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5 April, 2024

Ayushman Bharat Health Accounts

Context: *The government has given an explainer about the Ayushman Bharat Health Accounts recently.*

➢ **Ayushman Bharat Health Accounts (ABHA):**

- ABHA serves as an account/number linking all health records of an individual, aiming to create a digital health ecosystem and promote healthcare digitization.
- Enrollment in the Ayushman Bharat Digital Mission (ABDM) allows individuals to generate a Health ID or ABHA at no cost.
- **Objectives of ABHA:** Facilitate a seamless and efficient financial framework for implementing the Ayushman Bharat scheme, ensuring transparency, accountability, and accessibility of healthcare funds.

➢ **Features of ABHA:**

- **Cashless Transactions:** Enables cashless transactions for eligible beneficiaries at empanelled healthcare facilities, reducing financial burdens during medical emergencies.
- **Electronic Health Records (EHR):** Integrates electronic health records for storage, retrieval, and streamlining of patient information.
- **Portability:** Designed to be portable across various healthcare providers under the Ayushman Bharat scheme, ensuring seamless access to services.
- **Real-time Monitoring:** Incorporates real-time monitoring mechanisms to track fund utilization and optimize resource allocation.
- **Transparency and Accountability:** Promotes transparency and accountability through digital transactions and electronic records, reducing corruption risks.

➢ **Components of ABHA:**

- **Beneficiary Identification:** Involves identification and registration of eligible beneficiaries, assigning a unique health identification number (UHID) for tracking and management.
- **Funds Management:** Manages allocation and disbursement of funds for healthcare services, ensuring prompt and secure transfers.
- **Claim Settlement:** Processes and settles claims submitted by healthcare providers, verifying authenticity and disbursing payments.
- **Audit and Oversight:** Incorporates audit mechanisms to monitor fund utilization and detect irregularities, ensuring compliance and integrity.

➢ **Benefits of ABHA:**

- **Financial Protection:** Provides financial protection by covering healthcare costs, reducing out-of-pocket expenses for beneficiaries.
- **Efficient Healthcare Delivery:** Promotes efficiency through cashless transactions and electronic health records, minimizing administrative delays.
- **Data-driven Decision Making:** Generates valuable insights for evidence-based decision-making and policy formulation, addressing healthcare challenges effectively.

➢ **Use of ABHA for CGHS Employees:**

- Integrates CGHS beneficiaries into the digital health ecosystem, allowing access to health records across preferred Personal Health Record (PHR) apps.
- Facilitates secure transfer of health records between healthcare providers, ensuring comprehensive healthcare provision.
- Enables OPD appointment scheduling through QR code scanning at Wellness Centers.

➢ **Future Directions of ABHA:**

- Expected to evolve and expand, incorporating new features and functionalities to meet healthcare sector needs.
- Potential integration with other healthcare schemes and initiatives to create a unified healthcare ecosystem.
- Continued research and innovation to strengthen effectiveness and impact.

Tidal Locking

Context: *A team of astronomers and astrophysicists from around the world has verified the initial detection of a tidally locked super-Earth exoplanet.*

- The team used a unique approach to confirm tidally locked motion of exoplanet LHS 3844b.
- Tidal locking occurs when one side of a celestial body always faces its orbiting partner due to gravitational forces.
- The researchers analyzed infrared data from the Spitzer Space Telescope to measure starlight reflection and calculate surface temperature.

➢ **Tidal Locking:**

- Tidal locking occurs between co-orbiting astronomical bodies when one object's rotation rate remains constant throughout its orbit.
- This phenomenon results in synchronous rotation, where the object takes as long to rotate around its axis as it does to revolve around its partner.
- Examples include the Moon, which always presents the same face to Earth due to tidal locking.
- Tidal locking can occur between moons and planets, as well as between dwarf planets and their moons, like Pluto and Charon.

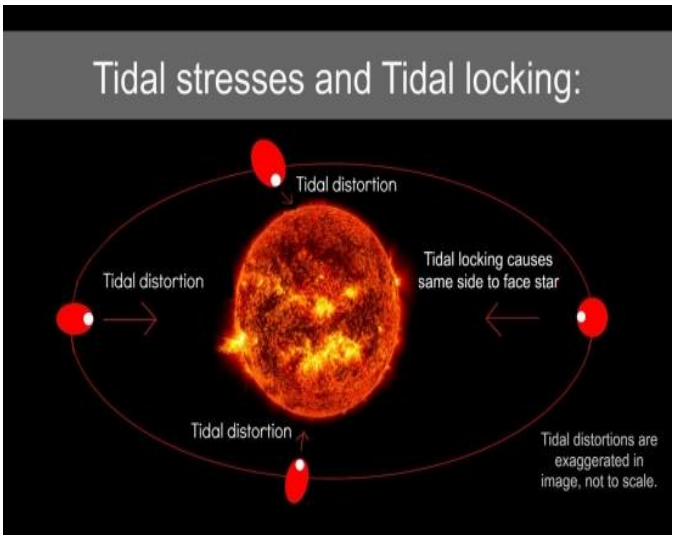
➢ **Mechanism:**

- Tidal locking arises from the gravitational forces exerted by one body on another, causing distortions and tidal bulges.

