



Centre Number	Candidate Number

MINISTRY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT

SOLOMON ISLANDS YEAR 9 EXAMINATION 2023

SCIENCE QUESTION AND ANSWER BOOKLET

THURSDAY 12TH OCTOBER 9:00 AM

TIME: 1 Hour 30 minutes
plus 10 minutes Reading time.

This Exam Paper consists of THREE (3) sections. **ATTEMPT ALL QUESTIONS**

	MARKS	TIME
SECTION A: 15 Multiple Choice Questions	15	30 minutes
SECTION B: 4 Short Answer Questions	39	30 minutes
SECTION C: 3 Long Answer Questions	21	30 minutes
TOTAL:	75	90 minutes

INSTRUCTIONS

- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
- WRITE BOTH YOUR CENTRE NUMBER AND CANDIDATE NUMBER IN THE BOX PROVIDED AT THE TOP RIGHT HAND CORNER OF THIS PAGE AND ALSO AT THE TOP OF PAGE 17 OF THIS BOOKLET.
- BEFORE YOU BEGIN EACH PART, READ THROUGH THE READ THROUGH THE INSTRUCTIONS CAREFULLY.
- DO NOT USE CORRECTION FLUID.
- MOBILE PHONES ARE **NOT** ALLOWED IN THE EXAMINATION ROOM.

CHECK THAT THIS BOOKLET CONTAINS PAGES **2 - 17** IN THE CORRECT ORDER AND THAT NONE OF THESE PAGES ARE BLANK. PAGE 16 HAVE BEEN LEFT BLANK DELIBERATELY.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

SECTION A: MULTIPLE CHOICE QUESTIONS

(15 MARKS)

ANSWER ALL THE QUESTIONS IN THIS SECTION. WRITE YOUR BEST ANSWERS IN THE BOXES PROVIDED AT THE END OF THIS BOOKLET ON PAGE 17. EACH QUESTION IS WORTH 1 MARK.

Study the solar system diagram below to answer question (1).



1. There are nine planets in our solar systems. The **name of the planet** that is positioned 1 place before the biggest planet in our solar system is
 - A. Mars
 - B. Earth
 - C. Venus
 - D. Mercury

2. The earth's structure that represent the smallest portion of mass is the
 - A. Crust
 - B. Mantle
 - C. Outer core
 - D. Inner core

3. Which of the element below reacts with water to form alkaline solutions?
 - A. Sodium
 - B. Oxygen
 - C. Chlorine
 - D. Fluorine

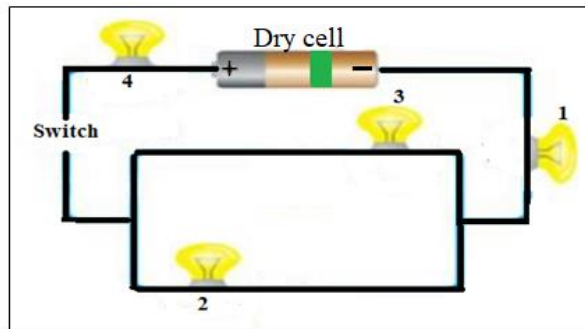
4. An atom having 3 electrons in its outer most shell is found in_____ of the periodic table.
- A. Group 1
 - B. Group 2
 - C. Group 3
 - D. Group 4
5. Identify an element below that is NOT essential for body functions.
- A. Calcium
 - B. Nitrogen
 - C. Hydrogen
 - D. Cadmium
6. Solomon Islands is rich with natural resources such as gold and forest. Gold is an example of a_____ resources.
- A. artificial
 - B. renewable
 - C. human-made
 - D. non-renewable
7. Which of the statement below is TRUE about the **law of conservation of mass** in a chemical reaction? The mass of;
- A. product equal to half of reactant.
 - B. products equals mass of reactants.
 - C. products doubles that of reactants.
 - D. reactants reduces compared to products.

