

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2006

Educational Assessment Unit – Education Division

FORM 2

INTEGRATED SCIENCE

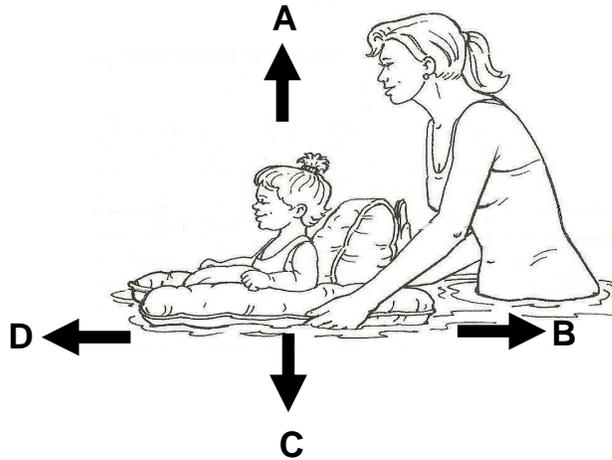
Time 1hr 30 min

Name \_\_\_\_\_

Class \_\_\_\_\_

ANSWER ALL QUESTIONS

1) The picture shows a baby in an inflatable raft.



a) There are four forces on the raft, A, B, C, D.

Write the name of each force

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

D \_\_\_\_\_

4 marks

b) Which two forces are balanced when the raft is floating?

\_\_\_\_\_

1 mark

c) If the lady stops pushing, the raft will soon stop moving.  
Which force is stopping the raft?

\_\_\_\_\_

1 mark

2) Write **True** or **False** near each of the following statements.

- a) A hamster has a smaller weight on Earth than on the Moon. \_\_\_\_\_
- b) If a motorbike moves at a steady speed the forces on it are balanced. \_\_\_\_\_
- c) The friction on a smooth road surface is greater than the friction on a rough surface. \_\_\_\_\_
- d) Weight is measured in kilograms. \_\_\_\_\_
- e) Mass is measured in kilograms. \_\_\_\_\_
- f) If a car is speeding up, the forces on it are balanced. \_\_\_\_\_
- g) Friction is a force that tries to stop movement. \_\_\_\_\_
- h) You can reduce friction between two surfaces with oil. \_\_\_\_\_

8 marks

3) Column A shows some things that make an unbalanced diet. Match each one to the problem it causes in column B.

Column A

too much sugar

too much fat

not enough fibre

not enough iron

Column B

bowel cancer

tooth decay

heart disease

weak blood cells

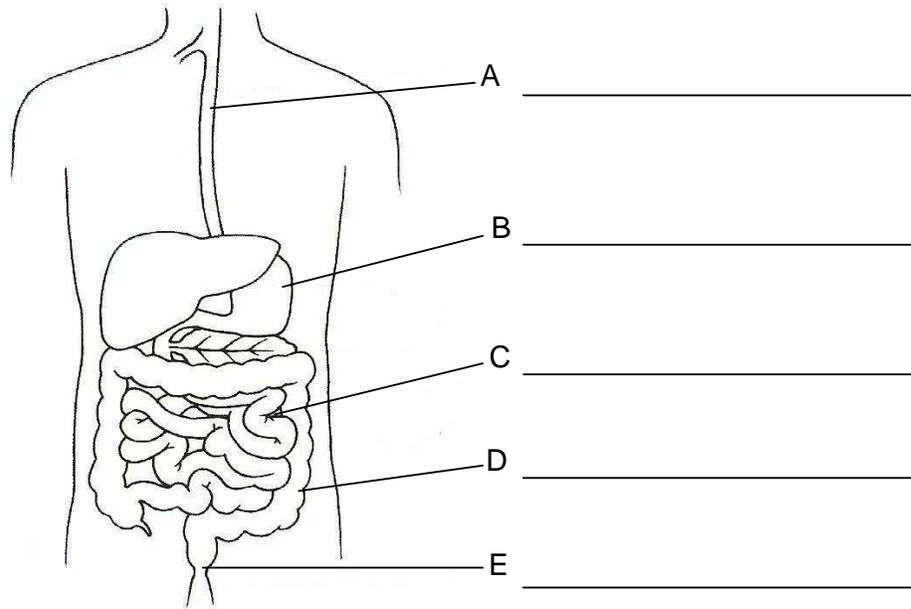
4 marks

4) Read the following statements and write **true** or **false** near each statement.

