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Exchange traded Currency Derivatives

Context: *The Reserve Bank of India (RBI) on Thursday deferred the implementation of its new norms for exchange traded currency derivatives (ETCD) market to May 3 from April 5.*

➢ **Understanding Exchange-Traded Derivatives (ETDs):**

- ETDs represent standardized financial contracts traded on regulated exchanges, providing investors with transparency, liquidity, and centralized clearing mechanisms.
- Market regulators like the Securities and Exchange Board of India (SEBI) play a crucial role in establishing and enforcing regulations governing ETDs to ensure fair and orderly trading practices.
- These derivative instruments derive their value from various underlying assets such as stocks, bonds, commodities, currencies, or indices, allowing investors to speculate on price movements or hedge against risks.

➢ **Exploring the Types of Derivatives:**

- Derivatives encompass a broad category of financial instruments that derive their values from the price fluctuations of underlying assets.
- Within the derivatives market, two primary types exist: Exchange-Traded Derivatives (ETDs) and Over the Counter (OTC) derivatives.
- ETDs, characterized by standardized terms and conditions, are traded on stock exchanges, offering investors easy access to these instruments with established rules and regulations.
- In contrast, OTC derivatives are customized contracts traded directly between private counterparties, often tailored to specific risk management needs but lacking the transparency and regulatory oversight of exchange-traded counterparts.

➢ **New Norms for Rupee-Denominated Currency Contracts:**

- Recent developments in the trading of rupee-denominated currency contracts on major Indian exchanges like the National Stock Exchange (NSE) and the BSE have introduced new regulatory requirements.
- Traders engaging in such contracts are now mandated to demonstrate underlying exposure, indicating a direct connection to the underlying assets, albeit with varying thresholds.
- While traders are not compelled to provide evidence for positions up to $100 million, they are obligated to confirm the presence of underlying exposure, aligning with regulatory efforts to enhance market integrity and risk management practices.
- The term "underlying exposure" encompasses various forms of documentation, including order bills or receipts for exporters/importers and supporting documents for remittances, as clarified by regulatory authorities such as the Reserve Bank of India (RBI).
- Furthermore, participation in rupee-involved Exchange-Traded Currency Derivatives (ETCDs) is subject to compliance with the Foreign Exchange Management Act (FEMA), 1999, and its accompanying regulations, emphasizing the importance of regulatory adherence in currency derivative transactions.
- These regulations permit the trading of currency derivative contracts involving the rupee, whether over-the-counter (OTC) or exchange-traded, primarily for the purpose of hedging exposure to foreign exchange rate risks, thereby fostering a more robust and risk-aware financial ecosystem.

Electroencephalography

Context: *Even a hundred years following its discovery, the EEG remains an indispensable tool for comprehending the complexities of the brain..*

➢ **Overview of EEG Usage in Medical Practice:**

- The electroencephalogram (EEG), commonly known as EEG, serves as a vital medical test for measuring brain electrical activity.
- It is frequently employed on patients suspected or diagnosed with neurological disorders to provide insights into brain function.
- Typically, EEG procedures last around 30 minutes but can extend for longer durations, even spanning days or weeks for patients undergoing continuous monitoring for diagnostic or therapeutic purposes.

➢ **Historical Context and Evolution of EEG:**

- The origins of EEG are marked by intriguing anecdotes and scientific discoveries.
- Initially pursued by Berger with an interest in telepathy rather than medical diagnosis, EEG's journey led to groundbreaking insights into brain function.

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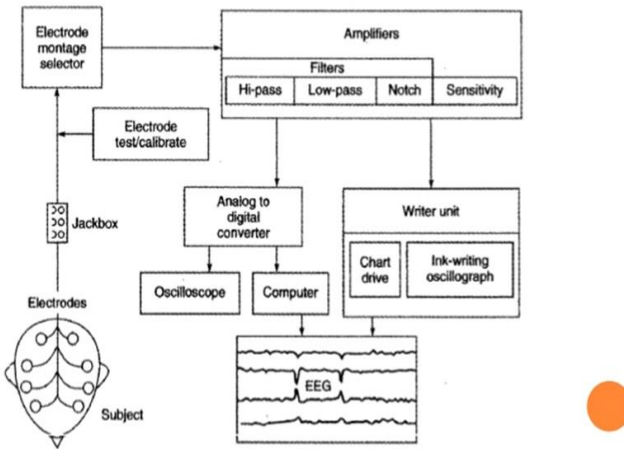
- A pivotal moment occurred in 1934 when Boston physicians correlated EEG patterns with seizures in patients with "petit mal" epilepsy, paving the way for EEG's integration into mainstream clinical practice.
- Since the establishment of the first clinical EEG laboratory in 1937, EEG has evolved into a sophisticated diagnostic tool utilized by institutions worldwide.