8. The correct **balanced chemical equation** of the reaction below is

Magnesium + water \rightarrow Magnesium Hydroxide + hydrogen
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- A. $\text{Mg} + \text{H}_2\text{O} \rightarrow \text{MgO} + 2\text{H}$
- B. $\text{Mg} + \text{H}_2\text{O} \rightarrow \text{Mg}(\text{OH})_2 + \text{H}_2$
- C. $2\text{Mg} + 2\text{H}_2\text{O} \rightarrow 2\text{MgOH} + \text{H}_2$
- D. $\text{Mg} + 2\text{H}_2\text{O} \rightarrow \text{Mg}(\text{OH})_2 + \text{H}_2$

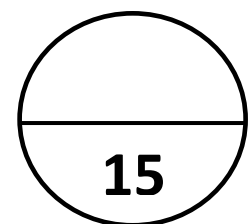
9. Lightning occur as a result of electrical;
- A. neutralization of charges on earth.
 - B. buildup of unlike charges in the charge clouds.
 - C. repulsion between like charges of the cloud and the earth.
 - D. attraction between unlike charges of the cloud and the earth.



10. Which bulbs in the diagram above are connected in parallel circuit?
- A. 2 and 3
 - B. 1,2 and 4
 - C. 2,3 and 4
 - D. 2, 3 and 1
11. Electric current and magnetic field have a common relationship. Which of the statements below is TRUE about this **relationship**?
- A. Changing magnetic field create zero current.
 - B. Current double the size of a changing magnetic field.
 - C. Current moving in a conductor creates high resistance.
 - D. Electric current creates a magnetic field, change in magnetic field create current.
12. A kind of **relationship** shown by the frog hiding under the trees is an example of
- A. Predation
 - B. Parasitism
 - C. Mutualism
 - D. Commensalism

13. What is the **function** of the pupil in human eye?
- A. It bends light as it enters the eye.
 - B. Controls the amount of light entering the eye.
 - C. Controls the eye by opening and closing of the eye muscles.
 - D. Protect the inner contents of the eye from the mechanical trauma.
14. Arteries and veins are types of blood vessels that carry blood in the body. Veins carry blood;
- A. away from the heart.
 - B. through the muscle tissues.
 - C. from the body to the heart.
 - D. throughout the whole circulatory system.
15. Carbon dioxide gas is one of the greenhouse gases in the atmosphere. Its **function** is to;
- A. filter the harmful rays of sun reaching the earth.
 - B. trap heat to warm the earth allowing living organisms to exist.
 - C. react with ozone layer in order to protect it from radiation damage.
 - D. reflect all radiation back into the space allowing none to reach the earth.

TOTAL MARK FOR SECTION A.



SECTION B: SHORT ANSWER QUESTIONS

(39 MARKS)

THIS SECTION IS WORTH 39 MARKS. ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

Q.16.

[8 marks]

A. South Pacific Environmental concern

Climate change and its impacts is a global issue today. It is caused by an increase levels of carbon dioxide gases in the atmosphere from human activities.

- i. Describe how plants contribute to the reduction of carbon dioxide gas in the atmosphere.

(2 marks)

- ii. Explain ONE (1) **advantage** of using solar energy power in Solomon Islands.

(2 marks)

B. Local environmental concern

Plastics wastes is one common risks to our local ecosystems today.

- i. Suggest ONE (1) way how plastic wastes are harmful to our marine ecosystem.

