Q7

Account for the present location of iron and steel industries away from the source of raw material, by giving examples.

UPSC Civil Services Mains 2020 · GS I · 10 marks · Natural Resources and Industries

Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).

Core demand of the question

- Account for the present location of iron and steel industries away from the source of raw material, by giving examples
- Keep the account within a 10-mark length

Revision summary

Early Indian steel sat on ore and coal in the Jamshedpur-Damodar belt.

Imported coking coal and sea freight now favour coastal plants.

Vizag is a shore-based integrated plant for harbour and southern markets.

Hazira shows gas, port, and west-coast demand away from Jharkhand pits.

Mini mills follow scrap and power, further loosening the raw-material tie.

Introduction

- **Classic location theory put steel on coal and ore: Jamshedpur**, Durgapur, Bhilai, Rourkela. Present plants also sit on the coast and in markets. **Vizag** and **Hazira** show why the map moved.

Body

Why the old map was raw-material bound

- Bulk ore, coking coal, and limestone were expensive to haul. The Chota Nagpur-Damodar belt therefore hosted Tata's Jamshedpur and the public-sector plants of the Second Plan.
- Inland steel still matters. It is no longer the only logic.

Why plants now sit away from the pit

- **Imported coking coal** and even ore travel by sea. A port plant pays ocean freight once and avoids a long Indian rail haul from Jharkhand to a coastal market.
- **Vizag Steel** (RINL) was sited as a shore-based plant to use imported coal, Andhra ore, and a harbour, serving southern markets rather than sitting on Jharia coal.
- **Hazira** (Surat) is a gas-based and port-linked complex: energy, imported inputs, and a Gujarat-west-coast market, far from Singhbhum pits.
- Mini mills and sponge-iron plus electric furnaces follow scrap, power, and demand in west and south India, not only the Bokaro coalfield.

• Finished steel is less bulky relative to value than crude ore; market and export docks pull the rolling mill.

Account

• **Location is now a bundle:** port, imported coal, gas, scrap, and consumption. Jamshedpur remains the raw-material classic. Vizag and Hazira are the present away-from-source type.

Flow diagram

Ore plus coal -> Jamshedpur belt

Imported coal ports gas markets -> Vizag

Imported coal ports gas markets -> Hazira

Vizag -> Present location mix

Hazira -> Present location mix

Conclusion

Iron and steel still love bulk inputs, but global coal, coastal shipping, gas, and markets have pulled plants off the ore-coal junction. Account for Vizag and Hazira as port-and-market steel, not as a denial of Jamshedpur's logic.

Facts & figures

Jamshedpur
Classic inland plant on ore, coal access, and early rail, still a raw-material location type.

Vizag Steel
Coastal integrated plant designed around a port, imported coal, and southern markets.

Hazira
Gujarat coastal complex using gas and port logistics rather than a Damodar coal pit.

Coking coal imports
India's blast furnaces depend heavily on seaborne coking coal, which pulls location to harbours.

Mini mills
Electric and sponge-iron units that locate on scrap, power, and regional demand.