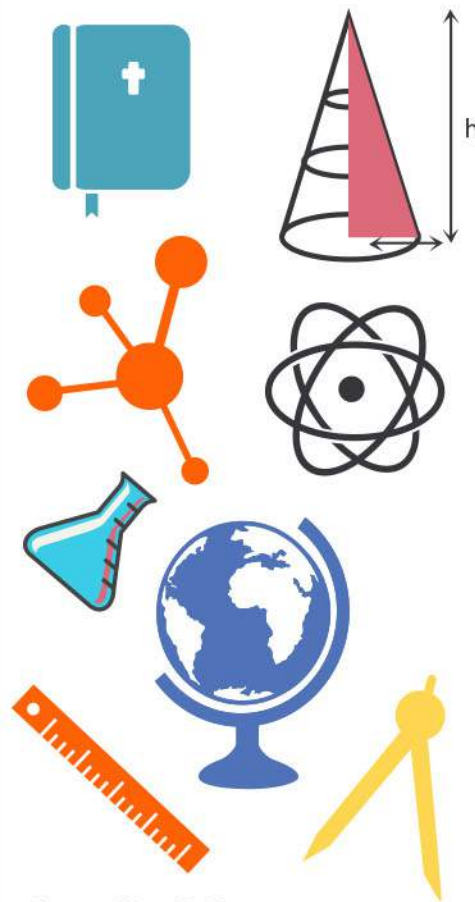


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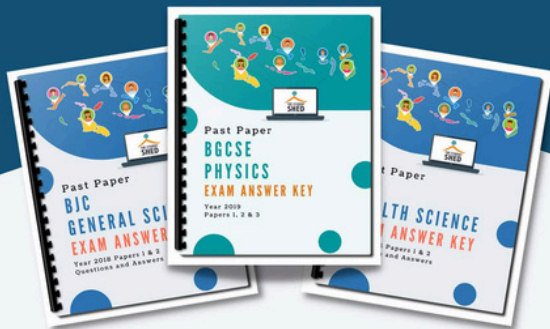
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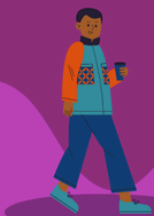
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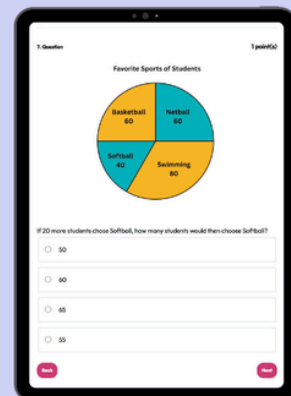
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SCHOOL No.	CANDIDATE No.
INITIALS	SURNAME

**MINISTRY OF EDUCATION
BAHAMAS JUNIOR CERTIFICATE
EXAMINATION**

**0047 GENERAL SCIENCE
PAPER 1 MULTIPLE CHOICE QUESTIONS
(40 Marks)**

Friday **31 MAY 2024** 1:00 P.M.–2:00 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.

For each question, there are four suggested answers A, B, C and D. When you have selected an answer to a question, circle the letter by the answer which you have chosen.

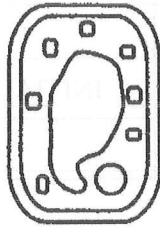
Answer **ALL** the questions in this booklet. Do any necessary rough work and calculations in your booklet.



1. The diagram shows an animal cell and a plant cell.



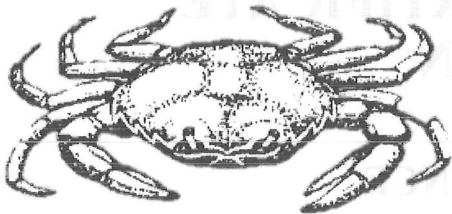
animal cell



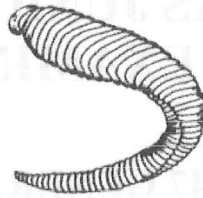
plant cell

Which structure is **not** found in both cells?

