

Factly Weekly

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Exam**

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Ad-hoc Judges in High Court

News: The Supreme Court recently suggested the temporary appointment of retired High Court judges on an ad hoc (as-needed) basis to address the backlog of pending criminal cases in several High Courts.

About Ad-hoc Judges in High Court

Constitutional Provisions– The appointment of ad hoc judges is provided for in the Constitution under **Article 224A** (Appointment of Retired Judges at Sittings of High Courts).

Under this Article:

- The *Chief Justice of a High Court* for any State may request a person to act as a judge of the High Court.
- The *prior consent of the President* is required for such an appointment.
- The individual must have previously held the office of a judge in that High Court or any other High Court.
- Such a judge is *entitled to allowances as determined by the President*.
- They will also enjoy all the jurisdiction, powers, and privileges of a sitting judge of that High Court.
- This article does not require any such person to serve as a judge of the High Court unless they agree to do so.

Supreme Court guidelines for the Appointment of Ad hoc Judges

- If a High Court has more than *20% of its sanctioned positions vacant*;
- If cases in a specific category have been *pending for over five years*;
- If more than 10% of the High Court's total cases have been pending for over five years;
- If the rate of case disposal is consistently lower than the rate of case filing (referred to as the 'case clearance rate').

National Company Law Tribunal (NCLT)

News: Recently, the National Company Law Tribunal (NCLT) ordered the liquidation of budget carrier Go First. It potentially brings an end to the airline and its 20-month-long insolvency proceedings.

About National Company Law Tribunal (NCLT)

- It is a **quasi-judicial body** established to handle civil corporate disputes.
- It was established on **1st June 2016** under the **Companies Act, 2013**.
- **Objective**– The main goal of NCLT is to offer a specialized forum for resolving disputes related to company law and the Insolvency and Bankruptcy Code, 2016 (IBC).
- **Genesis**– It was established based on the **Balakrishna Eradi Committee's** recommendations on insolvency and company winding-up laws.
- **Composition:**
 - It shall consist of a President and such number of Judicial and Technical Members as may be required.
 - The Central Government appoints these members based on their expertise in fields like law, finance, accountancy, management, and administration.
- **Structure**– The NCLT has a **principal bench in New Delhi** and other benches in cities such as Ahmedabad, Bengaluru, Chennai, and Kolkata.
- **Powers:**
 - It is not bound by the **Code of Civil Procedure (CPC)** and **follows principles of natural justice**, and the rules set by the Act and the Central Government.
 - It can enforce orders with the same authority as a court.
 - It can **review its own decisions**.
 - It can **regulate its own procedures**.

- It handles insolvency resolution for companies and LLPs under the Insolvency and Bankruptcy Code, 2016.
- **Appeal**-Decisions of the NCLT may be appealed to the National Company Law Appellate Tribunal (NCLAT), the decisions of which may further be appealed to the Supreme Court of India.

Sukanya Samriddhi Yojana

News: January 2025 marks the 10 years of Sukanya Samriddhi Yojana.

About Sukanya Samriddhi Yojana



Figure 1. Source- PIB

- It is a **small deposit scheme** of the central government meant **exclusively for a girl child** to meet their **education and marriage expenses**.
- The scheme was launched as a **part of the Beti Bachao Beti Padhao campaign**.
- It operates through all post offices, branches of public sector banks and some select private sector banks.
- A bank account can be opened immediately after the birth of the girl child till she attains the age of 10 years.
- The **minimum initial deposit** required for opening the bank account is **Rs. 250** and the **total annual deposit limit is capped at Rs. 1,50,000**.
- The account is managed by the guardian until the girl child reaches the age of 18.
- It provides an **interest rate of 8.2%**.
- The account **matures** after the completion of 21 years of the account holder from its opening date.
 - However, the account holder can also apply for early closure under specific circumstances.
- There is also a provision for **withdrawal of up to fifty percent of the balance** at the end of the preceding financial year, specifically for educational purposes
 - This withdrawal is allowed only after the account holder turns eighteen or completes the tenth standard, whichever comes first.
- The scheme is administered by the **Ministry of Finance**.

