

(Extraction of metals (carbon and electrolysis))

Q1.(2018)

carbon is more reactive (than nickel)

(so) carbon will displace / replace nickel (from nickel oxide)

or

(so) carbon will remove oxygen (from nickel oxide)

Q2. (2019)

aluminium is more reactive than carbon

(so) carbon cannot displace aluminium

or

(so) carbon cannot reduce aluminium oxide

Q3. (2020)

any **two** from:

- danger of dam bursting
- leakage of toxic substances from mud to environment
- water pollution
- damage to habitats
- visual pollution
- (dam) blocks light
- reduces the value of houses

Q4. (2020)

10 / ten

Q5. (2020)

to lower the melting point of the mixture

Q6. (2020)

oxygen

carbon

Q7. (2020)

$$\frac{25}{100} \times 300\,000$$

$$= 75\,000 \text{ (kg)}$$

$$= 7.5 \times 10^4 \text{ (kg)}$$

Q8.(2021)

- carbon and iron are the cheapest reactants
- hydrogen is the most expensive reactant
- separating solid products is expensive
- separating solid products is time consuming
- in method 1, tungsten needs to be separated from tungsten carbide
- in method 1, some tungsten is lost as tungsten carbide
- in method 1, the carbon dioxide produced will escape
- in method 2, the water vapour produced will escape
- in method 2, no separation of solids is needed
- in method 3, tungsten needs to be separated from iron oxide

Q9.(2024)

Chemical Change

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(by electrolysis)

any **one** from:

- potassium / K
- lithium / Li

(by carbon reduction)

any **one** from:

- zinc / Zn
- tin / Sn