Geography Class 44

28th December, 2023 at 9:00 AM

THE CLASS STARTED WITH THE BRIEF REVIEW OF THE PREVIOUS CLASS AT: (09:35 AM):

MINERALS AND ENERGY RESOURCES: (09:41 AM):

- **Minerals:**
- They are of two types:
- a) Metallic: Ferrous and Non-Ferrous
- b) Non-metallic: Organic or Energy Mineral (Coal/Petrol) and Inorganic Minerals (Mica, Graphite, etc.)
- **Iron Ore:**
- **Deposit of Iron Ore (World Wise):**

- **Ore and Types:**
- **Ore** **Type**
  Magnetite Igneous
  Haematite Sedimentary
  Limonite Sedimentary
  Siderite Sedimentary
- The major ore of Copper is Chalcopyrite.
- Pyrolusite is the ore of Manganese.
- Bauxite is the ore of Aluminium.
- Mica and Limestone are the major non-metallic (inorganic).

COAL, PETROLEUM, COPPER, BAUXITE & SHALE GAS: (09:53 AM):

- **Types Of Coal Found In India:**
- Anthracite: Contains more than 95% of Carbon
- Bituminous: Between 45-80% of Carbon
- Lignite: 38-40% Carbon.
- Peat: Less than 38% of Carbon content.
- **Map Of Distribution of Coal Deposits In India**
- **Map Of Coal Deposits (World):**
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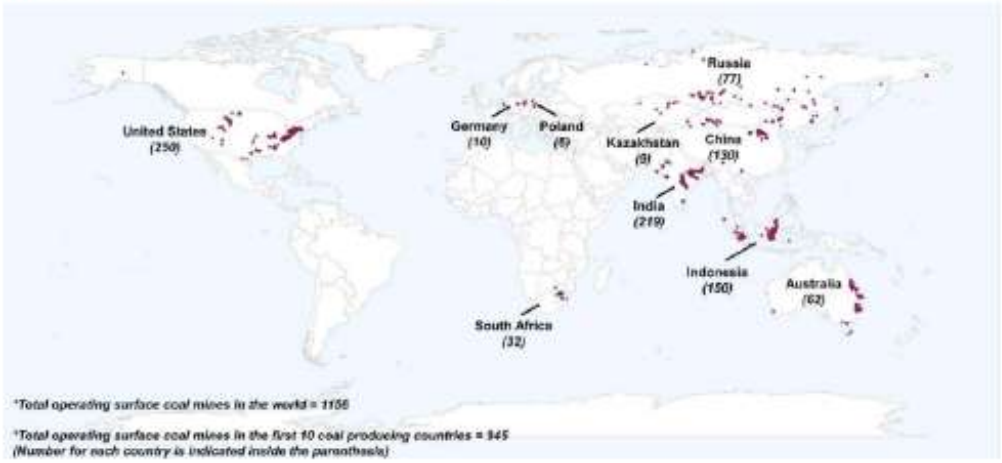
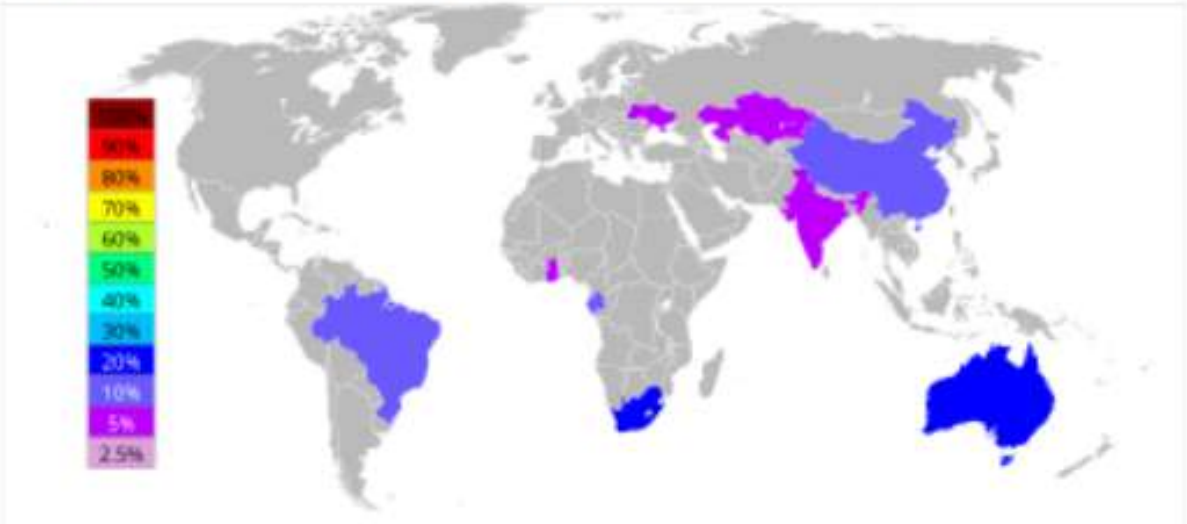
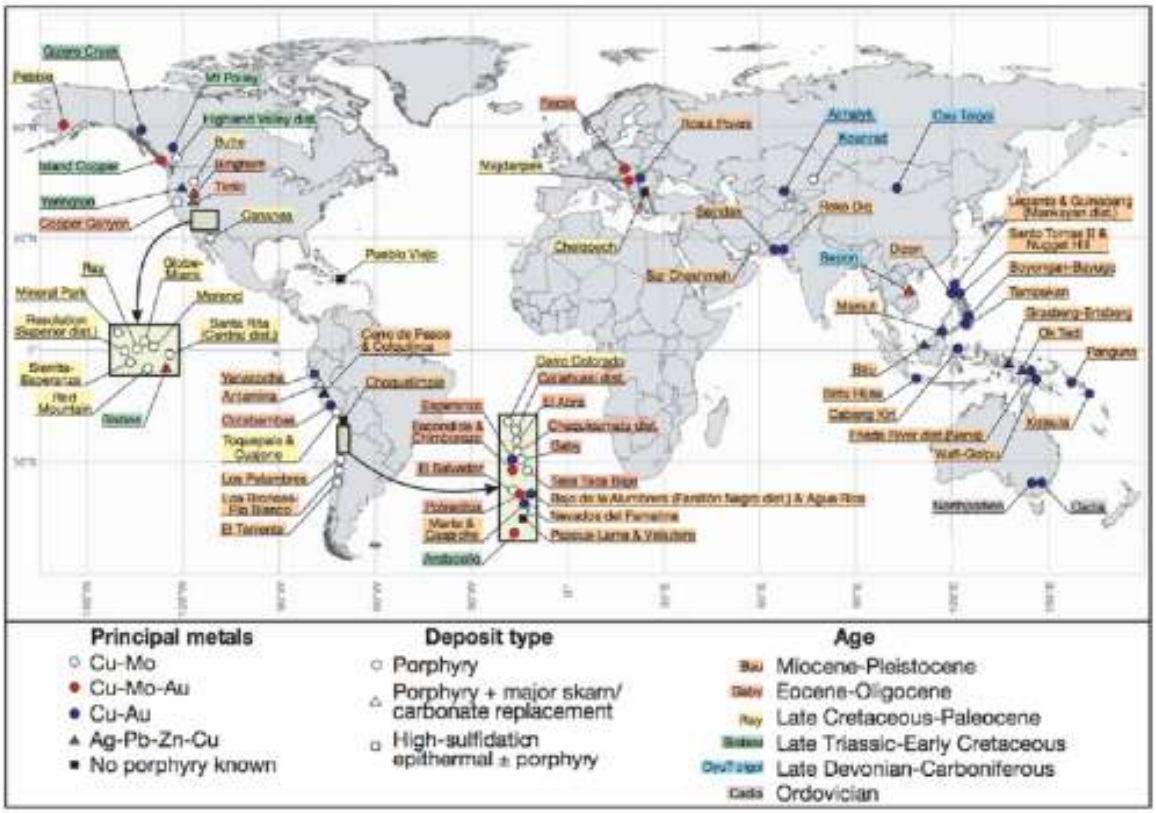


