Titanium

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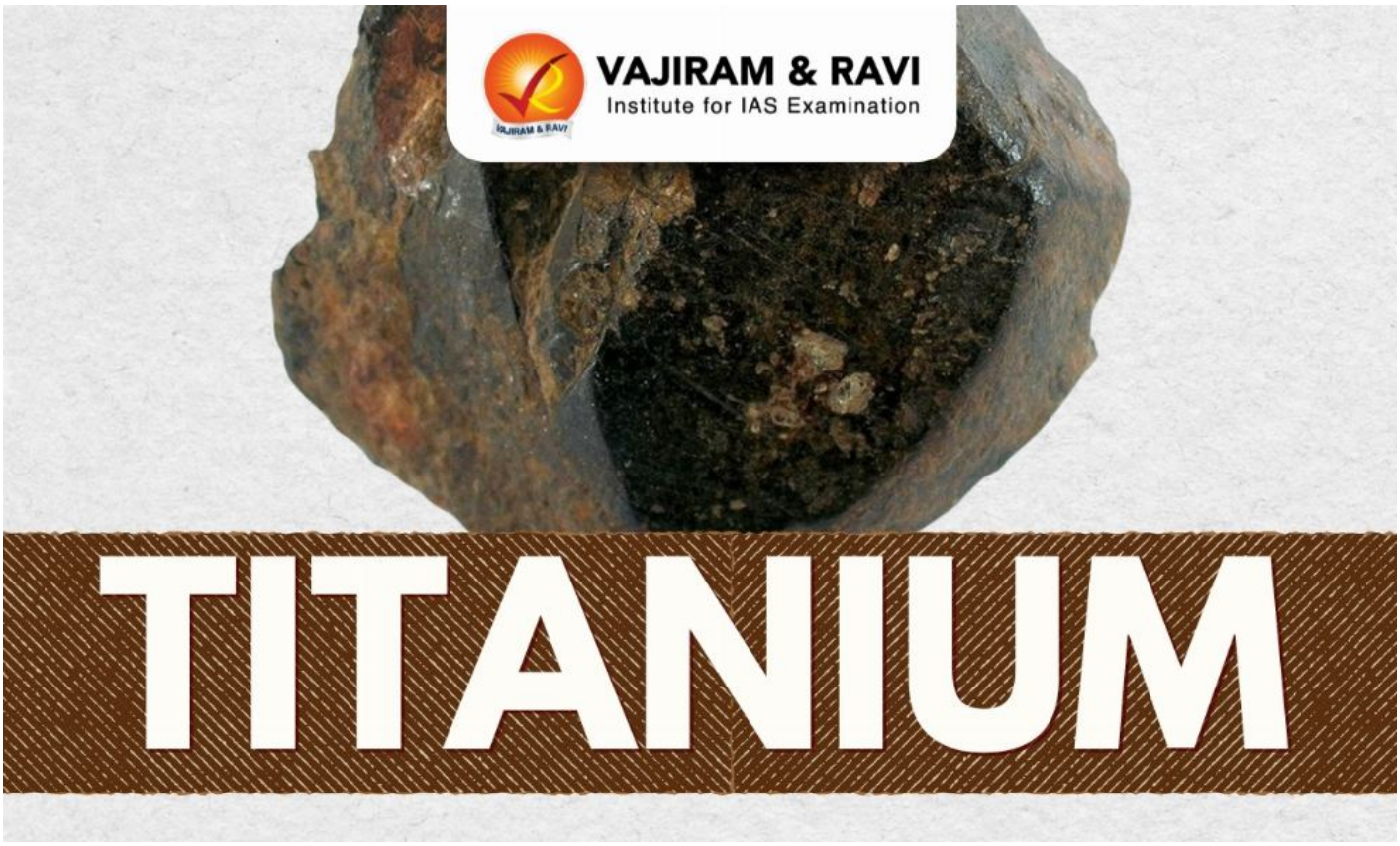

Titanium Latest News

Recently, a new study by researchers from IIT-Kharagpur and the Physical Research Laboratory (PRL), Ahmedabad decoded the moon's titanium-rich rocks.

About Titanium

- It is the **fourth most abundant metal** and the ninth most abundant element in the **Earth's crust.**
- It often occurs in ore deposits in the form of **chemical compounds with iron or oxygen.**
- It is present in **meteorites and the sun.**
- **Ores of Titanium:** The two prime commercial minerals are **Ilmenite (FeTiO3) and Rutile** (TiO_2).
- Titanium is obtained by the **Kroll process.**
    - Kroll process is a **method for producing titanium metal** in large quantities and high purity using a **magnesium reduction process** for titanium tetrachloride, developed by William Justin Kroll in the 1940s.

Properties of Titanium

- It is very **corrosion resistant** and generally not affected by air, water, acids or bases.
- It has a **low density, good strength**, is **easily fabricated**, and has excellent corrosion resistance.
- The **metal burns in air** and is the **only element that burns in nitrogen**.

Applications of Titanium

- It is **useful in aircraft**, spacecraft, ships, and other high-stress applications.
- It also is **used in prosthetic devices**, because it does not react with fleshy tissue and bone.
- Titanium oxide spectra are used by **astronomers to identify cool red dwarf stars.**
- It is **used as an alloying agent** with many metals including aluminium, molybdenum and iron.

Source: TH
