



PETA KONSEP CONCEPT MAP

- Nombor pengoksidaan berkurang / Oxidation number decreases
- Menerima elektron / Receives electrons
- Kehilangan oksigen / Loss of oxygen
- Penambahan hidrogen / Gain of hydrogen

Agen pengoksidaan
Oxidising agent

Agen penurunan
Reducing agent

Penurunan
Reduction

Pengoksidaan
Oxidation

Bertindak sebagai
Acts as

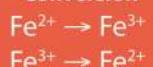
Dua proses berlaku serentak
Two processes happen at the same time

Keseimbangan Redoks Redox Equilibrium

- Nombor pengoksidaan bertambah / Oxidation number increases
- Membebaskan elektron / Releases electrons
- Penambahan oksigen / Gain of oxygen
- Kehilangan hidrogen / Loss of hydrogen

Penukaran
Conversion
 $\text{Fe}^{2+} \rightarrow \text{Fe}^{3+}$
 $\text{Fe}^{3+} \rightarrow \text{Fe}^{2+}$

Tindak balas
penyesaran
Displacement reaction



Penyesaran logam
Metal displacement

Penyesaran halogen
Halogen displacement

Keupayaan elektrod piawai, E°
Standard electrode potential, E°

Meramal / Predicts

Kekuatan agen pengoksidaan/penurunan
Strength of oxidising/reducing agent

Bahan dioksidakan/diturunkan
Oxidised/Reduced substance

Sel kimia
Voltaic cell

Sel elektrolisis
Electrolytic cell

Pengekstrakan logam daripada bijinya
Extraction of metal from its ore

Pengaratan
Rusting

Menentukan E°_{sel}
Determine E°_{cell}

Menulis notasi sel
Writing cell notation

Larutan akueus
Aqueous solution

Keadaan leburan
Molten state

Redoks dan pengaratan
Redox and rusting

Pencegahan pengaratan
Rusting prevention

3 faktor pemilihan ion dinyahcas
3 factors for selective discharge of ions

Aplikasi elektrolisis
Application of electrolysis

- Elektrolisis / Electrolysis
- Penurunan oleh karbon / Reduction by carbon

(1)
 E° value

(2)
Kepekatan larutan
Concentration of solution

(3)
Jenis elektrod
Type of electrode

Penyaduran logam
Metal electroplating

Penulenan logam
Purification of metal