- The gravitational gradient across the distorted body results in a torque that aligns its rotation with its orbital period.
- The net torque acts to synchronise the object's rotation with its orbit, eventually leading to tidal locking.

➢ **Occurrence:**

- All known large moons in the Solar System are tidally locked to their primaries.
- Examples include Pluto and Charon, Eris and Dysnomia, where mutual tidal locking is observed.
- Earth's Moon exhibits tidal locking, with its rotation and orbital periods synced, though libration allows for variations in visible surface area.
- Tidal locking is also observed in exoplanets, such as Proxima Centauri b, and is expected in close binary stars.



5.3-magnitude earthquake hits Chamba

Context: *Parts of northern India experienced tremors when a 5.3-magnitude earthquake struck the Chamba district of Himachal Pradesh on April 4.*

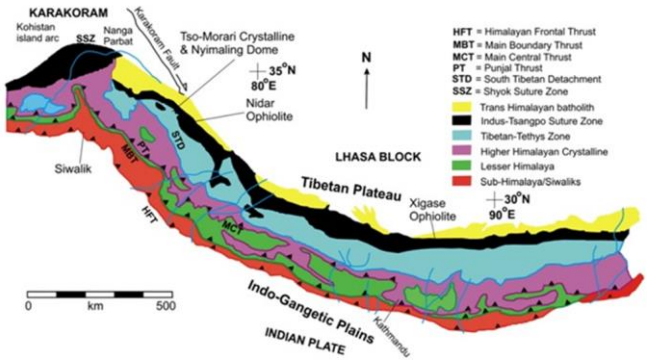
- The quake occurred at a depth of 10 km, according to meteorological officials in Shimla.
- On this day in 1905, an 8-magnitude earthquake in Kangra, Himachal Pradesh, caused widespread destruction and claimed over 20,000 lives in the Western Himalayas.

➢ **Definition of Earthquake:**

- An earthquake is a sudden, violent shaking of the ground caused by movements in the earth's crust or volcanic activity. It results from a sudden release of energy during tectonic activities in the earth's crust.

➢ **Causes of Earthquakes:**

- India is highly affected by earthquakes due to the presence of active young fold mountains, particularly the Himalayas.
- The movement and convergence of the Indian tectonic plate with the Eurasian plate at a rate of five to six centimetres per year contribute to Himalayan earthquakes.
- Climate change-induced melting of thick ice sheets can reduce the load on the earth's crust, leading to micro-level earthquakes.
- During the monsoon months, increased precipitation on the Indo-Gangetic Plain adds stress to the earth's crust, while dry winters reduce water weight, resulting in micro-seismic tremors.
- Construction of large-scale infrastructure can also trigger seismic activity.



➢ **Seismic Zones in India:**

- India is divided into four seismic zones (II, III, IV, and V) based on scientific inputs related to seismicity, past earthquakes, and the tectonic setup.
- Most earthquakes in the Himalayas occur at shallow depths (<30 km), with deep earthquakes indicating the descent of the Indian Plate into the mantle at the arc ends.

➢ **Types of Earthquakes based on Depth:**

- Shallow earthquakes occur at depths ranging from 0 to 70 km.
- Intermediate earthquakes occur at depths ranging from 70 to 300 km.
- Deep earthquakes occur at depths ranging from 300 to 700 km.

➢ **Wadati–Benioff Zone:**

- Deep earthquakes (300-700 km) occur in this zone.
- It is a subduction zone where earthquakes are produced by the interaction of a descending oceanic crustal plate against a continental plate.
- Some of the most powerful earthquakes occur along this zone, caused by slip along the subduction thrust fault or faults within the descending plate as it moves into the mantle.

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NEWS IN BETWEEN THE LINES

Monetary Policy

The Reserve Bank of India (RBI) will announce its first Bi-Monthly Monetary Policy of the Financial Year 2024-25 today, April 5.

About Monetary Policy:

- Monetary policy is the actions and decisions made by a country's monetary authority to **control the money supply and interest rates**.
- In India, the **Reserve Bank of India (RBI) is responsible** for conducting monetary policy.
- Monetary policy aims to achieve **price stability**, **foster economic growth** and ensure exchange rate stability to facilitate international trade and investment.
- Monetary policy was **developed in 1934 under the RBI Act.**
- The RBI controls monetary policy in conjunction with the central government's developmental agenda.
- The instruments of monetary policy include **Liquidity Adjustment Facility** (LAF), **Repo Rate**, **Reverse Repo Rate**, **Statutory Liquidity Ratio (**SLR), Marginal Standing Facility (MSF) Rate, **Bank Rate, Cash Reserve Ratio** (CRR) and Open Market Operations (OMOs), which collectively regulate liquidity, interest rates, and credit availability in the economy.
- The Monetary Policy Committee (MPC), **chaired by the RBI Governor**, **consists of six members**, including three from the RBI and **three external members appointed by the Government of India,** meeting regularly to review economic conditions and decide on key policy rates.

