METHODIST GIRLS' SCHOOL

Founded in 1887

WEIGHTED ASSESSMENT 1 2024
PRIMARY 5
SCIENCE

Total Time for Section A and B: 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ( )

Class: Primary 5. _____

Date : 19 February 2024

Section A	14
Section B	11
Total	25
Parent's Signature	

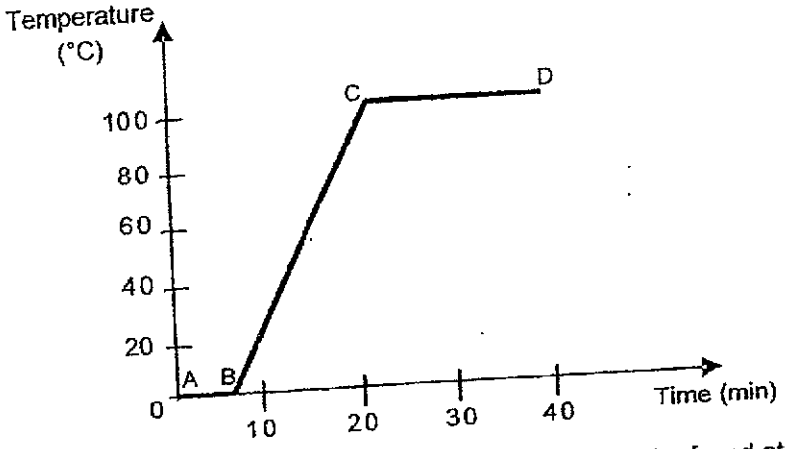
This booklet consists of 10 printed pages including this page.

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Section A

For each question from 1 to 7, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write in the bracket provided. [14 marks]

1 The graph below shows the change in temperature of a beaker of ice cubes which was heated over a hotplate.



Which one of the following shows the state(s) of water found at different lines on the graph?

	AB	BC	CD
(1)	solid	liquid	gas
(2)	solid	liquid and gas	liquid and gas
(3)	solid and liquid	liquid	gas
(4)	solid and liquid	liquid	liquid and gas

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2 The table below shows the state of substances W and X at three different temperatures, 5°C, 50°C and 100°C.

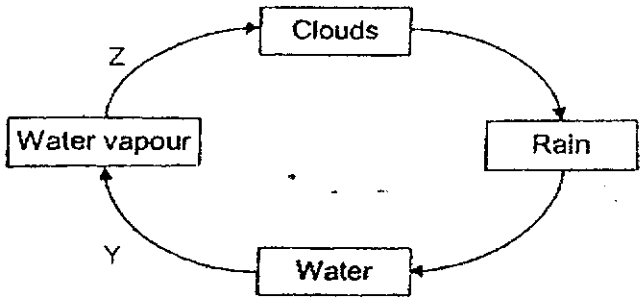
Substance	State at 5°C	State at 50°C	State at 100°C
W	Solid	Liquid	Liquid
X	Liquid	Liquid	Gaseous

Which of the following shows the possible melting and boiling points of substances W and X respectively?

	Melting point of substance W (°C)	Boiling point of substance X (°C)
(1)	2	110
(2)	6	110
(3)	7	45
(4)	9	60

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3 The diagram below shows the water cycle. Y and Z are processes that take place in the water cycle.



Which of the following statements about the water cycle are correct?

A There is heat loss at process Z.

B There is heat loss at process Y.

C There is a change in state at process Z.

D Process Y takes place at a fixed temperature.

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

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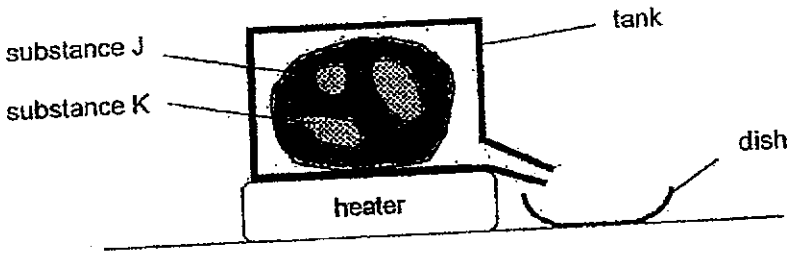
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4 The table below shows the melting and boiling points of two substances, J and K.