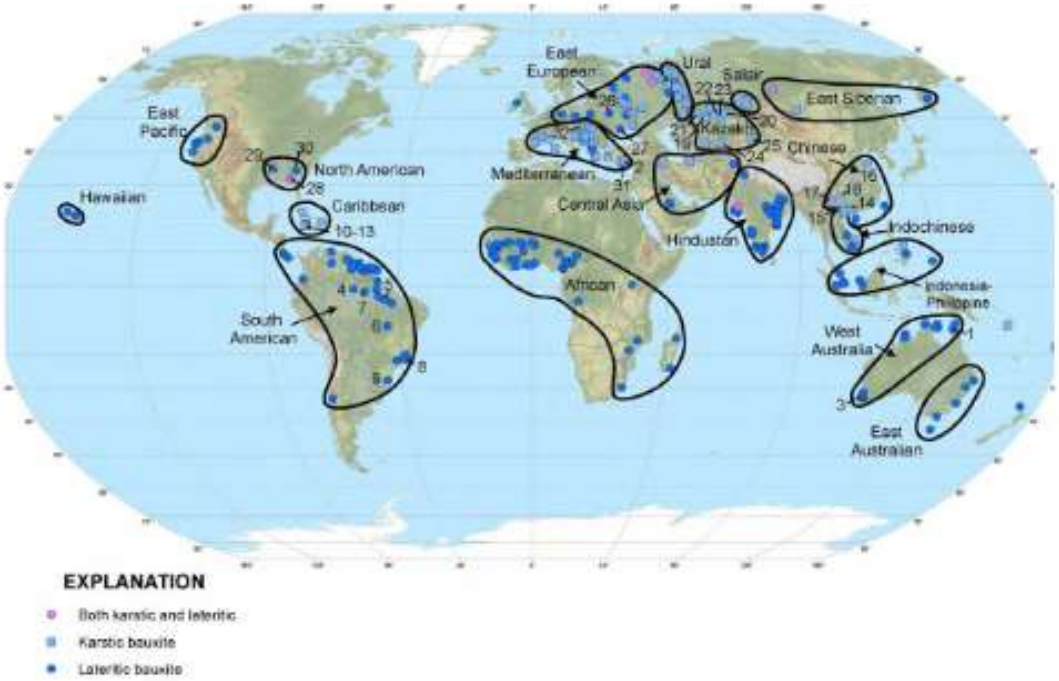
- **Map Of Manganese Deposits (World):**