Agni-Prime Missile

Recently, the Agni-Prime Missile was successfully flight-tested at Dr APJ Abdul Kalam Island off the coast of Odisha.

About Agni-Prime Missile:

- Agni-Prime is a **New Generation Ballistic Missile developed by India.**
- The test was conducted by the **Strategic Forces Command (SFC) in collaboration with the Defence Research and Development Organisation (DRDO).**
- The primary aim of the flight-test was to **validate the reliable performance** of the Agni-Prime Missile.

Criollo Cattle

Recently, Irish scientists have found that Criollo, a breed of cattle developed in the New World, exhibits resilience to climate change.

About the Criollo Cattle:

- The term "Criollo" originates from **Portuguese "Crioulo**" and was used in the colonial Hispanic and Lusophone Americas to distinguish people born in the New World from those native to Iberia (Spain and Portugal), known as "**Penninsulares**."
- Criollo also extended to **livestock** (cattle, sheep, horses and goats).
- They have developed adaptations over centuries, making them resilient to environmental changes.
- They have short, **slick-hair coats** that provide improved **thermotolerance**, enabling them to withstand **hot** and **humid weather conditions.**
- Research has identified **gene signatures** associated with adaptive traits, including **reproduction**, **fertility** and **disease immunity**, in Criollo cattle populations and these genetic adaptations contribute to their ability to thrive in diverse environmental conditions.
- The **first cattle in the Americas were brought from La Gomera in the Spanish Canary Islands to Hispaniola** (Haiti and the Dominican Republic) on the **second voyage of Christopher Columbus in 1493.**
- The cattle that came to the **Americas from Iberia in the 15th and 16th** centuries were adapted to **Mediterranean climates.**

Face to Face Centres

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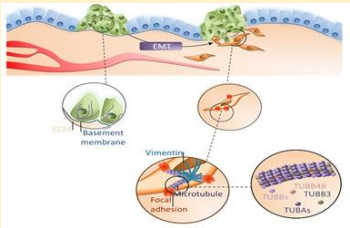
TUBB4B



Recently, a study revealed that rare variants of a gene controlling cell shape are 2.7 times more common in left-handed individuals, shedding light on the genetic component of left-handedness.

About TUBB4B:

- TUBB4B is a **protein coding gene** that encodes the β-4B tubulin isotype.
- It is also known as **tubulin beta-4B class IVb**.
- It is involved in cell cycle processes and spermatogonia proliferation.
- It is associated with diseases such as **Leber Congenital Amaurosis** with Early-Onset Deafness and **Leber Plus** Disease.
- It controls a protein involved in the formation of **microtubules**, which provide internal structure to cells.
- Rare variants of the TUBB4B gene have been found to be 2.7 times more **common in left-handed** individuals compared to **right-handed individuals**.
- The identification of TUBB4B gene variants suggests its involvement in setting up the **brain's normal asymmetries**, which may **influence hand dominance**.

Place in News

Poland

Recently, a diplomatic crisis flared up between Poland and Israel due to the death of a Polish aid worker in Gaza.

Poland (Capital: Warsaw)

Location: Poland is a country located in Central **Europe**.

Boundaries: Poland shares its borders with **Ukraine** and **Belarus** (East), **Germany** (West), the **Baltic Sea** (North), **Lithuania** the **Russian exclave of Kaliningrad Oblast** (Northeast), the **Czech Republic** and **Slovakia** (South).

Physical Features:

- The highest point in Poland is **Rysy**, which is located in the Tatra Mountains along the border with Slovakia.
- Some major rivers in Poland include the **Vistula**, **Oder**, **Warta**, **Bug** and **Narew**.
- Some major lakes in Poland include Lake **Sniardwy**, **Lake Mamry**, **Lake Lebsko**, **Lake Wigry** and **Lake Mikolajskie**.
- Poland possesses significant mineral resources including **coal**, **copper**, **silver**, **zinc**, lead, salt, and **natural gas**, etc.

Membership: Poland is a member of various international organizations including the **European Union**, **NATO** (North Atlantic Treaty Organization) and the **United Nations, WTO (World Trade Organization), etc.**

POINTS TO PONDER

- What recent initiative has the World Health Organization (WHO) unveiled, employing generative Artificial Intelligence (AI) to enhance public health? **– Introducing a prototype named S.A.R.A.H. (Smart AI Resource Assistant for Health) for digital health promotion.**
- What project has researchers from Bengaluru's Raman Research Institute (RRI) initiated, funded for pre-project studies by ISRO, with the aim of placing a future space radio telescope in lunar orbit? **– PRATUSH (Probing ReionizATion of the Universe using Signal from Hydrogen)**
- In which sector does India consider the Johnson Line of 1865 as the border, while China claims the McDonald Line of 1899 as the true border? **– Western Sector (Ladakh)**
- According to the Maritime Boundary Agreement of June 1974 between India and Sri Lanka, on which side of the boundary was Katchatheevu placed? **– Sri Lankan side**
- From which date did the Ministry of Health and Family Welfare (MoHFW) make it mandatory to link the Central Government Health Scheme (CGHS) beneficiary ID with the Ayushman Bharat Health Account (ABHA) ID? **– April 1**