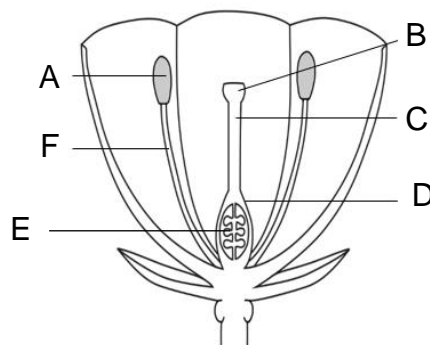


Which of the following statements is true?

- (1) The gravitational force acting on B is the greatest.
- (2) A, B and C have the same amount of gravitational potential energy at the initial height.
- (3) The gravitational potential energy of A, B and C will change to kinetic energy as they drop.
- (4) A, B and C will have no gravitational force acting on them once they reach the ground.

()

23. Study the flower below

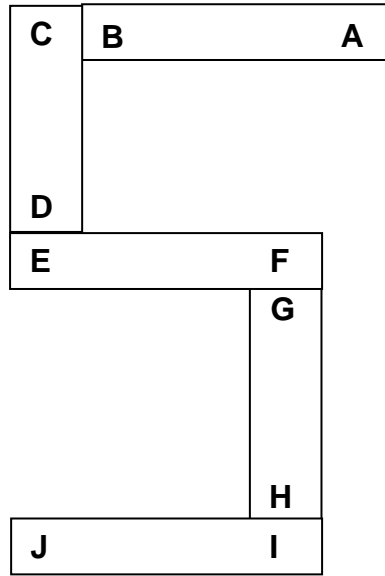


Fertilisation can still take place even if parts _____ are removed.

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

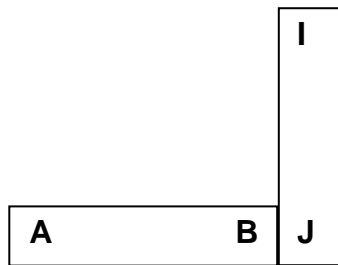
()

24. Mary arranged five bar magnets as shown below.

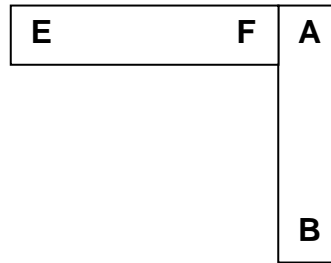


Which of the following diagrams shows a possible arrangement of two of the magnets?

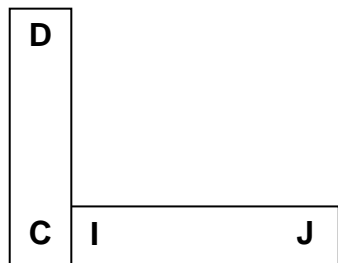
(1)



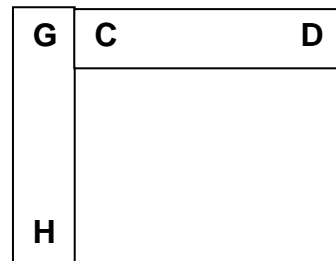
(2)



(3)

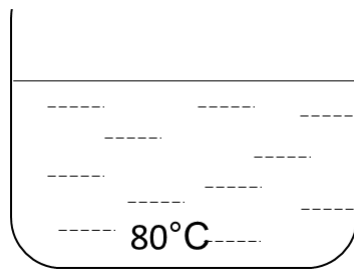


(4)

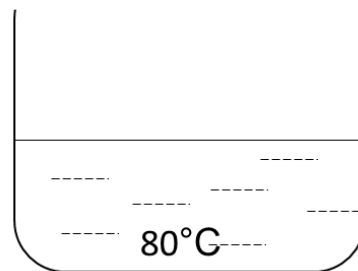


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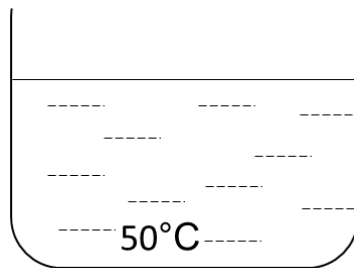
25. Samad has four identical beakers with different amounts of water at different temperatures.



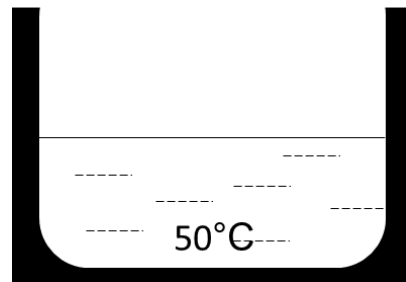
Container A



Container B



Container C



Container D

Which of the containers have the most and least amount of heat respectively?

	Highest amount of heat	Lowest amount of heat
(1)	A	C
(2)	A	D
(3)	B	C
(4)	B	D

()

26. In what ways are the **plant** transport system and **human** circulatory system similar?

- A : Both systems transport food to the other parts.
- B : Both systems have tubes to transport materials.
- C : Both systems transport oxygen and carbon dioxide only.
- D : Both systems need an organ to pump the materials in the tubes to different parts.

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

()

