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Daily News Analysis

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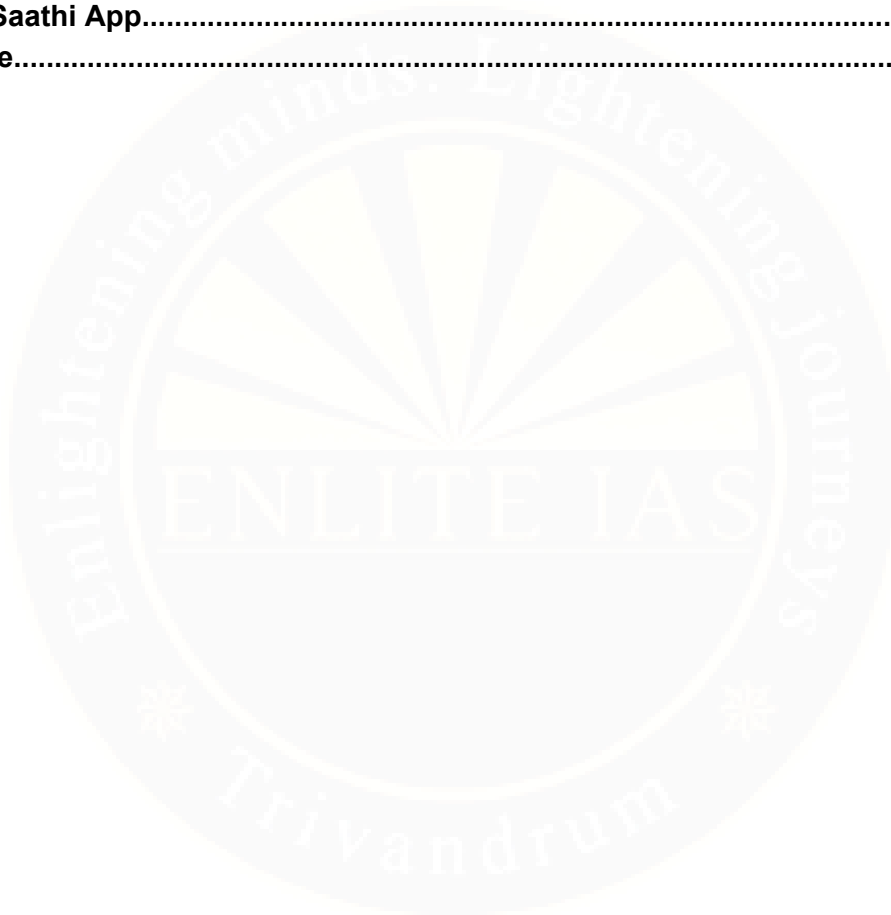
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1. Brain Atlas

- Prelims - Brain Atlas
- Mains - GS 3 - Science and Technology

Why in the news?

- New brain atlases integrate multiple cutting-edge mapping techniques to track how neurons and glial cells develop, migrate, and diversify across different stages and species.

Brain Atlas

- **What is it?:** Brain atlas is a scientific resource that maps the structure and cellular composition of the human brain, including developmental stages from embryo to adulthood.
- **Purpose:**
 - To precisely locate brain regions, nuclei, pathways, and functional networks.
 - Guides neurosurgery, neurological diagnosis, and brain research.
 - Helps compare healthy vs. diseased brains (Alzheimer's, Parkinson's, epilepsy, tumors).
 - Essential in connectomics, brain-computer interfaces (BCIs), and AI modelling.
- **Applications:**
 - **Medical:**
 - ★ Neurosurgery navigation
 - ★ Tumor mapping
 - ★ Stroke rehabilitation
 - ★ Psychiatric research (depression, schizophrenia)
 - **Research:**
 - ★ Understanding brain function and disorders
 - ★ Brain-computer interfaces
 - ★ AI models inspired by brain architecture
 - **Education:** Teaching neuroanatomy through interactive 3D atlases.



2. Custodial Torture

- Prelims - Custodial Torture
- Mains - GS 2 - Polity

Why in the news?

- The Supreme Court has questioned the Centre on non-compliance of its directive to install CCTV cameras in the offices of agencies such as the CBI, ED, and NIA to prevent custodial torture.

Custodial Torture

- **What is it?:**
 - Custodial torture refers to the **use of physical or psychological violence** by police, prison staff, or any law-enforcement authority **against a person in custody** during arrest, interrogation, remand, or imprisonment.
 - It violates Article 20 (Protection against Self-incrimination), Article 21(Right to Life and Personal Liberty) and Article 22(Safeguards on Arrest)
- **Statistics:**
 - India reports hundreds of custodial deaths annually (National Human Rights Commission).
 - Many go unreported, and conviction rates are extremely low.
 - NCRB 2023 recorded more than 100 custodial deaths but only a handful of police personnel were chargesheeted, highlighting systemic gaps.
- **Reasons for Custodial Tortures in India:**
 - Colonial legacy of policing focuses on extraction rather than investigation.
 - Pressure to “solve cases” quickly.
 - Lack of forensic infrastructure causes dependence on forced confession.
 - Poor training & sensitization of police staff.
 - Weak accountability → rare convictions, culture of impunity.
 - Overcrowded prisons & poor oversight.
 - Socio-economic vulnerability of victims.
- **Safeguards:**
 - **Constitutional Safeguards:**
 - ★ **Art. 21:** Protection of life and dignity.



