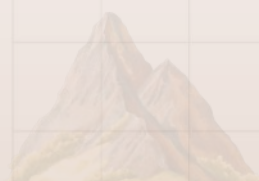




Minerals And Energy Resources

- **Mineral** - Natural substance of organic or inorganic origin with definite chemical and physical properties.
- **Mineral types** - Metallic and non-metallic.
- **Metallic minerals** - Sources of metals like iron ore, copper and gold.
- **Ferrous minerals** - Minerals containing iron.
- **Non-ferrous minerals** - Minerals without iron, such as copper and bauxite.
- **Organic non-metallic minerals** - Fossil fuels like coal and petroleum.
- **Inorganic non-metallic minerals** - Mica, limestone and graphite.
- **Minerals** - Unevenly distributed and exhaustible.
- **Quality-quantity relation** - Good quality minerals are usually less in quantity.
- **North-Eastern Belt** - Chhota Nagpur and Odisha Plateau.
- **Central Belt** - Jharkhand, West Bengal and Odisha.
- **Peninsular Belt** - Chhattisgarh, Andhra Pradesh, Madhya Pradesh, Maharashtra and Karnataka.
- **Southern Belt** - Tamil Nadu, Kerala and Goa.
- **North-Western Belt** - Rajasthan and Gujarat along Aravalli.
- **Iron ore** - Important ferrous mineral.
- **Hematite** - Red ochre, 60 to 70 per cent iron, most Indian reserves.





- **Magnetite** - Best quality, more than 70 per cent iron, magnetic.
- **Limonite** - Yellow or light brown, 40 to 60 per cent iron.
- **Siderite** - Inferior iron ore, 20 to 40 per cent iron, iron carbonate.
- **Manganese** - India is fifth largest producer and has second largest reserves after Zimbabwe.
- **Manganese associated with** - Dharwar system.
- **Leading manganese producer** - Odisha.
- **Copper uses** - Wires, motors, transformers and generators.
- **Copper areas** - Singhbhum, Balaghat, Jhunjhunu and Alwar.
- **Bauxite** - Main ore of aluminium.
- **Bauxite associated with** - Laterite rocks.
- **Leading bauxite producer** - Odisha.
- **Lead ore** - Galena.
- **Leading lead producer** - Rajasthan.
- **Gold fields** - Kolar, Hutti and Ramgiri.
- **Placer deposits** - Alluvial gold deposits.
- **Panning** - Recovery of gold from placer deposits.
- **Silver production** - Mainly from Zawar mines, Udaipur.
- **Mica** - Used in electrical and electronic industries.
- **Largest mica deposits** - Rajasthan.
- **India mica production** - About 60 per cent of world production.
- **Limestone** - Used in cement, iron and steel, and chemical industry.
- **Largest limestone producer** - Madhya Pradesh.
- **Dolomite** - Limestone with more than 10 per cent magnesium.





- **True dolomite** - Around 45 per cent magnesium.
- **Largest dolomite producer** - Odisha.
- **Atomic minerals** - Uranium and thorium.
- **Other atomic minerals** - Beryllium, lithium and zirconium.
- **Uranium areas** - Singhbhum, Hazaribagh, Gaya, Saharanpur.
- **Largest monazite concentration** - Kerala coast.
- **Thorium** - Derived from monazite.
- **Monazite** - Contains about 10 per cent thorium.
- **Conventional non-renewable energy** - Coal, oil, natural gas.
- **Conventional renewable energy** - Firewood, cattle dung, vegetable waste and wood charcoal.
- **Non-conventional energy** - Solar, hydropower, wind, nuclear, hydrogen, geothermal, biogas, tidal and biofuel.
- **Coal types** - Peat, lignite, bituminous and anthracite.
- **Peat** - First stage, less than 40 per cent carbon.
- **Lignite** - Brown coal, 40 to 60 per cent carbon.
- **Bituminous** - Hard and compact, 60 to 80 per cent carbon.
- **Anthracite** - Best quality, 80 to 90 per cent carbon.
- **Anthracite in India** - Jammu and Kashmir, very small quantity.
- **Gondwana coalfields** - Damodar Valley.
- **Damodar Valley coalfields** - Raniganj, Jharia, Bokaro, Giridih, Karanpura.
- **Petroleum** - Hydrocarbons in liquid and gaseous states.
- **Petroleum deposits** - Sedimentary rock basins of marine origin.