Substance	Melting point (°C)	Boiling point (°C)
J	37	49
K	44	280

Mr Liang placed a piece of solid made up of substances J and K in a set-up as shown below.



If he wanted to collect only substance J in the liquid state in the dish, which temperature should he set the heater to?

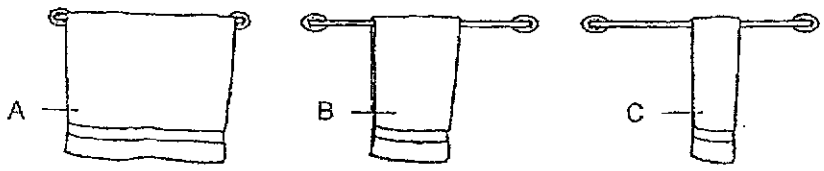
(1) 30°C
(2) 40°C
(3) 70°C
(4) 100°C

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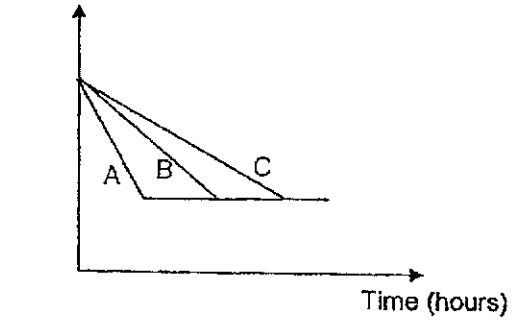
5 Roy conducted an experiment to find out which method of hanging his wet towels would allow them to dry the fastest. He soaked three identical towels, A, B, and C, into the same amount of water. Each towel was folded as shown below.



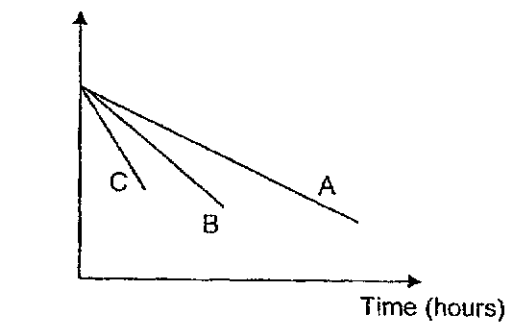
He weighed the towels at regular intervals until all of them were completely dry. He recorded the results in a graph.

Which one of the following graphs represents the results correctly?

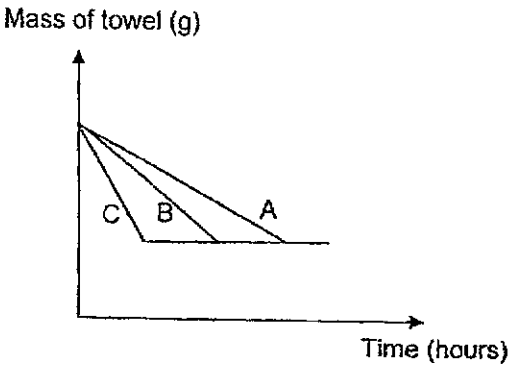
(1)



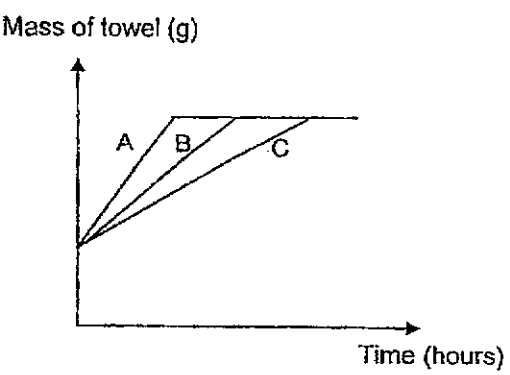
(2)



(3)



(4)