- a) Micro-organisms are used to make cheese. \_\_\_\_\_
- b) You can catch disease by eating dirty food. \_\_\_\_\_
- c) Bacteria are always harmful. \_\_\_\_\_
- d) Respiration means taking out energy from sugar . \_\_\_\_\_
- e) If you get wet you will get a cold. \_\_\_\_\_

5 marks

5) The diagram shows the digestive system.



a) Using the words in the box below, write down the correct name next to the letters A to E.

small intestine, anus, gullet, large intestine, stomach

5 marks

b) Where is digestion completed and food passed into your blood? \_\_\_\_\_  
1 mark

c) Where does the solid waste leave your body? \_\_\_\_\_  
1 mark

d) Where is acid added to your food? \_\_\_\_\_  
1 mark

e) Through which part of the body does food **enter** the digestive system?  
\_\_\_\_\_  
1 mark

6) New materials are made by chemical reactions.

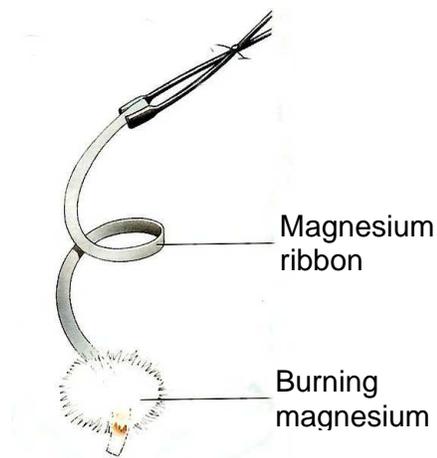
Which of the following changes are chemical reactions and which are physical changes?

changes	chemical reaction /physical change
i) Burning toast under a grill.	
ii) Turning water into ice in the freezer.	
iii) Boiling an egg.	
iv) Lighting a Bunsen burner.	
v) Salt disappearing as it is stirred into a beaker of water.	
vi) Water droplets forming on a kitchen window near a kettle of boiling water.	
vii) Green copper carbonate powder turning to black copper oxide when it is heated strongly.	

7 marks

7) In an experiment the teacher took a piece of shiny silver metal called magnesium and burned it on a Bunsen flame.

A bright white light came out and the magnesium changed to a white powder.



a) Write one thing that shows a chemical reaction has taken place.

\_\_\_\_\_ 1 mark

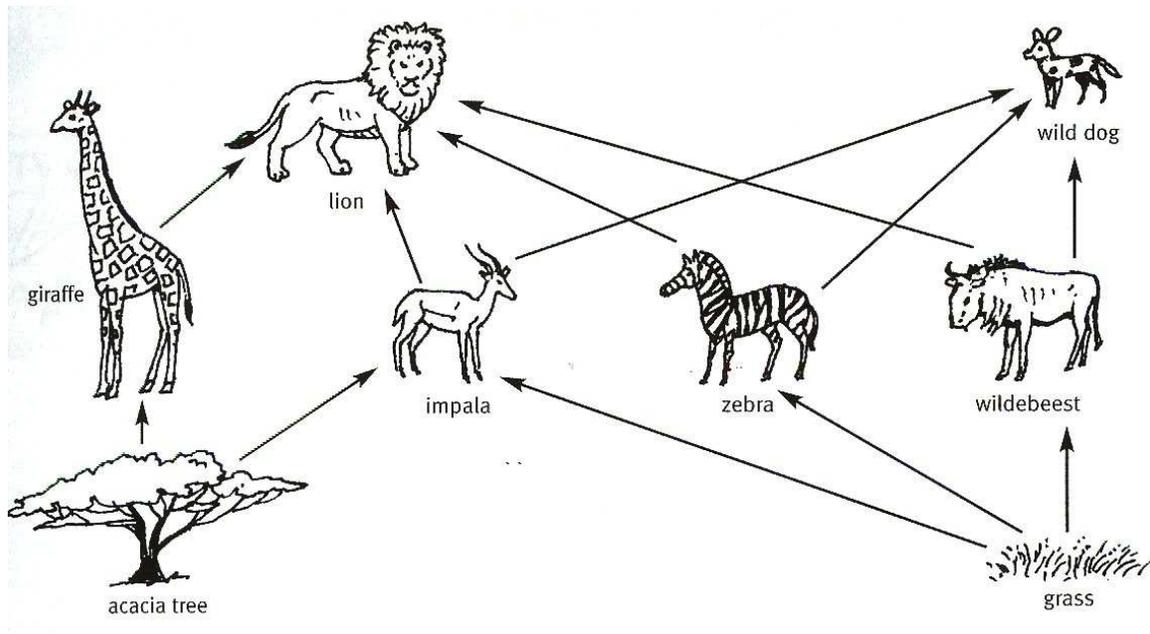
b) While magnesium burned, it joined with oxygen and formed a compound. Write the name of the compound in this word equation.