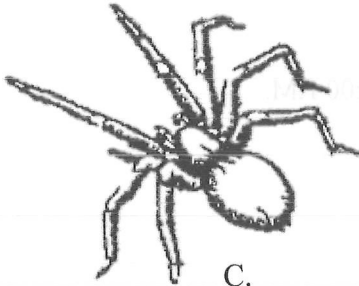
- A. cell membrane
 B. cell wall
 C. cytoplasm
 D. nucleus
2. Which organism is **not** an arthropod?



A.



B.



C.



D.

3. Which is the correct function of the ovary of a plant?

- A. It holds and nurtures the ovules.
 B. It protects the stamens and pistil.
 C. It protects the young flower bud.
 D. It supports the petals.

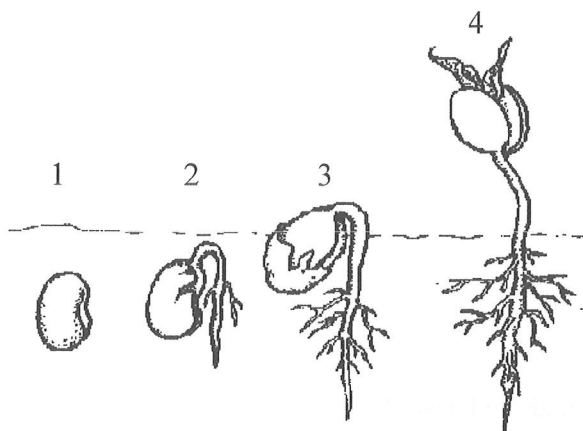


4. The diagram shows a maize plant.



Which class does this plant belong to?

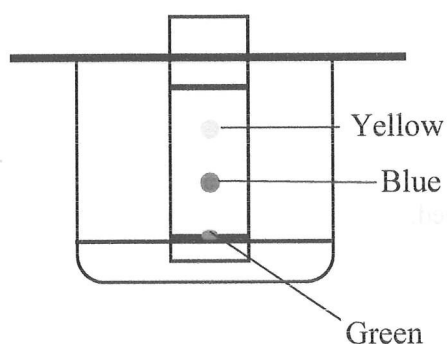
- A. Conifers
 - B. Dicotyledons
 - C. Ferns
 - D. Monocotyledons
5. The diagram shows four stages in the germination of a bean seed.



What is happening at stage 4?

- A. Root hairs appear.
- B. The cotyledons burst out of the testa and above the ground.
- C. The first leaves appear.
- D. The radicle grows and bursts through the testa.

6. Which statement best describes an atom?
- chemical union of two or more elements
 - electrons and neutrons surrounded by protons
 - smallest particle of a compound
 - smallest particle of an element
7. Which property is **not** seen in metals?
- It conducts electricity.
 - It is ductile.
 - It is dull.
 - It is sonorous.
8. The diagram shows green ink being separated into colours.

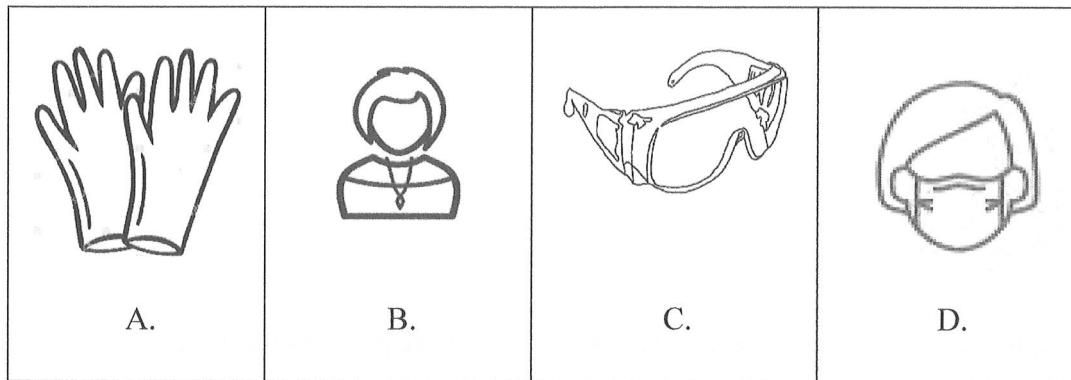


Which process is being used?