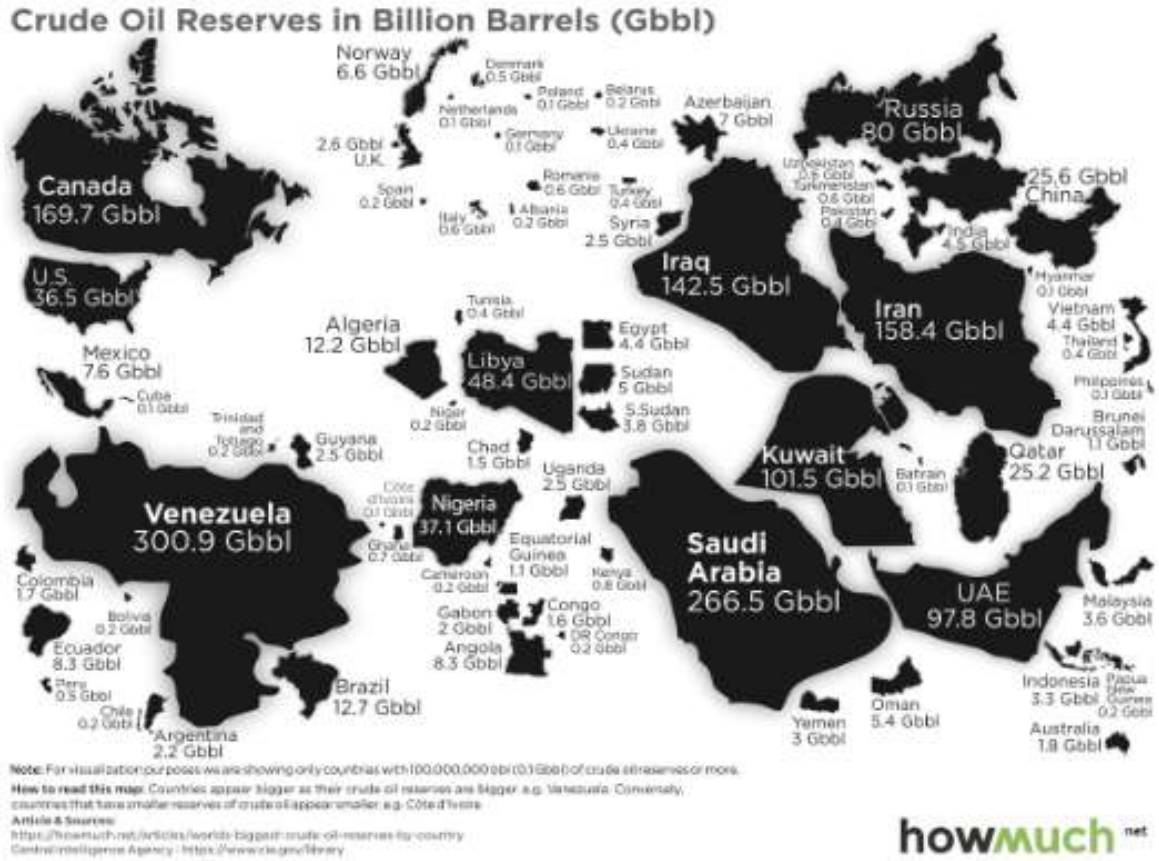
- **Copper Deposits (World):**



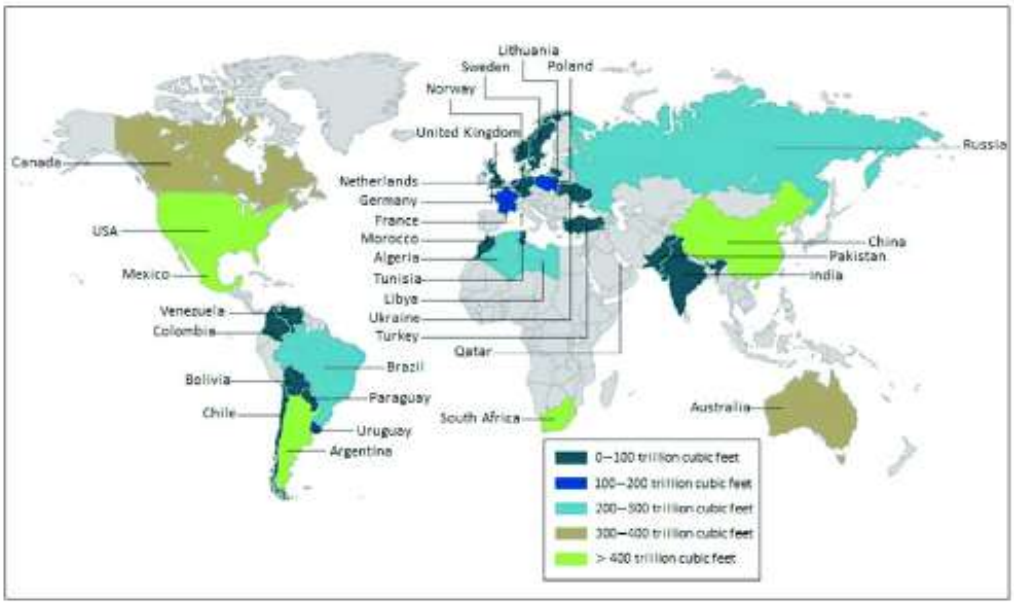
