

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2007

Educational Assessment Unit – Education Division

FORM 1

INTEGRATED SCIENCE

Time 1hr 30 min

Name _____

Class _____

ANSWER ALL QUESTIONS

1 This question is about safety and science apparatus.

- a) Safety is a very important when doing experiments. Write down two safety rules which are important in a science laboratory.

4 marks

- b) The following table shows some information about some apparatus used in the lab. Match the name of the apparatus with its use.
Write the correct letter in the middle column.

	Name of apparatus	Answer	Used to ...
a.	Bunsen burner		Used to protect your eyes
b.	safety glasses		used to heat water
c.	measuring cylinder		holds a beaker on a Bunsen burner
d.	Tripod		measures volume of liquids

4 marks

2. During a PE lesson, Samantha's teacher wanted to show the class the effect of exercise on heart rate.

First she measured Samantha's heart rate when she was resting.

Samantha then skipped for 2 minutes.

Her teacher measured her heart rate as soon as she was skipping, and continued to take measurements at 1 minute intervals until her heart rate returned to the resting rate.

These are her results.

Time	Heart Rate (per minute)
Resting before exercise	70
Immediately after exercise	145
1 minute after exercise	125
2 minutes after exercise	95
3 minutes after exercise	85
4 minutes after exercise	80
5 minutes after exercise	70

Answer the following questions:

- i. What was Samantha's heart rate before she started skipping? _____
- ii. What was Samantha's heart rate immediately after exercise? _____
- iii. Calculate the increase in Samantha's heart rate during exercise.

- iv. How long did it take for Samantha's heart rate to return to normal?

- v. Write down the name of a measuring instrument which you would need in this experiment.

5 marks

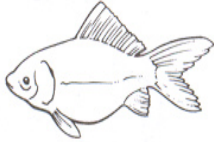
3. **This question is about animals.** Animals are divided into two groups.

- i. Animals with a backbone and other bones inside their body are called _____.
Animals without a backbone and other bones inside their body are called _____.

2 marks

ii. The following pictures are animals with a backbone. There are five main groups of animals with a backbone. Use the following words to match the name of the group with the diagram.

amphibians, fish, mammals, reptiles, birds,



a. _____



b. _____



c. _____



d. _____



e. _____

5 marks

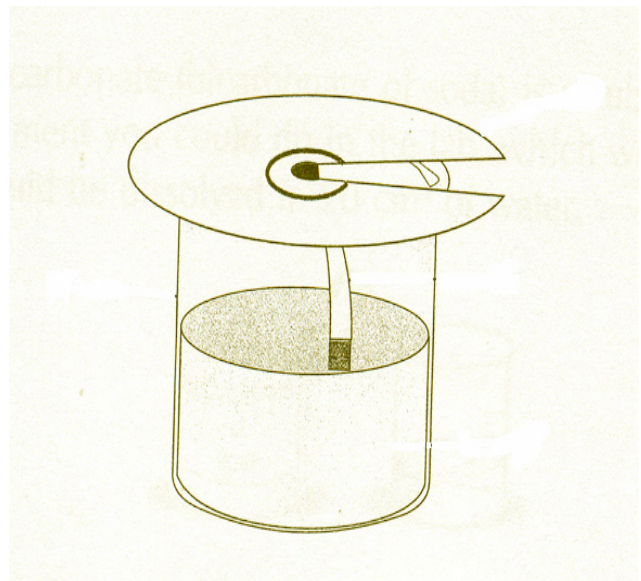
Underline the correct answer:

- iii. Mammals are covered with (scales / hair or fur / moist skin).
- iv. Birds are (warm blooded / cold blooded).
- v. Reptiles (suckle / do not suckle) their young.

3 marks

4. This question is about chromatography.

a) Name THREE things you see in the drawing.



b) Underline the correct answer:

This experiment is used to ...

- filter water
- separate colours
- evaporate water

4 marks

5. **This question is about separating materials.**

These are four ways of separating mixtures.

filtering, using a magnet, evaporating, by hand, distilling

Which is the easiest way of separating these mixtures?

- a. salt water to get the salt _____
- b. salt water to get the water _____
- c. iron and sand _____
- d. sand and water _____
- e. dried beans and peas _____
- f. chalk and water _____

6 marks

6. **This question is about energy.**

- a) Complete the sentence using one of the words below.

renewable, non-renewable

A _____ energy source is one that can be replaced as fast as it is being used.

1 mark

- b) The following are some energy sources.

wind, coal, oil, sun, gas

Write down which sources are renewable and non-renewable.