(2 marks)

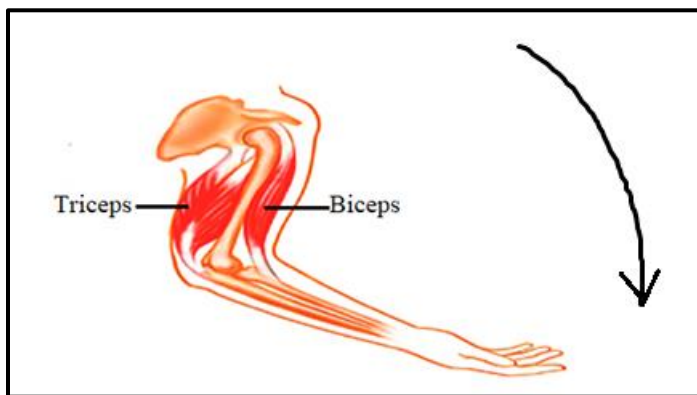
- ii. Describe how logging activities damages our local forest ecosystem.

(2 marks)

Q.17. [13 marks]

A. Movement and coordination

Use the figure below to answer question i.



- i. The arrow in the diagram above indicated the movement of the arm downward. Describe the action of triceps and biceps muscles movement.

(2 marks)

- ii. The endocrine glands play an important role in coordinating the activities of our body organs. Describe how sugar level is controlled in our bodies if there is excess amount of sugar in the body

(2 marks)

B. Human ear

- i. Explain how ear maintain balance in human.

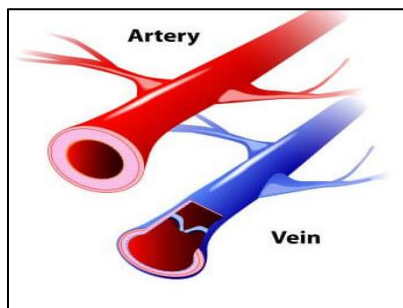
(3 marks)

- ii. Describe the function of the ear drum.

(2 marks)

C. Blood transport

Study diagram of artery and vein below to answer question i that follow.



- i. Explain why artery have thick wall than vein.

(2 marks)

- ii. Describe ONE (1) possible cause of circulatory diseases.

(2 marks)

Q.18.

[6 marks]

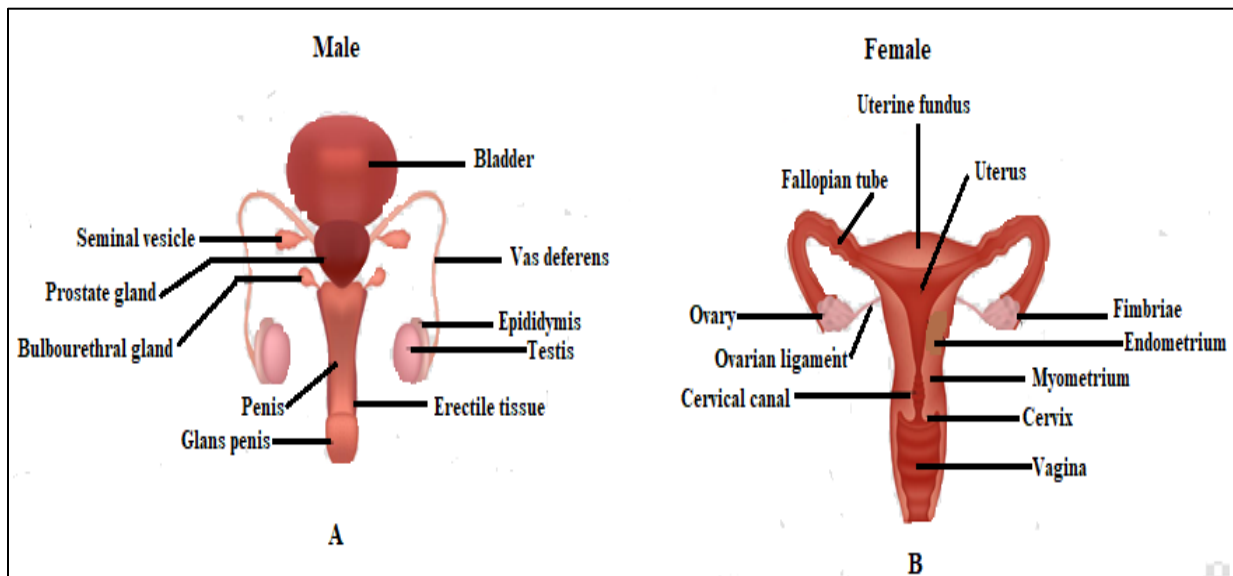
A. Nutritional life style disease

Diabetes is one of the main killers' diseases in our country. Describe ONE (1) possible way that lead to increase diabetic cases today.

