GS-I: Goldschmidtite

News

A new, curious mineral has been discovered inside a diamond unearthed from a mine in South Africa.

Goldschmidtite

- The mineral has been named goldschmidtite, after Victor Moritz Goldschmidt, the Norwegian scientist acknowledged as the founder of modern geochemistry.
- Goldschmidtite has an unusual chemical signature for a mineral from Earth’s mantle, according to the University of Alberta, a student of which discovered it.

Formation:

- While the mantle is dominated by elements such as magnesium and iron, goldschmidtite has high concentrations of niobium, potassium and the rare earth elements lanthanum and cerium.
- It is dark green and opaque.
- Though the mantle makes up about 80 per cent of the Earth’s volume, very little is known about it.
- Reaching the mantle is not easy; it is about 2,900 km thick and no attempt to drill into it has been successful.
- Diamonds hold clues as they are found up to 160 km beneath the surface, in the upper mantle.
- Diamonds that are unearthed were brought up closer to the surface, probably as a result of violent volcanic eruptions when the Earth was hotter, according to the Smithsonian Magazine.