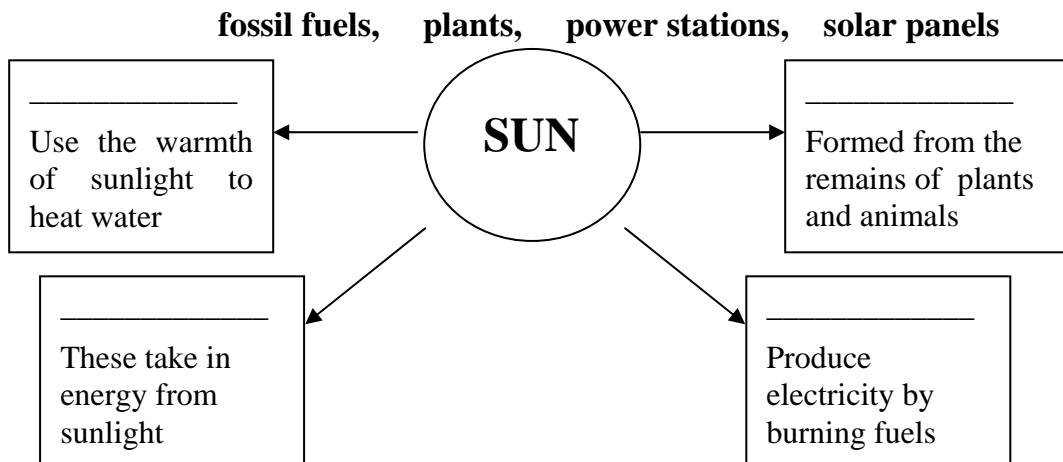
renewable source: _____

non-renewable source: _____

5 marks

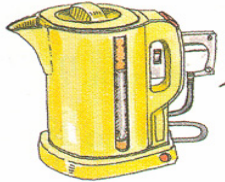
- c) Put the following words in the correct boxes.


4 marks

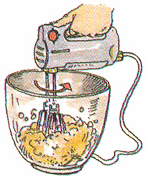


7. We need **energy** for many different things. Energy can be transferred from one form to a different form. Look at the following examples.

Fill in the blanks to complete the main energy transfer.

electricity →  →

→  → movement

→  →

4 marks

8. **This question is about solids, liquids and gases.**

These are the names of some substances.

gold	water	oxygen	vinegar	salt	air
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i. Sort these substances into solids, liquids and gases. Write your answers in the following table.

<u>Solid</u>	<u>Liquid</u>	<u>Gas</u>

6 marks

ii. Chemicals are made up of tiny particles. Draw the particles as they are arranged in solid, liquid and gas. Use circles, like this ○, to represent the particles.

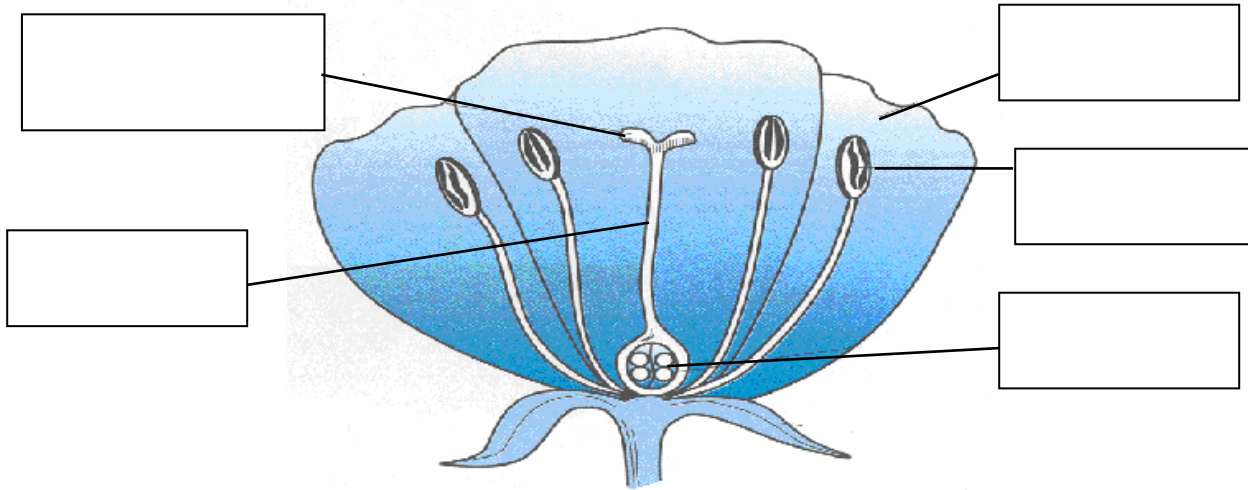
SOLID	LIQUID	GASES

6 marks

9. Mary was revising **the parts of a flower**.

i. Put the following labels in their correct place.

