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## Current Affairs - 07 January 2025

### BHARATPOL PORTAL



- It will streamline the processing of all **requests for international assistance** through INTERPOL, including the issuance of **Red Notices** and other **colour-coded INTERPOL notices**.
- It will become a transformative tool for field-level police officers, **enhancing their efficiency in dealing with crimes and security challenges**. By facilitating easier and faster access to international assistance, it will **strengthen India's efforts in combating transnational crimes**.
- It will significantly **facilitate Indian Law Enforcement Agencies (LEAs)** enabling real-time information sharing for faster access to international police assistance.
- It will be developed by **Central Bureau of Investigation (CBI)**.

### **Central Bureau of Investigation:**

- It is the **premier investigative agency in India**, with a dual responsibility to investigate grievous cases and provide leadership and direction in fighting corruption to the police force across the country.
- It was established on recommendation of the Santhanam Committee on Prevention of Corruption (1962–1964).
- It is not a statutory body, as it was set up by a resolution (1963) of the Ministry of Home Affairs.
- It acts as the **National Central Bureau (NCB-New Delhi) for INTERPOL** in India.
- It facilitates international cooperation in criminal matters in collaboration with various agencies across the country, including law enforcement agencies.
- At the Central, State, and Union Territory levels, this coordination is executed through **INTERPOL Liaison Officers (ILOs)**.
- Presently, communications among the CBI, ILOs, and UOs primarily relies on letters, emails and faxes.



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### ARMED FORCES TRIBUNAL (AFT)



- AFT is a **military tribunal** in India established under the **Armed Forces Tribunal Act, 2007**.

- It is functioning under the **Ministry of Defence (MoD)**.
- It is responsible for **resolving military-related disputes, including service matters and appeals from court-martial decisions**.

#### **Functions:**

- To provide for the **adjudication or trial of disputes** and complaints **with respect to commission, appointments, enrolment, and conditions of service** in respect of persons subject to the **Army Act, 1950; the Navy Act, 1957; and the Air Force Act, 1950**.
- To **provide for appeals** arising out of orders, findings, or sentences of **court-martial** held under the said Acts and for matters connected therewith or incidental thereto.
  - The tribunal **can also dismiss the appeal** if the court martial findings are found to be justified.
- Thus, the tribunal has **original jurisdiction in service matters and appellate jurisdiction in court martial matters**.
- **Any appeal** by a person **against a decision given by the tribunal can only be taken up in the Supreme Court**.
- **Benches:** Besides the **principal bench in New Delhi**, AFT has regional benches at Chandigarh, Lucknow, Kolkata, Guwahati, Chennai, Kochi, Mumbai, Jabalpur, Srinagar, and Jaipur.

#### **Composition:**

- **Each Bench** comprises of a **Judicial Member and an Administrative Member**.



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- The **Judicial Members** are retired **High Court Judges**, and **Administrative Members** are retired **Members of the Armed Forces** who have held the rank of Major General/equivalent or above for a period of three years or more.
- Judge Advocate General (JAG), who has held the appointment for at least one year, are also entitled to be appointed as the Administrative Member.
- **Functioning:**
  - The Tribunal shall transact their **proceedings as per the Armed Forces Tribunal (Procedure) rules, 2008.**
  - **All proceedings** in the Tribunal will be **in English.**
  - The Tribunal will normally **follow the procedure as is practiced in the High Courts of India.**

### PRODUCTION LINKED INCENTIVE SCHEME 1.1



- It will be implemented during the production period of **FY 2025-26 to FY 2029-30.**
- It covers **five (5) product categories** in line with the existing PLI Scheme, namely Coated / Plated Steel Products, High Strength / Wear resistant Steel, Specialty Rails, Alloy Steel Products & Steel wires and Electrical Steel.
  - These products have a wide range of application, from white goods to transformers to Automobiles and other niche sectors.
- **Changes in scheme:**
  - Reduction in **threshold investment & capacity** for the Cold-Rolled Grain-Oriented (CRGO) product sub-categories.
  - Not all companies would need to install new mills.
  - Recognising the importance of producing quality steel, energy efficiency and other process improvements, **companies investing in augmentation** of existing capacities will be allowed to participate in the scheme.

