



Centre Number	Candidate Number

MINISTRY OF EDUCATION AND HUMAN RESOURCES DEVELOPMENT

SOLOMON ISLANDS YEAR 9 EXAMINATION

2016

SCIENCE

QUESTION AND ANSWER BOOKLET

Time: 2 Hours plus 10 minutes

This Exam Paper consists of TWO sections. **ATTEMPT ALL QUESTIONS.**

		MARKS	TIME
SECTION A:	20 Multiple Choice Questions	20	20 minutes
SECTION B:	6 Short Answer Questions	80	100 minutes
	TOTAL:	100	120 minutes

INSTRUCTIONS

1. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. WRITE BOTH YOUR CENTRE NUMBER AND CANDIDATE NUMBER IN THE BOX PROVIDED AT THE TOP RIGHT HAND CORNER OF THIS PAGE AND AT THE BACK OF THIS BOOKLET.
3. BEFORE YOU BEGIN EACH PART, READ THROUGH THE INSTRUCTIONS CAREFULLY.
4. WRITE BEST ANSWER LETTERS TO **SECTION A** IN THE FOLD OUT FLAP OF THIS BOOKLET.
5. WRITE YOUR ANSWERS TO SECTION B IN THE SPACES PROVIDED IN THIS BOOKLET.
6. USE 10 MINUTES READING TIME TO READ THROUGH THE PAPER.

THIS BOOKLET CONTAINS 25 NUMBERED PAGES.

SECTION A: MULTIPLE CHOICE QUESTIONS

(20 MARKS)

ANSWER ALL THE QUESTIONS IN THIS SECTION. WRITE YOUR BEST ANSWER IN THE BOXES OF THE FOLD-OUT FLAP PROVIDED ON THE BACK OF THIS BOOKLET. EACH QUESTION IS WORTH 1 MARK.

1. If the planets orbit around the Sun, which of the following planet would take the shortest to make one complete orbit of the Sun?
 - A. Earth
 - B. Jupiter
 - C. Venus
 - D. Saturn

2. Which is the lightest of all the metals and have shiny gray solid?
 - A. Magnesium
 - B. Iron
 - C. Gold
 - D. Copper

3. The naturally occurring process that removes top soil down the hill into the lower land and rivers is called
 - A. weathering
 - B. erosion
 - C. flooding
 - D. pollution

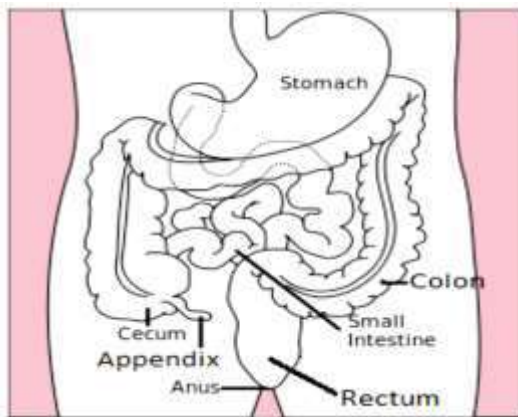
4. One property of non-metals is that;
 - A. it is sonorous
 - B. its luster is bright
 - C. it is a non-conductor
 - D. it is ductile

5. If Group II metals react(burn) with oxygen, the main product formed would be
- A. solution
 - B. oxides
 - C. salt
 - D. hydroxide
6. Which metal is less reactive with diluted acid?
- A. Sodium
 - B. Calcium
 - C. Copper
 - D. Zinc
7. Which of the following particles possesses a positive charge?
- A. Neutron
 - B. Atom
 - C. Electron
 - D. Proton
8. Which of the following common materials is a good conductor of electricity?
- A. Eraser
 - B. Metal pen
 - C. School bag
 - D. Plastic ruler
9. If potential difference is directly proportional to electrical current, what will happen to the current, if the potential difference was reduced?
- A. Electrical current is reduced
 - B. Electrical current is halved
 - C. Electrical current is doubled
 - D. Electrical current is increased

