

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2005

Educational Assessment Unit – Education Division

FORM 1

INTEGRATED SCIENCE

Time 1hr 30 min

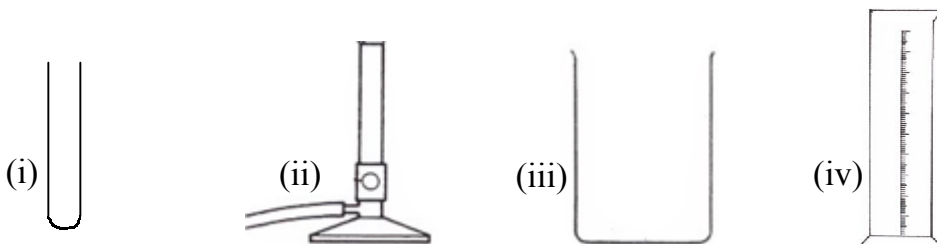
Name _____

Class _____

ANSWER ALL QUESTIONS

1) a) These are some common **apparatus** which is used in a science laboratory.

Write down the name of each apparatus.



(i) _____ (ii) _____

(iii) _____ (iv) _____

(4 marks)

b) Complete the following table about different **measuring instruments**.

The first one has been done as an example

Measuring Instrument	What it measures	Unit
Thermometer	Temperature	$^{\circ}\text{C}$
	Length	
Clock		
	Volume of water	ml
Balance		kg

(6 marks)

c) Safety is important when doing experiments in a science laboratory.

Write down TWO important **safety rules**.

(4 marks)

2) a) Nicole thinks that the sun is a living thing.

Anne does not agree. She thinks that the sun is a non-living thing.

Who is correct, Nicole or Anne? _____ (1 mark)

b) Animals with a backbone are called **vertebrates**.

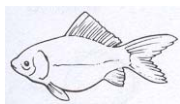
Match the following five groups of vertebrates with their correct description by putting the corresponding letter in the middle column.

One has already been done for you.

Group		What they look like	
a	Fish		Covered in dry scales
b	Reptiles	a	Covered in scales
c	Amphibians		Covered in feathers
d	Birds		Covered in hair or fur
e	Mammals		Covered in moist skin

(4 marks)

c) Which **vertebrate group** does each of these animals belong to? Write down the letter of the animal in the table below. The first one has been done for you.



A



B



C



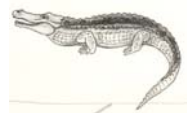
D



E



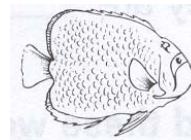
F



G



H



I



J

Fish	Reptiles	Amphibians	Birds	Mammals
A				

(9 marks)

3) This question is about **fuels**.





a) A fuel is a substance which burns to produce energy.

The following pictures show some things, which use energy from fuels to work.

In the space provided write down the **name of the fuel** being used in the picture.

Choose your answers from the following words.

light, diesel, fire, wax, gas, water, wood, electricity,

Picture				
Name of fuel				

(4 marks)

b) **Underline** the correct words to complete each sentence.

i) Fossil fuels are formed from things that lived (**hundreds / millions**) of years ago.

ii) Fossil fuels are a (**non-renewable / renewable**) energy source.

iii) When fossil fuels burn, they produce (**energy / oxygen**).

(3 marks)

c) Complete the following table by ticking (✓) the correct boxes.

	Renewable energy source	Non-renewable energy source
Coal		
Wind		
Waves		
Sunlight		
Wood		
Oil		
Gas		

(7 marks)

4) **Complete** the following changes to show the **main energy change** taking place.
The first one has been done as an example.



(i) movement energy → sound energy



(ii) stored energy → _____



(iii) _____ → light energy



(iv) movement energy → _____



(v) _____ → _____

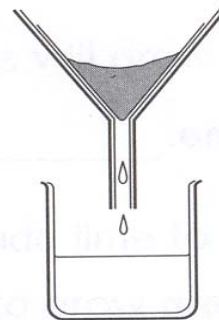


(vi) _____ → _____
(7 marks)

5) a) This question is about **an experiment**.

Some water is mixed with sand and passed through a filter paper as shown in the diagram.

Answer the following questions about this experiment:



i) What is the name of this experiment? _____ (1 mark)

ii) What is collected in the beaker? _____ (1 mark)

iii) What remains in the filter paper? _____ (1 mark)

iv) Is the water pure? _____ (1 mark)

b) Which **separating method** would you use to obtain the following? Choose your answers from the following words.

Chromatography, melting, distillation, sorting, evaporation, boiling

i) **Pure water** from a mixture of sea water. _____ (1 mark)

ii) **Salt** from sea water _____ (1 mark)

iii) **Red colour** from a mixture of different inks _____ (1 mark)

6) Water can be found in **three different states**: ice, water and steam.

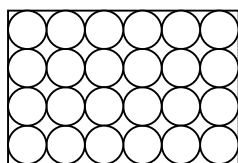
a) **Melting, boiling, freezing** and **condensing** are the names of four changes of state.

Match the following names with its meaning by writing the corresponding number in the box.

Name		Change of state	
1	melting		liquid to gas
2	boiling		gas to liquid
3	freezing		solid to liquid
4	condensing		liquid to solid

(4 marks)

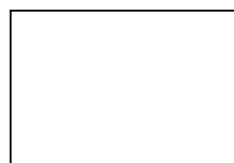
b) Box A shows particles in a solid. Draw the particles in a liquid and a gas in boxes B and C.



