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Kolar Leaf-Nosed Bat

- Karnataka Forest Department, along with the Bat Conservation India Trust (BCIT), is on a war footing to save these bats from extinction.
- The natural habitats of these bats are subtropical or tropical dry forests and caves.
- It is **endemic to India** and is found in only one cave in Karnataka.
- The International Union for Conservation of Nature (IUCN) status of this species is **Critically Endangered**.

Dzukou Forest Fire

- A forest fire occurred in Nagaland's Dzukou range, in which the Dzukou valley (a tourist hot spot) is located.
- This valley is located at the border of states of Nagaland and Manipur.
- It is a sanctuary for the endangered Blyth's tragopan - Nagaland's State Bird.
- It is famous for its wide range of flowers in every season. Rare Dzükou Lily is found only in this valley.
- This valley is 'Valley of flowers' of the Nagaland State.

Quantum Random Number Generator

- It was developed by Defence Research and Development Organisation Young Scientist Laboratory for Quantum Technologies (DYSL-QT).
- It has the ability to detect random quantum events and convert them into a stream of binary digits.
- DYSL-QT has developed a fiber-optic branch path based Quantum Random Number Generator (QRNG).
- Branch path-based QRNG relies on the principle that if a single photon falls on a balanced beam splitter, it will take either of the beam-splitter output paths randomly.
- As the path chosen by the photon is random, the randomness is translated to a sequence of binary digits, also called bits.
- As Quantum mechanics has the potential of providing true random numbers, it has become the preferred option for scientific applications requiring randomness.

QKD Technology

- Quantum Key Distribution (QKD) technology of the DRDO underwent a successful trial between two laboratories in Hyderabad, where security was validated for a range of 12 km long over a fibre optic channel.
- QKD is primarily a mechanism to undertake secure communication, which utilises a cryptographic protocol involving various components of quantum mechanics.
- It enables two communicating sides to come up with random secret keys shared by both of them and known exclusively to them.
- Only they can use it to encrypt and decrypt messages, thus achieving highly secure communication.

KSTAR

- Korea Superconducting Tokamak Advanced Research (KSTAR) reached an ion temperature of over 100 million degrees Celsius for 20 seconds.
- By comparison, the KSTAR was able to achieve a temperature of over 6.6 times more than that of Sun's (which is, 15 million degrees Celsius).
- The newly developed Internal Transport Barrier Mode was crucial to achieve this record-breaking time.
- KSTAR, often referred to as South Korea's artificial sun, is South Korea's magnetic fusion device.
- It is placed at the Korean Institute of Fusion Energy.
- It is a part of joint research conducted with Seoul National University and Columbia University of the US.

Lithium Import

- India's state-owned Khanij Bidesh India Ltd., (KABIL) inked a pact with an Argentine firm to jointly prospect lithium in Argentina.
- [Lithium is a crucial building block of the lithium-ion rechargeable batteries that power electric vehicles (EVs), laptops and mobile phones.]

Khanij Bidesh India Ltd.

- It is a state-owned joint venture company that was set up in 2019.
- It was set up by three Central Public Sector Enterprises namely National Aluminium Company Ltd. (NALCO), Hindustan Copper Ltd. (HCL) and Mineral Exploration Company Ltd. (MECL).
- The equity participation of these companies is in the ratio of 40:30:30.
- KABIL was set up with a specific mandate to acquire strategic mineral assets such as lithium and cobalt abroad.
- It will ensure a consistent supply of these minerals to Indian market.

Limiting TFA

- Food Safety and Standards Authority of India (FSSAI) has capped the amount of Trans Fatty Acids (TFA) in oils and fats to 3% for 2021 and 2% by 2022 from the current permissible limit of 5%.
- This was done through an amendment to the Food Safety and Standards (Prohibition and Restriction on Sales) Regulations.
- This revised regulation applies to edible refined oils, vanaspati (partially hydrogenated oils), margarine, bakery shortenings, and other media of cooking such as vegetable fat spreads and mixed fat spreads.
- It was in 2011 that India first passed a regulation that set a TFA limit of 10% in oils and fats, which was further reduced to 5% in 2015.
- Trans fats are associated with increased risk of coronary heart disease.
- The World Health Organisation (WHO) has called for global elimination of trans fats by 2023. Based on this, FSSAI revised the regulations.

Source: The Indian Express, The Hindu, News18

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