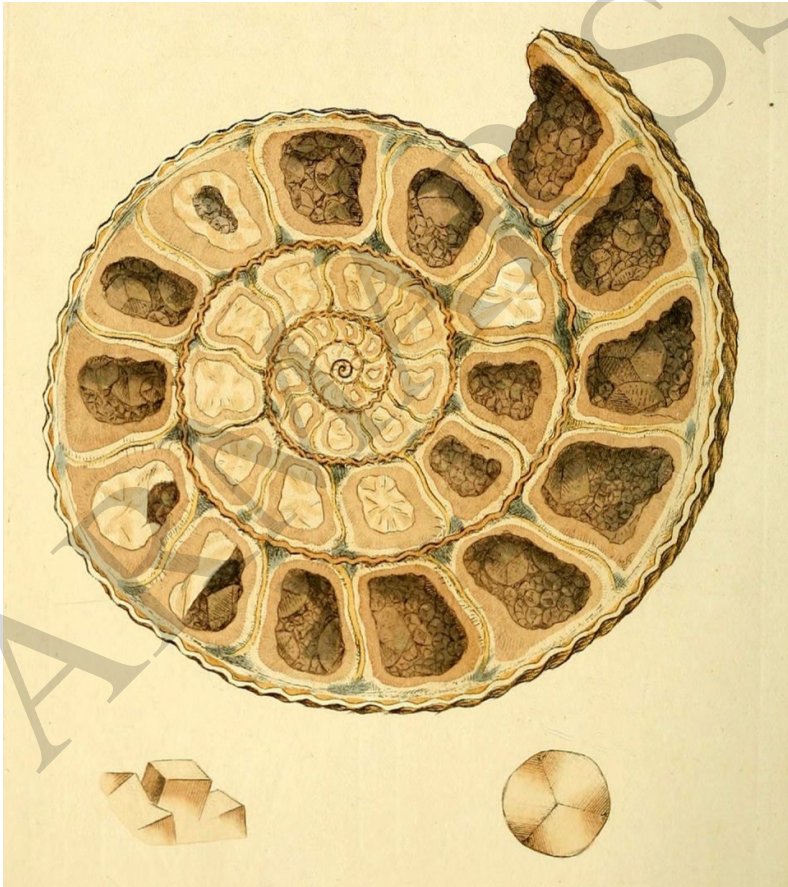
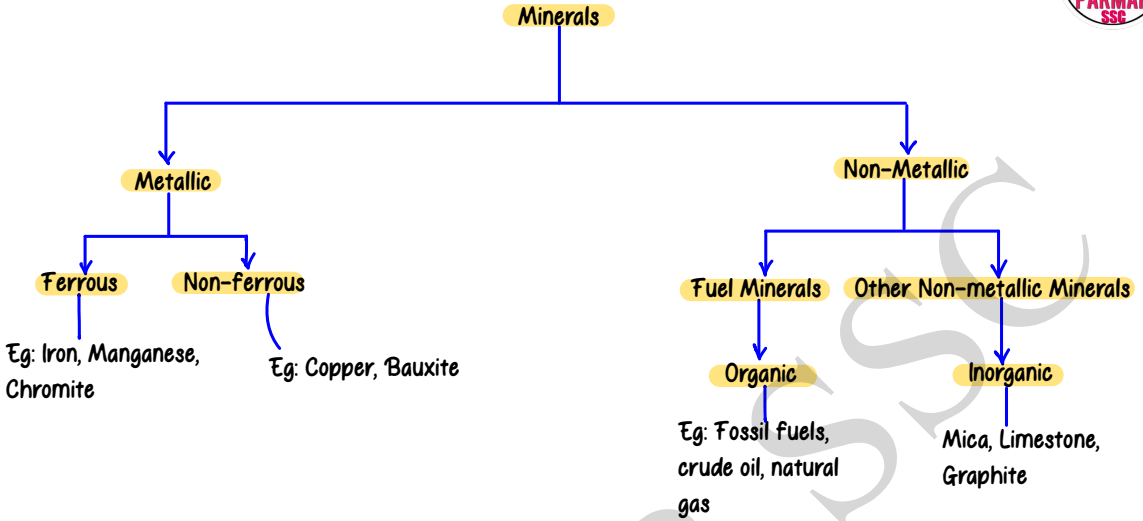


