

## Final Year Mock Examination Paper 2

### Section A

### Multiple Choice Questions

For each question, choose the most suitable answer and write its letter (A, B, C or D) in the brackets provided. Each question carries 2 marks.

1. Which one of the following warning symbols will be labelled on the ammonia solution container?

A



B



C

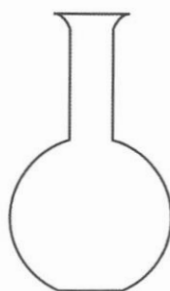


D



[     ]

2. Given below is a laboratory apparatus.



This apparatus is used for \_\_\_\_\_.

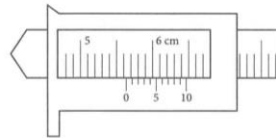
- A collecting liquids
- B containing gases
- C measuring a fixed volume of liquid very accurately
- D holding liquids or chemicals for heating

[     ]

- A 0.1 cm                      B 0.01 mm  
C 0.1 mm                      D 0.001 cm                      [     ]

- A 1.65 cm                      B 3.2 cm  
C 3.3 cm                      D 3.4 cm                      [     ]

- A 5.73 cm  
B 6.17 cm  
C 5.63 cm  
D 5.68 cm

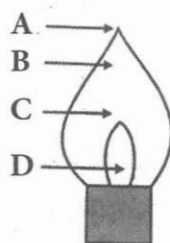


- A It is produced when the air hole is closed.  
B It is a steady flame.  
C It produces soot.  
D It is a yellow flame.

- A Oxygen gas                      B Air  
C Carbon dioxide                D Salt solution                      [     ]

- A** The particles still vibrate about their fixed positions.
- B** The particles move about freely and randomly in all directions.
- C** The particles break free from being held in their fixed positions.
- D** The particles stop vibrating.

9. What are the correct steps to take to separate a mixture of salt and chalk to obtain pure, dry samples of the components?
- A Crystallisation, filtration  
 B Filtration, crystallisation, pat dry with filter paper  
 C Dissolve in water, filtration, pat dry with filter paper  
 D Dissolve in water, filtration, pat dry with filter paper, evaporation to dryness [    ]
10. Which of the following tissues are present in animals?
- A Photosynthetic tissue  
 B Epidermal tissue  
 C Epithelial tissue  
 D Vascular tissue [    ]
11. Which of the following properties allows dyes to be separated by chromatography?
- A Boiling point of dyes                      B Melting point of dyes  
 C Density of dyes                              D Solubility of dyes [    ]
12. Calcium chloride is represented by the formula  $\text{CaCl}_2$ . Which of the following statements is **not** true about calcium chloride?
- A It consists of three atoms.  
 B It is made of two different elements.  
 C It is a compound which can be separated only by chemical means.  
 D It is a mixture made up of three different elements. [    ]
13. The diagram below shows a flame on a Bunsen burner. Which label shows the hottest part of the flame?



[    ]

- 137 Secondary 1 Science (Topical)

## Section B

## Short Answer Questions

Answer all the questions in the spaces provided. The marks for each question are given in brackets.

1. (a) Define the term 'density'. [2]

---



---



---

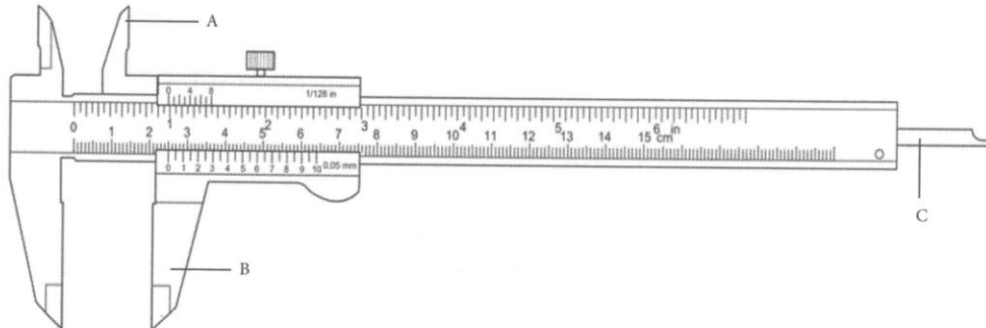
- (b) A rectangular piece of wood has a mass of 4.5 kg. Its dimensions are 26.0 cm by 20.0 cm by 10.0 cm. Calculate the density of the wood in  $\text{kg/m}^3$ . Express your answer correct to 3 significant figures. [4]