10. Which of the following statements is NOT TRUE about energy?
- A. Energy can transfer in solid, liquid and gas
 - B. Energy can be destroyed
 - C. Energy can be changed from one form to another
 - D. Example of energy is heat
11. A rare kind of fish lives in a small stream. A dam is built on the stream, which resulted in the death of the whole rare fish population. Which of the following terms describe the situation given?
- A. A limiting factor
 - B. Adaptation
 - C. Extinction
 - D. Competition
12. Which of the following developmental activities would badly destroy the rain forest ecosystem?
- A. Conserving the natural forest
 - B. Planting forest trees to replace falling trees
 - C. Logging operation
 - D. Harvesting trees for domestic use
13. What will happen if more greenhouse gases are within the atmosphere?
- A. More heat will be trapped and colds the Earth's atmosphere
 - B. More heat will be trapped and warms the Earth's atmosphere
 - C. Less heat will be trapped and warms the Earth's atmosphere
 - D. Less heat will be trapped and colds the Earth's atmosphere

14. When in the female menstrual cycle does a mature egg release from the ovary?
- A. Menstruation period
 - B. Dry period
 - C. Ovulation period
 - D. Infertile period
15. Which statement is NOT TRUE about the female's Uterus?
- A. It accommodates the fertilized egg.
 - B. Its wall lining breaks away before the egg is fertilized and implanted.
 - C. It has the size of pear and sits quite low in the abdomen.
 - D. It is joined to the vagina by the cervix
16. A woman wishes to prevent any future pregnancies permanently. The doctor's advice was for her husband to undergo vasectomy. This practice would fulfil her wish because
- A. it keeps sperm out of ejaculated semen.
 - B. it would not allow the sperm to be produced.
 - C. it would prevent the sperm from fertilizing the egg.
 - D. the cervix would be reduced and prevent fertilization.

Study the diagram below to answer Question 17



17. Where in the labelled parts in the above diagram secretes acid and enzymes which digests food?
- A. Colon
 - B. Cecum
 - C. Small intestine
 - D. Stomach.
18. Which component of blood's function is to stop bleeding by clumping and clotting blood vessel injuries?
- A. Plasma
 - B. Platelets
 - C. Red Blood Cells
 - D. White Blood Cells.

19. The Inner ear is made up of

- A. hammer, incus and eustachian tube
- B. hammer, anvil and stirrup
- C. cochlea, auditory nerve and semicircular canals
- D. auditory canal, pinna and ossicles.

20. The adrenal glands are located

- A. inside the Kidneys
- B. outside the pancreas
- C. inside the pancreas
- D. on top of the kidneys

TOTAL MARK FOR SECTION A:

20

SECTION B: SHORT ANSWER QUESTIONS

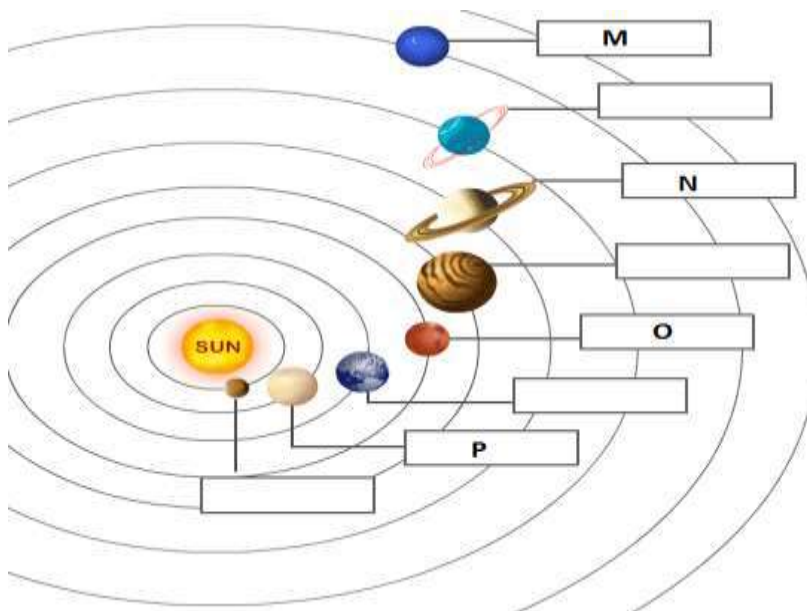
(80 MARKS)

THIS SECTION IS WORTH 80 MARKS. ANSWER ALL QUESTIONS IN THE SPACE PROVIDED. IF YOU NEED MORE SPACE TO WRITE YOUR ANSWERS, USE THE PAGE(S) PROVIDED AT THE BACK OF THIS BOOKLET.