- **Bauxite Deposits (World):**



- **Regions Of Petroleum Deposits:**

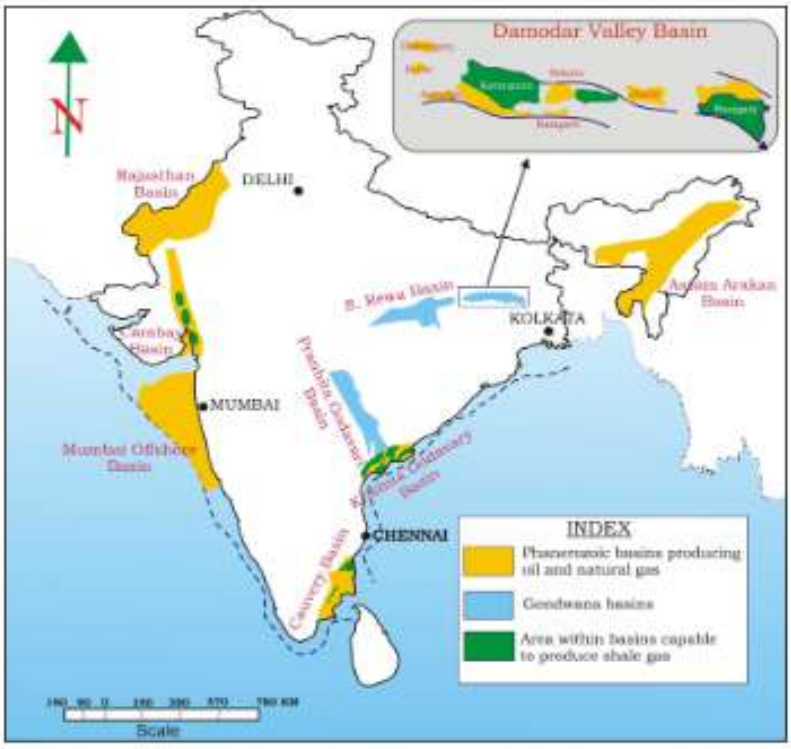


SHALE GAS DEPOSITS: (11:23 AM):

