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FOR EXAMINER'S USE ONLY	
QUESTION	MARK
1	
2	
3	
4	
5	
6	
TOTAL	

SCHOOL No.	CANDIDATE No.
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MINISTRY OF EDUCATION BAHAMAS JUNIOR CERTIFICATE EXAMINATION

0047 GENERAL SCIENCE PAPER 2 STRUCTURED QUESTIONS (60 Marks)

Wednesday **31 May 2023** 2:15 P.M.–3:15 P.M.

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

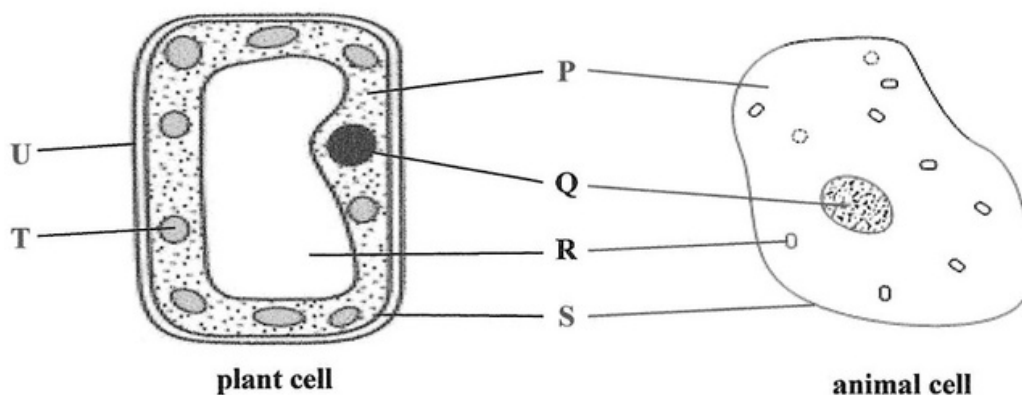
Write your school number, candidate number, surname and initials in the spaces provided at the top right hand side of this page.

Answer **ALL** questions in the spaces provided.



This question paper consists of **13** printed pages and **3** blank pages.

1. Study the diagrams of various cells and then answer the questions which follow.



- (a) (i) Give the name of the two structures labelled **T** and **U** that are found in the plant cell but not in the animal cell.

T _____

U _____

[2]

- (ii) State the function of structures **T** and **U**.

Function of **T** _____

Function of **U** _____

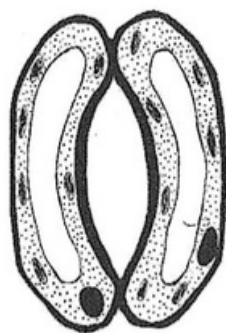
[2]

- (iii) Explain why **R** is larger in the plant cell than in the animal cell.

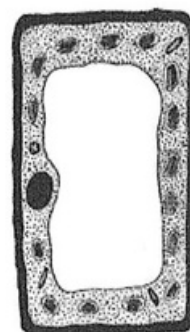
[1]



- (b) The diagrams show examples of specialised plant cells.