Question 21: Resources (13 marks)

A. Origin of the Elements

1. The diagram below shows the planets within the Solar system. Use this diagram to answer the question below.



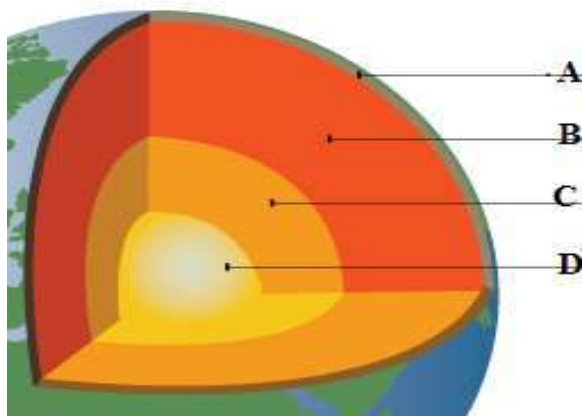
- i. Give the names of the planets labelled:

M: _____

N: _____

(2 marks)

2. Study and label the part B and D of the Earth's crust below.



i. Give names to the parts of the Earth labelled

B: _____

D: _____

(2 marks)

ii. Oxygen is the most abundant element found in the Earth's crust. Name the second most abundant element.

a. _____

(1 mark)

iii. Which Group is Oxygen element located in the periodic table?

(1 mark)

iv. Explain the importance of oxygen gas to human beings.

(2 marks)

B. Mineral Resources

1. Define and give an example of the following terms.

a. Renewable resources

(2 marks)

b. Non-renewable resources

(2 marks)

2. Give at least ONE common type of rocks found in the Solomon Islands

(1 mark)

TOTAL MARK FOR SECTION B: Q.21

13

Question 22: More on Resources (13 marks)

A. Properties of Metals

- i. Metals are generally important because of the properties they have. Briefly explain these two properties of metals

a) Malleability

(1 mark)

b) Conduction

(1 mark)

- ii. State TWO advantages or benefits for recycling of metals?

a) _____

b) _____

(2 marks)

- iii. Write the Chemical formula or symbol of the element below.

a) Iron _____

(1 mark)

iv. Write a chemical equation to represent the reaction between:

a) Magnesium and oxygen gas.

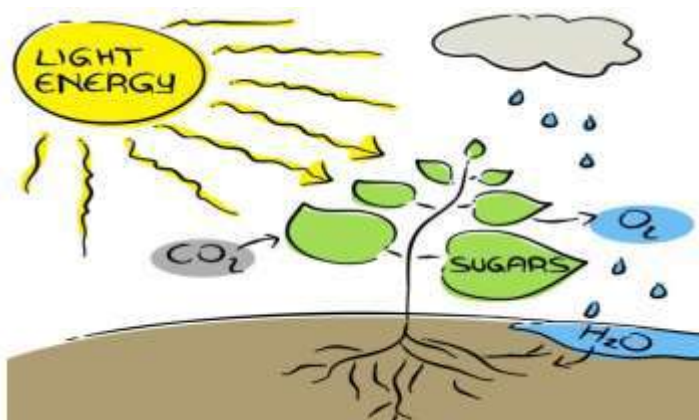
(2 marks)

b) Balance the chemical equation in (i) above.

(2 marks)

B. Energy Resources

1. The solar energy from the sun is the most evident energy used by plants and animals. The process used by plants in using energy from the sun is known as photosynthesis. Study the diagram below and answer the associated questions that follows.



- i. List at least TWO (2) raw materials essential for the photosynthesis process

(2 marks)

- ii. Write the chemical equation for the photosynthesis process

(2 marks)