Magnesium + oxygen → \_\_\_\_\_ 2 marks

c) If the teacher burns a piece of aluminium foil instead of magnesium, the aluminium also changes in the same way.

Complete the word equation below.  
 \_\_\_\_\_ + \_\_\_\_\_ → aluminium oxide 2 marks

8) The drawing shows a food web for plants and animals that live in African grasslands.



a) From the food web, give the names of:

- (i) one producer \_\_\_\_\_ (ii) one predator \_\_\_\_\_  
 (iii) one prey \_\_\_\_\_ (iv) one herbivore \_\_\_\_\_

4 marks

b) Which animal can eat four different animals? \_\_\_\_\_

1 mark

c) In the space below write **two** food chains from the **food web**.

i)

\_\_\_\_\_

ii)

\_\_\_\_\_

4 marks

d) When there is no rain in the African grasslands:

i) What will happen to the grass?

\_\_\_\_\_

1 mark

ii) What might happen to the animals?

\_\_\_\_\_

1 mark

e) Is the lion affected?

\_\_\_\_\_

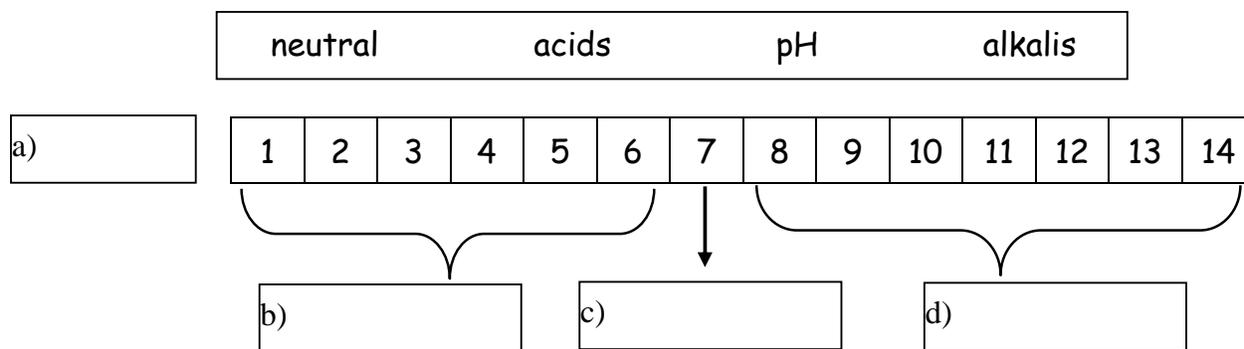
1 mark

9) a) Underline the correct word from each pair in the brackets.

Universal indicator is a mixture of dyes. It gives lots of different colours. A strong acid makes universal indicator go [**red / yellow**] and a strong alkali makes it go [**blue / green**]. In a neutral solution universal indicator is [**blue / green**].

3 marks

b) Complete the diagram by choosing the correct words from the following list.



4 marks

c) The table shows the pH of some solutions.

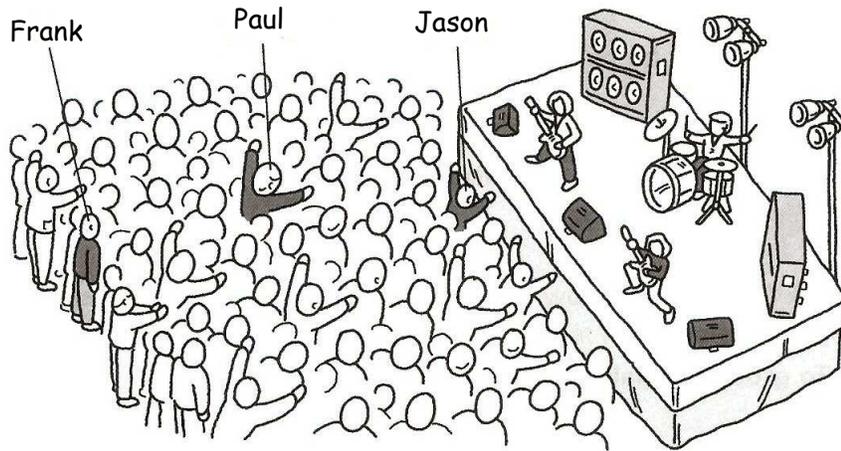
solution	pH
washing up liquid	9
milk	6
car battery acid	1
water	7
sodium hydroxide	14
rainwater	5
oven cleaner	12
blood	7
stomach acid	2

Use the table to write down:

- i) **Two** weak acids \_\_\_\_\_
- ii) **Two** neutral liquids \_\_\_\_\_
- iii) **Two** strong alkalis \_\_\_\_\_
- iv) **Two** strong acids \_\_\_\_\_

8 marks

10) Jason, Frank and Paul go to a rock concert.  
 Jason stands near the stage. Frank and Paul are further back.



a) Who of the three boys hears the loudest noise and why?

