Prelim Bits 07-07-2022 | UPSC Daily Current Affairs

Sigur Plateau

Following the Supreme Court verdict (2018), upholding the notification of the elephant corridor in the Sigur plateau, there has been a surge in resorts and commercial establishments mushrooming in the areas.

- Sigur Plateau is located in the Nilgiri Hills of Tamil Nadu.
- It connects the Western and the Eastern Ghats.
- It has the Nilgiri Hills on its southwestern side and the Moyar River Valley on its northeastern side.
- It sustains elephant populations and their genetic diversity.
- The elephants cross the plateau in search of food and water.
- The Nilgiri Biosphere Reserve, which includes Sigur Plateau and the Nilgiri Hills, is part of the **UNESCO World Network of Biosphere Reserves.**

Reference

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Large Hadron Collider

Scientists working with the Large Hadron Collider (LHC) at the CERN have discovered 3 subatomic particles (a 'pentaquark' and a pair of 'tetraquarks') never seen before as they work to unlock the building blocks of the universe.

- The LHC is located at the CERN, the European Organization for Nuclear Research, on the Franco-Swiss border near Geneva, Switzerland.
- It is the the world's largest and most powerful particle accelerator. It started operating in 2008.

"Large" refers to its size, approximately 27 km in circumference.

"Hadron" because it accelerates protons or ions, which belong to the group of particles called hadrons.

"Collider" because the particles form 2 beams travelling in opposite directions, which

are made to collide at four points around the machine.

- The LHC is a particle accelerator that **pushes protons or ions to near the speed of light**.
- It consists of a 27-km ring of superconducting magnets with a number of accelerating structures that boost the energy of the particles along the way. It lies in a more than 100-m deep tunnel.
- LHC was built to study miniscule sub-atomic particles, which are the smallest known units of matter and the building blocks of all things.
- **Hotter than Sun** - The collision of the two beams generates temperatures more than 100,000 times hotter than the hottest part of the sun, which is the core.
- But that heat will be concentrated in a very small space.
- Even though such temperatures are being generated, the machine's accelerator ring will be kept at a cool minus 271.3 degrees celsius using superfluid helium.
- Earlier, this machine found the Higgs boson particle.
- **Related Links** - 10 Years of Higgs Boson

Quarks

- Quarks are elementary particles that usually combine in groups of twos and threes to form hadrons such as the protons and neutrons that make up atomic nuclei.
- More rarely, however, they can also combine into four-quark and five-quark particles, or tetraquarks and pentaquarks.
- The more analyses we perform, the more kinds of exotic hadrons we find.
- A 'particle zoo' of hadrons were discovered in the 1950s. This ultimately led to the quark model of conventional hadrons in the 1960s. Now, 'particle zoo 2.0' is being created.

Reference

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Boosting Forex Inflows

The Reserve Bank of India (RBI) has announced a slew of temporary measures aimed at boosting foreign exchange inflows.

- These measures include
    1. Doubling in the overseas borrowing limit for corporate under the External Commercial Borrowing (ECB) route and
    2. Removal of interest rate ceilings for the foreign currency deposits of the NRIs.
- The move comes as **persistent capital outflows** and a **widening trade deficit** have led to a sharp depreciation in the Indian rupee to new lows against the dollar.
- This move will alleviate dollar tightness that will ensure orderly market functioning.
- The banks have been exempted from maintaining the stipulated Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) on incremental FCNR (B) and NRE term deposits mobilised up to November 4, 2022.
- It also freed banks to temporarily raise fresh Foreign Currency Non-Resident Bank (FCNR(B))

and Non-Resident External (NRE) deposits without reference to extant regulations on interest rates.
- To encourage Foreign Portfolio Investment (FPI) into debt, the RBI said the choice of government bonds available for investment under the fully accessible route (FAR) would be widened.
- This widening will be done by all new issuances of G-Secs of 7-year and 14-year tenors, including the current issuances of 7.10% GS 2029 and 7.54% GS 2036, designated as specified securities.
- The RBI also temporarily doubled the annual limit for External Commercial Borrowings (ECB) to $1.5 billion or its equivalent.

Reference

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Purchasing Managers Index

India's services firms saw growth in new business and output accelerate to a 11-year high in June, as per the survey-based S&P Global India Services Purchasing Managers Index (PMI).

- The Purchasing Managers Index (PMI) is a measure of the prevailing direction of economic trends in manufacturing.
- It was started in 1948 by the US-based Institute of Supply Management.
- It is an **indicator of business activity** -- both in the manufacturing and services sectors.
- The PMI is based on a **monthly survey of supply chain managers** across 19 industries, covering both upstream and downstream activity.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.
- The PMI is derived from a series of qualitative questions.
- **Reading** - The value and movements in the PMI and its components can provide useful insight to business decision makers, market analysts, and investors.
    1. A figure above 50 denotes expansion in business activity.
    2. Anything below 50 denotes contraction.

- If the figure is higher than the previous month's then the econ-omy is expanding at a faster rate.
- If it is lower than the previous month then it is growing at a lower rate.
- The PMI is usually released at the start of the month.

Reference

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House Committees

A panel on the Parliamentary Standing Committees suggests increasing the tenure of House committees.

- The House Committees are one of the Parliamentary Standing Committees.
- The functions of the Committee which are of **advisory nature** are:
    1. To deal with all questions relating to residential accommodation for members of Lok Sabha;
    2. To exercise supervision over facilities for accommodation, food, medical aid and other amenities accorded to members in members' residences and hostels in Delhi; and
    3. To consider and provide such amenities to Members as may be deemed necessary from time to time.
- In Lok Sabha, the House Committee consists of not more than 12 members appointed by the Speaker.
- The Committee holds office for a term not exceeding one year. A member may be re-nominated by the Speaker to the new House Committee.
- The Committee may appoint one or more Sub-Committees, each having the powers of the undivided Committee, if they are approved at a sitting of the whole Committee.
- In Rajya Sabha, the House Committee was first constituted on the 22nd May, 1952 and the Rules governing the Committee were framed in 1986.

Reference

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