

Mark Scheme

Q1 (1 mark)

- A substance made of only one type of atom

Q2 (1 mark)

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Q3 (1 mark)

- A horizontal row

Q4 (1 mark)

- A vertical column

Q5 (2 marks)

Any two:

- Good conductors
- Shiny
- Malleable
- High melting points

Q6 (2 marks)

Any two:

- Poor conductors
- Dull
- Brittle
- Low melting points

Q7 (2 marks)

Any two:

- Metals conduct electricity/non-metals do not
- Metals are shiny/non-metals are dull
- Metals are malleable/non-metals are brittle

Q8 (2 marks)

Any two:

- Soft
- Reactive/ stored in oil
- Form alkaline solutions

Q9 (2 marks)

Any two:

- Reactive non-metals
- Form coloured vapours
- Become less reactive down the group

Q10 (2 marks)

Any two:

- By atomic number
- Into periods and groups
- Metals on left/non-metals on right

Q11 (3 marks)

- Shows the element name or symbol (1)
- Shows the atomic number (1)
- Shows the relative atomic mass (1)

Q12 (3 marks)

- Periods are horizontal rows (1)
- Groups are vertical columns (1)
- Elements in same group have similar properties (1)

Q13 (4 marks)

Three from:

- Group number helps predict reactions (1)
- Elements in the same group have similar properties (1)
- Position shows if an element is a metal or non-metal (1)
- Patterns repeat across the periodic table (1)

Q14 (3 marks)

- Metals have free electrons (1)
- Electrons can move through metal (1)
- This allows electricity to flow (1)

Q15 (3 marks)

- Metal oxides are basic (1)
- Non-metal oxides are acidic (1)
- They react differently with acids/alkalis (1)

Q16 (3 marks)

- Arranged elements in order of increasing relative atomic mass (1)
- Grouped elements with similar chemical properties together (1)
- Left gaps for undiscovered elements (1)

Q17 (4 marks)

- Magnesium is a metal / sulfur is a non-metal (1)
- Magnesium is shiny and conducts electricity (1)
- Sulfur is dull and brittle (1)

Q18 (4 marks)

- Sodium reacts with water (1)
- Hydrogen gas is produced (1)
- An alkaline solution is formed (1)
- Potassium reacts more strongly (1)

Q19 (3 marks)

- Bromine is a non-metal (1)
- Less reactive than chlorine (1)
- Forms coloured vapour (1)

Q20 (4 marks)

- Magnesium oxide is a metal oxide (1)
- Metal oxides are basic (1)
- It can neutralise acids (1)
- Produces salt and water (1)

Q21 (4 marks)

- Carbon dioxide is a non-metal oxide (1)
- Non-metal oxides are acidic (1)
- It dissolves in water (1)
- Forms an acidic solution (1)

Q22 (6 marks)

Level 1 (1-2 marks)

Simple statements about metals or non-metals

Level 2 (3-4 marks)

Some comparison of properties and oxides

Level 3 (5-6 marks)

Clear comparison including physical properties, conductivity, and oxides

Expected content:

- Metals are shiny/malleable (1)
- Metals conduct electricity (1)
- Non-metals are dull/brittle (1)
- Non-metals are poor conductors (1)
- Metal oxides are basic (1)
- Non-metal oxides are acidic (1)

Example full-mark answer:

"Metals are usually shiny, malleable, and good conductors of electricity. Non-metals are often dull, brittle, and poor conductors. Metals form basic oxides such as magnesium oxide, while non-metals form acidic oxides such as carbon dioxide."