Central Pollution Control Board

News: The Central Pollution Control Board (CPCB) has informed National Green Tribunal (NGT) that only 167 posts out of 2,228 vacancies have been filled so far in 12 states and 2 UTs. Earlier the NGT had ordered to fill vacant posts across pollution control boards in the country by April end.

About Central Pollution Control Board



Source- cpcb.nic.in

- It is a **statutory body** established by the central government under the provisions of the **Water (Prevention and Control of Pollution) Act, 1974**.
- The board was also assigned powers and functions under the the **Air (Prevention and Control of Pollution) Act, 1981**.
- The **principal functions** of the board are:
 - Promoting cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution.
 - Improving the quality of air and to prevent, control or abate air pollution in the country.
- It also serves as a **field formation**, providing technical services to the Ministry of Environment and Forests of the provisions of the **Environment (Protection) Act, 1986**.
- The board is **headed by a chairperson** who is appointed by the Appointments Committee of the Cabinet.
- It is administered by the **Ministry of Environment, Forest and Climate Change**.

Fiscal Health Index 2025

News: Niti Aayog recently launched the “Fiscal Health Index 2025” in New Delhi. The report ranked 18 major states for the year 2022-23.



Figure 2Source- The Hindu

About Fiscal Health Index (FHI)

- **Annual Publication:** The Fiscal Health Index report will be released every year.
- **Focus on Fiscal Health:** It will assess the fiscal health of Indian states.
- **Data-Driven Insights:** The report will provide insights based on data, guiding state-level policy decisions.
- **Key Objectives:**

- Enhance fiscal governance
- Boost economic resilience
- Ensure the overall stability of the nation.

Fiscal Health Index 2025

- **Criteria for ranking:** The report ranks states based on a *composite fiscal index*, which includes *five key sub-indices*:
 - Quality of expenditure
 - Revenue generation
 - Fiscal discipline
 - Debt levels
 - Debt sustainability
- **Best Performers**– Odisha ranks first in fiscal health among 18 major states with a score of 67.8, followed by Chhattisgarh (55.2) and Goa (53.6).
- **Worst Performers**– Punjab, Andhra Pradesh, West Bengal, Kerala were the worst-performing States and listed under ‘*aspirational*’ category.
- **Other Categories:**
 - **Front-runners**– Uttar Pradesh, Telangana, Madhya Pradesh, and Karnataka

DeepSeek

News: Recently, DeepSeek’s R1 model has created a major disruption in the global AI industry.

About DeepSeek

- DeepSeek is a Chinese AI startup based in Hangzhou. It recently launched the **R1 model**, which has disrupted the global AI sector.
- DeepSeek R1 is an open-source AI mode which is known for **high efficiency at a lower cost**.

Features:

- It uses a “**Mixture of Experts**” approach, where multiple sub-models specialize in different tasks.
- DeepSeek used **only 2,000 GPUs** for training as compared to OpenAI and Google which require **16,000 or more GPUs**.
- It uses **Nvidia H800 chips**, instead of the more advanced H100, due to US export restrictions.
- DeepSeek R1 is **more energy-efficient**, consuming significantly less electricity due to a smaller training footprint.
- It demonstrates how India can develop cost-effective AI models, similar to ISRO’s approach to space technology.

Impact:

- **Shook the Tech Market:** The launch of R1 led to a dip in global tech stocks.
- **Top-Rated AI Assistant:** It has become the **most downloaded free app** on Apple’s App Store.
- **Threat to Big Tech:** Silicon Valley companies like OpenAI, Google, and Meta are concerned about its rapid rise.

Challenges

- AI must **scale efficiently** to serve millions of users.
- India needs **better industry-government collaboration** for AI research and development.
- **Open-source AI development** can help democratize access to technology.

Asteroid Bennu

News: Asteroid Bennu has been making headlines due to NASA's OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer) mission, which aims to collect and return samples from the asteroid to Earth.