# MINERALS

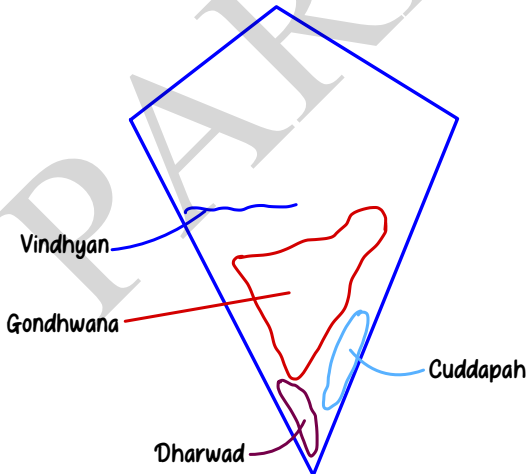


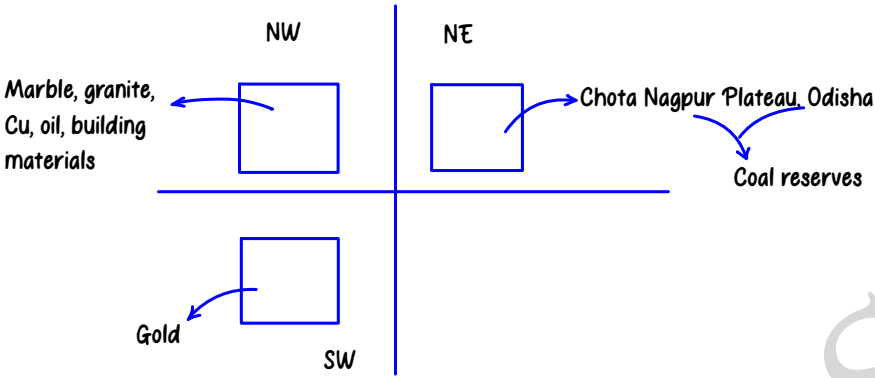


Mining → Ore = Metal + Impurities  
 ↓  
 Refining → Gives metals/non-metals

Distribution of Minerals

- **Gondhwana:** Gold
- **Dharwad/Cuddapah:** Gold, Iron
- **Vindhyan:** Non-metallic minerals





Iron

Ores

Hematite

Magnetite → Has highest % of iron (roughly 70%)

Limonite

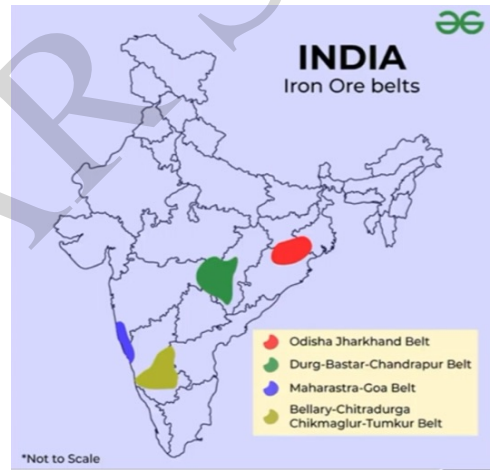
Reserves

- **Topmost:** Odisha (Hematite)
- Karnataka (Magnetite)

• **Topmost reserve in the world:** Australia

Production

• Odisha > Chattisgarh > Karnataka



State

Region

Mines

• **Odisha**

Sundargarh  
Mayurbhanj  
Jhar

Badampahar

• **Jharkhand**

Singhbhum

Noamundi

• **Chhattisgarh**

Durg  
Bastar

Dalli Rajhara  
Bailadila  
Dantewada



• **Karnataka**

Ballari  
Chikkamangaluru  
Chitradurga

Baba budan giri  
Kudremukh

Manganese (Mn)

Reserve

• **Topmost in world:** South Africa

• **Topmost in India:** Odisha

- Sundargarh
- Keonjhar
- Kalahandi
- Mayurbhanj
- Koraput

• **Karnataka:** Ballari, Chikkamangaluru

Bauxite: Ore of Aluminium; non-ferrous

Reserve

• **Topmost in world:** Australia

• **Topmost in India:** Odisha

• **Jharkhand:** Lohardaga, Palamu, Ranchi

• **Gujarat:** Bhavnagar, Junagarh

• **Madhya Pradesh:** Katni, Balaghat

Few Aluminium producing Companies and their HQ

• **NALCO** → HQ: Bhubaneswar (Odisha)