- **Important petroleum pipelines** - Naharkatia-Nunmati-Barauni, Mumbai High-Mumbai-Ankaleshwar-Koyali, Salaya-Koyali-Mathura, HBJ, Jamnagar-Loni, Kandla-Bhatinda.
- **Natural gas with oil** - Associated gas or wet gas.
- **Gas without oil** - Non-associated gas or dry gas.
- **Gas with hydrogen sulphide** - Sour gas.
- **Coalbed methane** - Sweet gas.
- **CNG main component** - Methane.




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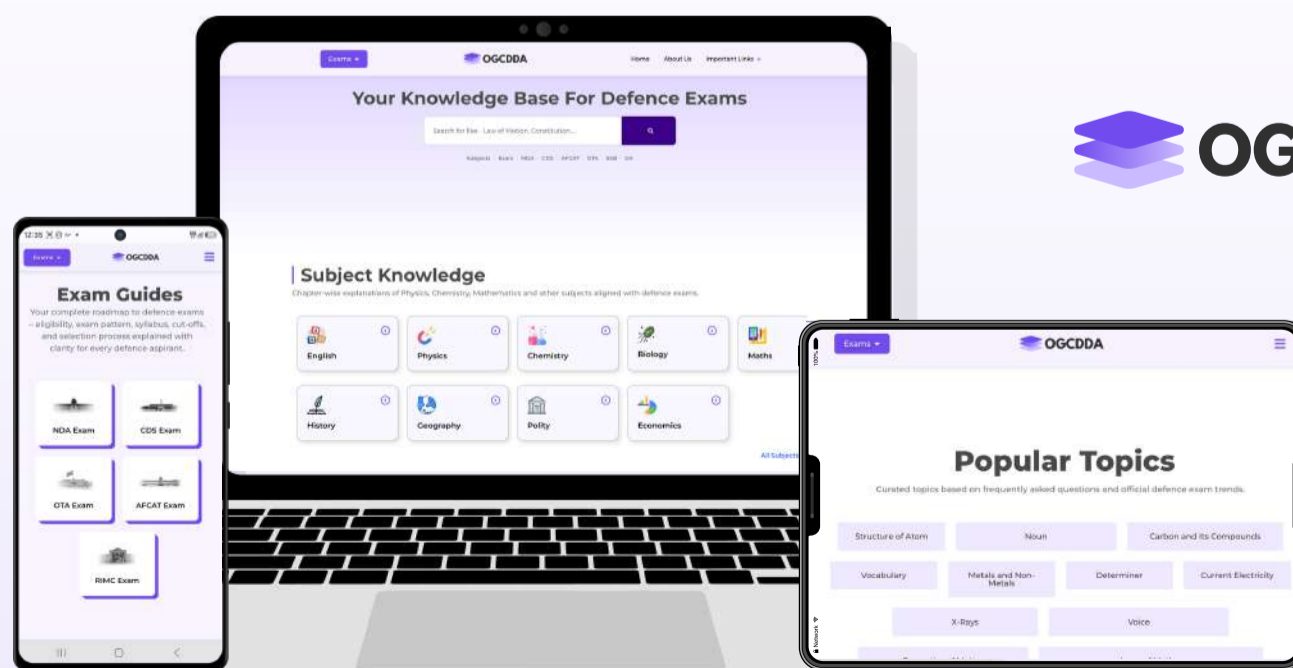
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