

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2006

Educational Assessment Unit – Education Division

FORM 1

INTEGRATED SCIENCE

Time 1hr 30 min

Name _____

Class _____

ANSWER ALL QUESTIONS

1 a) This question is about **safety rules**.

Write down TWO important safety rules for the science lab.

2 marks

b) Read the following passage. Underline the sentences that show the **result** of the experiment.

I collected the apparatus.
There was a bunsen burner.
There was also a grey metal ribbon.
I lit the burner.
I heated the ribbon.
It gave out a bright white light.
It turned into white ash.
The ribbon is changing into a new chemical because it has changed its looks.

4 marks

2) This question is about **measuring instruments**.

a) These are some measuring instruments.

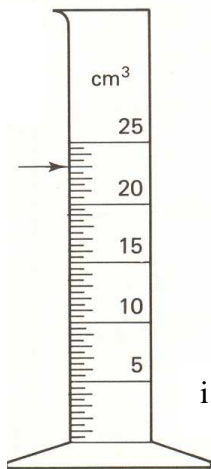
stop clock, measuring cylinder, balance, thermometer, meter ruler

Which measuring instrument would you use to measure the following?

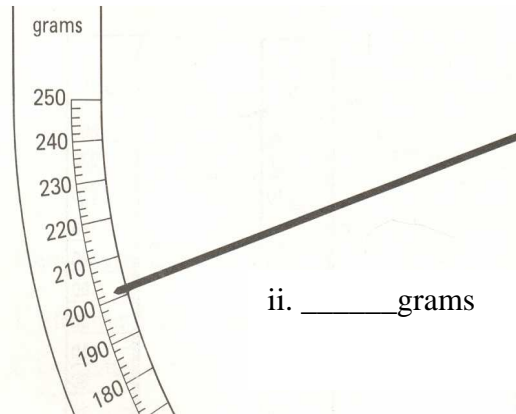
- i) The volume of water in a beaker. _____
- ii) How hot is the water in a beaker. _____
- iii) The mass of your science book. _____
- iv) How long is your desk. _____
- v) The time it takes for 10ml of water to boil. _____

5 marks

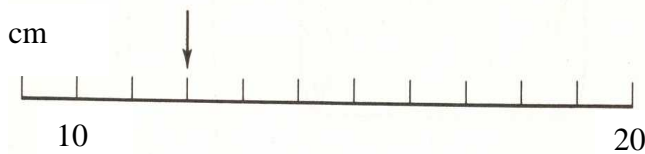
b) What is the reading on the following measuring instruments?



