

Apakah nombor pengoksidaan bagi oksigen dalam hidrogen peroksida, H_2O_2 ?

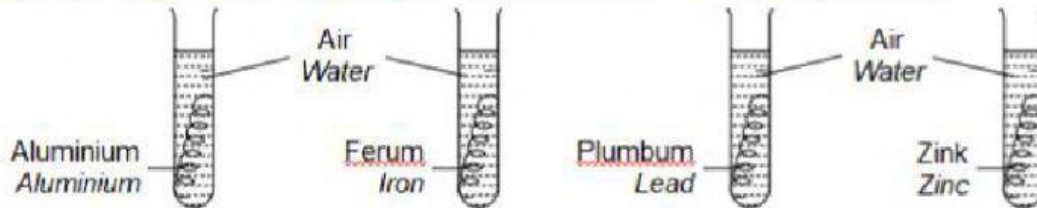
What is the oxidation number of oxygen in hydrogen peroxide, H_2O_2 ?

- A -2
C 0

- B -1
D +1

Rajah 1 menunjukkan empat tabung uji yang mengandungi logam yang berbeza direndam di dalam air.

Diagram 1 shows four test tubes that contain different metals immersed in water.



Rajah 1 / Diagram 1

Buku Teks Kimia Tingkatan 5 m/s 53

Logam manakah yang paling cepat terkakis.

Which metal is the fastest to corrode?

- A Aluminium
Aluminium
C Plumbum
Lead

- B Ferum
Iron
D Zink
Zinc

Bahan manakah yang digunakan untuk menukarkan ion ferum (II) kepada ion ferum (III)?

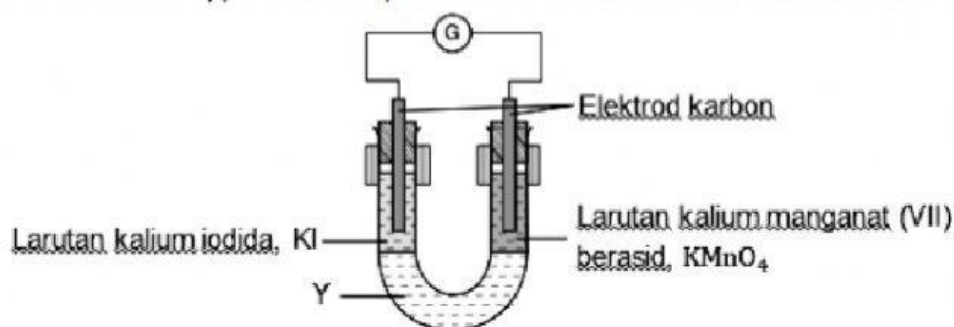
Which substance is used to change iron (II) ion to iron (III) ion?

- A Zink
Zinc
C Air bromin
Bromine water

- B Sulfur dioksida
Sulphur dioxide
D Larutan kalium iodida
Potassium iodide solution

Rajah 3 menunjukkan susunan radas bagi pemindahan elektron pada suatu jarak dalam tiub-U.

Diagram 3 shows the apparatus set-up for the transfer of electrons at a distance in U-tube.



(Buku Teks Kimia Tingkatan 5, m/s 7)

Rajah 3/ Diagram 3

Nyatakan fungsi bagi Y.

State the function of Y.

- A Membenarkan pemindahan elektron dari terminal negatif kepada terminal positif.
Allows the transfer of electrons from negative terminal to positive terminal.
- B Menerima elektron dari larutan kalium iodida.
Accepts electrons from potassium iodide solution.
- C Bertindak sebagai agen pengoksidaan.
Act as an oxidizing agent.
- D Membenarkan pengaliran ion dari kedua-dua larutan.
Allows the flow of ions from both solutions.

Berdasarkan nilai E° berikut, susun ion berikut dalam tertib menaik kekuatan agen pengoksidaan.

Based on the E° values, arrange those ions in ascending order of strength as oxidizing agents.

Tindak balas sel setengah	E°
$\text{Ni}^{2+}(\text{ak}) + 2\text{e}^- \rightleftharpoons \text{Ni}(\text{p})$	-0.25
$\text{Ca}^{2+}(\text{ak}) + 2\text{e}^- \rightleftharpoons \text{Ca}(\text{p})$	-2.87
$\text{Sn}^{2+}(\text{ak}) + 2\text{e}^- \rightleftharpoons \text{Sn}(\text{p})$	-0.14

- | | |
|--|--|
| A $\text{Ni}^{2+}, \text{Ca}^{2+}, \text{Sn}^{2+}$ | B $\text{Ca}^{2+}, \text{Ni}^{2+}, \text{Sn}^{2+}$ |
| C $\text{Sn}^{2+}, \text{Ca}^{2+}, \text{Ni}^{2+}$ | D $\text{Ni}^{2+}, \text{Sn}^{2+}, \text{Ca}^{2+}$ |

Persamaan kimia berikut merupakan suatu tindak balas redoks.

The following chemical equation is a redox reaction.



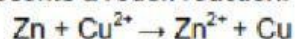
Apakah perubahan nombor pengoksidaan magnesium?

What is the change in oxidation number of magnesium?

- | | |
|----------------------|----------------------|
| A $0 \rightarrow +2$ | B $+2 \rightarrow 0$ |
| C $0 \rightarrow -2$ | D $-2 \rightarrow 0$ |

Persamaan ion berikut mewakili suatu tindak balas redoks.

The following ionic equation represents a redox reaction.



Pernyataan manakah yang betul?

Which statement is correct?

- A** Ion kuprum (II) kehilangan elektron
Copper (II) ion loses electron
- B** Ion kuprum (II) dioksidakan
Copper (II) ion is oxidized
- C** Atom zink mengalami penurunan
Zinc atom undergoes reduction
- D** Atom zink merupakan agen penurunan
Zinc atom is a reduction agent

(a) Jadual 1 menunjukkan persamaan bagi dua tindak balas

Table 1 shows the equation of two reactions.

Tindak balas Reaction	Persamaan Kimia Chemical Equation
X	$\text{FeSO}_4 + \text{Mg} \rightarrow \text{Fe} + \text{MgSO}_4$
Y	$\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

Jadual 1/Table 1

Tentukan sama ada setiap tindak balas tersebut merupakan tindak balas redoks atau tidak. Terangkan jawapan anda berdasarkan perubahan nombor pengoksidaan.

Determine whether each reaction is a redox reaction or not. Explain your answer in terms of change of oxidation number.