UPSC Daily Current Affairs | Prelim Bits 21-06-2024

Jiribam

Jiribam has emerged as the newest hotspot of ethnic violence in Manipur.

To know the history of Insurgency in Manipur Click Here.

- Jiribam district is situated on the ***westernmost side of Manipur***.
- It is surrounded on the east and south by the Tamenglong and Churachandpur districts, respectively, and on the west and north by the Cachar district of Assam.
- NH-37 passes through Jiribam, connects Silchar in Assam and Imphal in Manipur, and is important for transporting essentials to the valley areas of the State.

- **Population—**The district has a population of 13 communities, including a large number of Hindu and Muslim Bengalis and Nagas.
- **Ethnic communities -** The Kuki-Zo-Hmar and Meitei are 2 ethnic communities primarily in the state of Manipur.

The Kuki Inpi Manipur is the apex body of the Kuki tribes.

- **Soil-** It varies from sandy to loam and clay to loam having variety of colours from yellowish to bluish grey.
- **Drainage- *Jiri River*** flows from the north to the south. Jiri river forms the boundary between ***Assam and Manipur*** from its source to its termination in the Barak.
- The confluence point of Jiri and Barak Rivers is known as Jirimukh.
- **Flora-** It is covered by green vegetation, include bamboo, cane, teak, orchids, rubber, tea, agar, cashew nut, litchi, jack fruit, betel nut, pineapple, Eiranthus procerus etc.

- **Fauna-** There are various wild lives found in the area including *wild dog, wild pig, barking deer, sabu, moirang sathibi, samarak ngamarak,* etc.

References

1. The Hindu | Jiribam
2. Government of Manipur | Jiribam

Striped Caecilian

For the first time herpetologists have discovered a new species of striped caecilian in Kaziranga National Park and Tiger Reserve.

- **About -** It is a new ***limbless amphibian*** discovered recently in Kaziranga National Park and Tiger Reserve in Assam.
- **Scientific Name –** Ichthyophis spp.
- **Appearance -** Striped caecilians have ***long, cylindrical bodies*** with annular grooves that give a segmented appearance.

- **Motion -** They lack limbs and have a smooth, slimy skin that aids in movement through soil and water.
- **Habitat-** Striped caecilians are primarily fossorial, meaning they live underground.
- They inhabit *moist soil in tropical rainforests*, plantations, and occasionally in agricultural areas.
- Striped caecilians are mostly ***nocturnal***, coming to the surface or near-surface only during the night or in heavy rains.
- **Diet-** Their diet consists mainly of small invertebrates such as earthworms, termites, and other soil-dwelling organisms.

Kaziranga National Park

• It is located in Golaghat and Nagaon districts of Assam.
• Formed- 1904.
• It was declared as a National Park in 1974 and a tiger reserve in 2007.
• It is also a ***UNESCO World Heritage Site*** and houses 2/3rds of the total world population of greater one-horned rhinoceros.
• Vegetation- It is a mix of eastern wet alluvial grasslands, semi evergreen forests and tropical moist deciduous forests.
• Flora- Indian gooseberry, cotton tree, and elephant apple are amongst the famous trees that can be seen in the park.
• Fauna- Along with the iconic Greater one-horned rhinoceros, the park is the breeding ground of elephants, wild water buffalo, and swamp deer.

References

1. The Hindu | Striped Caecilian
2. Ecologyasia | Striped Caecilian

Electromagnet

An electromagnet is a type of magnet in which the magnetic field is produced by an electric current.

- **Invented by-** ***William Sturgeon in 1824.***
- **Principle-** Electromagnets are temporary magnets that form a magnetic field when an electric current is passed through them.
- **Working -** An electromagnet consists of a wire coil through which an electric current passes. This current generates a magnetic field around the wire.
- **Influencing Factors -** The strength of its magnetic field depends upon various factors like
    - Number of times the wire is wound.
    - The electricity flowing through it, and
    - The material of the core.
- **Magnetic Core-** A ***ferromagnetic core*** is often placed inside the coil to amplify the magnetic field produced by the current.

Ampere's Circuital Law
• It states that the line integral of a magnetic field around a closed loop is equal to μ° times the algebraic sum of the current passing through it.

- **Applications -** Electromagnets are widely used in numerous applications due to their ability to provide ***strong magnetic fields*** that can be turned on and off as needed.
- In electric motors and generators, they convert electrical energy to mechanical energy and vice versa.
- **Example -** Motors, electric bells, solenoids, MRI Machine, Card Reader, Electric Generators.

Reference

The Hindu | Electromagnet

Super-Absorbent Polymer

Super-absorbent polymers (SAPs) play a crucial role in modern diapers, enhancing their absorbency and effectiveness.

- A superabsorbent polymer (SAP) is a water-absorbing hydrophilic homopolymers or copolymers that can absorb and retain extremely large amounts of a liquid relative to its own mass
- **Microscopic Forces behind Water Absorption-** Water's ability to be absorbed or repelled by materials is influenced by ***microscopic forces*** and the material's nature.
- A water molecule, composed of ***two hydrogen atoms and one oxygen atom***, exhibits unique properties.
- Although each atom is charge neutral, the hydrogen electrons shift slightly toward the larger oxygen atom due to its pull.
- **Cotton vs Super-Absorbent Polymers (SAPs) -** ***Cotton*** is effective for absorbing small amounts of water.
- However, for absorbing large volumes of fluids, such as those produced by a baby overnight, a more advanced material is needed super-absorbent polymer (SAP).

Feature	Polymer	Super-absorbent polymer
Definition	Large molecules composed of repeating units	Polymers that can absorb and retain large amounts of liquid
Water Absorption Capacity	Low to moderate	Extremely high
Chemical Structure	Linear, branched, or cross-linked chains	Cross-linked network structure
Physical State	Solid at room temperature	Gel-like when swollen with water
Degradability	Varies, many are non-biodegradable	Often non-biodegradable, but some are designed to be environmentally friendly

- **Sodium and Water Interact in Super-Absorbent Polymers (SAPs) -** Sodium and water have a strong affinity for each other, much like how salt (sodium chloride) dissolves in water as ***sodium ions separate from chlorine ions and bond*** with water molecules.
- In super-absorbent polymers (SAPs), water molecules attach to sodium ions within the polymer structure.
- These water molecules then link together, forming a rigid network that traps the water and swells, creating a gel.
- This gel formation is what allows SAPs to absorb and retain large amounts of liquid.

Reference

The Hindu | Super-Absorbent Polymer

Juneteenth

Recently, Juneteenth was observed on June 19, in the United States of America.

- **About**- Juneteenth, derived from "June" and "nineteenth," commemorates the *abolition of slavery in the United States.*
- **History -** The day was first commemorated in 1865 after the Confederate state surrendered to end the Civil War.
- The enslaved African Americans informed of their freedom under President Abraham Lincoln's 1863 Emancipation Proclamation.
- The day is celebrated with community events such as *parades, cookouts, prayer gatherings, and musical performances.*
- **Symbol of Freedom-** It symbolizes freedom and the ***end of slavery in the United States.***
- It signifies the triumph of the human spirit over slavery's brutal legacy and the ongoing struggle for civil rights and equality.
- It is also known as *Freedom Day or Emancipation Day*, is an American holiday celebrated annually.
- However, not all state governments recognise the holiday, which means state employees in those states will report to work.
- The legislature would have to pass bills to make it a permanent holiday.
- **Recognition-** Over the years, Juneteenth celebrations have grown in prominence across the United States.

Reference

The Indian Express | Juneteenth