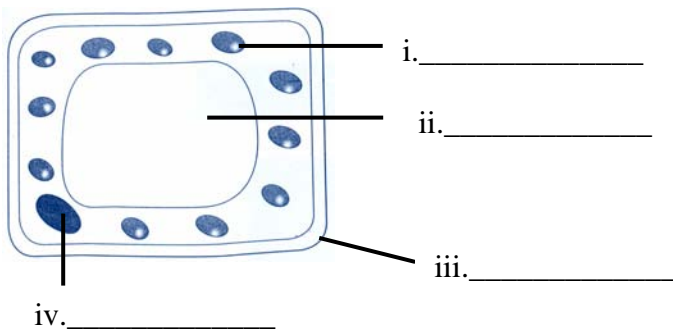
petal	Ovary	stamen	Style	Stigma
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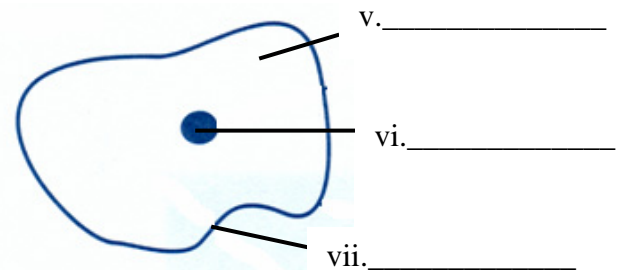
ii. What is the yellow powder on the stamen called? _____

iii. Is this powder the male or female sex cell? _____ 7 marks

10. This question is about cells.



CELL A



CELL B

a) These are two cells. i. Which cell is an animal cell? _____

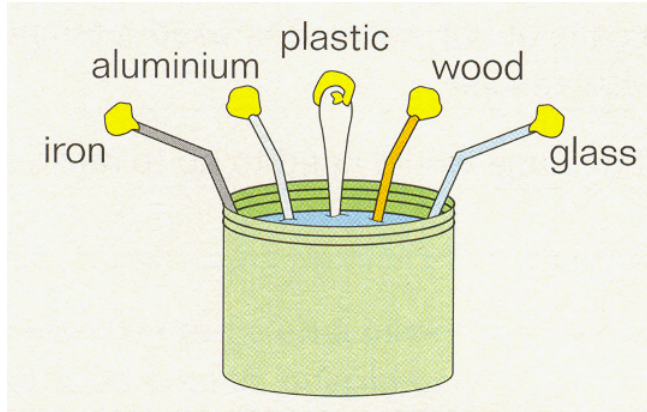
ii. Which cell is a plant cell? _____ 2 marks

b) Label the two cells. The following words might help you. Each word can be used once or more than once.

nucleus	cytoplasm	cell membrane	cell wall	vacuole	chloroplast
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7 marks

11. Adam has five rods of different materials. He put each rod into an electric circuit with a light bulb.



i. Put a tick (✓) in the table to show which materials will make the bulb light.

Material	Bulb will light (Yes or No)
Iron	
Wood	
Plastic	
Glass	
aluminium	

5 marks

ii. Use the following words to fill in the blanks

insulators **conductors**

Materials which make the bulb light are called _____.

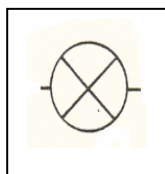
Materials which do not make the bulb light are called _____.

2 marks

12. This question is about **electric circuits**.

a. Use the following symbols and put them in their proper boxes.

4 marks



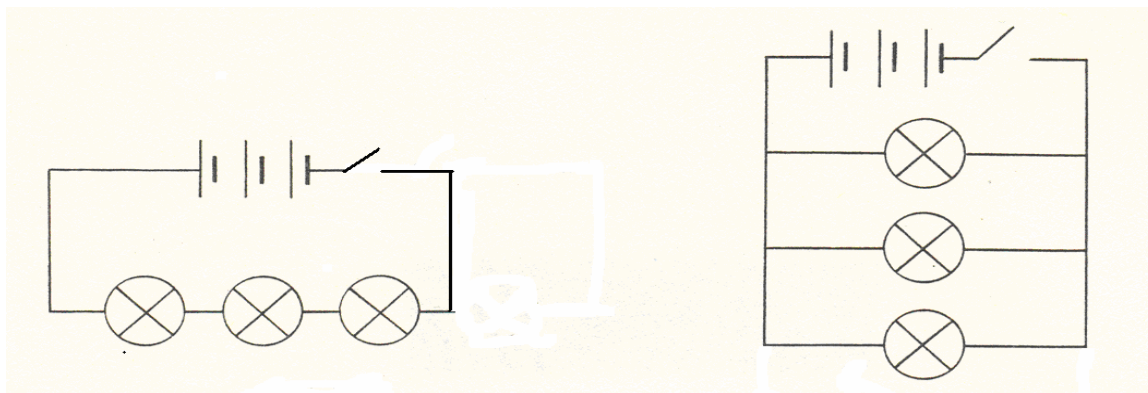
battery

wire

bulb

switch

b. The following are two circuits.



Circuit A

Circuit B

Answer the following questions:

- i. Which circuit is a series circuit? _____
- ii. Which circuit is a parallel circuit? _____
- iii. One of the bulbs in circuit A breaks down. Will the other bulbs still light? _____
- iv. One of the bulbs in circuit B breaks down. Will the other bulbs still light? _____

4 marks

13. a) Divide these chemicals into **elements** and **compounds** and write them in the table below.

Oxygen, water, gold, carbon dioxide, copper sulphate, copper

Elements	Compounds

6 marks

b) Give the name and symbol of:

	Name	Symbol
i) a metal		
ii) a non-metal		

4 marks

- END OF PAPER. PLEASE CHECK YOUR WORK -