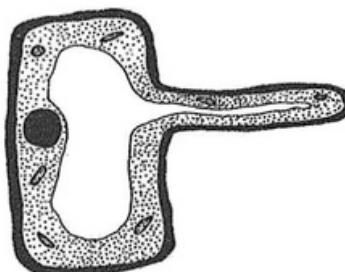
Guard cell



Palisade cell



Phloem cell



Root hair cell



Xylem cell

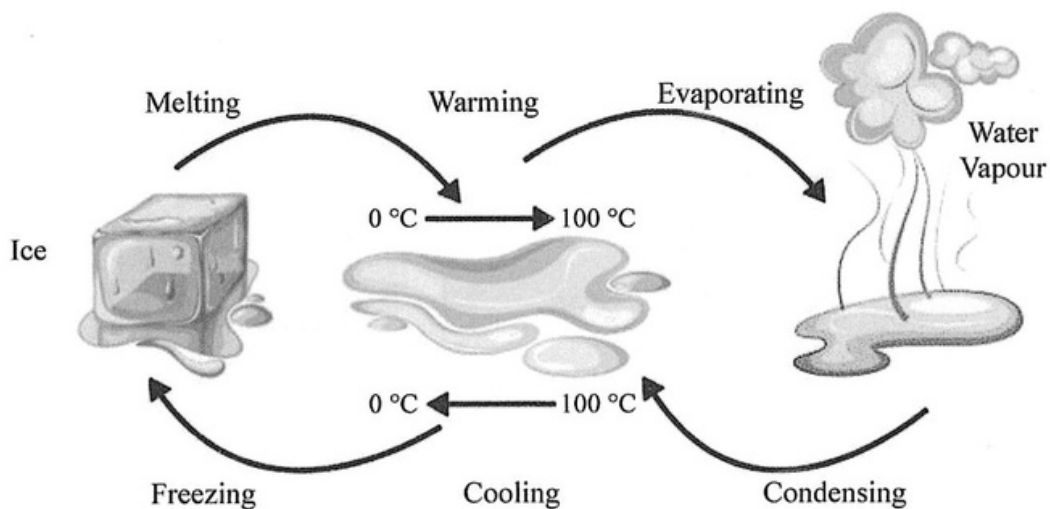
Identify the cell from the diagram that best fits each function.

- (i) Absorbs minerals by increasing the surface area _____
- (ii) Transports water and mineral salts from roots to leaves _____
- (iii) Allows dissolved sugars to move from one cell to another _____
- (iv) Allows gas exchange and controls water loss within the leaf _____
- (v) Absorbs light so that photosynthesis can take place _____

[5]

TOTAL MARKS [10]

2. Matter exist in three states. Study the diagram and answer the questions in the spaces provided.



- (a) Name the **three** states of matter.

1 _____

2 _____

3 _____

[2]

- (b) Give the correct chemical formula of the substance shown in the diagram.

_____ [1]

- (c) The diagram shows the term 'evaporating'.

Explain what happens when a substance is 'evaporating'.

_____ [2]



(d) After taking a hot shower you notice that your bathroom mirror fogged up.

(i) Identify the change of state occurring in the bathroom.

Change of state _____ [1]

(ii) Explain what causes the mirror to fog.

_____ [2]

(e) A metal element and a non-metal element exist as liquids at room temperature.

Name the liquid metal element and the liquid non-metal element.

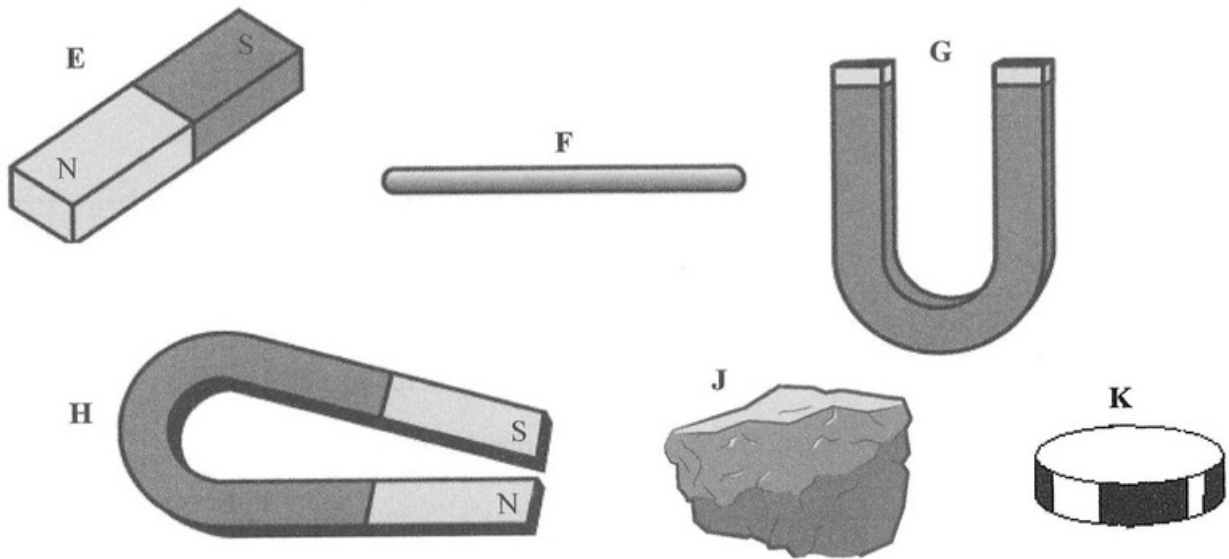
Liquid metal element _____

Liquid non-metal element _____ [2]

