

**Form 1 Chapter 4      The Variety of Resources on Earth**

Paper 1

Answer **all** questions. Each question is followed by four options, **A, B, C** and **D**. For each question, choose **one** answer only.

1. Which of the following is **not** the basic need of humans?

- A Sunlight
- B Water
- C Air
- D Soil

2. Which of the following is the characteristic of non-metals?

- A Shiny
- B Malleable
- C Good insulator of heat
- D Have high melting points

3. Which of the following is a metallic element?

- A Sulphur
- B Iodine
- C Mercury
- D Carbon

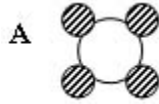
4.

- Sodium chloride
  - Copper(II) chloride

The substances above can only be separated using

- A distillation
- B oxidation
- C filtration
- D electrolysis

5. Among the following diagrams, which one shows the arrangement of atoms in a molecule of ammonia?



6. Chlorine can be used to
- A kill microorganisms
  - B make pencil lead
  - C make sulphuric acid
  - D produce fertiliser

7. Which of the following is a liquid at room temperature?
- A Bromine
  - B Potassium
  - C Chlorine
  - D Zinc

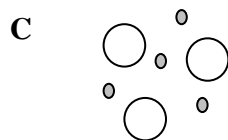
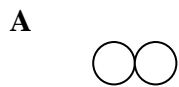
8.

- Ductile
- Malleable
- Good conductor of electricity

Based on the description above, which of the following is the substance mentioned?

- A Mercury
- B Magnesium
- C Sulphur
- D Carbon

9. Which of the following is a mixture?



10.

- M - Filter the resulting solution
- N - Dissolve the remaining mixture in water
- O - Bring a magnet close to the mixture
- P - Evaporate the filtrate obtained

Which of the following is the correct sequence of steps to separate a mixture of salt, sand and iron filings?

- A O → P → N → M
- B O → M → N → P
- C O → N → M → P
- D O → P → M → N

11. Water plays an important role in the process of

- I respiration
- II rusting
- III germination of seed

- A I only
- B I and II only
- C II and III only
- D I, II, and III

12. Animals and plants are important to humans as a

- I source of food
- II source of building materials
- III source of fuel

- A I only
- B I and II only
- C II and III only
- D I, II, and III

13. A molecule of water consists of

- I carbon dioxide
- II hydrogen
- III oxygen

- A I only
- B I and II only
- C II and III only
- D I, II, and III

14. Among the following, which is/are the **correct** characteristics of a compound and a mixture?

	<b>Compound</b>	<b>Mixture</b>
<b>I</b>	Formed through chemical reaction	Formed through physical method
<b>II</b>	Composition is fixed	Composition can vary
<b>III</b>	Can be separated by physical method	Cannot be separated by physical method

- A I only
- B I and II only
- C II and III only
- D I, II, and III

15. Which of the following can be separated by distillation?

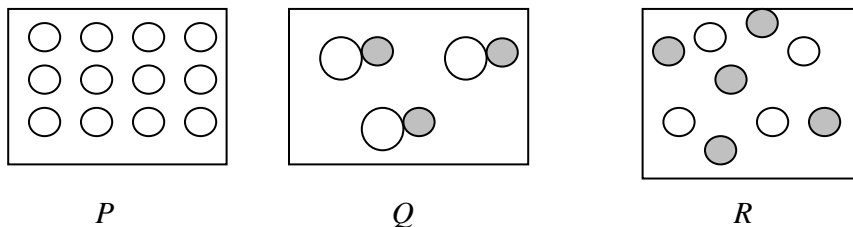
- I Salt solution
- II Sugar solution
- III A mixture of water and oil

- A I only
- B I and II only
- C II and III only
- D I, II, and III

16. A substance consists of two types of elements that combine chemically in certain rate. What is the substance?

- A A compound
- B An element
- C A mixture
- D A crystal

17.



The diagrams above shows the arrangement of particles of substances *P*, *Q* and *R*. Which of the following is **true** about substances *P*, *Q* and *R*?

- I** *P* is an element
- II** Particles in *Q* can be separated physically
- III** Particles in *R* combine chemically

- A** I only
- B** I and II only
- C** II and III only
- D** I, II, and III

18.

- |  |
|--|
| <ul style="list-style-type: none"><li>• Kitchen utensils</li><li>• Body of airplanes</li></ul> |
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Which of the following is suitable to be used to make the above things?

- A** Copper
- B** Carbon
- C** Mercury
- D** Aluminium

19. Which of the following are mixtures?

- A** Carbon, sulphur, nitrogen
- B** Air, coin, soil
- C** Sulphuric acid, sand, rust
- D** Sodium chloride, ammonia, methane

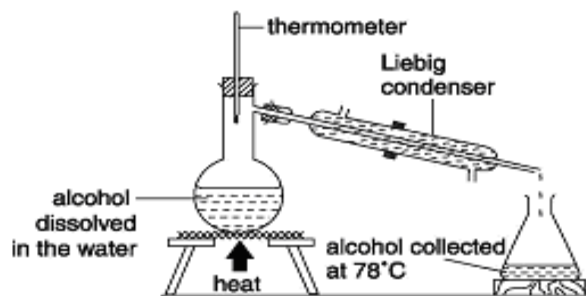
20. Which of the following mixtures can be separated using filtration method?

- A** Table salt and water
- B** Oil and alcohol
- C** Clay and sugar solution
- D** Water and alcohol

Paper 2

Answer the question.

An experiment was carried out to separate a mixture of alcohol and water. It is found that the boiling point of alcohol and water are  $78\text{ }^{\circ}\text{C}$  and  $100\text{ }^{\circ}\text{C}$  respectively. The apparatus used is shown below.



(a) What is the process used in this experiment?

\_\_\_\_\_

(b) Draw in the diagram above the direction of water in and water out at the Liebig condenser.

(c) State the principle used in this experiment to separate the mixture of water and alcohol.

\_\_\_\_\_

(d) Name the change in state of matter which occurs in

(i) round bottomed flask.

\_\_\_\_\_

(ii) Liebig condenser.

\_\_\_\_\_

(e) (i) What is the distillate collected in the conical flask?

\_\_\_\_\_

(ii) Explain your answer in (e)(i).

\_\_\_\_\_

**Answers:**

**Paper 1**

1	<b>A</b>	11	<b>D</b>
2	<b>C</b>	12	<b>D</b>
3	<b>C</b>	13	<b>C</b>
4	<b>D</b>	14	<b>B</b>
5	<b>B</b>	15	<b>B</b>
6	<b>A</b>	16	<b>A</b>
7	<b>A</b>	17	<b>A</b>
8	<b>B</b>	18	<b>D</b>
9	<b>C</b>	19	<b>B</b>
10	<b>C</b>	20	<b>C</b>

**Paper 2**

- (a) Distillation
- (b) Water flow in through the lower part and flow out through the upper part
- (c) The boiling points of water and alcohol are different
- (d) (i) Boiling  
(ii) Condensation
- (e) (i) Alcohol  
(ii) The boiling point of alcohol is lower, thus it can be separated by distillation