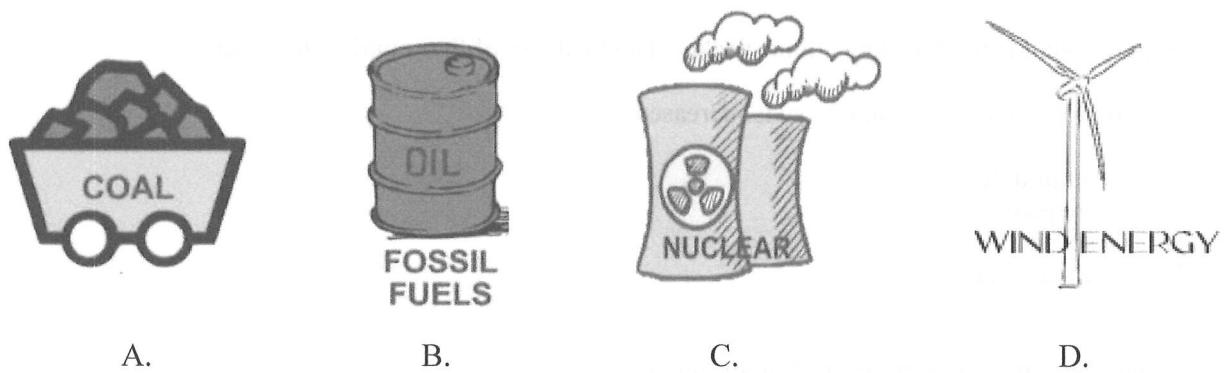
- chromatography
 - evaporation
 - filtration
 - magnetism
9. Which substance changes colour in the presence of acids and bases?
- fat
 - indicator
 - salt
 - water



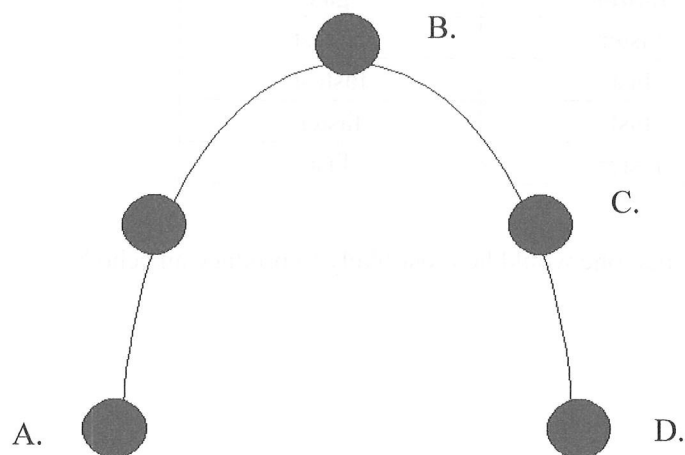
10. Which should **not** be worn in the lab when handling heat or chemicals?



11. Which source of energy is renewable?



12. In the diagram, where is the potential energy greatest?



13. A boy is cycling along the road.



When he applies the brakes, which force occurs between the brake pads and the wheel?

- A. air pressure
 - B. friction
 - C. gravity
 - D. magnetism
14. A quiet sound is produced by a loudspeaker. The loudness of the sound is increased.

Which property of the sound wave is increased?

- A. amplitude
 - B. frequency
 - C. speed
 - D. wavelength
15. Sound can travel through solids, liquids and gases.

Which row correctly compares the speed of sound in solids, liquids and gases using the terms fast, faster and fastest?

	solid	liquid	gas
A.	fast	faster	fastest
B.	faster	fast	fastest
C.	fastest	fast	faster
D.	fastest	faster	fast

16. If sound waves hit each of these objects, which one would be most likely to produce an echo?

- A. brick wall
- B. carpeted floor
- C. forest filled with trees
- D. window covered with curtains



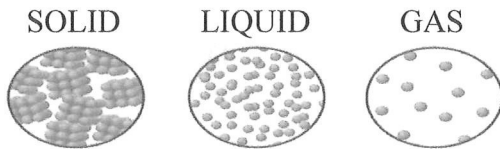
17. Which temperature represents the freezing point of water?