About Asteroid Bennu

- Bennu is a **near-Earth asteroid** located about **200 million miles away from Earth**.
- It was discovered in **1999** by the NASA-funded **Lincoln Near-Earth Asteroid Research team**.

Features:

- Bennu is a **B-type asteroid**, meaning it contains **high amounts of carbon and various minerals**.
- It is about **as tall as the Empire State Building**.
- **Bennu's age (4.5 billion years)** suggests it may contain **primordial organic material**. Organic materials on Bennu may provide clues about the **role of asteroids in catalyzing life on Earth**.
- It reflects only **4% of light**, making it much darker than **Venus (65%) or Earth (30%)**.
- **20-40% of Bennu's interior is empty space**, suggesting it formed in the first **10 million years** of the solar system's history.
- High-resolution images reveal **large boulders on its surface**, making sample collection difficult.
- Bennu is particularly interesting because:
 - It **hasn't changed much** since its formation.
 - It contains **chemical compounds and minerals** from the birth of the solar system.
 - It may contain **organic molecules** similar to those that contributed to **life on Earth**.

About Asteroids

- Asteroids are **rocky objects that orbit the Sun**, smaller than planets, also called **minor planets**.
- They are remnants from the formation of the **solar system over 4.6 billion years ago**.
- NASA has identified **994,383 asteroids** to date.

Asteroids are classified into three categories:

1. **Main Asteroid Belt** – Located between **Mars and Jupiter**, containing **1.1-1.9 million asteroids**.
2. **Trojans** – Share an orbit with a larger planet (e.g., **Jupiter, Neptune, Mars**).
3. **Near-Earth Asteroids (NEA)** – Have orbits that pass close to Earth.
 - More than **10,000 NEAs** are known.
 - **1,400+** are classified as **Potentially Hazardous Asteroids (PHAs)** due to their potential impact risk.

About NASA's OSIRIS-REx Mission

- OSIRIS-REx stands for **Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer**.
- It is **NASA's first mission to collect a sample from an asteroid** and return it to Earth.
- It was launched in **2016** and it reached **Bennu in 2018** and started surveying its surface.
- The mission is set to **return to Earth in 2023** with at least **60 grams of asteroid samples**.

Key Features of OSIRIS-REx:

- Uses small rocket thrusters to match **Bennu's velocity**.
- Contains **five instruments** including cameras, a spectrometer, and a laser altimeter.
- Utilized **Touch-And-Go Sample Acquisition Mechanism (TAGSAM)** to collect samples from the asteroid.
- The departure window for the spacecraft is **2021**, and it will take **two years** to return.

Paris AI Summit 2025

News: France is hosting a two-day AI Action Summit beginning on February 10. The summit will be co-chaired by Indian Prime Minister along with French President.

About Paris AI Summit



Figure 3. Source- The Indian Express

- It is the *brainchild of French President Emmanuel Macron*.
- The initiative focuses on the *broader agenda of global AI governance, innovation, and on means of serving the larger public interest*.
 - It is in continuation of AI Safety Summit held in Britain in Bletchley Park in 2023 and a smaller meeting in Seoul in 2024.
- It aims to deliberate on the *issue of monopoly of AI market* as the foundational models are being owned by few corporations like Microsoft, Amazon, Meta.
- The summit brings *stakeholders from different fields* like representatives of government, businesses, civil society, artists and journalists.
- It holds *great relevance for Europe* as AI is being seen as a race between America and China.
- The entry of *China's DeepSeek model*, which is cheaper and shows great efficiency in reasoning, has further complicated the AI debate.

China's 'Artificial sun' EAST

News- Recently China's 'artificial sun', the Experimental Advanced Superconducting Tokamak (EAST) reactor, sustained plasma for 1,000 seconds, breaking its 2023 record of 403 seconds.



Source- Phys.org

About Experimental Advanced Superconducting Tokamak (EAST) reactor

- It is a *fusion research device* located at the Institute of Plasma Physics of the Chinese Academy of Sciences (ASIPP) in Hefei, China.
- It became operational in 2006.

