Lithium

Why in News?

Prime Minister's recent visit to the United States culminated in the launching of a collaborative initiative focused on recovering and processing critical minerals, notably lithium.

- It is a soft, ***silvery-white alkali metal*** and the lightest solid element.
- **Symbol** – Li
- **Atomic number** - 3

The Nobel Prize in Chemistry 2019 was awarded to John B. Goodenough, M. Stanley Whittingham, and Akira Yoshino for the development of lithium-ion batteries

- **Lithium Triangle** – Major lithium reserves are concentrated in South America's Lithium Triangle.
- It encompasses areas such as ***Bolivia, Argentina and Chile.***
- **Leading producer -** Australia, extracting lithium from hard-rock spodumene deposits.
- **Largest importer -** Specifically lithium carbonate - China.
- **Largest consumer –** China.
- **Lithium deposits in India** – Reasi (Jammu & Kashmir) and Mandya (Karnataka), with exploration ongoing in Rajasthan, Chhattisgarh, Jharkhand and Himachal Pradesh.
- **Lithium in Medicine** – Used for mood stabilization and reduction in manic symptoms.
- Thus, it acts as an effective treatment for *mood disorders* like acute mania and bipolar disorder.
- **Other uses of lithium -** In addition to its role in psychiatry, lithium is indispensable in battery technology, nuclear energy, ceramics and lubricants.
- It plays a crucial part in ***carbon neutrality*** by enabling renewable energy storage.

India's Lithium Deals
• **India – Argentina** - India's state-owned Khanij Bidesh India Ltd (KABIL) signed an agreement with Argentina's Catamarca Minera Y Energética Sociedad Del Estado (CAMYEN) for lithium exploration and development. • **India –Australia -** India has also signed agreements with Australia to secure lithium resources. • **India – U.S. -** India is part of the U.S.-led Minerals Security Partnership (MSP), which aims to diversify critical minerals supply chains. • India is also in talks with countries like Chile and Bolivia, which form the "lithium triangle" with Argentina.

Reference

[The Hindu - Lithium]