- A. 0°C or 32°F
- B. 0°C or 100°F
- C. 32°C or 100°F
- D. 100°C or 212°F

18. Which substance is an insulator of heat?

- A. brass
- B. copper
- C. glass
- D. gold

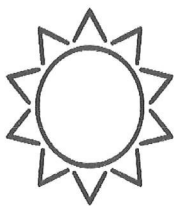
19. The diagram shows the arrangement of molecules in solids, liquids and gases.



What happens to the molecules and the state of matter as heat is added to a liquid?

	Molecule	State of matter
A.	moves slower	remains liquid
B.	moves slower	becomes a solid
C.	moves faster	becomes a gas
D.	speed does not change	becomes a gas

20. Which object is non-luminous?



A.



B.



C.

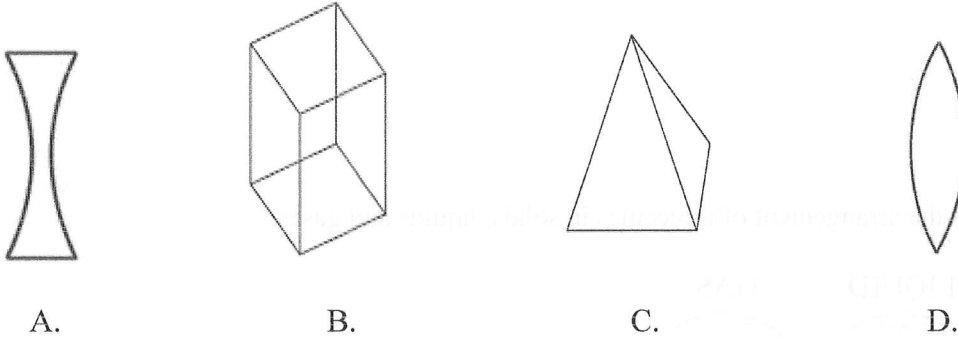


D.

21. Why is lightning seen before thunder is heard?

- A. Light is brighter.
- B. Light travels faster.
- C. Lightning is sharper.
- D. Thunder is further away.

22. Which glass will disperse light into a band of colours as it passes through it?



23. Which electrical process causes stationary electrical charges?

- A. current electricity
- B. magnetism
- C. static electricity
- D. voltage

24. Which is an example of a population?

- A. all the animals and plants living in a pond
- B. all the gum elemi trees growing in a broad leaf coppice
- C. all the people born in The Bahamas over a period of 100 years
- D. all the species of animals in The Bahamas

25. Which is the natural habitat of the adult crawfish?

- A. coral reef
- B. lake
- C. mangrove swamp
- D. sandy beach



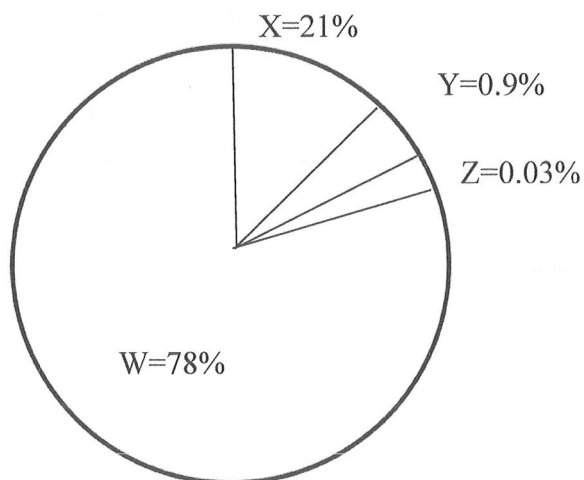
26. Which term best describes the vast variety of living species on earth including all plants, animals, insects and microbes?