- Its purpose is to *study and develop nuclear fusion technology* by replicating the process that powers the Sun.
- It aims to achieve sustained *high-temperature plasma confinement*, advancing research for future clean and limitless energy sources.
- It serves as a testing platform for materials, superconducting technology, and plasma control methods essential for next-generation fusion reactors like *International Thermonuclear Experimental Reactor (ITER)*.

About Nuclear Fusion

- Nuclear fusion is a process in which *two light atomic nuclei combine to form a heavier nucleus*, releasing a significant amount of energy.
- It powers stars, including the Sun, and holds potential as a clean and virtually limitless energy source on Earth.

About International Thermonuclear Experimental Reactor (ITER)

- ITER is an international collaboration involving *China, Europe, Japan, India, South Korea, Russia, and the United States*.
- India formally joined ITER in 2005.
- It is being *built in France* to demonstrate the *feasibility of fusion as a sustainable energy source*.
- It will become the *world's largest nuclear fusion reactor* when it becomes operational in 2035.
- Designed as the *largest Tokamak device*, it aims to test magnetic confinement for producing fusion energy.
 - A Tokamak is a doughnut-shaped device designed for controlled thermonuclear fusion.

Stargardt disease

News– Researchers from Switzerland have announced the development of a gene-editing technique that may potentially aid in the treatment of Stargardt disease.

About Stargardt Disease

- It is a *rare inherited genetic disorder* that leads to progressive vision loss, especially in children and young adults.
- **Cause:** The disease is caused by *mutations in the ABCA4 gene*, which disrupts the body's ability to process *Vitamin A* properly. This leads to the accumulation of *lipofuscin*, a fatty substance that builds up on the macula—the central part of the retina responsible for sharp, central vision.
- **Bilateral:** Stargardt disease typically *affects both eyes* (bilateral), resulting in the gradual loss of central visual acuity in both eyes.
- **No Cure:** There is currently no cure or effective treatment for Stargardt disease, though research continues to explore potential therapies.

Jute Crop

News: The Cabinet Committee of Economic Affairs has increased the Minimum Support Price (MSP) for raw jute by 6% to Rs. 5,650 per quintal.

About Jute Crop



Source- National Jute Board

- Jute is an important natural fibre crop in India next to cotton. It is also known as the '**Golden Fibre**'.
- It grows well on **alluvial or loamy soil**.
- It is a **Kharif crop** and requires high temperature, heavy rainfall and humid climate.
 - **Ideal Temperature:** 25-35°C
 - **Rainfall:** 150-250 cm
 - **Relative Humidity:** 80-90%
- India produces about **three-fifth of jute production of the world**.
 - **West Bengal** accounts for about three-fourth of jute production in the country.
 - Other important jute growing states are **Bihar, Assam, Odisha and Meghalaya**.
- Jute is an important **cash crop** and used for making bags, mats ropes, yarn, carpets and decorative items.

About National Jute Board

- It is a **statutory body** established under the provisions of the **National Jute Board Act, 2008**.
- **Aim:**
 - Frame policies and programmes to facilitate growth of the jute sector.
 - Ensure that jute producers have access to domestic and international markets at competitive prices.
 - Make India a leader of jute industries in the world.
 - Undertake research and development programmes to promote innovative use of jute.
- The board is administered by the **Ministry of Textiles**.
- The board is headquartered in **Kolkata**.

Chinar Tree.

News: The Jammu and Kashmir Forest Research Institute (JKFRI) has launched 'Digital Tree Aadhaar Initiative' for the conservation of the Chinar tree.

About Chinar Tree



Source- The Hindu

- It is also known as the **majestic chinar and oriental plane tree**. Chinar is a **maple-like tree with a huge canopy**.
- It is found in the **cool climate regions with sufficient water**, taking 30-50 years to mature and 150 years to reach its full size.
- The tree grows to a **height of 30 metres** with a **girth of 10-15 metres** at ground level.
- It is believed that Mughal emperor **Jahangir coined the term Chinar**.
 - The myth says that the term gained prominence after someone saw crimson red chinar tree leaves from a distance during the autumn season and shouted “Chee naar ast” (a Persian word meaning “what flame is that”).
- **Significance:**
 - They are a **major tourist attraction** during the autumn season as their green leaves turn into crimson red and gold.
 - They occupy a **special place in Kashmir's art, literature and craft**, which often feature chinar motifs.
- **Kashmir** is home to chinar groves with **Ganderbal district** having the highest number of chinar trees.
 - Chinar also grows in **Jammu's Chenab Valley**, and in the **Pir Panjal Valley**.