A. Solid



B. Liquid



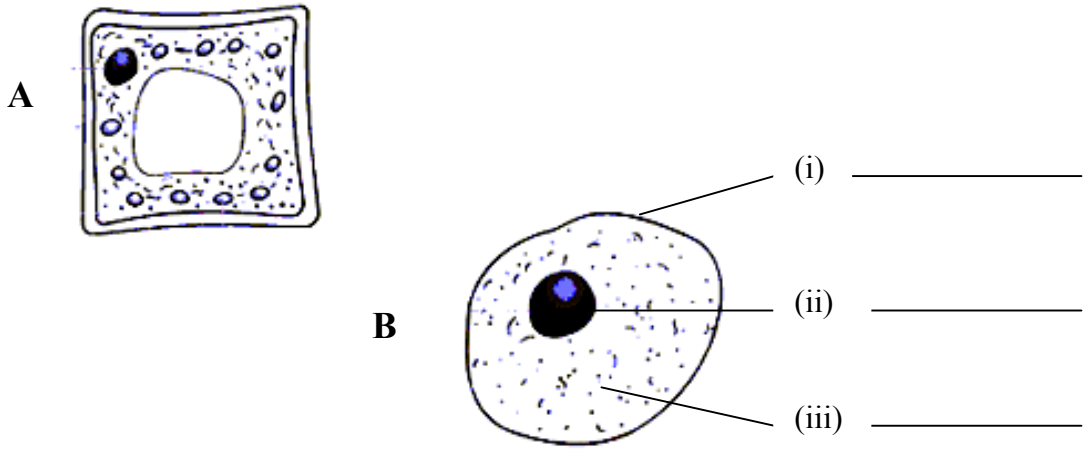
C. Gas

(2 marks)

7) The following diagrams show two **cells**.

a) In cell B, write down the name of (i), (ii) and (iii). (3 marks)
Choose your answers from the following words.

Cell wall, nucleus, cytoplasm, cell membrane, vacuole, chloroplast

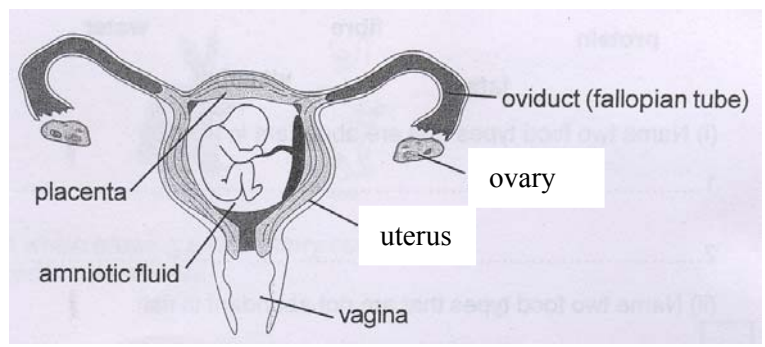


b) Which cell is an animal cell? _____ (1 mark)

c) Which cell is a plant cell? _____ (1 mark)

d) Name ONE difference between an animal cell and a plant cell.
_____ (2 marks)

8) The diagram below shows a **baby developing** inside its mother's body. Use the words on the diagram to answer the following questions.



(i) Where are the eggs produced? _____ (1 mark)

(ii) What protects the baby when still inside its' mothers' body?
_____ (1 mark)

(iii) One of the parts labelled in the diagram passes food from the mother to the unborn baby. Name this part. _____ (1 mark)

9) The following are different materials.

a) Divide these materials into two groups – **conductors** and **insulators**.

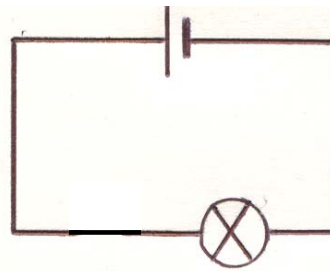
wood, plastic, copper, glass, iron, aluminium, rubber, gold

(i) **conductors:** _____, _____, _____, _____

(ii) **insulators:** _____, _____, _____, _____

(8 marks)

b) Name ONE material from the above list that can be placed in the gap to make the bulb light.



(1 mark)

10). These are the symbols used when drawing **electric circuits**.

a) What does each symbol show?



(i) _____ (ii) _____ (iii) _____ (iv) _____

(4 marks)

b) What happens if a bulb is added in the circuit **in series** to the other bulb.

Tick the correct box

They do not light up

They are brighter

They have the same brightness

They are less bright

(1 mark)

c) Draw the circuit in b)

(5 marks)

11) Look at the following list of words:

oxygen **carbon dioxide** **sulphur dioxide**
carbon **copper oxide** **carbon monoxide**
nitrogen **copper**

(a) Name **three elements** from the words above:

(i) _____ (1 mark)

(ii) _____ (1 mark)

(iii) _____ (1 mark)

(b) Name **two compounds** from the words above:

(i) _____ (1 mark)

(ii) _____ (1 mark)

12) This question is about **metals**.

These are four properties of most metals.

- Metals are good conductors of electricity.
- Metals are good conductors of heat.
- Metals can be polished and have shiny surfaces.
- Metals are strong.

Choose from this information to say why...

i) garden spades are made out of metals;

_____ (1 mark)

ii) rings are made out of metals;

_____ (1 mark)

iii) saucepans are made out of metals;

_____ (1 mark)

iv) wires are made out of metals;

_____ (1 mark)