(2 marks)

B. Reproductive system of female and male

The two systems below are related to each other. Study the diagrams to answer questions (i and ii) that follow:



i. Compare between the two human reproductive systems A and B above.

(2 marks)

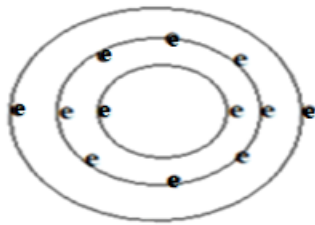
- ii. Describe **vasectomy method** in family planning.

(2 marks)

Q.19. Resources [12 marks]

A. Origin of the elements

Study the atomic structure below to answer questions (i- iii) that follow.



- i. Write the atomic number for the above atom.

(2 marks)

- ii. Explain your answer in question 19(i) above.

(2 marks)

- iii. What is the group and period number of the above atom in the periodic table?
Justify your answers.

Group:

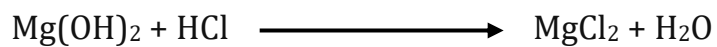
(2 marks)

Periods:

(2 marks)

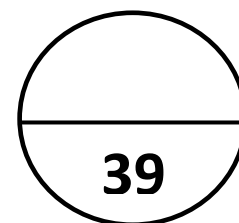
B. Properties of Metals

- i. Write the balance chemical equation for the reaction below.



(4 marks)

TOTAL MARK FOR SECTION B.

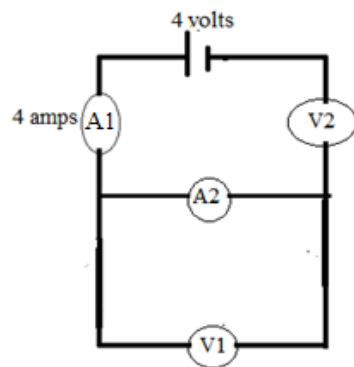


SECTION C: LONG ANSWER QUESTIONS**(21 MARKS)**

THIS SECTION IS WORTH 21 MARKS. ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

Q.20. Electricity and light**[11 marks]**

Study the diagram below carefully and answer questions (i and ii) that follow.



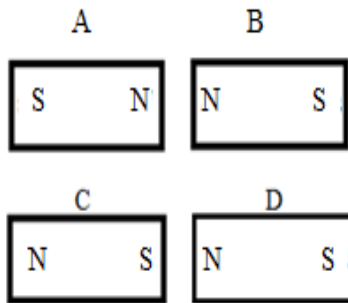
- i. Compare current through A1 and A2. Justify your answer.

(3 marks)

- ii. Describe the brightness of the bulbs if they are connected at V1 and V2.

(4 marks)

Study the piece of magnets A, B, C and D below to answer question iii that follow.

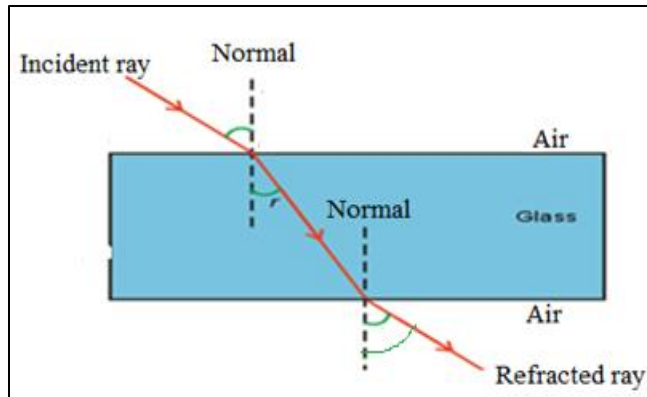


Explain what happen if magnet **A** is brought close to magnet **B** and that of C is brought close to D. Justify your answer.