About Digital Tree Aadhaar Initiative

- The initiative assigns a geo-tagged digital identity to each chinar tree, providing information like tree's location, height, and health.
- It aims to establish a detailed database of chinar trees using the Geographic Information System (GIS) based quick response code enabled surveys.
- JKFRI 2021 data highlights that Kashmir was home to around 40,000 chinar trees but their numbers are declining steadily.
 - Rapid urbanisation and infrastructural expansion (like highway widening) are key reasons for decline.

Asan wetland

News– A bird counting campaign at Asan Wetland in Dehradun, Uttarakhand, has been successful, with volunteers spotting 5,225 birds from 117 species.



Source- The Statesman

About Asan wetland (Asan Conservation Reserve)

- **Location:** It is situated in Dehradun district, Uttarakhand, along the Asan River, which flows into the Yamuna River.
- It was declared a Conservation Reserve in 2005 under Section 36A of the [Wildlife \(Protection\) Act, 1972](#).
- **Ramsar Site:** It is the *first Ramsar site in Uttarakhand*.
- **Avian Species:**
 - Strategically located within the *Central Asian Flyways (CAF)*, the reserve homes 330 bird species, including critically endangered species like the *red-headed vulture*, *white-rumped vulture*, and *Baer's pochard*.
 - Other vulnerable or endangered species include the Egyptian vulture, steppe eagle, and Indian spotted eagle.
- **Fish Diversity:** It supports 49 fish species, including the endangered *Putitor mahseer* (*Tor putitora*).
- It is listed as an *Important Bird Area (IBA)* by the Bombay Natural History Society (BNHS) and BirdLife International.

Asian Waterbird Census

News– As per Asian Waterbird 2025 census, a record 39,725 birds of 106 species were sighted in the [Coringa Wildlife Sanctuary](#) and its surrounding wetlands.

About Asian Waterbird Census

- It is a *citizen-science programme* that supports the conservation and management of wetlands and waterbirds worldwide.
- It is *conducted annually* and is part of the global *International Waterbird Census (IWC)*.
- It was *initiated in 1987* in the Indian subcontinent and has since expanded to cover major regions of Asia, including East Asia, Southeast Asia, Japan, and Australasia.
- The census, thus covers the entire East Asian – Australasian Flyway and a large part of the *Central Asian Flyway*.
- In India, the census is organized by the *Bombay Natural History Society (BNHS)* and the [Wildlife Institute of India \(WII\)](#) in early January each year.

Bombay Natural History Society (BNHS)

- It is a Non-Governmental Organisation in India engaged in conservation and biodiversity research.
- BNHS has been designated as a Scientific and Industrial Research Organization (SIRO) by Department of Science & Technology, Government of India.
- BNHS is the Partner of BirdLife International in India.

Teesta River

News: The Union Ministry of Environment, Forest and Climate Change (MoEF&CC) recently approved the reconstruction of the Teesta-III dam in Sikkim, despite concerns over its structural resilience and environmental risks.

About Teesta River



Figure 4.ilearncana.com/

- The Teesta River originates from the **Tso Lhamo Lake** in the eastern Himalayas, located in Sikkim, India.
- It flows through **Sikkim** and **West Bengal** before entering **Bangladesh**, where it merges with the **Brahmaputra River**.
- It originates from the **Teesta Khangse Glacier** in Sikkim.
- **Tributaries:** The **major left-bank tributaries** of the Teesta River include **Lachung Chhu, Chakung Chhu, Dik Chhu, Rani Khola, and Rangpo Chhu**.
- Its **major right-bank tributaries** consist of **Zemu Chhu, Rangyong Chhu, and the Rangit**

River

- **Hydroelectric Projects:** Several hydropower projects have been constructed on the river, such as **Teesta Stage III & IV and Teesta Barrage Project**.
- **Geographical Significance:** The river forms the **Teesta Valley, known for its fertile alluvial plains and tea gardens in North Bengal**.
- **Economic Importance:** It is crucial for **irrigation, hydropower generation, and drinking water supply** in India and Bangladesh.
- **Biodiversity:** The Teesta River basin is home to diverse flora and fauna, including rhododendrons, red pandas, and various fish species.