- A. biodiversity
- B. community
- C. ecology
- D. population

27. Which is **not** a reason for spiny lobsters having a closed season?

- A. to allow them to reproduce
- B. to give them time to mature
- C. to give them time to rest
- D. to protect the juvenile lobsters

28. The pie chart shows the composition of air. Z is CO_2 . Identify the gases W, X, Y.



	W	X	Y
A.	hydrogen	oxygen	rare gases
B.	nitrogen	rare gases	oxygen
C.	nitrogen	oxygen	rare gases
D.	rare gases	hydrogen	oxygen

29. Which gas relights a glowing splint and is necessary for combustion?

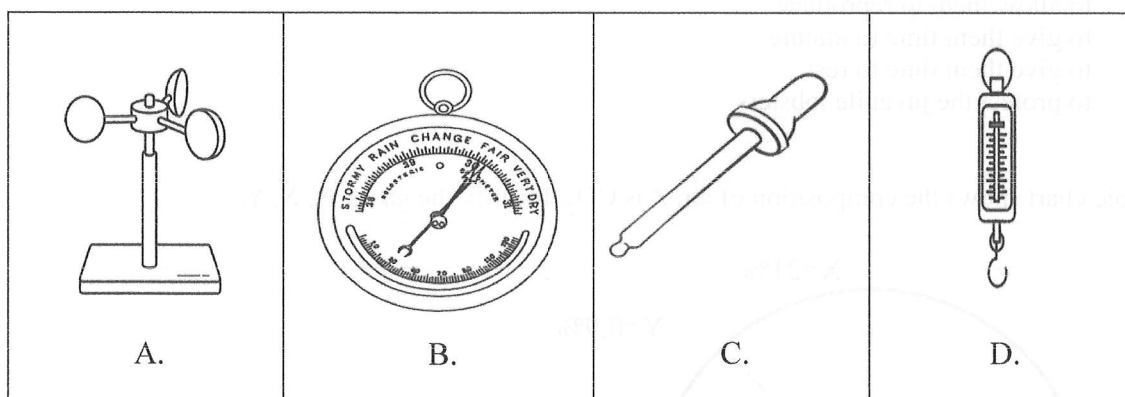
- A. carbon dioxide
- B. helium
- C. nitrogen
- D. oxygen

30. Carbon dioxide is present in the air we exhale. Blowing into lime water is an easy way to test this.

What happens to the lime water when we breathe into it?

- A. The carbon dioxide gives off an odour.
- B. The lime water evaporates.
- C. The lime water gets cold.
- D. The lime water turns milky.

31. Which instrument is used to measure the force caused by the weight of air?



32. What can occur when the ozone layer is depleted?

- A. air pollution
- B. brain damage
- C. indigestion
- D. skin cancer

33. Which is a property of water?

- A. Water cannot change state.
- B. Water has an odour.
- C. Water is always a liquid.
- D. Water is colourless and tasteless.

34. Leslie was given a flask with seawater and was instructed to purify the water.

Which method should he use?

- A. boiling
- B. chlorination
- C. distillation
- D. filtration



35. Why is water known as the universal solvent?

- A. It can be found everywhere.
- B. It dissolves most substances.
- C. It expands when it freezes.
- D. It can mix with most substances.

36. The table shows some nutrients and their end products of digestion.

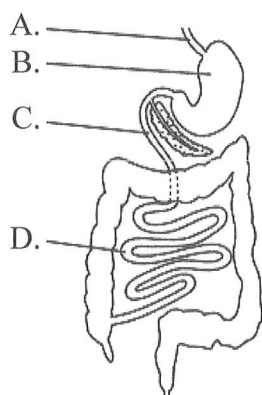
Nutrient	End-product of digestion
carbohydrate	glucose
X	amino acid
fat	fatty acid

Which nutrient does the letter X represent?

- A. mineral
- B. polysaccharide
- C. protein
- D. vitamin

37. The diagram shows a part of the human alimentary canal.

Which label is the stomach?



