



Centre Number	Candidate Number

MINISTRY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT
SOLOMON ISLANDS YEAR 9 EXAMINATION
2019

SCIENCE

QUESTION AND ANSWER BOOKLET

THURSDAY 7TH NOVEMBER 9:00 AM

TIME: 2 Hours plus 10
Minutes reading time.

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

	MARKS	TIME
SECTION A: 20 Multiple Choice Questions	20	20 minutes
SECTION B: 4 Short Answer Questions	50	50 minutes
SECTION C: 4 Long Answer Questions	30	50 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 the back-flap at the end of this booklet.
3. Before you answer the questions, read through the instructions carefully.
4. Do NOT use correction fluid.
5. Mobile phones are NOT allowed in the Examination room.

Check that this booklet contains pages **2 - 24** in the correct order and that none of these pages are blank. Page **23** has been left blank deliberately.

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

SECTION A: MULTIPLE CHOICE QUESTIONS

(20 MARKS)

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

1. Which of the following is NOT part of the **solar system**?
 - A. Sun.
 - B. Stars.
 - C. Jupiter.
 - D. Mercury.

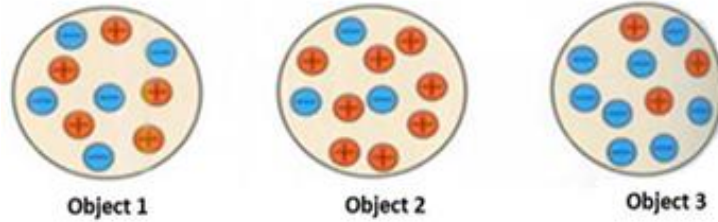
2. The region that consists of two thirds ($\frac{2}{3}$) of the **mass of the earth** is:
 - A. Crust.
 - B. Inner core.
 - C. Outer core.
 - D. Inner Mantle.

3. An element **X** has Mass Number of 6 and Atomic Number of 7. Which of the following is TRUE about element **X**?
 - A. Element X has 7 protons and 7 electrons.
 - B. Element X has 6 protons and 7 electrons.
 - C. Element X has 7 protons and 6 electrons.
 - D. Element X has 7 protons and 13 electrons.

4. Which of the following is a mineral?
 - A. Iron.
 - B. Granite.
 - C. Graphite.
 - D. Diamond.

5. The **ductility** of metals refers to their property where they can be;
 - A. very heavy.
 - B. good conductors of heat.
 - C. pulled into wires or sheets.
 - D. used for decorations because they are shiny.

6. The sun creates its own energy through a process called;
- A. electrolysis.
 - B. binary fission.
 - C. nuclear fusion.
 - D. hydrogenation.



'Diagram showing the number of positive and negative charges of an object'.

Study the diagram above to answer questions (7 and 8) that follow.

7. Considering the charges on the objects above, which of the following statement is **TRUE**?
- A. Object 3 is positively charged.
 - B. Object 3 is negatively charged.
 - C. Object 2 is negatively charged.
 - D. Object 1 is negatively charged.
8. If object 1 is brought close to object 2, what will you observe with the objects?
- A. Repel each other.
 - B. Attract each other.
 - C. Attract then repel each other.
 - D. Neither attract nor repel each other.

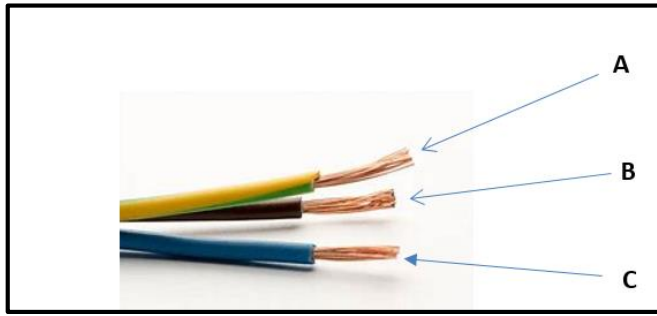


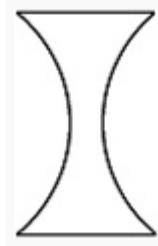
Diagram showing the 3 wire cables in a 3 pin plug.