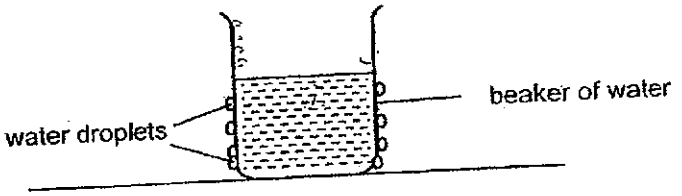


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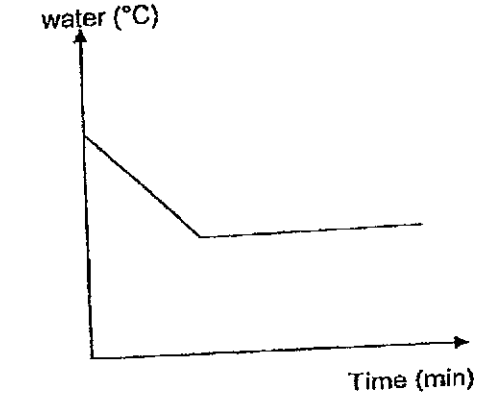
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6 Samy left a beaker of water on a desk. After a while, he observed water droplets forming on the outer surface of the beaker as shown in the diagram below.

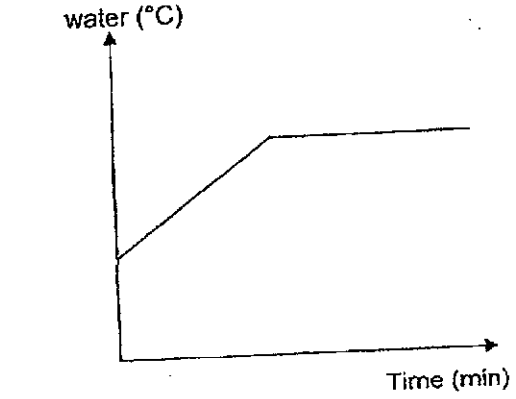


Which one of the following graphs shows the temperature of water in the beaker over time?)

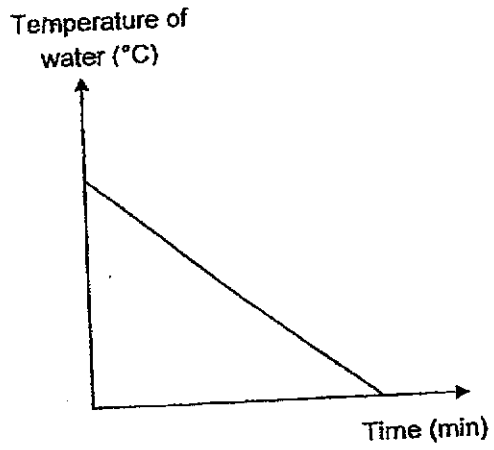
(1)



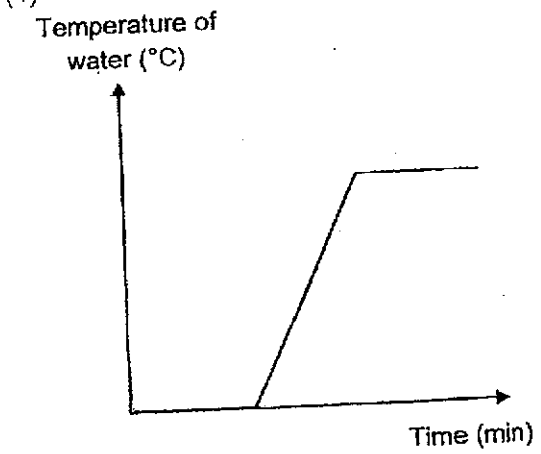
(2)



(3)



