

The Periodic Table

Total Marks : 18

Q1.

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

These letters are not the symbols of the atoms of these elements.

1		2								3		4		5		6		7		0		
A												E			G							
J																						X
										Z												

Figure 8

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)

.....

(iii) give the letter of an element that normally forms an ion with a charge of +1.

(1)

.....

(Total for question = 3 marks)

Q2.

Gallium is in the same group in the periodic table as aluminium and in the same period in the periodic table as bromine.

(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 =

(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

Describe how Mendeleev predicted these properties of gallium.

(2)

.....

.....

.....

.....

(Total for question = 4 marks)

Q5.

This question is about elements in group 1 of the periodic table.

Figure 3 shows the symbols of the first three elements in group 1 of the periodic table and their melting points.

symbol	melting point in °C
Li	181
Na	98
K	64

Figure 3

Use the periodic table to answer these questions.

(i) Give the symbol of **another** element in group 1.

(1)

.....

(ii) Give the atomic number of lithium.

(1)

.....

(iii) Describe the trend in the melting points of the elements in Figure 3.

(2)

.....
.....

(Total for question = 4 marks)

Q6.

Answer the questions with a cross in the boxes you think are correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Fluorine, chlorine, bromine and iodine are elements in group 7 of the periodic table.

(i) State the name given to the group 7 elements.

(1)

.....

(ii) Name one other element that is in group 7.
Use the periodic table on the back of this exam paper to help you.

(1)

.....

(iii) Which element is liquid at room temperature and pressure?

(1)

- A fluorine
- B chlorine
- C bromine
- D iodine

(iv) Which element is dark-grey in colour at room temperature and pressure?

(1)

- A fluorine
- B chlorine
- C bromine
- D iodine

(Total for question = 4 marks)