i. _____ cm³



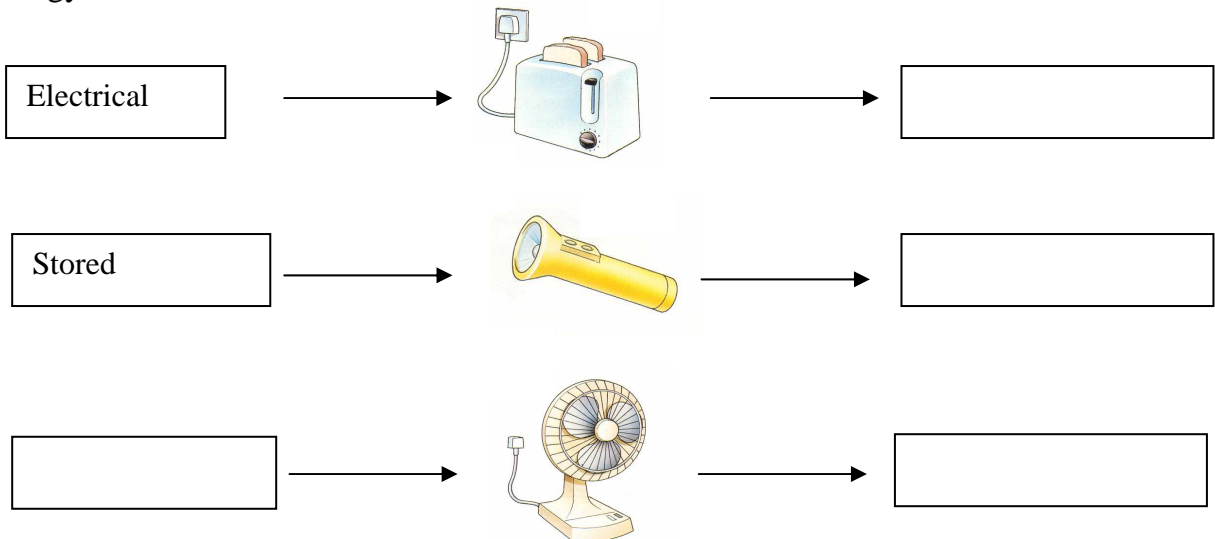
ii. _____ grams



iii. _____ cm

3 marks

3. 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 energy transfer.

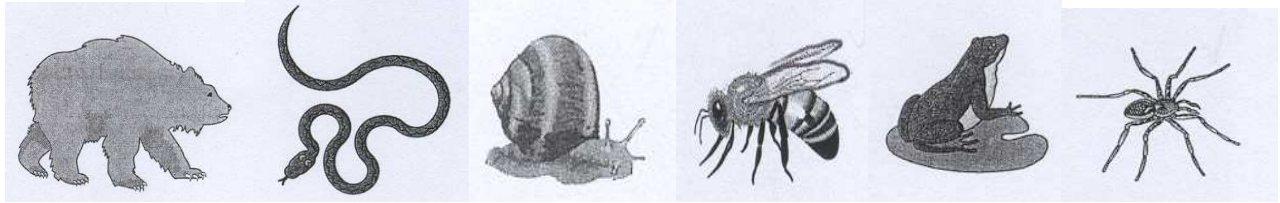


4 marks

4. This question is about **animals**.

a) Animals are divided into TWO groups: Vertebrates and Invertebrates.

Look at the following animals. Use the diagrams to answer the questions i, ii and iii.



bear

snake

snail

bee

toad

spider

- i) Give the names of the vertebrates _____
- ii) Give the names of the invertebrates _____
- iii) What is the main difference between the two groups? _____

8 marks

b) The bear is a mammal. **From the picture**, how can you tell that the bear is a mammal?

c) Give **ONE** other way that mammals are different from other vertebrate animals.

4 marks

5. a) Here is a list of six things.

Orange juice, steam, smoke, water, a plastic bottle, a stone

Sort these things in their places according to whether they are **solids, liquids** or **gases**

Solid: _____

Liquid: _____

Gas: _____

6 marks

b) Underline the **THREE properties of solids** by choosing **ONE** from each of i, ii and iii.

- i. do not have a fixed shape / have a fixed shape
- ii. do not have a fixed volume / have a fixed volume
- iii. particles are close together / particles are far from each other

3 marks

6. The following words are the names of **changes** that can take place.

Evaporation boiling melting freezing dissolving condensation distillation

Write the word that describes each of the changes below. Each word can be used more than once.

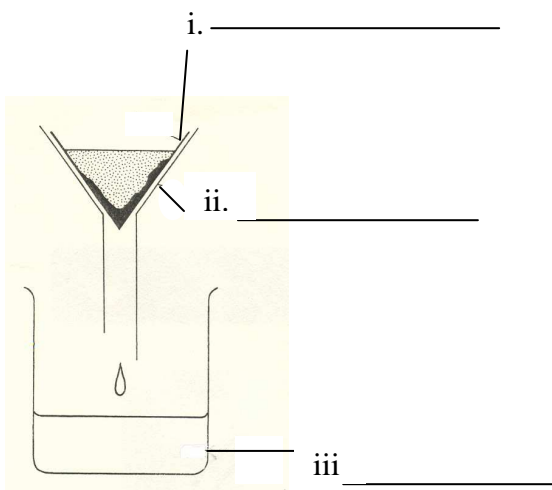
Change	This change is called...
ice cubes → water	
Sea water → drinking water	
water vapour in the air → droplets on the window	
Puddle in the garden → water vapour in the air	
hot soup in the pan → water vapour in the air	

5 marks

7. **Mixtures** can be separated in different ways. The diagram shows one of these methods.

a. Label the apparatus.