Mannan Community

News: Raman Rajamannan, the king of the Mannan community and the only tribal king in Kerala, has been invited to the Republic Day celebrations.

About Mannan Community



Source- The Hindu

- It mainly resides in the buffer zone area of the **Idukki Wildlife Sanctuary at Kozhimala**.
- The word Mannan is derived from two terms: **Manna (meaning earth)** and **Manusian (meaning man)**, which collectively means **sons of the soil**.
- Their **primary occupation is agriculture**, and they are proficient in cultivating crops in the mountainous terrains.
- The **king** is central to the traditional functions of the community. On special occasions, the king wears headgear and is assisted by two ministers and soldiers.
- They speak a **unique dialect** that **blends both Tamil and Malayalam**.

Iron Age in India

News: Recent dating of burial urn samples from Sivagalai in Tamil Nadu's Tuticorin district suggests that the Iron Age may have begun there around 3,345 BCE, at least 1,000 years earlier than previously believed.



Source- The Indian Express

About Iron Age

- **Iron Age Overview:**
 - A transformative period in history when **iron** replaced **stone** and **bronze** as the primary material for crafting tools and weapons.
 - Marked by significant advancements in **metallurgy** and **technology**, leading to profound **societal** and **economic** changes.

- **Timeframe:**
 - The Iron Age is generally considered to have begun around **1200 BCE** globally.
 - However, recent findings in **Tamil Nadu** suggest the Iron Age in India began as early as **3,345 BCE**, predating the Hittite Empire's use of iron (around **1380 BCE**)
- **Notable Sites in India:**
 - **Sivagalai (Tamil Nadu):** This site holds the earliest evidence of iron use in India, dating back to **3,345 BCE**.
 - **Mayiladumparai (Tamil Nadu):** Evidence of iron tools from around **2,172 BCE**.
 - **Brahmagiri (Karnataka):** Iron Age artifacts found here date to about **2,140 BCE**.
 - **Gachibowli (Telangana):** Iron Age evidence from around **2,200 BCE**.

Phases of the Iron Age in India:

1. Early Iron Age (1500 BCE – 1000 BCE)

- **Introduction of Iron Tools:** Iron tools began to be used in agriculture and hunting.
- **Overlap with the Late Vedic Period:** This phase coincided with the late Vedic period, during which texts like the Atharvaveda were composed.
- **Notable Sites:**
 - Atranjikhhera (Uttar Pradesh)
 - Malhar (Chhattisgarh)
 - Hallur (Karnataka)

2. Middle Iron Age (1000 BCE – 600 BCE)

- **Expansion of Iron Technology:** Iron technology expanded, leading to greater use of iron tools and weapons.
- **Urbanization:** The growth of urban centers and the rise of fortified settlements.
- **Painted Grey Ware (PGW) Culture:** The PGW culture emerged in the Ganga-Yamuna plains.
- **Rise of Janapadas:** Early states or political entities, known as Janapadas, began to form.
- **Key Sites:**
 - Kausambi (Uttar Pradesh)
 - Atranjikhhera (Uttar Pradesh)

3. Late Iron Age (600 BCE – 200 BCE)

- **Formation of Mahajanapadas:** The rise of larger political entities known as Mahajanapadas.
- **Mauryan Empire:** The establishment and expansion of the Mauryan Empire, marking the height of political unity and power.
- **Religious Growth:** The spread of Buddhism and Jainism, alongside Ashoka's edicts, promoting governance based on ethical principles.
- **Major Urban Centers:**
 - Pataliputra (Patna)
 - Ujjain