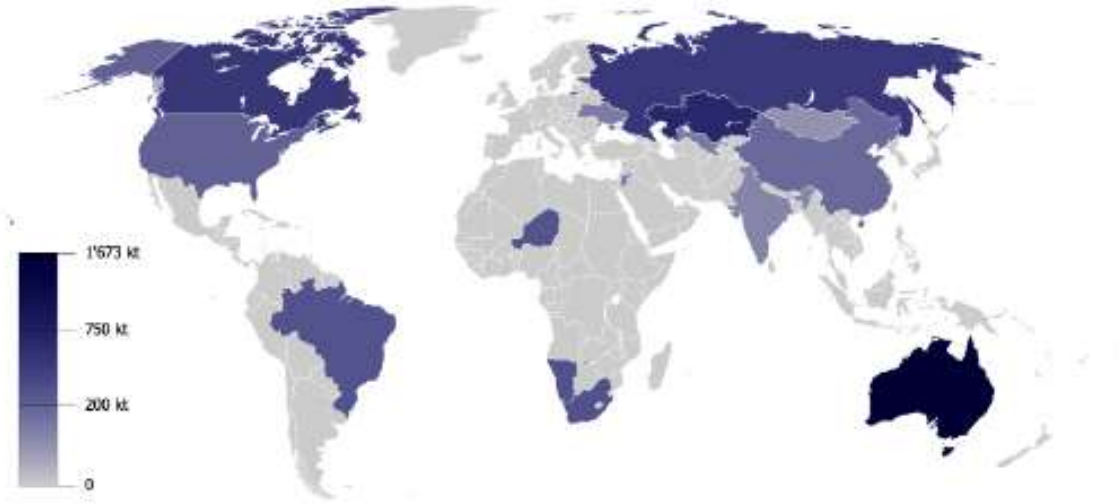
- **Shale Gas Deposits (World):**
- 

- Shale Gas is extracted through a process known as Fracking/Fracturing.
- Hydraulic fracturing is a technique in which large volumes of water and sand, and small volumes of chemical additives are injected into low-permeability subsurface formations to increase oil or natural gas flow.

- **Shale Gas In India:**

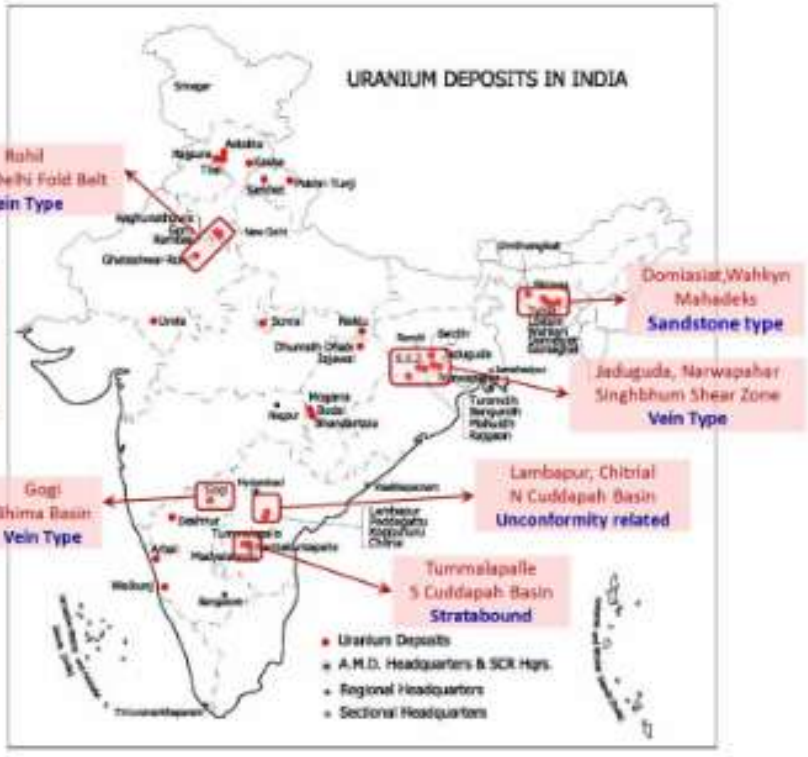


- **Uranium Deposits (World):**



- **Uranium Deposits In India:**

- **Major Uranium Deposits**



ROCK FORMATION IN INDIA: (11:37 AM):

- **Geological Formation:**
- **1) Archean Rock System:**
- The oldest is the Archean Rocks in India (approx. 3 billion years old).
- It is also known as the fundamental complex of the country.
- They are the deepest and largely metamorphosed (mainly made up of igneous and metamorphic rocks)
- These rocks contain no fossils and are the hardest.
- Economically of no use as cannot be mined/extracted.
- Example, Niligiri Geneiss, Bundelkhand Rocks.
- **2) Dharwar Rocks System:**
- They are the oldest sedimentary rocks in India.
- They are known as metallic ferrous minerals.
- Iron, Nickel, Cobalt, etc. are commonly found in metal deposits.
- **3) Cuddapah Rocks System:**
- They refer to the deposition of accumulation of the sedimentation of the Archean and Dharwar Rock System.
- Present in the Krishna River Valley. These are famous for limestone, dolomite, and glass-making sand.
- Uranium deposits fund in the Bheema River Basin in this rock system.
- **4) Vindhyan Rock System:**
- Made due to the rifting activities.
- Known for Diamond (Panna Mines, Golconda).
- **5) Gondwana Rock System:**
- Formed due to the rifting of the Pangea.
- Coal deposits are commonly found in this rock system.