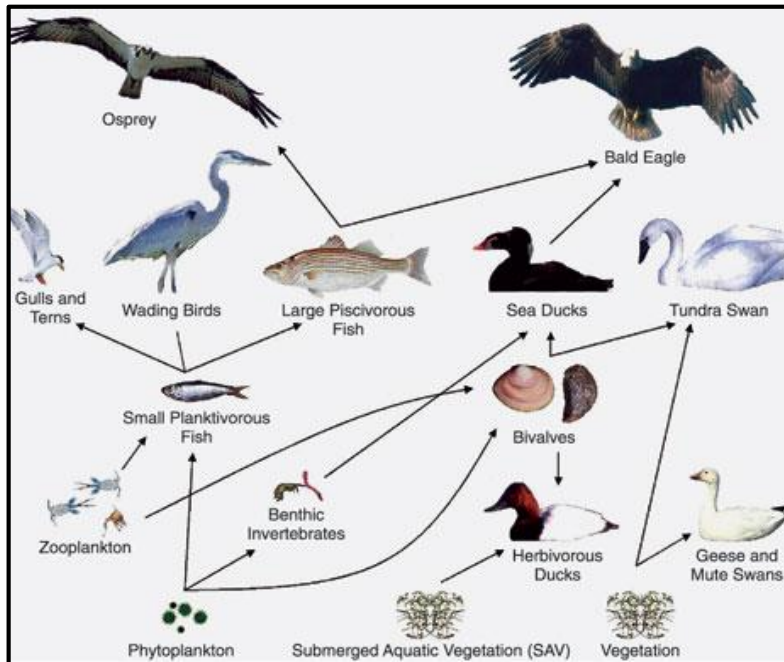
Study the diagram above to answer question 9 that follows.

9. The cable coloured **blue (C)** is known as the:
- A. Earth wire.
 - B. Active wire.
 - C. Neutral wire.
 - D. Radioactive wire

10. The diagram shown below is that of a:

- A. Convex lens.
- B. Concave lens.
- C. Cylinder block.
- D. Magnifying glass.





Food web in an ecosystem.

Study the food web above and answer questions (11-13) that follow.

11. In the above food web, **Phytoplankton** can be BEST referred to as:
 - A. Decomposers.
 - B. Primary producers.
 - C. Parasitic vegetation.
 - D. Secondary producers.

12. The **organism** that is able to convert carbon dioxide (CO_2) from the atmosphere and water (H_2O) from the soil to sugar ($\text{C}_6\text{H}_{12}\text{O}_6$) would be;
 - A. bivalves.
 - B. zooplankton.
 - C. phytoplankton.
 - D. benthic invertebrates.

13. An example of a **Secondary Consumer** is;
 - A. bivalves.
 - B. zooplankton.
 - C. phytoplankton.
 - D. waddling birds.

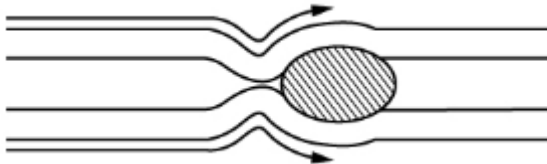
14. The process by which sperms are produced in sperm ducts is called;

- A. semen.
- B. Sperm pool.
- C. Spermatozoa.
- D. spermatogenesis.

15. What is the MAIN use of **contraceptives**?

- A. Speed up pregnancy.
- B. Speed up giving birth.
- C. Avoid unwanted pregnancy.
- D. To hold ejaculation for one hour.

The diagram below shows food particles moving through the duodenum of human digestive system.



16. The process shown in the above diagram is called:

- A. Rolling.
- B. Respiration.
- C. Peristalsis.
- D. Absorption.

17. The **order in the development stage** of a growing baby inside the mother's womb from conception would be:

- A. Zygote, foetus, embryo.
- B. Embryo, foetus, zygote.
- C. Foetus, embryo, zygote.
- D. Zygote, embryo, foetus.

18. The shortage of which **blood component** below develops the condition called anaemia?

- A. Plasma.
- B. Platelets.
- C. Red blood cells.
- D. White blood cells.

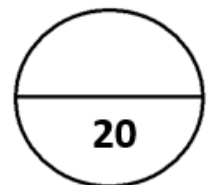
19. Where in the human skeletal system would you locate a **ball** and **socket joint**?

- A. Ribs.
- B. Hips.
- C. Skull.
- D. Elbow.

20. Another **function** of our ear is to maintain good:

- A. Vision.
- B. Balance.
- C. Digestion.
- D. Respiration.