➢ **Understanding EEG Fundamentals:**

- EEG captures the electrical activity of the brain through electrodes placed on the scalp, measuring the flow of current generated by neuronal activity.
- Neuronal firing triggers action potentials, resulting in local electrical activity and current flow within and outside neurons.
- EEG recordings consist of various frequency components, including delta, theta, alpha, beta, and gamma waves, reflecting the dynamic nature of brain activity.
- Notably, EEG patterns exhibit spontaneous organization, forming recognizable patterns that aid in clinical diagnosis and disease management.

SCHEMATIC DIAGRAM OF AN EEG MACHINE



➢ **Integration of EEG with Artificial Intelligence (AI):**

- The convergence of EEG with AI technologies presents promising avenues for enhancing diagnostic capabilities.
- AI systems can analyze EEG data, offering insights into brain function and neurological conditions.
- Recent advancements in deep learning AI have demonstrated the potential to decode mental activity from EEG signals, paving the way for innovative applications in neuroscience.

Falling water levels in Reservoirs in India

Context: *Water levels in major reservoirs and river basins across the country are declining, reaching dangerously low levels even before peak summer arrives.*

- Data released by the Central Water Commission on April 4, 2024, revealed a concerning trend of declining water levels.
- Karnataka, Andhra Pradesh, and Telangana are experiencing water shortages due to deficient rainfall during the previous monsoon season.

➢ **Live Storage in Major Reservoirs:**

- Currently, the live storage in India's 150 major reservoirs monitored by the CWC stands at 61.801 billion cubic meters (BCM), which is only 35% of the total live storage capacity.
- This storage level is lower than that of the corresponding period last year and falls below the average storage of the last 10 years.
- The storage has been consistently decreasing, with levels dropping from 64.606 BCM to 61.801 BCM in recent weeks.

➢ **Water Levels in River Basins:**

- Thirteen east-flowing rivers between the Mahanadi and Pennar basins have remained devoid of water for three consecutive weeks.
- Major river basins like Pennar and Cauvery are experiencing highly deficient and deficient water levels, respectively, with noticeable declines compared to previous weeks.

➢ **Regional Reservoir Storage:**

- Reservoirs in the southern region, including Karnataka, Andhra Pradesh, Telangana, Tamil Nadu, and Kerala, are only filled to 20% of their capacity.
- Water levels in the northern, eastern, western, and central regions range from 32% to 45.24%, indicating varying degrees of water scarcity across different parts of the country.

➢ **Impact on Major Dams and Reservoirs:**

- Major dams such as Nagarjuna Sagar and Srisailam in Andhra Pradesh and Telangana, and Tungabhadra and Ghataprabha in Karnataka, are experiencing dwindling water levels.
- These dams play crucial roles in providing irrigation water, drinking water, and electricity generation.

➢ **State-wise Water Levels:**

- Thirteen out of 21 states monitored by the CWC have water levels below the 'normal' storage, indicating widespread water scarcity across the country.
- 'Normal' storage refers to the average storage of the last 10 years.

Declining River Basin Storage: Thirteen rivers, including Rushikulya, Vamsadhara, Nagavali, and Musi, have had no water since March 21, affecting an agricultural area covering approximately 60% of the total area.

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NEWS IN BETWEEN THE LINES

Tholu Bommalata

Recently, the Sangeet Natak Akademi has undertaken the revival of Tholu Bommalata, an ancient form of puppetry, which faces the threat of extinction.

About Tholu Bommalata

- Tholu Bommalata, also known as "**Bommalattam**" or "Tolpava Koothu," is a shadow puppetry art form that **originated at Godavari region in Andhra Pradesh**, India around the 3rd century BCE.
- The term "**Tolu" means leather**, and "**Bommalattam" means puppetry in Tamil**.
- The puppets are made of **translucent**, **colored leather** and are projected onto a small screen, like color photographic transparencies.
- The puppeteer manipulates the puppets from behind with **two sticks** and the puppets tell mythological and folk tales from the epics through a blend of music, dance, and vibrant visuals.
- The puppets often depict **animals**, **birds**, **gods** and **demons**.
- The Government of India designated Tholu Bommalata as a **Geographical Indication (GI) in 2008.**
- **It** is recognized by The Government of India as a part of its **One District One Product (ODOP) Initiative.**

Line of Control

Recently, security forces in the Union Territory of Jammu and Kashmir successfully thwarted an infiltration bid by terrorists at Sabura Nala along the Line of Control (LoC) in the Uri sector of Baramulla in north Kashmir.

