UPSC Daily Current Affairs| Prelim Bits 21-01-2025

Genome India Database

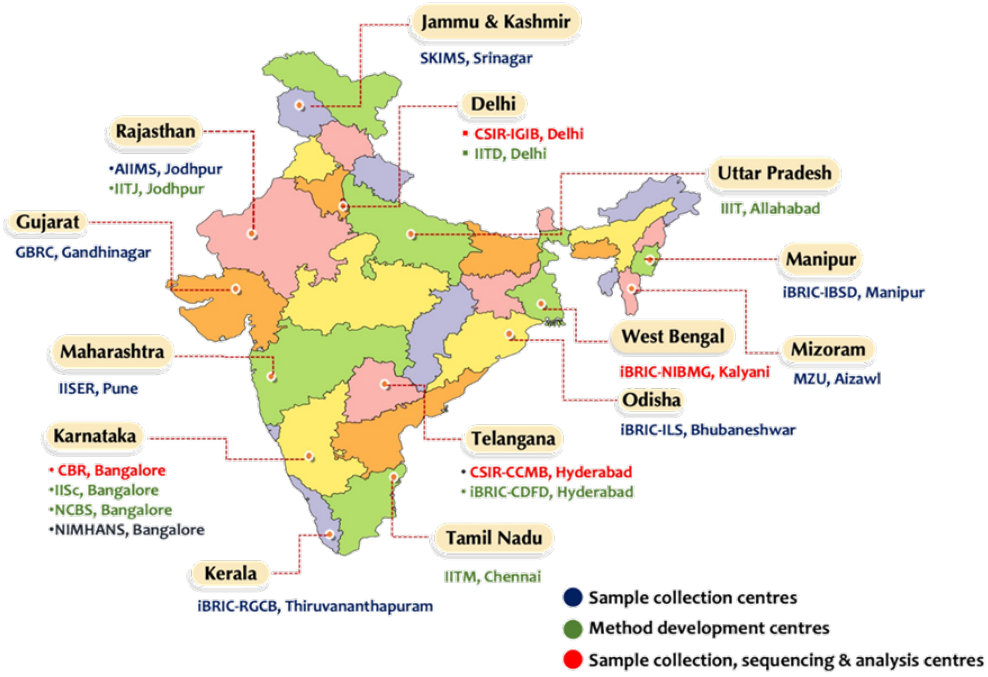
Why in News?

Recently, India has completed the 'Genome India' database'.

- **Aim** – To create a robust and comprehensive database of India's genetic diversity.
- **Housed at** – Indian Biological Data Centre (IBDC), Haryana.
- **Indian Genomic Data Set** – It is the entire collection of ***10,000 Whole Genome Sequencing (WGS) samples*** accessible to researchers across within India and globally.

*A **genome** is the complete set of genetic information in living organisms, which is stored in long molecules of DNA called Chromosomes.*

- **Catalog of genetic variations** – The samples come from diverse Indian populations and provide a rich genetic diversity.
- It represents *83 population groups or about 2%* of the country's 4,600 population groups as a database.



- **Analysis** – The genomes estimate around *27 million low-frequency* (or relatively rare) *variants,* 7 million of them not found in similar reference databases around the world.
- Certain population groups show higher frequencies or different versions of the same

gene.

- **Data privacy** – The database isn't classified by the names of castes or tribes but it is *numerically coded*.
- Researchers must send a proposal to access the data.
- **Significance** – It holds the potential *targeted clinical interventions* and advancing precision medicine for better healthcare.

In Biotech, India now ranks 12th globally and 3rd in the Asia-Pacific region.

References

1. The Hindu| 10,000 Human Genomes Database
2. PIB| India's Genomic Revolution

Kalaripayattu

Why in News?

The Indian Kalaripayattu Federation (IKF) accuses the Indian Olympics Association (IOA) for placing Kalaripayattu in the demonstration section in the 38th National Games to be held in Uttarakhand.

