3.2 Oxides, Group 1 & Group 17

Question Paper

Course	DP IB Chemistry
Section	3. Periodicity
Topic	3.2 Oxides, Group 1 & Group 17
Difficulty	Easy

Time allowed: 20

Score: /16

Percentage: /100

Question 1a

a)
State the changes in the acid-base nature of the oxides across period 3 (from Na_2O to Cl_2O_7).

[1 mark]

Question 1b

b)
Write an equation for the reaction of sodium oxide with water.

[1 mark]

Question 1c

c)
Predict how the pH of water will change when phosphorus(V) oxide is added.

[1 mark]

Question 1d

d)
What is the product when SO_3 reacts with water.

[1 mark]

Question 2a

a)
State the equation for the reaction of sodium metal with water.

[1 mark]

Question 2b

b)
Describe **two** changes that could be observed during the reaction of sodium metal with water.

[2 marks]

Question 2c

c)
Predict the relative reaction rates of lithium, sodium and potassium with water.

[1 mark]

Question 2d

d)
State **two** differences between the reactions of sodium and potassium with water.

[2 marks]

Question 3a

a)
State the balanced chemical equation for the reaction of potassium bromide, KBr(aq), with chlorine, $Cl_2(g)$.

[1 mark]

Question 3b

b)
Describe the colour change likely to be observed in the previous reaction.

[1 mark]

Question 3c

c)
State the equation for the reaction between potassium and chlorine.

[1 mark]

Question 3d

d)
Explain the trend in reactivity of the halogens.

[3 marks]