\_\_\_\_\_ 2 marks

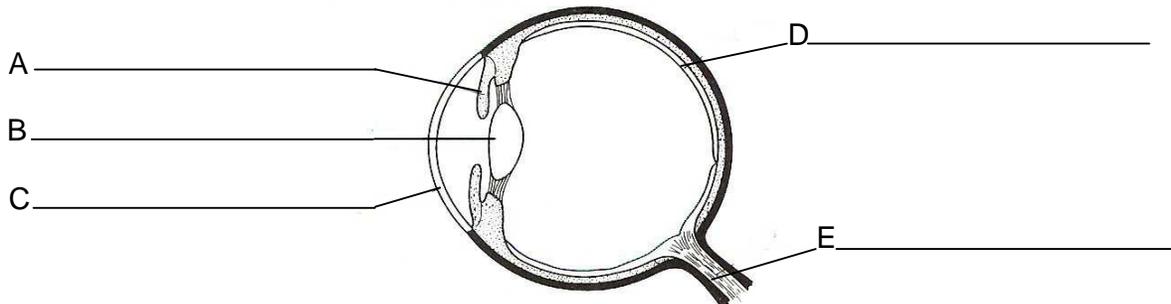
b) The drummer hits the drum skin with his drumstick.  
 What happens to the drum skin when it makes a sound?

\_\_\_\_\_ 1 mark

c) What other instruments are the other people in the band playing? \_\_\_\_\_ 1 mark

d) How is the sound produced by their instruments?  
 \_\_\_\_\_ 1 mark

11) The diagram shows the inside of the eye.

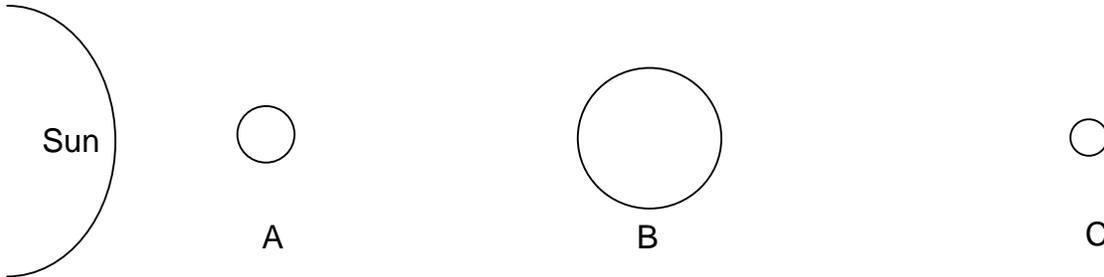


Use these words to label the parts A, B, C, D and E shown on the diagram.

retina	optic nerve	lens	cornea	iris
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5 marks

12) The diagram below shows the Sun and three of the nine planets.  
 A is the planet nearest the Sun, B is the middle planet and C is the last planet.



a) Give the name of:

i) Planet A \_\_\_\_\_ Planet B \_\_\_\_\_ Planet C \_\_\_\_\_  
 3 marks

b) Tick ✓ the boxes of the planets that have these characteristics.

i) You can tick more than one planet for each characteristic.

characteristics	Planet A	Planet B	Planet C
made of rocks			
has many moons			
small in size			
has the smallest orbit			
is a gas giant			

7 marks

c) i) On the **diagram** above draw a circle where you think Earth is found.  
 Label the circle.

1 mark

ii) Write **two** characteristics from the table above that describe the Earth.

\_\_\_\_\_

\_\_\_\_\_

2 marks

iii) Write three things that are found on Earth but not on the planets in the diagram.

\_\_\_\_\_

3 marks

iv) Tick ✓ the **three** correct answers.

- The Earth takes one year to make one orbit.
- The Moon takes one day to go round the Earth
- The Earth makes one turn every 24 hours.
- The Moon reflects light from the Sun.
- The Moon is bigger than the Earth.

3 marks