38. Which row in the table shows the correct information about the liver and the pancreas?

	Liver	Pancreas
A.	produces bile to help absorb vitamins	produces bile to help absorb water
B.	produces bile to help digest fats	produces bile to help digest proteins
C.	produces bile which emulsifies fats	produces enzymes that help carbohydrates
D.	produces enzymes which digest fats	produces enzymes which help absorb minerals

39. Which two microorganisms cause food to spoil?

- A. bacteria and fungi
- B. bacteria and protists
- C. fungi and viruses
- D. protists and viruses

40. Which is an example of an alternative fuel source for cars?

- A. diesel
- B. ethanol
- C. gasoline
- D. petrol



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

SCHOOL No.	CANDIDATE No.
INITIALS	SURNAME

**MINISTRY OF EDUCATION
BAHAMAS JUNIOR CERTIFICATE
EXAMINATION**

**0047 GENERAL SCIENCE
PAPER 2 STRUCTURED QUESTIONS
(60 Marks)**

Friday **31 May 2024** 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.

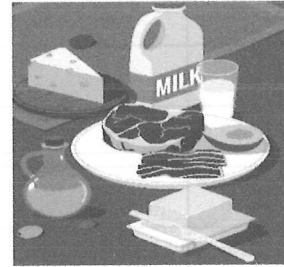


This question paper consists of 11 printed pages and 1 blank page.

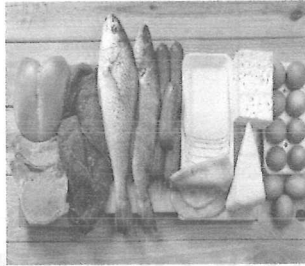
1. Food provides nutrients that the body needs to remain healthy.



(1)



(2)



(3)

- (a) Name the main nutrient found in each group of foods shown in the diagrams.

(1) _____

(2) _____

(3) _____

[3]

- (b) During different stages of their lives, the nutritional needs of individuals change.

In each example, state which nutrient you would recommend and why.

- (i) an adult woman suffering bone loss

Nutrient: _____

Reason: _____

[2]



- (ii) a teenage boy on the soccer team

Nutrient: _____

Reason: _____ [2]

- (c) Identify the nutrient:

(i) essential for good vision. _____

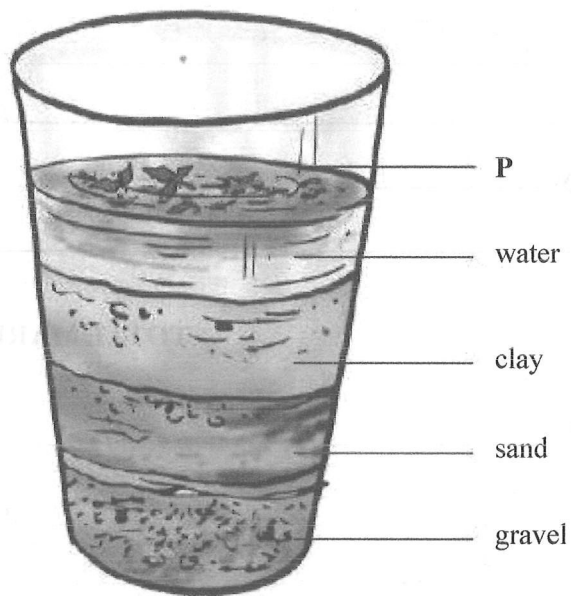
(ii) that prevents overheating of the body. _____

(iii) that prevents goitre. _____ [3]

TOTAL MARKS [10]

2. The diagram shows the soil profile of a soil sample.

Jerry pours water into a container with a sample of the soil he is investigating. The mixture is stirred and allowed to settle.



- (a) Define the term 'mixture'.

_____ [2]

- (b) Name component **P** and state why it is important.

_____ [2]

- (c) State **one** difference between clay and sand particles.

_____ [2]

- (d) Soil serves as an important habitat for many organisms.

Identify two micro-organisms found in soil.

1 _____
2 _____ [2]



- (e) Earthworms live in the soil. State one way in which earthworms are beneficial to the soil.

_____ [1]

- (f) Bahamian soil is slightly alkaline. Suggest the pH range of Bahamian soil.