About the Line of Control:

- The Line of Control (LoC) is a **military control line** that separates the parts of the **former princely state of Jammu and Kashmir** that are **controlled by India and Pakistan.**
- It was designated as the **LoC in 1972,** following the Shimla Agreement between the two countries.
- The LoC is **not a legally recognized international boundary**, but it serves as the de facto border.
- It is 460 miles (740 km) long and was established by the Simla Agreement, which ended the **Indo-Pakistani War in 1971**.
- It is located **close to the Jehlum valley route.**
- On **February 25, 2021,** India and Pakistan announced a **ceasefire** along the LOC.

National Medical Commission

Recently, nine medical colleges in Telangana have moved a step closer to establishment as the National Medical Commission (NMC) has advanced their applications.

About National Medical Commission:

- The National Medical Commission (NMC) is an **Indian regulatory body** that **regulates medical education and professionals.**
- It was established by an **Act of Parliament in August 2019,** replacing the Medical Council of India (MCI) and came into force on **September 25, 2020.**
- It regulates **medical education**, **profession** and **ins titutions** across India.
- It **sets standards for medical education** and grants recognition to medical qualifications.
- The National Medical Commission (NMC) **comprises 25 members,** predominantly **nominated by the Central government**, with a four-year tenure.
- Additionally, it **includes 11 part-time members representing states or state medical councils**, while NMC chairpersons and other Central government-nominated members are ineligible for renomination.
- The members include individuals with expertise in various fields related to medical education, public health, and administration.
- **Medical Assessment and Rating Board** (MARB) is a crucial component of NMC responsible for assessing and rating medical institutions across the country.

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Paira Cropping System

Recently, Odisha has been actively promoting climate-resilient agriculture through its rice fallow initiative using paira cropping system.

About Paira Cropping System:

- Paira cropping system is a **traditional agricultural practice** primarily observed in coastal areas, notably in states like **Odisha.**
- In this agricultural practice, seeds of crops such as **lentil**, **lathyrus**, **urdbean** or **mungbean** are broadcast in the standing crop of rice approximately 2 weeks before its harvest.
- Paira cropping requires **minimal intervention and cost** as it utilizes the existing infrastructure of paddy fields and relies on natural moisture.
- It **mitigates soil degradation** and **optimizes fertilizer** application, contributing to sustainable agriculture practices.
- This system has been significant in Odisha's agricultural landscape, contributing to crop diversification and enhancing farm income.

Place in News

Norway

Recently, Norway declared its intention to raise its defense budget by 83% over the next 12 years.

Norway (Capital: Oslo)

Location: Norway, formally known as the Kingdom of Norway is a Nordic country in Northern Europe, situated on the Scandinavian Peninsula.

Boundaries: Norway shares its borders with **Sweden** (East), **Finland** and **Russia** (Northeast), **Norwegian Sea**, **Atlantic Ocean** (West & South), **the Arctic Ocean** (North), the **North Sea** (South).

Physical Features:

- The highest point in Norway is **Galdhopiggen**.
- Norway's major rivers include **Glomma**, **Numedalslågen**, **Drammenselva**, **Tana** and **Vefsna**.
- Norway is rich in minerals such as **iron ore**, **copper**, **zinc**, **nickel**, **titanium** and **phosphate.**

Membership: It is a member of NATO (North Atlantic Treaty Organization).

POINTS TO PONDER

- With Lok Sabha elections approaching, what is the predominant form of misinformation circulating on social media platforms? **–Shallow fakes**
- When did the restoration project for the neglected Sannati Buddhist site, which came to light through ASI excavations in the 1990s, commence? **– In 2022**
- What recent event occurred in Andhra Pradesh's Alluri Sitharama Raju district involving the forest department authorities? **– Cutting the bark of an Indian laurel tree, resulting in water gushing out**
- Where was the first flight of the indigenous LCA Tejas Mark 1A fighter aircraft, made in India, completed? **– Bengaluru**
- Which app has been recently launched by the Ministry of Health and Family Welfare? **– myCGHS app (Central Government Health Scheme)**