TOTAL MARKS FOR MC: Q1-20



SECTION B: SHORT ANSWER QUESTIONS

(50 MARKS)

THIS SECTION IS WORTH 50 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.

(16 MARKS)

A. Origin of Elements:

(i) Explain the difference between an **ore** and a **mineral**.

(a) Ore: _____

(2 marks)

(b) Mineral: _____

(2 marks)

(ii) Why is gold often found on the **earth's crust** as a pure element?

(1 mark)

B. Mineral Resource:

1. Explain how **sedimentary rocks** are formed.

(2 marks)

2. Write the **chemical formula** for the two (2) compounds named below.

(i) Calcium Carbonate: _____
(2 marks)

(ii) Magnesium Chloride: _____
(2 marks)

C. Properties of Metals.

Define the following terms below:

(i) Metal Recycling:

(1 mark)

(ii) Law of conservation of mass:

(1 mark)

(iii) Corrosion:

(1 mark)

D. Energy Resources.

(i) Explain how **geothermal energy** is derived.

(2 marks)

TOTAL MARKS FOR SECTION B: Q21:

16

QUESTION 22: ELECTRICITY AND LIGHT.

(10 MARKS)

A. Static Electricity

A student rubbed an inflated balloon on her hair and then brought the balloon close to a slow running tap of water. The running water curled towards the balloon.

Provide an explanation to the student's observation.

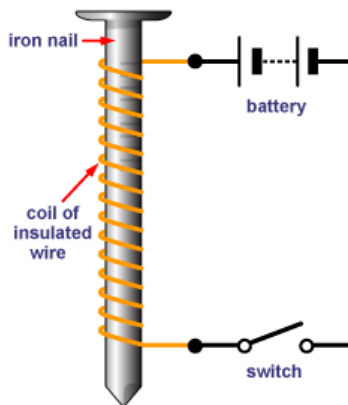
(2 marks)

B. Electric Circuits and Applications:

1. State the **difference** between an open and a closed circuit OR draw the two different circuits with labels.

(2 marks)

2. The diagram below shows an experiment set up by a Form 3 student to investigate the relationship between **electricity** and **magnetism**.



- (i) When the switch is turned on, what would happen if another iron nail is brought close to the nail coiled by a wire.

(a) **Observation:**

(1 mark)

(b) **Justify your answer in (i) (a) of page 10.**

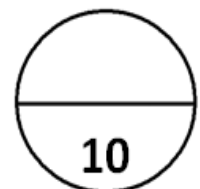
(2 marks)

C. Property of light

1. A fisherman saw a fish two meters deep in the sea. He aims to spear the fish from his canoe. Explain how the properties of light affects the true position of the fish.

(3 marks)

TOTAL MARKS FOR SECTION B: Q 22



QUESTION 23: CONSIDERING OUR FUTURE

(8 MARKS)

A. Local environmental concerns.

1. Define the terms **intra-dependence** and **inter-dependence** with reference to an ecosystem you have studied.

i. Intra-dependence:

(2 marks)

ii. Inter-dependence:

(2 marks)

2. Solomon Islands is a Sea Turtle Reserve as reported in Living Oceans Foundation (2014) but this could no longer true as turtle population continue to decrease nowadays because of human consumption. State TWO (2) other factors that may have contributed to this **population reduction**.

(i) _____

(1 mark)

(ii) _____

(1 mark)

B. South Pacific Environmental concerns

Solomon Islands low lying islands could be among what is commonly known as “The Sinking Countries of the Pacific”. The human activities taken in the past had adversely affected our islands as they appear to be sinking before our eyes.

List TWO (2) **activities** that could have contributed to rising of the sea levels in our islands.

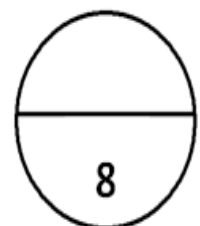
(i) _____

(1 mark)

(ii) _____

(1 mark)

TOTAL MARKS FOR SECTION B: Q.23



QUESTION 24: THE HUMAN SYSTEM.

(16 MARKS)

A. Reproduction and Growth

September 2019							
Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30		

Study the calendar above and answer question (1) that follows.

1. If a woman has her menstruation starting on 10th September;

(i) when is the likely date of her **ovulation**?

(1 mark)

(ii) when is the likely date of her **next** menstruation?