(4 marks)

Q.21. Light refraction [3 marks]

Use the light ray diagram below to answer the question that follow.



Describe what happens after the light hits the glass and after it comes out of the glass.
Justify your answers.

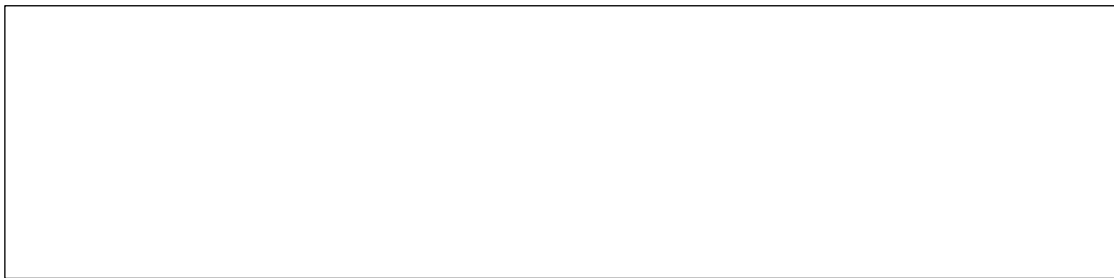
(3 marks)

Q.22. Considering Future (Local environmental concern)**[7 marks]**

Study the number of observations Gracelyn made for 3 days in her cabbage farm below to answer questions (i and ii) that follow.

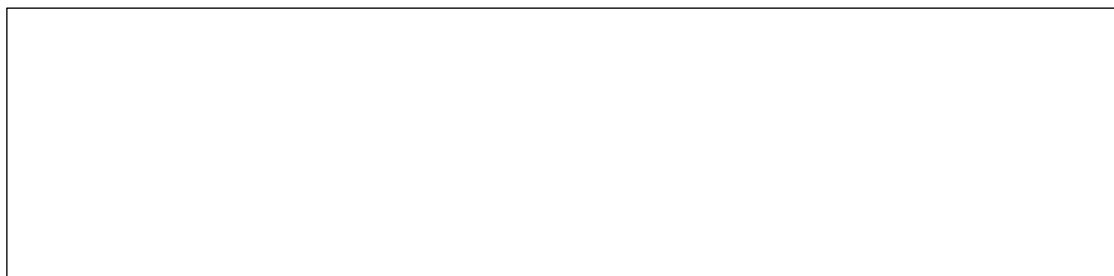
Number of days	Observations
1	The population of caterpillar feeding on cabbage leaves
2	Snails and grass hoppers seen feeding on the cabbages
3	Birds eating grasshoppers and snails.

- i. Use information given above to construct a food web.



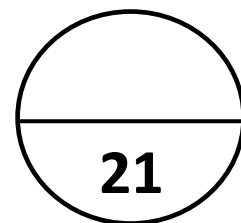
(4 marks)

- ii. Draw a **food chain** consist of THREE (3) organisms from the food web.



(3 marks)

TOTAL MARK FOR SECTION C.



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SIY9 SCIENCE 2023

CENTRE NUMBER

CANDIDATE NUMBER

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ANSWER SHEET MULTIPLE CHOICE

Write clearly the letter of the correct answer in the box provided. Make sure your answer is put alongside the right question number

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2	<input type="text"/>	12	<input type="text"/>
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For Marker/Checker Use only

SECTION	MARKS	MARKER	SCRIPT CHECKER
A	15		
B	39		
C	21		
TOTAL	75		
Marker/ Checker's Initial			