- **Kalaripayattu** – It is an ***Indian martial art and fighting style*.**
- **Purpose** – To develop the individual with an extraordinary level of awareness and super-sensitive body-mind co-ordination to keep them ever-prepared for attack & defense.
- **Origin** – It is an ancient martial art ***indigenous to Kerala***, a small state in the southern tip of India, during the 11th –12th century CE.
- **Historical references** – It is mentioned in the *Vadakkan Pattukal* ballads written about the Chekavar from the Malabar region of Kerala.
- It is with a legacy of *more than 3000 years*.

Kalaripayattu is the oldest and most scientific of all martial arts in the world.



- **Training** – It takes place in a ***Kalari, an Arena*** *in natural soil ground.*

    - It ensures *cooling of the body* as the students engage themselves in the gruelling, heat-generating exercises.
    - It *lessens the threat of skin infection* from bites of insects that inhabit the top soil.
- *Children at 7 years*, are initiated into Kalaripayattu.
- **Poothara** – A small, upwardly tapering, 7-tiered structure stands at the south-western corner of the training.
- **Oral commands** – It is called as *Vaaythaari*, a set of technical words or phrases which don't convey much to the ordinary people.

Indian Kalarippayattu Federation (IKF)
• **Established in** – 1995. • **Aim** – To promote Kalarippayattu, the Martial Arts of Kerala and propagates its values. • **Motto** – Unity in Diversity. • **Nodal Ministry** – Ministry and Youth Affairs and Sports. • **Association in** – 25 states. • **Recognized as** – National Federation in 2015. • **Role** - It offers a disciplined and cultured youth for the welfare and progress of the Nation.

References

1. The Indian Express| Kalaripayattu's removal from competition
2. Kerala Tourism| Kalaripayattu
3. Indian Kalaripayattu Federation| Origin and History of Kalaripayattu

Culicoides

Why in News?

Recently, researchers from the Zoological Survey of India (ZSI) have identified 23 species of blood-sucking flies in the Andaman & Nicobar Islands.

- **Culicoides** – They are ***tiny insects*** similar in appearance to flies.
- They are *more closely related to mosquitoes* in their feeding habits.
- They are called Midges and are locally called Bhusi Files in Andaman and Nicobar.
- **Taxonomy**
    - **Scientific name –** Culicoides.
    - **Order** – Diptera, the smallest haematophagous member.