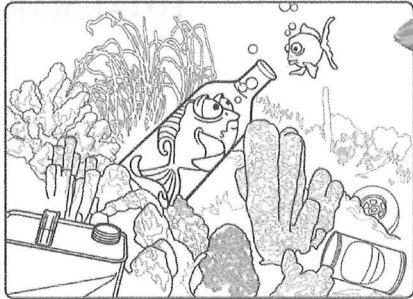
_____ [1]

TOTAL MARKS [10]

3. The diagram shows a coral reef.

Threats to the coral reef ecosystem can be natural or human.

Natural threats are caused by the environment or other organisms in the environment. Human threats are caused by human activity.

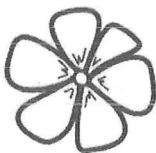


- (i) Put an **N** next to the natural threats, and an **H** next to the human threats to the coral reef.

- _____ Marine debris washed from the beach
 _____ Deposits from nearby construction sites
 _____ Predators like crown of thorns and parrotfish that feed on coral
 _____ Chemical and thermal wastes, fertilisers, and sewage

[4]

- (ii) Group the following items as **biodegradable** and **non-biodegradable**.



flower



bottle



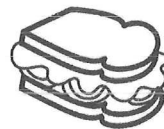
rat



rock



car



sandwich



fork

Non-biodegradeable	Biodegradable

[3]



- (iii) Give **one** harmful effect of pollution on the coral reef.

_____ [1]

- (iv) Name **one** substance that causes land pollution and **one** substance that causes air pollution.

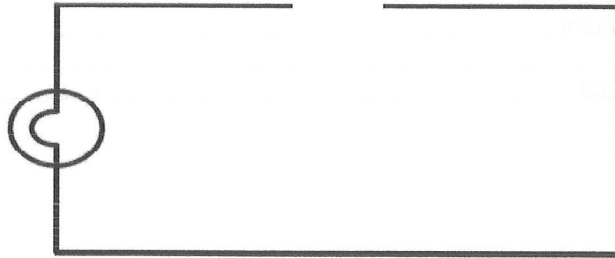
land pollutant _____

air pollutant _____ [2]

TOTAL MARKS [10]

4. Susan makes a circuit using a bulb, cell and wire.

- (a) Complete the circuit diagram shown by drawing the symbol of the missing part that will allow the bulb to light. [1]



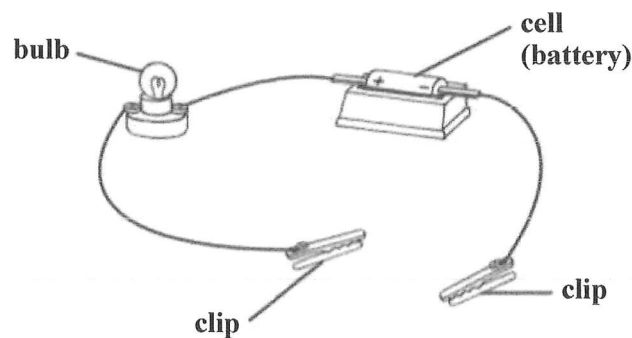
- (b) Name the component that can be added to the circuit to turn the bulb on and off. [1]

- (c) In the box provided, draw the symbol for the component named in (b).

Symbol:



- (d) Susan wants to test which objects are able to conduct electricity using the circuit shown. [1]



- (i) She places the objects between the clips. Explain how she will know if the object conducts electricity.

 _____ [1]



- (ii) The table shows which objects were placed between the clips. Tick (✓) three objects which conduct electricity.

Object	Conducts electricity
Paper-clip	
Steel scissors	
Plastic ruler	
Rubber	
Iron nail	

[3]

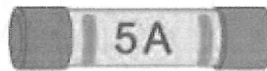
- (e) State the name given to materials that do not conduct electricity.

[1]

- (f) Name the particle that flows through a material to create an electric current.

[1]

- (g) The diagram shows a fuse.



Give the function of the fuse in an electric circuit.