- ★ **Art. 20(3):** No self-incrimination and prevents forced confession.
- ★ **Art. 22(1) & (2):** Right to lawyer and to get produced before a magistrate within 24 hours.

→ **Statutory Safeguards:**

- ★ **Section 35 in BNSS:** Arrest only when necessary
- ★ **Section 187 in BNSS:** Remand procedures under judicial oversight
- ★ **BNS Section 120:** Punishment for causing hurt/grievous hurt to extort confession
- ★ **SC/ST Act** – Additional protection for Dalits/Adivasis.

→ **Judicial Safeguards:**

- ★ **D.K. Basu vs State of West Bengal (1997):** Laid down guidelines for Arrest memo, Right to lawyer and Maintain arrest register
- ★ **Joginder Kumar vs State of UP (1994):** Arrest should not be routine, but justified.
- ★ **Prakash Singh Case (2006):** Police reforms to reduce abuse of power.
- ★ Guidelines to install CCTV Cameras in offices of agencies like CBI, ED and NIA to avoid custodial torture.

● **Impacts of Custodial Torture:**

- Erodes public trust in law enforcement.
- Violates human rights & weakens democracy.
- Damages India's global image on rule of law.
- Produces false confessions, weakening criminal justice outcomes.
- Exacerbates marginalization of Dalits, Tribals, minorities, migrants, poor.

● **Way Forward:**

- **Ratify UNCAT** and enact a comprehensive **Anti-Torture Law**.
- **Strengthen forensics**, CCTV in police stations (SC ruling, 2020).
- Mandatory **body-worn cameras** during arrest/interrogation.
- **Sensitization & training** in human rights and modern policing.
- **Strict accountability** — prosecution of erring officials.
- **Legal aid services** for vulnerable groups (under NALSA).



3. Project 17 A

- **Prelims** - Project 17 A
- **Mains** - GS 3 - Science and Technology

Project 17A



Why in the news?

- The Indian Navy commissioned the state-of-the-art Project 17A stealth frigates INS Taragiri.

Project 17A

- **Launch:** Project 17 Alpha frigates (P-17A) were launched by the Indian Navy in 2019.
- **Aim:** To construct a series of stealth guided-missile frigates.
- **Constructed by:** Two companies - Mazagon Dock Shipbuilders (MDL) and Garden Reach Shipbuilders & Engineers (GRSE).
- **What is it?:** These guided-missile frigates have been constructed with a specific stealth design, which has radar-absorbent coatings and is low-observable which can make its approach undetectable for the enemies.
- **Fact:** The first stealth ship launched under Project 17A was the Nilgiri.



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4. Durand Line

- Prelims - Durand Line
- Mains - GS 2 - International Relations

Why in the news?

- Conflict has flared once again between Pakistan and Afghanistan. The Taliban claimed that Pakistan carried out air strikes inside its territory, killing 10 people near the Durand Line

Durand Line

- **What is it?**: The Durand Line is the international land border between Afghanistan and Pakistan, stretching 2,640 km (≈1,600 miles).
- **Area Covering**: Extends from the Iran–Afghanistan–Pakistan tri-junction in the west to the Pakistan–Afghanistan–China tri-junction in the east.
- **Historical Backing**

→ Durand Agreement (1893)

- ★ Defined the boundary and Afghanistan's acceptance of British Indian authority across tribal belts.
- ★ Demarcated by Sir Henry Mortimer Durand (Foreign Secretary, British India) and Emir Abdur Rahman Khan (Afghanistan)
- ★ Purpose: To demarcate spheres of influence between British India and Afghanistan and to serve as a buffer as a buffer line amid the "Great Game" rivalry between Britain and Russia.

→ Anglo-Afghan Treaty (1919)

- ★ After the Third Anglo-Afghan War, the treaty reaffirmed:
 - ❖ Afghanistan's independence
 - ❖ Acceptance of all previous agreements including the Durand Line
- ★ Pakistan considers the treaty inheritance binding under state succession.

→ Post-1947

- ★ After partition, the Durand Line became the Afghanistan–Pakistan border.
- ★ Afghanistan voted against Pakistan's UN membership in 1947, citing objections to the border.



→ Contemporary Position

- ★ Pakistan: Considers it the legal international border.
- ★ Afghanistan: Successive governments (except during Taliban rule at times) have not recognized it officially.