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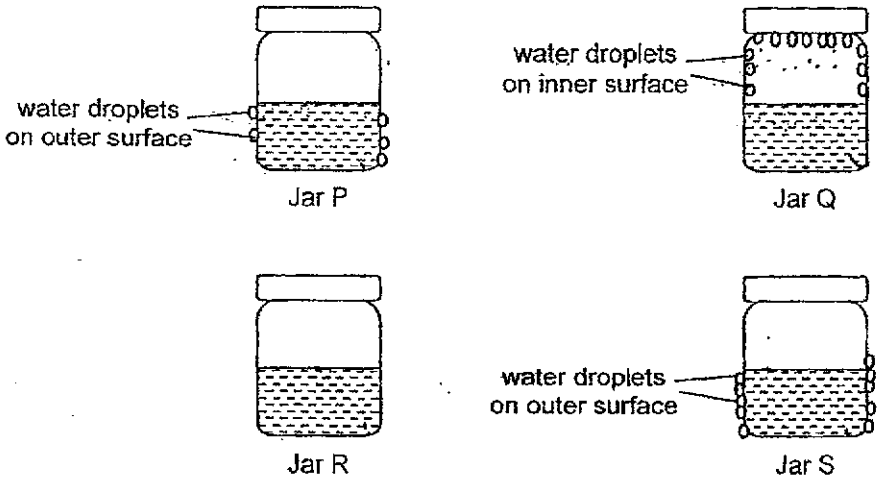


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7 At the start of an experiment, Ashley placed four identical glass jars, P, Q, R and S, containing the same amount of water in the Science laboratory. The water in the jars are of different temperatures. A few minutes later, she observed water droplets forming on some of the jars as shown below.



Which one of the following correctly identifies the temperature of water in the jars at the start of the experiment, arranged from lowest to highest?

	Temperature of water (°C)			
	lowest →			highest
(1)	Q	R	P	S
(2)	R	Q	P	S
(3)	S	P	R	Q
(4)	S	P	Q	R

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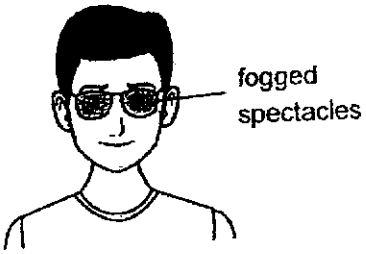
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Section B [11 marks]

For questions 8 to 10, write your answer in the spaces provided.

8(a) State one difference between melting and evaporation. [1]

Ali was in an air-conditioned room. When he stepped out of the room, his spectacles became fogged as shown below.

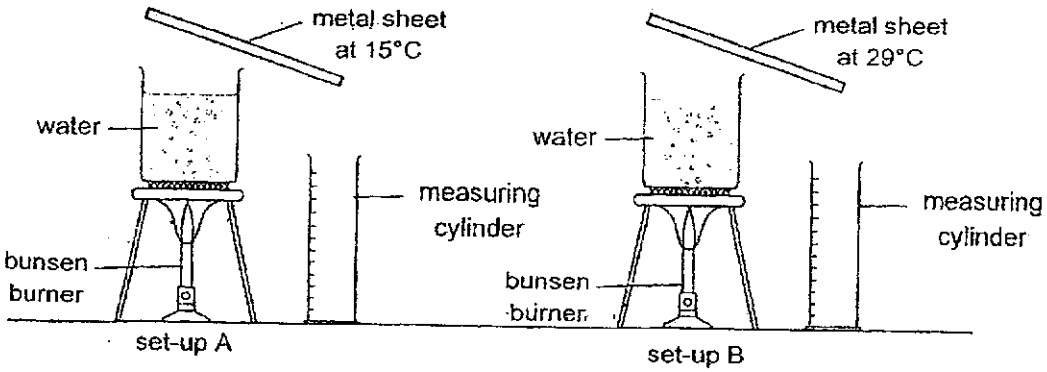


(b) Explain how Ali's spectacles became fogged. [2]

(c) Explain why Ali's spectacles became clear again after some time. [1]

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9 Huimin conducted an experiment using set-ups A and B as shown below. Water in both set-ups were heated to 100°C for 20 minutes She placed two identical metal sheets of different temperatures near the top of each beaker.

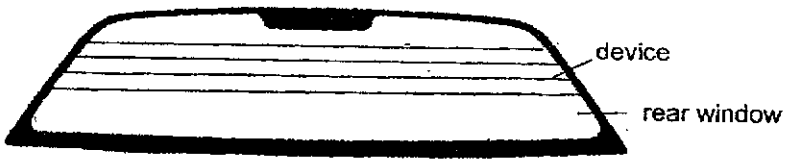


She recorded the amount of water collected in each measuring cylinder in the table below.