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- The Centre had earlier introduced the PLI scheme to encourage **domestic production of specialty steel** and lower imports by drawing in capital investments.
- It was initially launched for three sectors to address the need to boost domestic manufacturing during COVID-19 lockdown, the PLI scheme was **later extended to include steel in November 2020**.

### About Cold-Rolled Grain-Oriented (CRGO) grade steel:

- It is a **high-value steel** used in **production of power transformers** used in HT power distribution. The technology to make CRGO is not available with any of the Indian steelmakers.

### VEMBANAD LAKE



Climate change and pollution from slaughterhouses and shrimp peeling sheds are choking the ecosystem of Vembanad Lake, which is rapidly shrinking in acreage.

Vembanad Lake is the **longest lake in India** and the **largest lake of Kerala**.

- It is spread across an area of 2,033 sq.km., across Alappuzha, Kottayam, and Ernakulam districts.
- It is also known as Vembanad Kayal, Vembanad Kol, **Punnamada Lake** (in Kuttanad), and **Kochi Lake** (in Kochi).
- **Formed from four rivers – the Meenachil, Achankovil, Pampa, and Manimala**, it also **has an outlet to the Arabian Sea** in the west.
- The lake surrounds the islands of **Pathiramanal, Perumbalam, and Pallippuram** and is a popular backwater stretch in Kerala.
- **Vallam Kali (i.e Nehru Trophy Boat Race)** is a **Snake Boat Race** held every year in the month of August in Vembanad Lake.
- The **Kumarakom Bird Sanctuary** is located on the east coast of the lake.
- It was declared as a **Ramsar site** of international importance in 2002.



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### WATER GUSHES OUT FROM UNDERGROUND IN RAJASTHAN VILLAGE

#### Unexpected Water Flow in Jaisalmer During Tube Well Drilling

- In the Mohangarh area of Jaisalmer, a farmer hired a firm to dig a tube well on December 27.
- After reaching a depth of 850 feet, water began gushing out at high pressure, trapping a truck and a drilling machine.
- Around 25 bighas of land nearby were submerged due to the water flow, which also created a large pit.
- **Experts Explanation**
  - Geologists at Rajasthan's State Ground Water Department, explained the phenomenon as an "**artesian condition**," where water flows naturally due to underground pressure.

#### Understanding Artesian Aquifers

- **Definition of Artesian Aquifer:**
  - According to the United States Geological Survey, an artesian aquifer stores water under pressure between impermeable layers of sediment and soil below the Earth's surface.
  - It is also referred to as "confined" water due to the presence of hardy materials above and below it.
- **Formation**
  - Artesian wells are formed when water from a higher elevation is trapped between two impermeable layers, and the pressure from the surrounding rock forces it upward when a hole or well is drilled.
  - Artesian wells are commonly found in areas with specific geological conditions, and they can provide a steady flow of water for various uses, including irrigation and drinking water.



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- **Difference from Normal Wells**
    - Unlike regular tube wells or wells, artesian water can naturally sprout from underground due to high pressure.
    - This water is located deeper below the surface and is surrounded by poorly permeable rocks that trap the pressure.
    - Drilling or rupturing the confining layers releases this pressure, forcing water upward.
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### WHAT ARE TIDAL TAILS?



- Tidal tails are **thin, elongated regions of stars and interstellar gas** extending into space.
  - They are typically **formed when galaxies undergo close encounters or mergers**, causing their mutual gravitational forces to distort and stretch out material from their outer regions.
    - During the interaction, **gas and stars** are often **stripped from the outer regions** of the galaxies to **form two tidal tails: one trailing and one preceding each galaxy.**
    - These tails can **persist long after the galaxies have finally merged** and are therefore considered a **signature of recent merger activity.**
  - Examples of galaxies with tidal tails include the **Tadpole Galaxy and the Mice Galaxies.**
  - **Tidal forces can eject a significant amount of a galaxy's gas into the tail.**
  - Within those galaxies which have tidal tails, approximately 10% of the galaxy's stellar formation takes place in the tail.
  - Overall, roughly **1% of all stellar formation** in the known universe **occurs within tidal tails.**
  - Studying tidal tails helps astronomers understand how galaxies interact, merge, and evolve over cosmic time.
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### WHAT IS THE WORLD GOLD COUNCIL (WGC)?