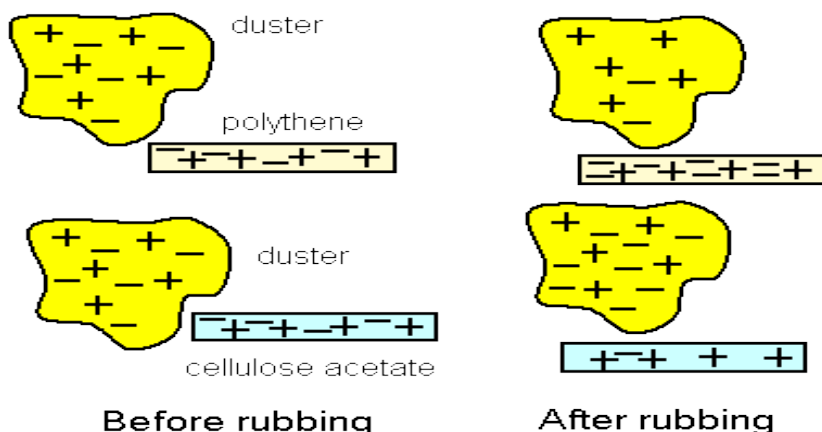
TOTAL MARK FOR SECTION B: Q.22

13

Question 23: Electricity & Light (16 Marks)

A. Static Electricity

1. The atoms has been studied and believed to have electrons (-ve) and protons (+ve) and that enables the static electricity. Use the diagram below to answer the question below.



- i. Briefly describe what causes static electricity.

(2 marks)

B. Electric circuits and appliances

1. Explain the difference between the following terms;

- i. Conductor and insulator

(2 marks)

ii. Voltage and Current

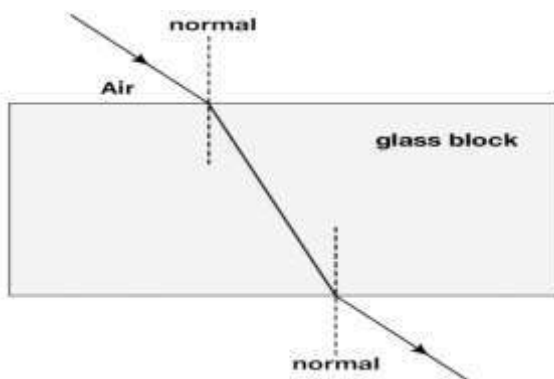
(2 marks)

iii. Draw and label a parallel circuit using two cell and 2 bulbs

(3 marks)

C. The Properties of Light

1. Study the diagram and answer the follow up questions below.



One of the properties of the light as it travels from one medium to another is it can be refracted (bend), as shown in the above diagram.

- i. Describe why the light bends when passing from the air into the glass and out?

(2 marks)

- ii. Describe the movement of light rays when the light travels from the more denser medium to a less denser medium (i.e. glass to air)

(2 marks)

- iii. Draw and show the light rays passing through a diverging lens and label the focal point.

(3 marks)

TOTAL MARK FOR SECTION B: Q.23

16

Question 24: Considering our Future (12 Marks)

A. Local Environmental concerns

1. Define the term Ecosystem and give at least ONE (1) type of local ecosystem we have in the Solomon Islands.

(2 marks)

2. State why the organisms in the ecosystem depend on each other.

(1 mark)

3. A form three student was asked to study the feeding relationship between organisms living in and around the grassland ecosystem close to his school. From the study he came up with the following observations below. Study the observations to answer the follow up question.

Observations

Grasshopper and termite (ant) eats grass

Rat eats grasshopper and termite

Frog eats termite

Snake eats rat and frog.

Hawk eats rat and snake

- i. Use the observations on page 16 to construct a food web consist of THREE (2) simple food chains.

(3 marks)

B. Environmental Concerns

1. Global warming is hugely affecting the Pacific Island countries today, as sea level rise is alarming causing threats to the life of low Island inhabitants.

- i. Explain what causes the global warming to happen.

(2 marks)

- ii. State at least TWO effects of the global warming experienced in Solomon Islands today.

(2 marks)

- iii. Explain why destruction of habitats can lead to extinction of organism in the Solomon Islands today?

(2 marks)

TOTAL MARK FOR SECTION B: Q.24

12

Question 25: The Human System (13 marks)

A. Reproduction and Growth

1. State the role of the placenta and umbilical cord in terms of the nutrition and respiration of the fetus.

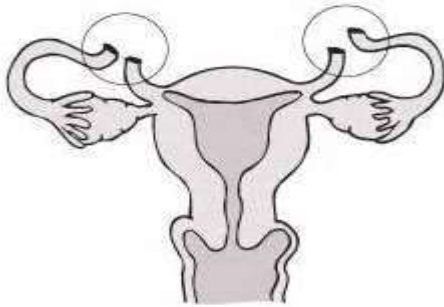
i. Placenta

(1 mark)

ii. Umbilical cord

(1 mark)

2. Study the family planning method in the diagram below. State at least ONE (1) advantage and ONE (1) disadvantage of this method.