TOTAL MARKS [10]



3. The diagram shows different kinds of magnets.



- (a) Name the magnets at **E** and **H**.

E _____

H _____

[2]

- (b) Give the **name** and **letter** of the naturally occurring magnet.

Name	Letter
_____	_____

[1]

- (c) Name the poles on a magnet.

_____ and _____

[1]

- (d) The direction of the magnetic field on a magnet is from

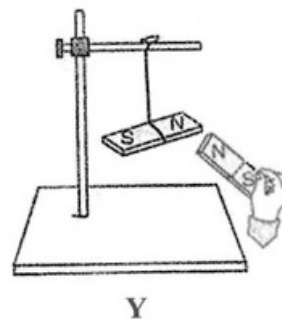
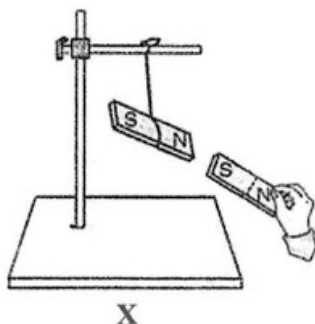
_____ to _____

[1]



- (e) A student sets up an experiment to investigate the behaviour of magnets.

Use the diagram to answer the questions.



- (i) Describe how the magnets will behave at **X** and **Y**.

Behaviour at X

Behaviour at Y

[2]

- (ii) Explain the final position of the magnet when it is allowed to suspend naturally.

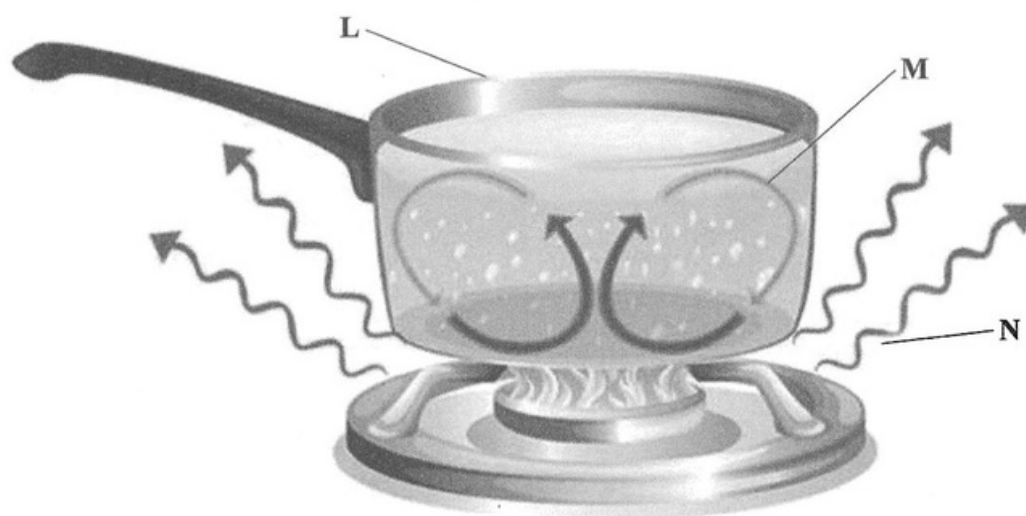
[2]

- (iii) Describe what happens to a magnet when it is broken in half.

[1]

TOTAL MARKS [10]

4. The diagram shows different ways that heat can travel.



- (a) Name the method of heat transfer in the diagram labelled **L**, **M** and **N**.

