

Metallurgy

Chapter 8: Metallurgy · Topic 1

Key Concept

Ores are naturally occurring minerals from which metals can be economically extracted, requiring concentration to remove impurities (gangue).

Extraction methods vary by metal reactivity - highly reactive metals use electrolysis, while less reactive metals use reduction with carbon.

Refining processes, like electrolytic refining, purify extracted metals to remove remaining impurities for high-quality applications.

Metallurgy is essential for producing metals used in construction, transportation, electronics, and countless other industrial applications.

Quick Revision Notes

- Ores: minerals metals are extracted from.
- Concentration removes impurities (gangue).
- Reactive metals: electrolysis extraction.
- Less reactive: reduction with carbon.
- Refining: electrolytic refining purifies metals.
- Removes remaining impurities.
- Metallurgy essential for construction, electronics.
- Also transportation, countless applications.

Practice Questions

- 1 Discuss the concentration process for removing gangue.
- 2 Discuss why reactive metals need electrolysis.
- 3 Research electrolytic refining of a metal like copper.
- 4 Discuss metallurgy's role in modern industry.
- 5 Research an application using extracted metal.
- 6 Explain metallurgy basics in your own words.