

Q1. (2018) – 3b

Identify, using the periodic table on the back cover of this paper, which of these elements is in the same period as argon.

(1)

- ☐ **A** bromine
- ☐ **B** iron
- ☐ **C** magnesium
- ☐ **D** xenon

8 In Figure 8, the letters **A, E, G, J, X** and **Z** show the positions of six elements in the periodic table.

[illegible]

Figure 8

(a) Using the letters **A, E, G, J, X** and **Z**

(i) give the letters of the **two** elements that are non-metals

(1)

(ii) give the letters of **two** elements in period 2

(1)

2 Chlorine has an atomic number of 17.

Figure 3

(ii) Explain, using Figure 3, why chlorine belongs to group 7 of the periodic table.

(2)

Q4. (2020)

- 4 (a) In the 19th century, Mendeleev arranged the elements known at the time to form his periodic table.
Mendeleev's periodic table is different from the modern periodic table.

State **one** difference between Mendeleev's periodic table and the modern periodic table.

(1)

Q5. (2020) – 4c

- (c) Gallium, Ga, is in the same group of the modern periodic table as aluminium.

The formula of aluminium oxide is Al_2O_3 .

- (i) Predict the formula of gallium oxide.

(1)

Q6. (2021) – 1a (ii)

- (ii) Fertilisers contain compounds of different elements.
Three of these elements have the symbols K, N and P.

Use the periodic table to state the names of these three elements.

(2)

K

N

P

Q7. (2021) – 2c

- (c) State how you know that calcium is a metal from its position in the periodic table.

(1)

Q8. (2022) – 5c

- (c) Gallium is in the same group in the periodic table as aluminium and in the same period in the periodic table as bromine.

A)

- (i) State in which group and period of the periodic table gallium can be found.

You may want to refer to the periodic table.

(2)

group = ...

period = ...

B)

- (ii) Gallium had not been discovered when Mendeleev created his first periodic table.

Figure 9 shows some properties of gallium that Mendeleev predicted and some of the actual properties of gallium.

property	predicted property	actual property
relative atomic mass	about 68	70
density in g/cm^3	about 6.0	5.9
melting point	lower than 40°C	29.8°C
density of oxide in g/cm^3	about 5.5	5.9

Figure 9

Describe how Mendeleev predicted these properties of gallium.

(2)

Q9. (2023) – 6a (ii)

- (ii) Which element is in the same group of the periodic table as magnesium?
Use the periodic table to help you answer this question.

(1)

- ☐ A carbon
☐ B chromium
☐ C sodium
☐ D strontium

Q10. (2023) – 6b (ii)

- (ii) The electronic configuration of a chlorine atom is 2.8.7

Explain how the electronic configuration of chlorine is linked to its period in the periodic table.

(2)

Q11. (2024) – 5c

- (c) The modern periodic table is organised into groups and periods.

State in which group and in which period of the periodic table silicon is found.

You should use the periodic table to help you answer this question.

(2)

group = ...

period = ...

Q12. (2024) – 5d

- (d) Describe **two** differences between Mendeleev's periodic table and the modern periodic table.

(2)