(1 mark)

2. State the **function** of the human reproductive parts in the table below.

Name	Function
Umbilical Cord	
Placenta	

(2 marks)

B. Nutrition, Lifestyle and Diseases

The Human Digestive system process can be divided into different stages, namely; *ingestion*, *motility*, and *absorption*.

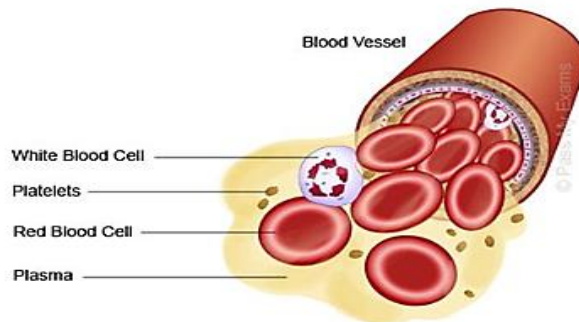
In the table below, describe the process involved in each stage and suggest the place where it occurs.

Stage	Describe the process	Place occurred
(i) Ingestion		
(ii) Digestion		
(iii) Absorption		

(6 marks)

C. Blood Transport

1. The diagram below shows the **major components** of blood.



State the **function** of:

(i) Plasma: _____

(1 mark)

(ii) Platelets: _____

(1 mark)

(iii) White Blood cells: _____

(1 mark)

D. Movement and Coordination.

The **endocrine glands** play an important role in coordinating the activities of our body organs.

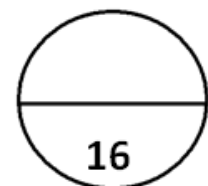
- (i) Explain how sugar level is **regulated** in our bodies if the sugar level in the body is low.

(2 marks)

- (ii) What is the **function** of the cochlea in our ears?

(1 mark)

TOTAL MARKS FOR SECTION B: Q.24



SECTION C: LONG ANSWER QUESTIONS.**(30 MARKS)**

THIS SECTION IS WORTH 30 MARKS. ANSWER ALL QUESTIONS IN THE SPACE PROVIDED. IF YOU NEED MORE SPACE TO WRITE YOUR ANSWERS, USE THE BLANK PAGE PROVIDED AT THE END OF THIS BOOKLET.

QUESTION 25: RESOURCES**(9 MARKS)****A. Origin of elements**

1. The table below shows the **valencies** of some chemical ions. Study the table and answer questions (A(i) and (ii)) that follow:

Positive ions	Negative ions
NH_4^{1+}	SO_4^{2-}
Al^{3+}	NO_3^{2-}

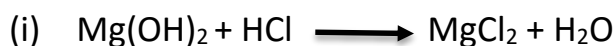
- A. Write the **correct formula** of the following chemical substances below.

(i) Ammonium Sulphate: _____
(2 marks)

(ii) Calcium Nitrate: _____
(2 marks)

B. Mineral Resources.

Balance the following **chemical equations** below.



(2 marks)



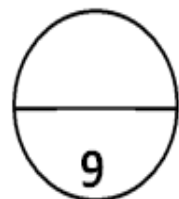
(2 marks)

C. Energy Resources

Solar energy is now commonly used as an alternative source of energy over fossil fuels. Suggest ONE (1) ADVANTAGE of solar energy over fossil fuels.

(1 mark)