Central banks around the world collectively, in November 2024, added 53 tonnes of gold to their reserves, of which the Reserve Bank of India's addition was 8 tonnes, the World Gold Council (WGC) said in a report recently.

World Gold Council (WGC) is a non-profit association of the world's leading gold producers.

- It was **formed in 1987** by some of the world's most forward-thinking mining companies to **promote the use of and demand for gold** through marketing, research, and lobbying.

**Headquarters: London, UK**

- It aims to **maximize the industry's potential growth** by monitoring and defending existing gold consumption.
  - It achieves this by **setting up gold standards, proposing policies**, ensuring **fairness and sustainability in the gold mining industry**, and **promoting the usage and demand** for gold for individuals, industries, and institutions.
- The WGC is also the **global authority on gold**, and they **offer comprehensive analyses** of the industry.
  - The most famous publications are **quarterly reports on the gold market** and gold demand trends analyzed by both sector and geographical location.
- It also **co-sponsors research** in the development of **new uses of gold, or of new products** containing gold.
- It covers the markets which comprise about three-quarters of the world's annual gold consumption.
- The WGC was the **creator of the first gold exchange-traded fund**.



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### DECIPHERING THE INDUS VALLEY SCRIPT



- Also known as the Harappan script, it is a **collection of symbols created by the Indus Valley Civilization**. It is one of the **oldest writing systems in the Indian subcontinent**.

- **Other facts about the Indus Valley Script:**
    - **Script:** The script is **boustrophedon**, meaning it is written right to left in one line and then left to right in the next line.
    - **Time period:** The script was used **from about 2,500 BC to about 1,900 BC**.
    - **Language:**
      - The language of the Indus script is **unknown**, and there are no known bilingual inscriptions to help decipher it.
      - The script may have represented several major language families, including **Dravidian, Mundari, Indo-Aryan, Sino-Tibetan**, and Language “X” of the Neolithic Period.
    - **Symbols:** About 400 symbols are known.
    - **Found on:** The script has been found on many objects, including pottery, seals, bronze and copper tables, bronze tools, bones, and clay tablets.
    - **Development:** The script's development trajectory includes early incised pottery marks, geometric button seals, and animal motifs with signs above them.
    - **Purpose:** Some researchers believe the script was mainly used for **commercial purposes**, with seals used as tax stamps and tablets used as permits for tax collection, craft making, or trading.
  - **Future prospects:** More archaeological excavations and analyses are essential to provide scholars with data to unravel the script.
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### ISRO'S BREAKTHROUGH IN SPACE AGRICULTURE

ISRO has achieved a groundbreaking milestone in space agriculture with its Compact Research Module for Orbital Plant Studies (**CROPS**) aboard the PSLV-C60 mission.

The successful germination of cowpea seeds in space marks **a major step in understanding plant biology in microgravity conditions.**

- The CROPS payload, developed by the Vikram Sarabhai Space Centre (VSSC), is envisioned as a multi-phase platform to develop and evolve ISRO's capabilities for growing and sustaining flora in extra-terrestrial environments.

#### **Successful germination in space:**

- **Launch details:** The CROPS experiment was launched on December 30, 2024, aboard ISRO's PSLV-C60 mission.
- **Experiment setup:** Cowpea seeds were housed in the **POEM-4 platform**, which repurposes the PSLV rocket's fourth stage for scientific research.
- **Results:** Within four days of launch, eight cowpea seeds sprouted their first leaves, demonstrating plant growth potential in space.

#### **Significance of the CROPS experiment:**

- **Understanding microgravity effects:** The experiment provides crucial insights into how plants adapt and grow in the unique environment of space.
  - **Supporting deep space exploration:** Insights from the CROPS experiment are essential for long-duration missions, such as those to Mars, by helping develop sustainable life support systems.
  - **Contributions to astrobotany:** The successful sprouting of seeds enhances global research on growing food in extraterrestrial environments.
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