3 marks



b) What is the name of this method of separation? _____

1 mark

c) Underline the correct answers. This method can be used to separate

i. Sand and water

ii. Salt and water

iii. Soil and water

iv. Soil and sand

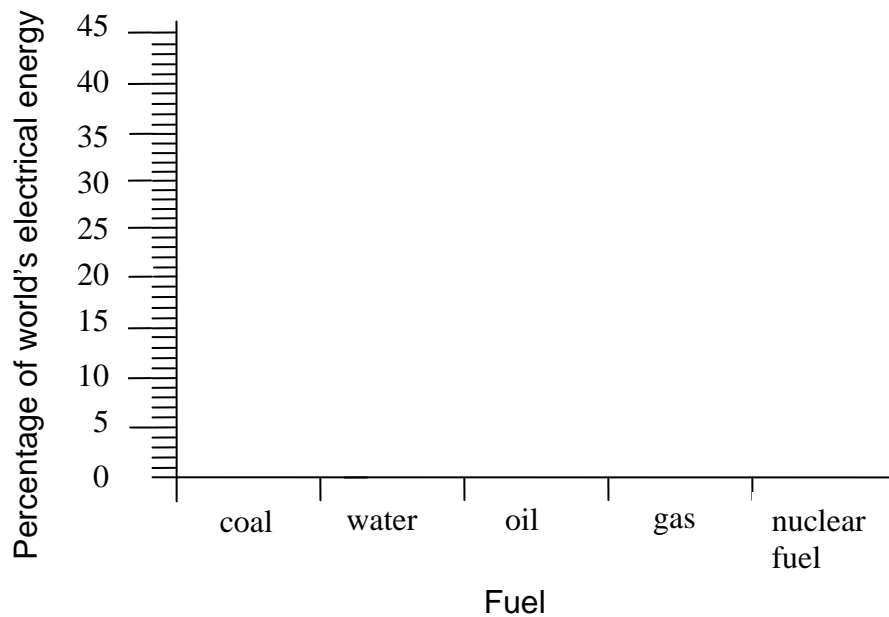
2 marks

8. Most of the **world's electrical energy** comes from the following five sources:

Fuels	Percentage of world's electrical energy
Coal	35%
Moving water	7%
Oil	42%
Gas	11%
Nuclear fuel	5%

Draw a **bar chart** using these figures.

5 marks



- a. Which THREE are fossil fuels? _____
- b. Which one does not give off polluting gases? _____
- c. Which one is renewable? _____
- d. Name ONE other source which is not mentioned above and can be used to generate electricity. _____

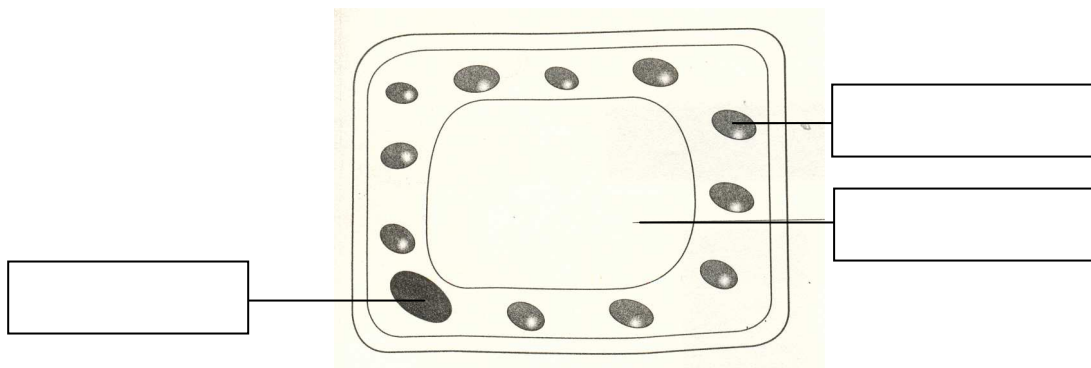
6 marks

9. The diagram below shows a **plant cell**.

a) The lines from the boxes point to THREE parts of the cell.