• **BALCO** → HQ: New Delhi

• **HINDALCO** → HQ: Mumbai

• **Vedanta Resources** → HQ: Mumbai

Copper

Production

• **Topmost in India:** Madhya Pradesh

- Balaghat (mines)
- Malajkhand (region)

• **Rajasthan**

- Jhunjhunu and Alwar (regions)
- Khetri (mines)

• **Jharkhand: Singhbhum**

Mica: it is used as insulators in electronics and electrical appliances

Production

• **India**: Andhra (top), J & K, Bihar

Gold

- Kolar Gold Fields
- Hutti Gold Mines (Raichur) } → Karnataka
- Ramagiri: Andhra Pradesh

Diamond

- **India**: Madhya Pradesh (Panna) is the only state that produces diamond
- **Topmost in World**: Russia

Lithium: known as "White Gold"

World

- **Reserve (top)**: Chile
- **Production (top)**: Australia

Coal

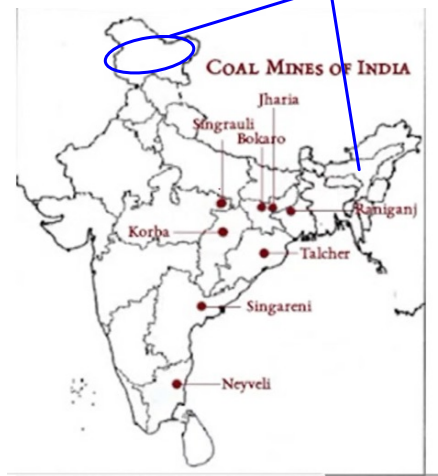
- Known as "Black Gold" and "Buried Sunshine"
  - Calorific value ↑
  - Carbon content ↑
  - Moisture content ↓
- } → Quality of coal

Four varieties

- Anthracite: 80-90% } → Coking coal (used in metallurgy)
  - Bituminous: 60-80%
  - Lignite: 40-60%
  - Peat: <40%
- Also found in India

→ Also called as 'Brown coal'  
Mostly found in India

Tertiary Coal





· **Reserve (top):** USA

### India

· **Reserve (top):** Odisha > Jharkhand > Chhattisgarh

· **Production (top):** Chhattisgarh > Odisha

### States

### Mines

· **Jharkhand**

Jharia, Bokaro, Giridih, Karanpura

· **Chhattisgarh**

Hasdeo, Korba, Mand-Raigarh

· **Madhya Pradesh:** Singareni (coal mines)

· **Tamil Nadu**

Neyveli

· **Odisha**

Jharsuguda, Talcher, Ib valley

· **Tertiary Coal:** low-grade coal → Seen in J & K, Meghalaya

↳ Peat is a tertiary coal

### Oil and Natural Gas

↳ Largest component of natural gas: Methane

### India

· **Western offshore:** Mumbai High, Gujarat

· **Assam:** Digboi

### Rare Earth Metals

· **Total:** 17 → 15 lanthanides + 2 (Yttrium, Scandium)

· **Topmost producer + reserve in world:** China

· **India (topmost):** Kerala (Producer); Andhra (Reserve)

↳ Rich in Monazite sand, thorium



## One Liners (MCQs)

- Main mineral constitutions of continental mass are: Silicon, Aluminium
- Hirakud Captive Thermal Power Plant is located in: Odisha
- The major resources of Gondwana coal, which are metallurgical coal are located in: Damodar valley
- Peat has low carbon content and high moisture content
- Reserves of silver found in: Odisha, Jharkhand, Andhra, Gujarat
- Amarkantak Plateau, Maikal hills and the plateau region of Bilaspur-katni are known for presence of: Bauxite
- H.V.J gas pipeline from Hazira in Gujarat to Jagdishpur in UP) passes through: Madhya Pradesh

H: Hazira in Gujarat

V: Vijaipur in MP

J: Jagdishpur in UP

India's 1st interstate gas pipeline, the project began in 1986, with the establishment of GAIL Ltd.

Guj-Raj-MP-UP-Haryana-Delhi

- Feldspar is a large group of rock-forming silicate minerals that constitutes more than 50% of the Earth's crust and is widely used in the glass and ceramic industries
- Jaduguda is know for Uranium deposits
  - ↳ In Singhbhum, Jharkhand
  - ↳ Also found in Cuddapah, Andhra