TOTAL MARKS FOR SECTION C: Q.25



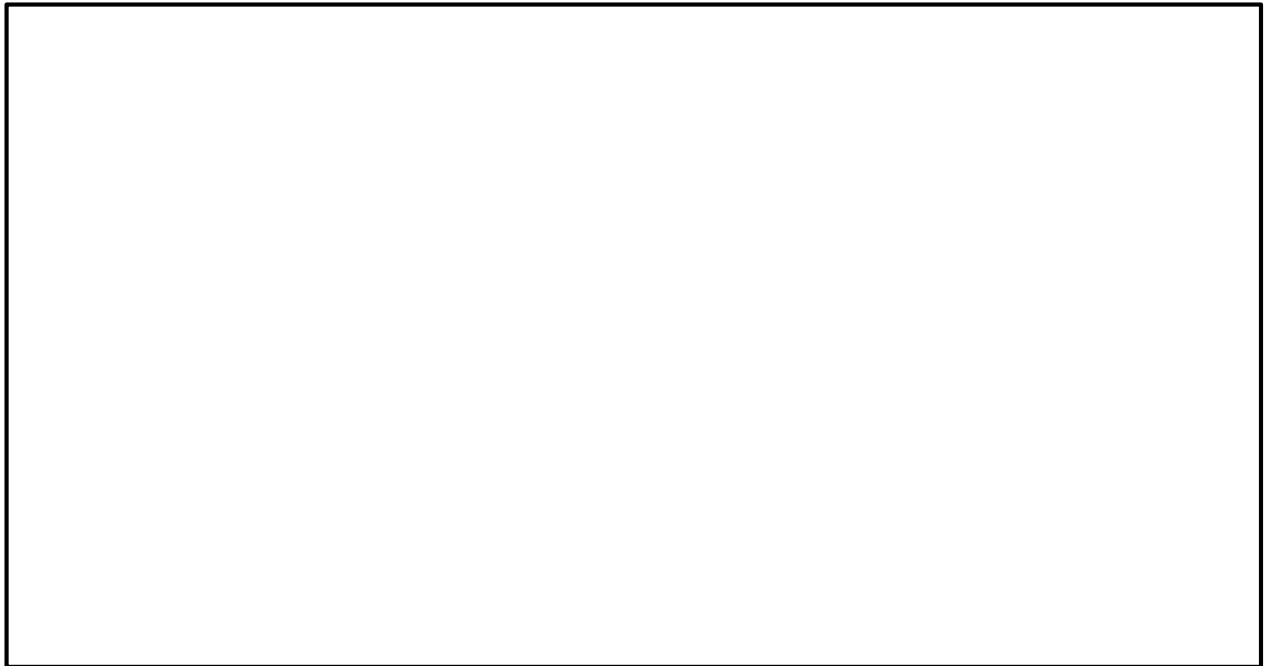
QUESTION 26: ELECTRICITY AND LIGHT.

(6 MARKS)

Electric circuits and applications:

1. You have been provided with connecting wires, two cells, volt meter, an ammeter and three bulbs. Draw a **parallel circuit** if you are to measure the current across the first bulb and the potential difference across bulb 3.

Use appropriate electrical symbols to draw the circuit.

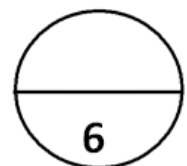


(5 marks)

2. State an **ADVANTAGE** of a **parallel circuit** to that of a series circuit.

(1 mark)

TOTAL MARKS FOR SECTION C: Q.26



QUESTION 27: CONSIDERING OUR FUTURE.

(6 MARKS)

Local Environmental Concerns:

A. State TWO (2) **benefits** of the tourism development.

(i) _____

(ii) _____

(2 marks)

B. State TWO (2) **disadvantages** of the tourism development.

(i) _____

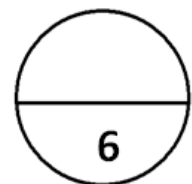
(ii) _____

(2 marks)

C. Based on the advantages and disadvantages of tourism, would you allow or disallow the development to proceed? Give an explanation to your answer.

(2 marks)

TOTAL MARKS FOR SECTION C: Q.27



QUESTION 28: THE HUMAN BODY

(9 MARKS)

A. More on Reproduction, Growth and Coordination.

1. State TWO (2) aspects of **healthy child care practice** after birth.

(i) _____

(ii) _____

(2 marks)

2. Using only local available food, state ONE (1) food type that would be included in a **healthy diet** for a 2 years old child.

(1 mark)

3. A Form 3 female student was so concerned given that she can read a book in the class but can't see objects that are some 100 metres away.

(i) Illustrate using a diagram of her eye why the student **can't** see distant objects.



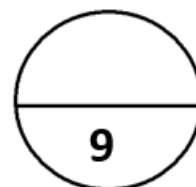
(3 marks)

- (ii) Using your answer to part (i) on page 21, illustrate using a diagram to show how she would **be able** to correct her vision.



(3 marks)

TOTAL MARKS FOR SECTION C: Q.28



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SIY9 – SCIENCE 2019

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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FOR MARKER USE

SECTION	MARKS	MARKER	CHECKER
A	20		
B: Q21	16		
B: Q22	10		
B: Q23	8		
B: Q24	16		
C: Q25	9		
C: Q26	6		
C: Q27	6		
C: Q28	9		
TOTAL	100		
Marker / Checker Initials			