L _____

M _____

N _____

[3]

- (b) State the difference between a conductor and an insulator of heat.

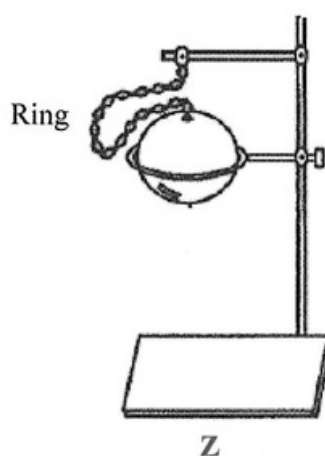
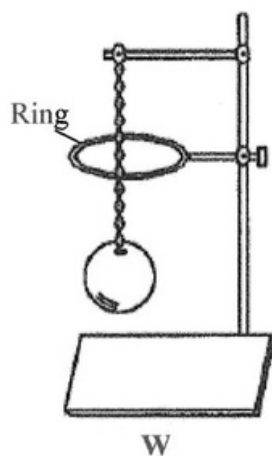
[2]

- (c) Name a substance that is a conductor of heat.

[1]



- (d) The diagrams show apparatus that can be used to investigate the effect of heat on solids.



- (i) Explain why the ball does not pass through the ring in diagram Z.

[2]

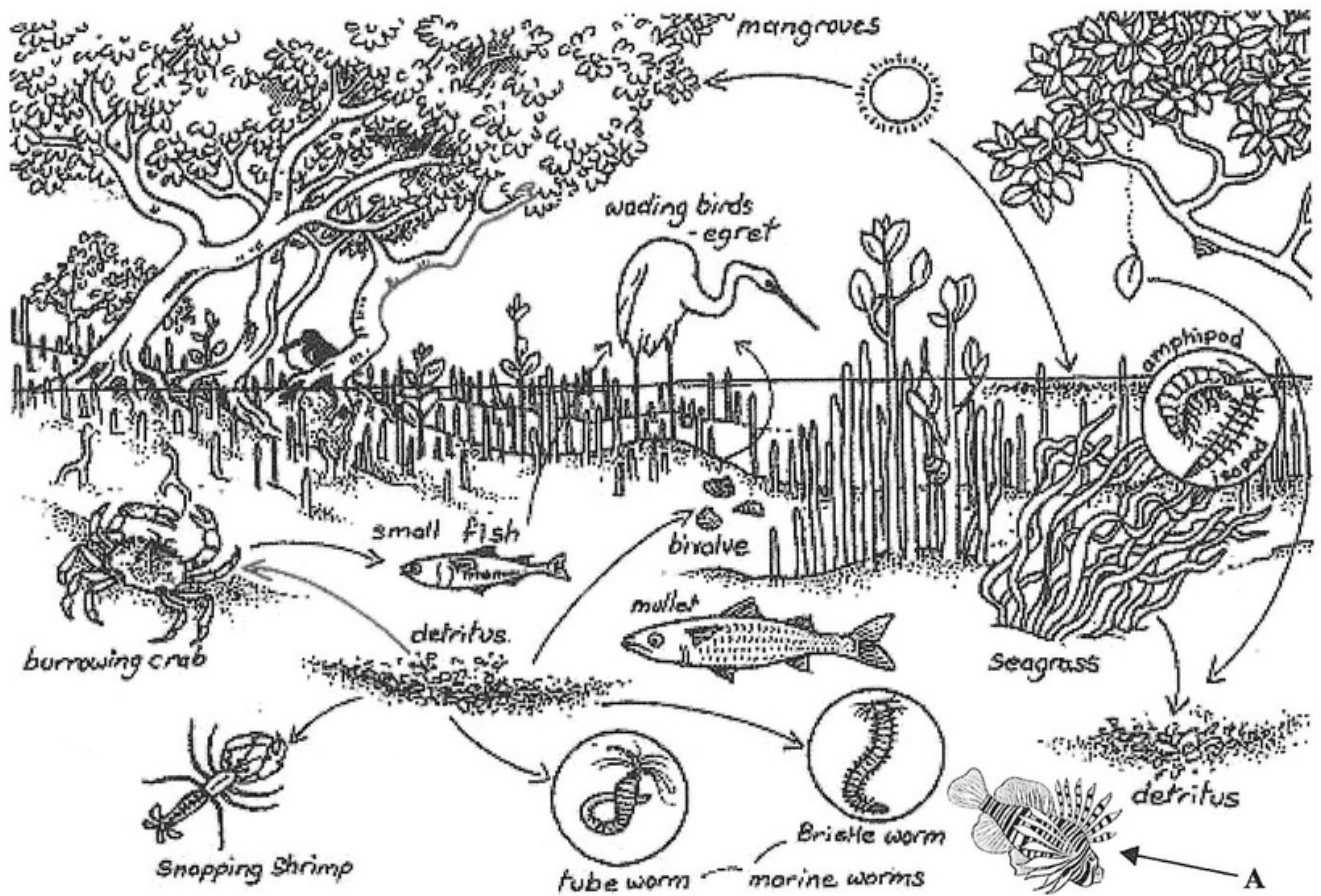
- (ii) Explain fully what can be done in the experiment, to allow the ball to pass through the ring at Z.