Set-up	Amount of water collected in the measuring cylinder (cm^3)
A	20
B	10

(a) Based on the results of her experiment, how does temperature of the metal sheet affect the rate of condensation? [1]

Huimin's car has a device-that helps to clear mist formed on the rear window and prevent mist rom forming.



(b) Explain how the device prevents forming of mist on the rear window when it is switched [1]

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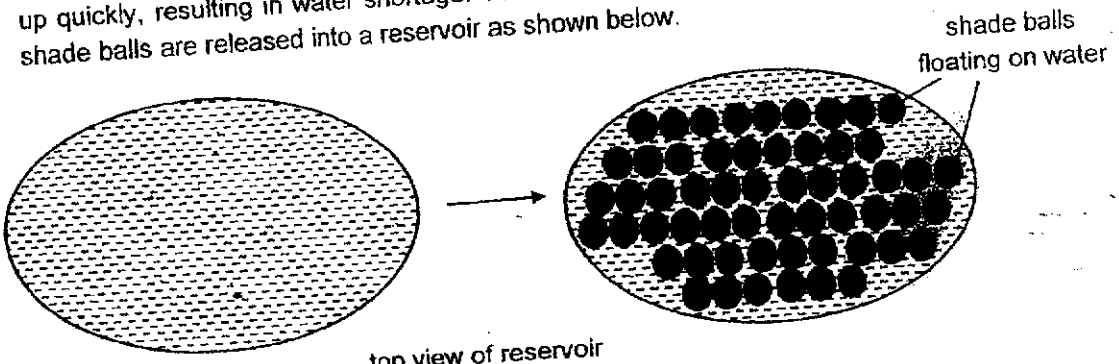
10 Kate wanted to carry out an experiment to investigate the rate of evaporation of water. She used different containers and poured water into each of them. The table below shows her experimental set-ups placed in two different locations.

Set-up	Amount of water (ml)	Exposed surface area of water (cm^2)	Temperature of surroundings (°C)
A	200	25	34
B	400	50	18
C	200	50	34
D	200	25	18

(a) If she wants to find out how temperature of surroundings affects the rate of evaporation, which two set-ups should she use in order to conduct a fair test? [1]

(b) In which set-up, A or C, will there be less water left? Explain why. [2]

In some countries that experience prolonged periods of hot weather, the reservoirs dry up quickly, resulting in water shortage. To solve this problem, many floating plastic shade balls are released into a reservoir as shown below.



top view of reservoir

(c) Explain how the shade balls help to solve the problem of water shortage. [2]

END OF PAPER

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METHODIST GIRLS' SCHOOL (PRIMARY)
SCIENCE WEIGHTED ASSESSMENT 1 2024
PRIMARY 5
ANSWER KEY

Section A

1.	4	4.	2	7.	3
2.	4	5.	1		
3.	1	6.	2		

Section B

Qn	Suggested Answers
8(a)	Melting takes place at a fixed temperature but evaporation can take place at any temperature. OR Melting involves a change in state from solid to liquid but evaporation involves a change in state from liquid to gas.
8(b)	The water vapour in the surroundings came into contact with the cooler surface of the spectacles and condensed into water droplets, forming the fog.
8(c)	The fog/ water droplets had evaporated.
9(a)	The higher the temperature of the metal sheet, the slower the rate of condensation. OR The lower the temperature of the metal sheet, the faster the rate of condensation.
9(b)	The device heats up the rear window so there is a lower rate of condensation / no condensation on her windscreen. OR The device gives out heat and the mist formed on the rear window evaporate faster.
10(a)	Set-ups A and D.
10(b)	Set-up C. In set-up C, there is a greater/ larger exposed surface area of water/ more surface area of water exposed to surroundings which increases the rate of evaporation.
10(c)	The shade balls decrease the exposed surface area of water/ surface area of water exposed to the surroundings. This helps to decrease the rate of evaporation of water in the reservoir.

END.

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