---



---

2. The diagram below shows a Vernier caliper. Write down the part of the Vernier caliper A, B or C that is used to measure the following dimensions.



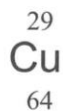
- (a) Measure the depth of a test tube. 

---
- (b) Measure the external diameter of a test tube. 

---
- (c) Measure the internal diameter of a test tube. 

---

3. Copper is a metal that is used to make electrical wires. It is a good conductor of heat and electricity. The chemical symbol of copper can be represented as shown below.



- (a) How many protons, neutrons and electrons are present in an atom of copper? [3]

Number of protons : \_\_\_\_\_

Number of electrons: \_\_\_\_\_

Number of neutrons: \_\_\_\_\_

- (b) The ion of copper is given by the symbol  $\text{Cu}^{2+}$ . What does this mean? [2]

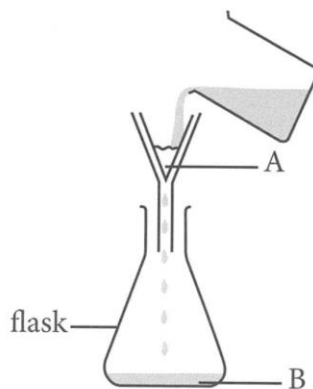
\_\_\_\_\_

\_\_\_\_\_

- (c) In an atom, the number of \_\_\_\_\_ is always equal to the number of \_\_\_\_\_.

[1]

4. The diagram below shows a method of separation.



- (a) Name this method of separation.

\_\_\_\_\_

(b) State the labels for A and B.

A : \_\_\_\_\_

B : \_\_\_\_\_

(c) Describe how a dry, pure sample of insoluble calcium carbonate can be collected from a mixture of calcium carbonate and water using this method of separation.

---

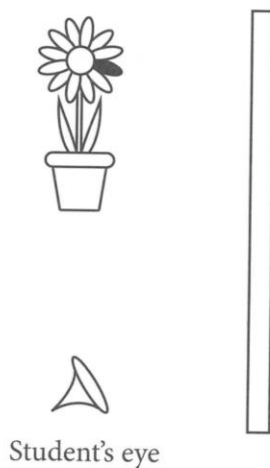


---

5. The diagram below shows a flower pot in front of a mirror. Draw a ray diagram to show

(a) the image of the shaded petal of the flower;

(b) light rays so that the student can see the image of the shaded petal in the mirror.



## Section



## Free Response Questions

Answer all the questions in the spaces provided. The marks for each question are given in brackets.

1. The diagrams below show some hazard symbols. Describe the precautions to take when handling such substances.

(a)




---



---

(b)




---



---

(c)




---



---

(d)




---



---



2. (a) Classify the following substances into compounds and mixtures. [5]

|          |                   |         |         |       |
|----------|-------------------|---------|---------|-------|
| Seawater | Common salt       | Ammonia | Alcohol | Milk  |
| Air      | Hydrochloric acid | Blood   | Brass   | Water |

| <i>Compounds</i> | <i>Mixtures</i> |
|------------------|-----------------|
|                  |                 |

- (b) State **three** differences between the properties of a compound and a mixture. [3]

| <i>Compound</i> | <i>Mixture</i> |
|-----------------|----------------|
|                 |                |
|                 |                |
|                 |                |

3. (a) State **three** properties of the following materials. [6]

(i) Plastics:

---



---



---

(ii) Ceramics:

---



---



---

(b) What is meant by a composite material? Give **one** example and its advantage. [4]

---



---



---



---



---



---