Choose words from the following list to label the diagram

Nucleus, cell membrane, cell wall, vacuole, chloroplast, cytoplasm



3 marks

b) Each part of the cell has a function. Match the name of part of cell with its function. **Write down the number in the middle column.**

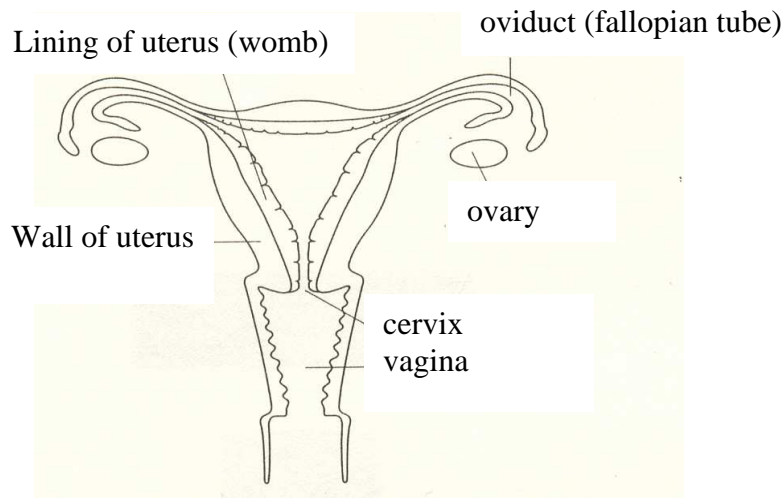
Name of part of cell	answer	Function
1. Cell membrane		Controls what the cell does
2. Cell wall		Controls what goes in and out of the cell
3. Nucleus		Chemical reactions happen there
4. Cytoplasm		Supports the cell

4 marks

- c) The above cell is a **plant cell**. A plant cell is different from an animal cell. Give **ONE** difference between a plant cell and an animal cell.

2 marks

10. The diagram below shows the **female reproductive system**

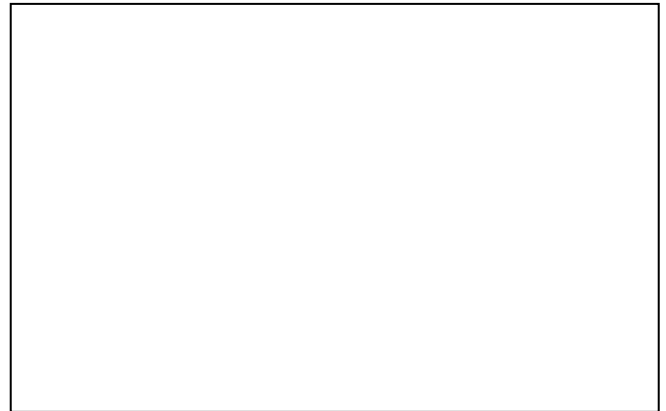
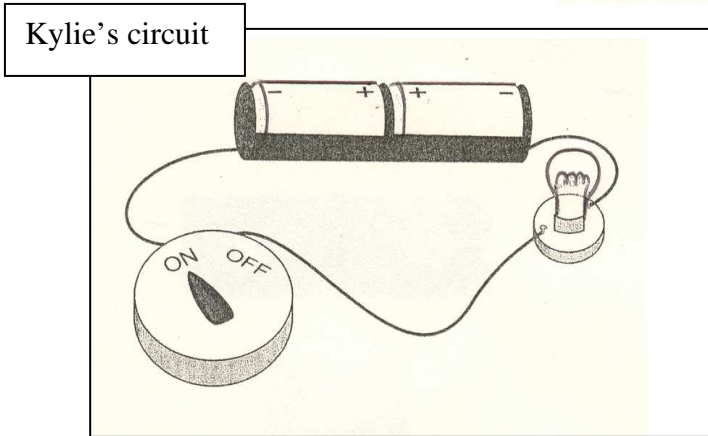
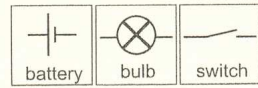