[2]

TOTAL MARKS [10]

5. The diagram shows a food web found in a Bahamian ecosystem.

Use it to help you answer the questions.



- (a) Complete the table by filling in the missing information.

Type of consumer	Example from the food web	Type of food it eats
Carnivore		Meat
	Seagrass	Produces its own food

[2]

- (b) The diagram shows detritus which is produced when leaves fall from the tree and settle at the bottom of the water.

Name the kind of organism that consumes detritus.

_____ [1]

- (c) Name the ecosystem shown in the diagram.

_____ [1]



- (d) Other than being a nursery for many marine animals, state **one** major benefit of this ecosystem to The Bahamas.

 _____ [1]

- (e) The burrowing crab in the diagram is an arthropod. State **one** visible feature from the diagram that allows you to know it is an arthropod.

 _____ [1]

- (f) Define the term biodiversity.

 _____ [1]

- (g) The organism labelled **A** in the diagram is **not** native to this ecosystem.

(i) Name organism **A**. _____ [1]

(ii) State the name given to organisms that are **not** native to an ecosystem.

_____ [1]

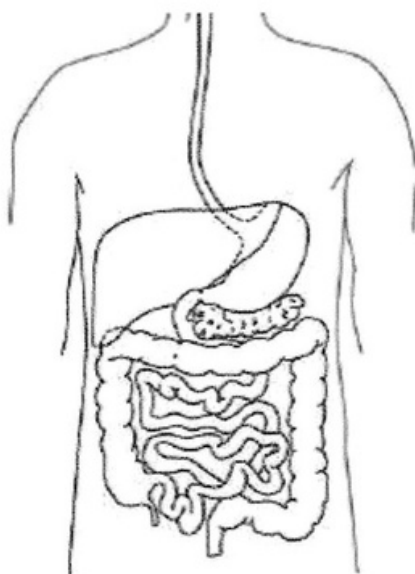
(iii) Describe **one** negative effect caused by organism **A** on this ecosystem.

 _____ [1]

TOTAL MARKS [10]



6. The diagram shows parts of the digestive system.



- (a) Draw a line to label the stomach on the diagram. [1]

- (b) State the function of the stomach.

_____ [1]

- (c) The stomach is acidic. Give the name of the acid found in the stomach.

_____ [1]

- (d) Write the numbers **1** to **5** to show the correct path of food through the parts of the digestive system. The first one has been done for you.

1	mouth
	small intestine
	stomach
	large intestine
	oesophagus

[2]



- (e) State the products of digestion of the nutrients shown.

carbohydrates _____ [1]

fats _____ [1]

proteins _____ [1]

- (f) The digestion of starch begins in the mouth.

Name the enzyme that breaks down starch in the mouth.

_____ [1]

- (g) Name the enzyme that breaks down fats.

_____ [1]

TOTAL MARKS [10]



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