

CBSE CLASS X
Science (086)QUESTION PAPER
AI-generated question paper

Code: V2F910

Questions: 14

Maximum Marks: 29

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SELECTIONS USED

Subject	Science
Lessons	2 Acids, Bases and Salts
Level of understanding	Initial understanding
Question selection	Curated chapter coverage (~3 questions per section)
Model	claude-sonnet-4-6

Composition — Difficulty: 6 straightforward · 8 medium | Types: 9 Short · 4 Very short · 1 MCQ

Q1. straightforward initial-understanding § Introduction [1]

What is the colour of litmus solution in a neutral (neither acidic nor basic) solution, and from which type of organism is litmus extracted?

◆ Acids, Bases and Salts

Q2. straightforward initial-understanding § 2.1 UNDERSTANDING THE CHEMICAL PROPERTIES OF ACIDS AND BASES [3]

When zinc granules are added to dilute sulphuric acid, a gas is produced. Name the gas and state how you would confirm its identity.

◆ Acids, Bases and Salts

Q3. medium initial-understanding § 2.1 UNDERSTANDING THE CHEMICAL PROPERTIES OF ACIDS AND BASES [3]

When sodium carbonate reacts with dilute hydrochloric acid, a gas is produced. Name the gas and state what change you would observe when this gas is passed through lime water.

◆ Acids, Bases and Salts

Q4. straightforward initial-understanding § 2.1 UNDERSTANDING THE CHEMICAL PROPERTIES OF ACIDS AND BASES [1]

Which of the following correctly describes what happens when a base reacts with an acid?

- (A) A salt and hydrogen gas are produced.
- (B) A salt and water are produced.
- (C) Carbon dioxide and water are produced.
- (D) Only water is produced, with no salt formation.

A A salt and hydrogen gas are produced.

B A salt and water are produced.

C Carbon dioxide and water are produced.

D The base dissolves without forming any new products.

◆ Acids, Bases and Salts

- Q5.** medium initial-understanding § 2.2 WHAT DO ALL ACIDS AND ALL BASES HAVE IN COMMON? [3]
Glucose and alcohol also contain hydrogen in their molecules, yet they are not considered acids. What must an acid do in water that glucose and alcohol do not, to show acidic properties?
◆ Acids, Bases and Salts
- Q6.** straightforward initial-understanding § 2.2 WHAT DO ALL ACIDS AND ALL BASES HAVE IN COMMON? [1]
What ion is produced by bases when dissolved in water, and what term is used for bases that are soluble in water?
◆ Acids, Bases and Salts
- Q7.** straightforward initial-understanding § 2.3 HOW STRONG ARE ACID OR BASE SOLUTIONS? [1]
What does the pH scale measure, and what pH value represents a neutral solution?
◆ Acids, Bases and Salts
- Q8.** medium initial-understanding § 2.3 HOW STRONG ARE ACID OR BASE SOLUTIONS? [3]
A solution has a pH of 3 and another has a pH of 11. Identify which solution is acidic and which is basic, and state which one contains a higher concentration of $H^+(aq)$ ions. Give a reason for your answer.
◆ Acids, Bases and Salts
- Q9.** medium initial-understanding § 2.3 HOW STRONG ARE ACID OR BASE SOLUTIONS? [2]
Equal concentrations of hydrochloric acid (HCl) and acetic acid (CH_3COOH) are taken in separate beakers. How would their pH values compare, and what does this comparison reveal about the strength of the two acids?
◆ Acids, Bases and Salts
- Q10.** straightforward initial-understanding § 2.4 MORE ABOUT SALTS [1]
What is the chemical name and chemical formula of baking soda?
◆ Acids, Bases and Salts
- Q11.** medium initial-understanding § 2.4 MORE ABOUT SALTS [3]
When electricity is passed through brine, three useful products are formed. Name the products and state at which electrode each gas is released.
◆ Acids, Bases and Salts
- Q12.** medium initial-understanding § 2.4 MORE ABOUT SALTS [2]
Copper sulphate crystals are blue, but when strongly heated they turn white. What explains this colour change, and what happens to the colour when a few drops of water are added to the white powder?
◆ Acids, Bases and Salts
- Q13.** medium initial-understanding § 2.4 MORE ABOUT SALTS [3]
A white powder hardens when mixed with water and is used in making casts for broken bones.
(i) What is this substance? Write its chemical formula.
(ii) Name the compound it is prepared from, and state what happens when it is mixed with water.
◆ Acids, Bases and Salts
- Q14.** medium initial-understanding § Group Activity [2]
Baking soda solution is added to beetroot extract used as an acid-base indicator. What colour change would you observe, and what does it indicate about the nature of baking soda solution?
◆ Acids, Bases and Salts

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