- **Physical Geography**

- Rugged Topography with ranges like Hindu Kush, Karakoram Range, Spin Ghar mountains.
- Pass in the region is Khyber Pass

- **Security Concern**

- Cross-border militancy
- Smuggling and illegal migration
- Presence of terror groups in border regions

- **Strategic Importance**

- Acts as a strategic buffer zone between South Asia and Central Asia.
- India–Pakistan–Afghanistan strategic triangle
- Trade routes (Khyber Pass, Chaman)
- China's western connectivity (Wakhan Corridor proximity)



5. SIM Binding

- **Prelims** -SIM Binding
- **Mains** - GS 3 - Science and Technology

Why in the news?

- The Department of Telecommunications (DoT) has directed online messaging platforms to bar users from accessing their services without the SIM card used to register for the application.

SIM Binding

- **What is it?**: SIM Binding is a security feature that links a user's mobile SIM card to a specific application or service to verify identity and prevent fraud.
- **Aim**: It ensures that only the SIM card registered with the service can access the app or perform sensitive transactions.
- **Importance**
 - Prevents SIM-swap fraud, where criminals duplicate SIM cards to steal OTPs.
 - Stops unauthorized logins to apps using stolen devices.
 - Secures UPI, banking, and financial transactions.
 - Ensures that transactions originate from the registered SIM only.
- **Security Advantages**
 - Enhances two-factor authentication (2FA).
 - Reduces dependence on OTP alone (more secure than SMS OTP).
 - Detects illegal SIM cloning or SIM-jacking.
 - Provides device-level + SIM-level authentication.
- **Limitation**
 - If a user genuinely replaces a SIM, re-verification is required.
 - If phone is stolen with the SIM inside, risk still remains (mitigated with app lock/biometrics).
 - Vulnerable if the telecom operator is compromised.
 - Not useful for WiFi-only devices.



6. Sanchar Saathi App

- **Prelims** -Sanchar Saathi App
- **Mains** - GS 2 - Governance

Why in the news?

- The Department of Telecommunications (DoT) has mandated the pre-installation of the Sanchar Saathi app on all new mobile handsets manufactured or imported for sale in India.

Sanchar Saathi App

- **Launch**: 2023
- **Ministry**: Ministry of Communication
- **Aim**: It is a citizen-centric digital platform that helps users track, secure, and authenticate their mobile connections.
- **Objectives**
 - Prevent misuse of mobile connections.
 - Detects fraud, identity theft, and illegal telecom activities.
 - Help citizens secure/locate lost or stolen mobile phones.
 - Enhance KYC integrity in telecom services.
 - Support law enforcement agencies with accurate device data.
- **Features for Citizens**
 - Check mobile numbers linked with your identity.
 - Report fraudulent SIMs.
 - Block/track lost devices using IMEI.
 - Check smartphone authenticity (whether it is stolen or duplicate).
 - Protect against cyber fraud, financial scams, and identity misuse.
 - Facilitates real-time alerts and verification.



7. Cold Wave

- Prelims - Cold Wave
- Mains - GS 1 - Geography

Why in the news?

- As per IMD there will be more than the usual number of 'cold wave' days over Delhi, Haryana, Punjab, eastern Uttar Pradesh, northern Madhya Pradesh, western Maharashtra and Arunachal Pradesh

Cold Wave

- **Definition:** *A cold wave is a meteorological phenomenon characterized by a sudden and significant drop in temperature over a short period, typically associated with the intrusion of cold air masses into a region.*
- **Features of a Cold Wave:**
 - **Rapid Temperature Decline:** A noticeable drop in temperature over a few hours to days.
 - **Duration:** Can last from a few days to several weeks.
 - **Regional Variation:** The temperature threshold for a cold wave varies depending on the climatic norms of the region.
 - **Associated Weather Conditions:**
 - ★ Strong winds.
 - ★ Clear skies, which often exacerbate cooling during the night.
 - ★ Formation of frost, freezing rain, or snow in some cases.
- **Causes of Cold Waves:**
 - **High-Pressure Systems:** Cold air masses from polar or arctic regions are pushed towards lower latitudes by high-pressure systems.
 - **Jet Stream Shifts:** A dip in the jet stream can allow cold polar air to move southward into warmer regions.
 - **Snow and Ice Cover:** Reflects sunlight, reduces heat absorption, and contributes to colder temperatures.
 - **Geographic Features:** Valleys, mountains, and open plains can influence how cold air pools and moves.



- **Impact of Cold Waves:**

- **Human Health:**

- ★ Hypothermia and frostbite risks.
 - ★ Increased mortality rates among vulnerable populations (e.g., elderly, homeless).

- **Agriculture:**

- ★ Crop damage and reduced yield.
 - ★ Livestock fatalities due to extreme cold.

- **Infrastructure:**

- ★ Frozen water pipes.
 - ★ increased demand for heating, leading to energy shortages.
 - ★ Disruption to transportation systems (e.g., icy roads, rail, and air travel delays).

- **Ecosystems:**

- ★ Stress on wildlife, affecting their survival and migration patterns.