[1]

TOTAL MARKS [10]

5. Diagrams A and B show the magnetic field around two bar magnets.

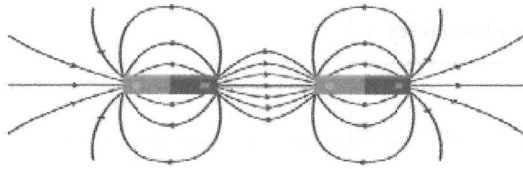


Diagram A

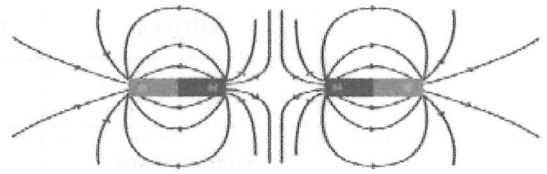


Diagram B

- (a) Explain why Diagram A is different from Diagram B.

_____ [2]

- (b) Magnets can occur in the natural environment. Give the name of this kind of magnet.

_____ [1]

- (c) Diagram C shows an electromagnet.

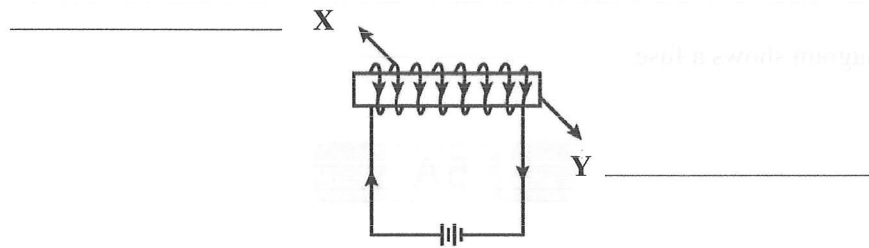


Diagram C

- (i) Label the part X and Y on the diagram of the electromagnet.

[2]

- (ii) Explain how an electromagnet works.

_____ [3]

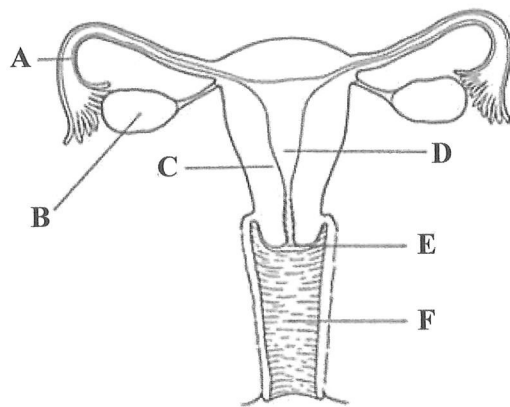
- (d) Magnetism and friction are examples of forces. State why they are different.

_____ [2]

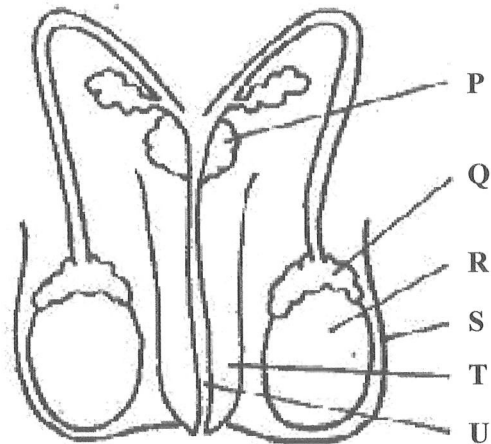
TOTAL MARKS [10]



6. The diagrams show the male and female reproductive systems.



Female



Male

Using the letters on the diagrams identify the part of the reproductive systems where these events occur.

- (i) An egg is released from here each month _____ [1]
- (ii) The fertilised egg travels through here on its way to the uterus _____ [1]
- (iii) A fertilised egg implants itself here _____ [1]
- (iv) Here the fertilised egg develops into a baby _____ [1]
- (v) The part that produces sperm cells _____ [1]

- (a) Name the part of the male reproductive system where sperm is stored.

_____ [1]

- (b) A sample of semen contains 40 million sperm cells. Only sixty percent of these sperm cells are capable of swimming.

Calculate how many sperm cells in this semen sample are capable of swimming.

[2]

- (c) Condoms are used as one form of birth control. Explain how the condom works as a birth control method.

 _____ [2]

TOTAL MARKS [10]

End]



Male



Female

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