Haematophagous *means especially an insect or tick feeding on blood.*

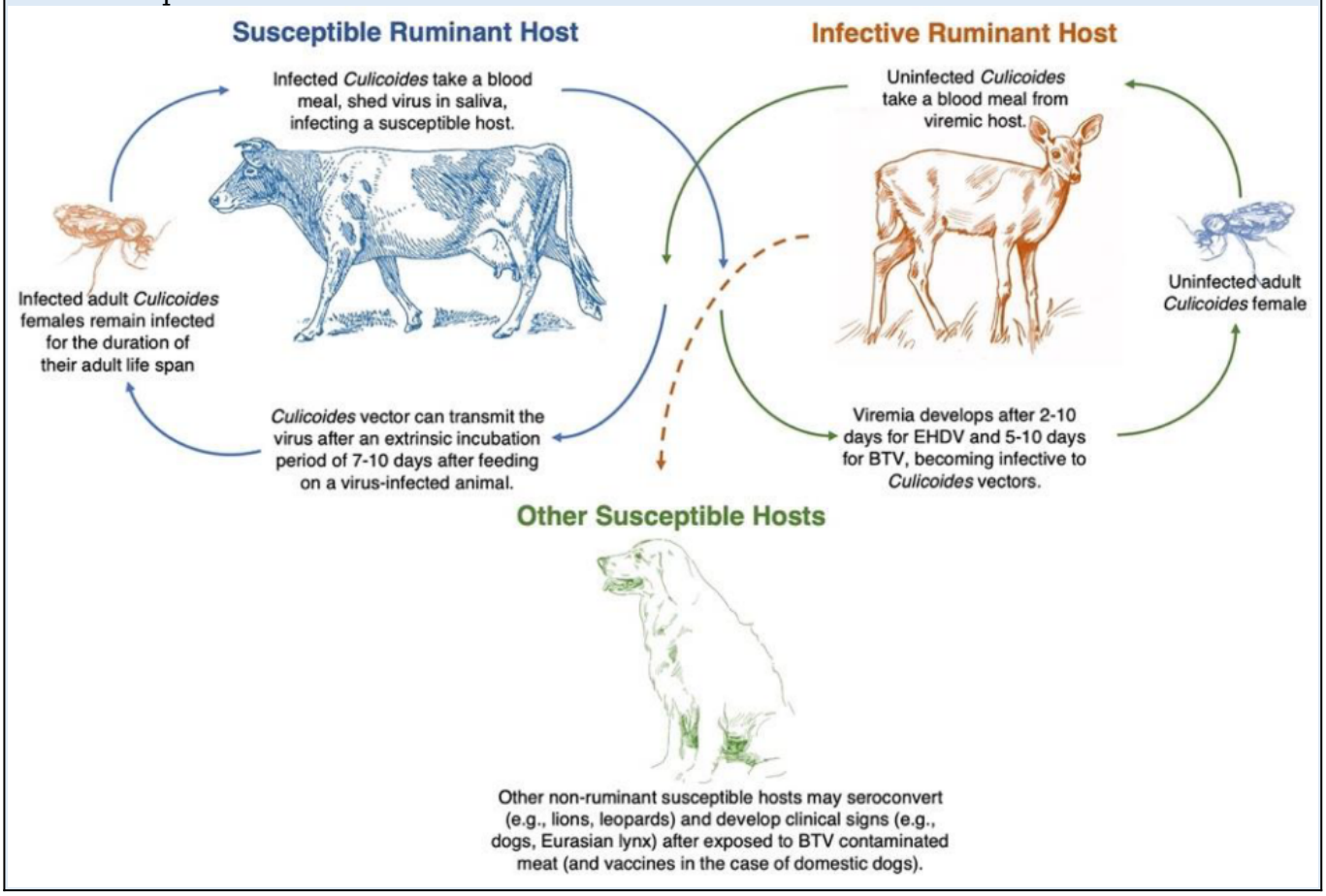


- **Distribution** – Africa, North and South America and Europe.
  - **India** – Includes *93 valid species*, recognized as potential vectors of important pathogens of animal health.
  - 13 new species recorded for the 1st time in India, in the Andaman and Nicobar Islands.
- **Feeds on** – The blood of *livestock* such as sheep, goats, cattle and wild animals like deer.
- **Transmitting agents** – 5 of the species are known to transmit the ***Bluetongue (BT) disease.***

A study conducted in 2022 and 2023, revealed that 17 of the 23 species identified are known to bite humans, although no human disease transmission has been reported.

Bluetongue (BT)

• It is an infectious, non-contagious, vector-borne viral disease.
• **Symptoms** – Blue discolouration of the tongue, fever, facial swelling and excessive salivation.
• **Causes** – It can potentially lead to death in affected animals.
• It poses a significant threat to livestock farming and the agricultural economy.
• It also impacts humans.



Reference

The Hindu| 23 species recorded in Andaman & Nicobar Islands

Sewa Singh Thikriwala

Why in News?

Recently, January 20 marked the death anniversary of Sewa Singh Thikriwala.

- **Early life –** He was born in late 19th century in Thikriwala village, *part of princely state Patiala, Punjab*.
- His father Dewa Singh was a high-ranking official in the court of Maharaja Rajinder Singh.
- **Revolutionary phase** – He ***spearheaded the self-rule movement*** against the rulers of Punjab's erstwhile princely states.
- His direct criticism of the Patiala Maharaja's rule led the authorities to imprison him.
- His fellow Akali leader *Kharak Singh* launched a campaign against the state for demanding his release.

Praja Mandal Movement

• **Objectives**
  - To protect the civil liberties of the masses.
  - To protest against oppressive taxes.
  - To seek reforms in the peasants' conditions.
  - To open educational institutions.
  - To have a responsible government.
• **Coverage –** It spread over 600 princely states of British India.
• **Important leaders** - Kharak Singh and Master Tara Singh.
• **Significance** - Now part of the Malwa region, with some parts in Haryana, these areas are politically active even today and were hotbeds of the recent farmers' agitations.
• **Punjab Riyasat Praja Mandal** - Was presided by the Sewa Singh Thikriwala.
• It was largely *run by Akali leaders*.

