

Redox (MCQ)

1. A phosphate(V) ion has the formula PO_4^{3-} .

What is the formula for copper(I) phosphate(V)?

- A $\text{Cu}(\text{PO}_4)_5$
- B Cu_5PO_4
- C $\text{Cu}(\text{PO}_4)_3$
- D Cu_3PO_4

Your answer

[1]

2. What is the oxidation number of Fe in K_2FeO_4 ?

- A +4
- B +5
- C +6
- D +7

Your answer

[1]

3. Which reaction shows oxidation of sulfur?

- A $2\text{HBr} + \text{H}_2\text{SO}_4 \rightarrow \text{SO}_2 + 2\text{H}_2\text{O} + \text{Br}_2$
- B $\text{SO}_2 + 2\text{NaOH} \rightarrow \text{Na}_2\text{SO}_3 + \text{H}_2\text{O}$
- C $8\text{HI} + \text{H}_2\text{SO}_4 \rightarrow 4\text{I}_2 + \text{H}_2\text{S} + 4\text{H}_2\text{O}$
- D $\text{H}_2\text{S} + \text{Cl}_2 \rightarrow 2\text{HCl} + \text{S}$

Your answer

[1]

2.1.5 Redox MCQ

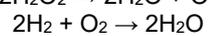
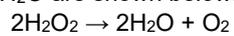
4. What is the oxidation number of nitrogen in $\text{Mg}(\text{NO}_3)_2$?

- A -3
- B +2
- C +5
- D +6

Your answer

[1]

5. Equations for two reactions that form H_2O are shown below.



Which statement is correct?

- A. Hydrogen is reduced in both reactions.
- B. Hydrogen is reduced in only one of the reactions.
- C. Oxygen is oxidised in both reactions.
- D. Oxygen is oxidised in only one of the reactions.

Your answer

[1]

6. What is the oxidation number of vanadium in the ion $\text{V}_2\text{O}_7^{4-}$?

- A. +5
- B. +7
- C. +10
- D. +14

Your answer

[1]

7. Which equation represents a redox reaction?

- A. $\text{Mg} + 2\text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$
- B. $\text{MgO} + 2\text{HCl} \rightarrow \text{H}_2\text{O} + \text{MgCl}_2$
- C. $\text{MgCO}_3 + 2\text{HCl} \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{MgCl}_2$
- D. $\text{Mg}(\text{OH})_2 + 2\text{HCl} \rightarrow \text{MgCl}_2 + 2\text{H}_2\text{O}$

Your answer

[1]

8. What is the formula of chromium(III) sulfate?

- A. Cr_3SO_4
- B. $\text{Cr}(\text{SO}_4)_3$
- C. $\text{Cr}_2(\text{SO}_4)_3$
- D. Cr_3SO_3

Your answer

[1]

END OF QUESTION PAPER

Mark scheme – Redox (MCQ)

Question			Answer/Indicative content	Marks	Guidance
1			D	1 (AO1.2)	
			Total	1	
2			C	1	<p>ALLOW +6</p> <p><u>Examiner's Comments</u></p> <p>Nearly all candidates responded with the correct response of C. Candidates seem to have a very good understanding of applying oxidation number rules.</p>
			Total	1	
3			D	1	<p><u>Examiner's Comments</u></p> <p>Candidates needed to do a lot of work to solve this problem and most wrote oxidation numbers around the equations. This systematic process allowed most candidates to find that D is the only option in which sulfur is oxidised.</p>
			Total	1	
4			C	1	<p>ALLOW +5 OR 5+ in box</p> <p><u>Examiner's Comments</u></p> <p>Generally scored well.</p>
			Total	1	
5			D	1	
			Total	1	
6			A	1	
			Total	1	
7			A	1	
			Total	1	
8			C	1	
			Total	1	