- a. From which labelled part of the female reproductive system are human eggs (ova) released? _____
- b. Name the two cells that join together at fertilisation.
_____ and _____
- c. When a woman is pregnant, the baby develops in the uterus. Substances, such as nutrients, pass from the mother's blood to the baby's blood.
- (i) Name ONE other useful substance that passes from the mother's blood to the baby's blood. _____
- (ii) Name TWO other harmful substances that may pass from the mother's blood to the baby's blood.
_____ and _____

6 marks

11. Kylie has made a **circuit** using two new batteries, a new bulb and a switch.

- a. Draw a circuit diagram of Kylie's circuit in the box below. The following symbols will help you

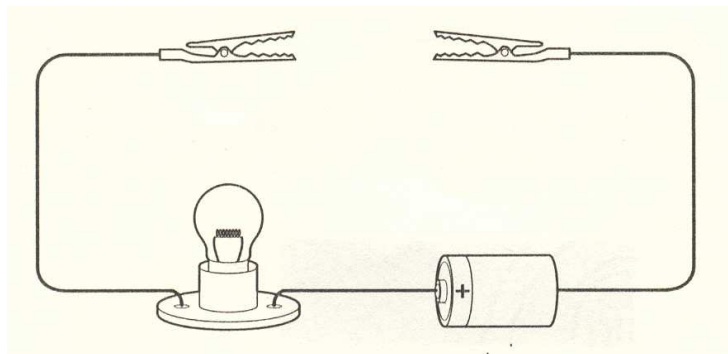


5 marks

- b. The bulb in the above circuit does not light. Why?

2 marks

- c. Maria made this circuit to test which materials **conduct** electricity.

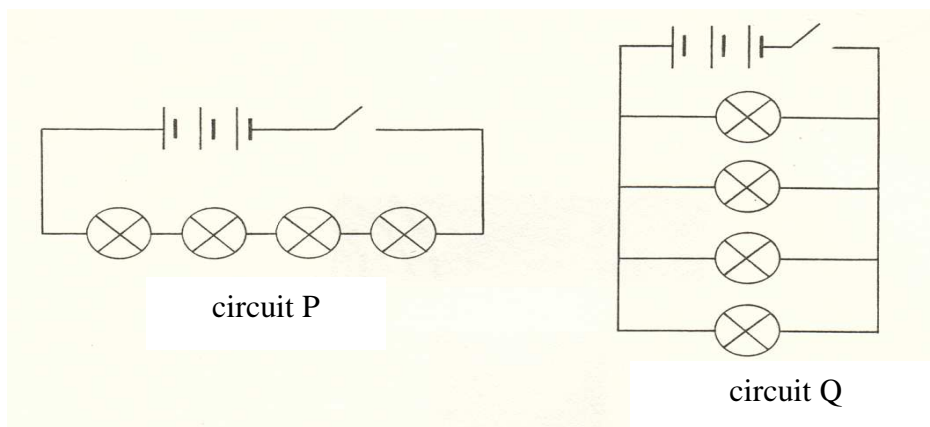


Underline the FOUR materials from this box that would complete Maria's circuit.

Glass, copper, rubber, iron, wood, paper, aluminium, plastic, steel

8 marks

12. Joe wanted to use four lamps. He worked out two ways to connect the lamps.



a. (i) One of the lamps was broken. Which circuit still worked with the other lamps shining? _____ 1 marks

(ii) What type of circuit is this circuit? _____ 2 marks

b. The other circuit did not work with the broken lamp. What type of circuit is this? _____ 1 marks

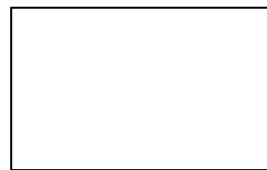
13 a. Draw diagrams, in the boxes below to show arrangement of water **particles** in ice, water and steam. Use circles, like this ○, to represent the water particles.



ice



water



steam

3 marks

b. Write down the name of ONE element and ONE compound.

Element: _____

Compound: _____

2 marks

END OF PAPER. CHECK YOUR WORK AGAIN