- **6) Deccan Traps:**
- No major minerals are present in the Deccan Traps in a concentrated form.
- **7) Tertairy Rock System:**
- The Himalayan Region is formed in the Tertiary Phase due to the upliftment of the Himalayas
- Limestone is found in the Shivalik, Pirpanjal, and Doon Valleys.
- Lithium deposits are also found here.
- **8) Quaternary Rock System:**
- Shale and Petroleum Reserves are found in this rock system.
- Brahmaputra Valley is famous for its petroleum deposits.
- **Rock Formation Map:**
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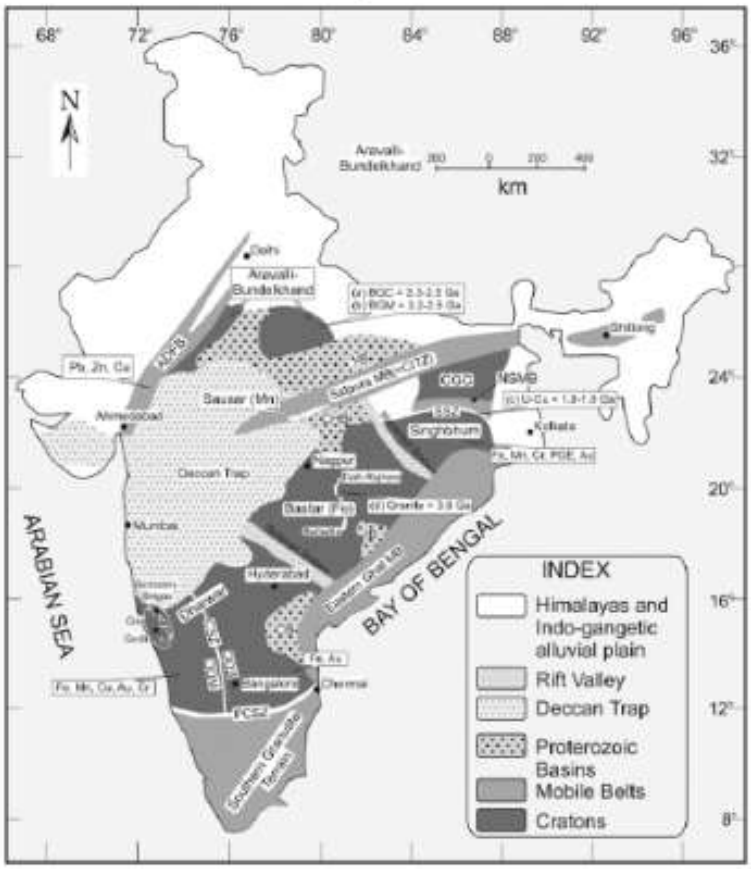

ISSUES IN MINERAL EXTRACTION: (12:15 PM):

- **Issues:**
- **1) Environmental:**
- Air Pollution due to open-cast mining.
- Water pollution as the affluent water is discharged into the streams, lakes, etc.
- Soil degradation.
- Deforestation.
- Land subsidence, and earthquakes due to underground mining.
- **2) Administrative:**
- Illegal mining.
- Revenue sharing and Corruption.
- Land acquisition.
- Damage to the infrastructure.
- **3) Technological:**
- Poor efficiency.
- Non-availability of modern technologies for extraction, and processing of the minerals.
- **4) Social Issues:**
- Inward and Outward migrations.
- Displacement and rehabilitation of the affected individuals with mining activities.
- Health issues.

- **Important Minor Minerals:**
- Bentonite.
- Salt Petre.
- Slate.
- Dolomite, Gypsum.
- Sand.
- Kaolin.
- Barytes.
- Agate.

TOPICS OF THE NEXT CLASS:

Industries, Population, etc.