Tubal Ligation surgery picture

i. advantage

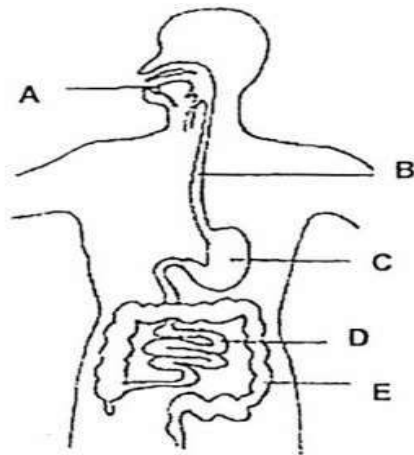
(1 mark)

ii. disadvantage

(1 mark)

B. Nutrition, Lifestyle and diseases

1. Study the diagram of the human digestive system below and name part B & D of the system.



B: _____

D: _____

(2 marks)

2. Explain the importance of the salivary amylase enzyme in the digestive process.

(2 marks)

3. State the role of part E of the digestive system process.

(1 mark)

4. Explain how the liver deals with excess carbohydrates (glucose) and proteins (amino acids)?

i. Carbohydrate

(2 marks)

ii. Protein

2 marks)

TOTAL MARK FOR SECTION B: Q.25

13

Question 26: More on Human System (13 marks)

A. Blood Transport

1. State the function of the following in terms of the blood transport.

i. Heart

(1 mark)

ii. Pulmonary Veins

(1 mark)

iii. Pulmonary Arteries

(1 mark)

2. The human body has a defence system that helps to protect it from bacterial infection. Phagocytes and leucocytes are two vital components of the human defence systems.

Describe the method used by leucocytes to destroy bacteria.

i. Leucocytes:

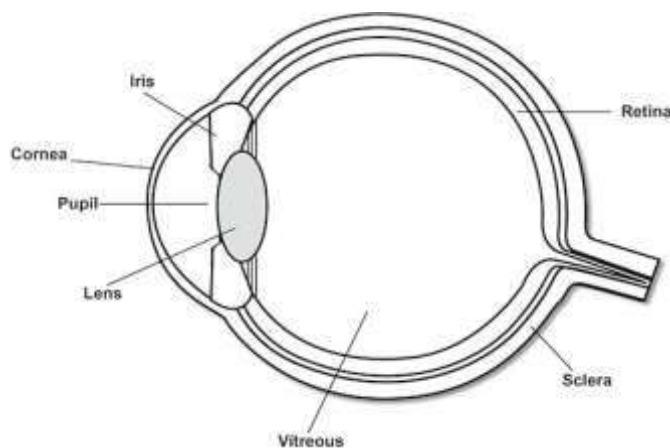
(2 marks)

3. Explain the major causes of high blood pressure (Hypertension) as the circulatory disease.

(2 marks)

B. Movement and Coordination

1. Study the eye structure to answer the questions that follow.



- i. State the function of:

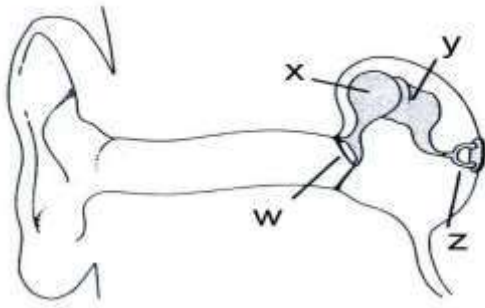
a) Pupil

(1 mark)

b) Retina

(1 mark)

2. The Ear assists us to hear. The message is processed in the brain and we can make sense of the sound we hear.



- i. Name the part of the Ear label **X**

X: _____ (1 mark)

- ii. State the role/ function of part **W**.

(1 mark)

3. Explain the role/ function of the main endocrine gland known as Pancreas

(2 marks)

TOTAL MARK FOR SECTION B: Q.26

13

SIY9 – SCIENCE 2016

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 USE ONLY

SECTION	MARKS	SCORE
A	20	
B: Q21	13	
B: Q22	13	
B: Q23	16	
B: Q24	12	
B: Q25	13	
B: Q26	13	
TOTAL	100	
Marker's Initial		