- **Meeting with Gandhi** – After his release in 1928, he ***met Mahatma Gandhi*** in 1931, to discuss the problems faced by the people of Punjab.
- **Negotiation** – Patiala Maharaja initiated negotiation with him but it failed over the demand for an elected assembly.
- **Last phase of his life –** He died in 1935, while he was on a hunger strike in jail over his mistreatment by jail authorities.
- **Memorial** – After his death, a memorial has been held annually in the Thikriwala Village from January 18 to January 20 with a *statue* of him in his native village.
- Government has announced that Sewa Singh's house would also be turned into a memorial.

Reference

The Indian Express| Story of Punjab's Sewa Singh Thikriwala

One Liners 21-01-2025

History, Art and Culture

Excavations of a Buddhist complex in Ratnagiri, Odisha

• **Focus on** – Uncovering relics and evidence of ties to Southeast Asian cultures.
• **Recent Discoveries** - *Colossal Buddha head, 5 foot palm*, and inscribed relics from the 8th and 9th centuries.
• **Previous Excavations** - 1958 to 1961 excavations by *Debala Mitra* revealed a brick stupa, monastic complexes, and votive stupas.

History of Ratnagiri in Odisha

• **Time period** – 5th to 13th centuries.
• **Politically associated with** – Mauryan Emperor Ashoka.
• **Culturally significant for** – Buddhist learning, especially between the 7th and 10th centuries.

Maritime Trade of Odisha (Kalinga)

• **Trade ties with** – Southeast Asia, exchanging spices, silk, and metals.
• **Baliyatra festival** – It celebrates historical links to Bali and Sri Lanka.
• **Spread of Buddhism** – Merchant brothers Tapassu and Bhallika of kalinga were recognized as Buddha's early disciples.

Social Issues

8th edition of Pariksha Pe Charcha

• It is a nationwide movement to *transform exam-related stress into a festival of learning* and celebration.
• **Organized annually by** – Department of School Education & Literacy under the Ministry of Education.
• **Role** – It reinforces its message of resilience, positivity, and joy in learning, ensuring that education is celebrated as a journey rather than a pressure-driven task.
• **2025 Edition** – It concluded with a record-breaking over 3.5 crore participation from students, teachers and parents.

Economy

Centre for Development of Telematics (C-DOT)

• It is the premier Telecom R&D centre of the Department of Telecommunications (DoT).
• **Role in 6G development** – It has signed an agreement with the IIT Delhi for the development of "Building Blocks for THz Communication Front Ends" for 6G.
• It is signed under the Telecom Technology Development Fund (TTDF).
• **Aim** – To develop basic devices and components for THz systems envisaged for 6G communications, as well as other THz systems such as military communications and material characterization.

Agriculture

India's Coffee Production Boom

India ranks 7th largest globally in coffee production, exports reaching $1.29 billion in FY24.
• **Top buyers** – Italy, Belgium, and Russia.
• **Production** – Arabica and Robusta beans make up three-fourths of India's coffee production.
• Karnataka leads in production, contributing 248,020 MT in 2022-23.
• **Consumption trends** - Domestic consumption increased to 91,000 tonnes in 2023 from 84,000 tonnes in 2012.
• **Integrated Coffee Development Project (ICDP)** – It focuses on improving yields, expanding cultivation, and ensuring sustainability.

Environment

Goby Fish Species

• **Discovered by** – Zoological Survey of India (ZSI), about 2 unrecorded goby fish species.
• **Discovered at** – Coringa Wildlife Sanctuary, hosts 53 of the 95 goby species recorded in India.
• **2 species** – Hemigobius hoevenii and Mugilogobius tigrinus.

Coringa Wildlife Sanctuary

• **Located in** – Andhra Pradesh.
• Its mangroves, coastal trees, provide habitats for marine life and protect shorelines from erosion.
• It is *India's 3rd largest mangrove forest*.

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