

### WHAT IS THE SUPREME COURT COLLEGIUM?

The Supreme Court recently quashed an Andhra Pradesh High Court order that voiced strong disapproval over the apex court Collegium transferring two Chief Justices and castigated the Andhra Pradesh Chief Minister for his apparent attempts to undermine it.



#### About Supreme Court Collegium:

- It is a system under which appointments and transfers of judges are decided by a forum of the Chief Justice of India and the four senior-most judges of the Supreme Court (SC).
- It is not mentioned in the Indian Constitution.

#### What does the Constitution actually prescribe?

- Article 124 deals with the appointment of SC judges. It says the appointment should be made by the President after consultation with such judges of the High Courts and the Supreme Court as the President may deem necessary. The CJI is to be consulted in all appointments, except his or her own.
- Article 217 deals with the appointment of High Court judges. It says a judge should be appointed by the President after consultation with the CJI and the Governor of the state. The Chief Justice of the High Court concerned too should be consulted.
- Evolution of the Collegium System:
  - Since the Constitution mandates consultation with the CJI is necessary for appointments to the judiciary, the collegium model evolved.
  - It has its genesis in a series of three judgments that are now clubbed together as the Three Judges Cases.
  - First Judges Case (1982):
    - The SC held that "consultation" of judges does not mean concurrence.

- Hence, it gave **primacy in the appointment of judges to the Executive.**
  - **Second Judges Case (1993):**
    - **The court reversed its earlier ruling by changing the meaning of "consultation" to concurrence.**
    - **With this, the advice tendered by CJI became binding.** However, the CJI would **have to take into account the views of two of his senior most colleagues.**
  - **Third Judges Case (1998):**
    - **The court gave primacy to the opinion of the CJI in the matter of the appointment of Judges.**
    - **However, the CJI must consult four senior-most judges of SC.**
    - **Opinions of all members of the collegium should be in writing.**
    - **In case of a difference of opinion, the majority view will prevail.**
    - **Even if two judges in the collegium give an adverse opinion of a person for appointment as the SC judge, the CJI should not send the recommendation to the government.**
  - These three cases established that the collegium headed by the Chief Justice of India would have primacy in the appointment of judges to the higher judiciary.
  - This **collegium makes recommendations to the government for the appointment of judges to the SC and of Chief Justices of High Courts, and the transfers of HC judges.**
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## WHAT IS FROZEN SMOKE?

Researchers have developed a sensor made from "frozen smoke" that uses artificial intelligence techniques to detect formaldehyde in real time at concentrations as low as eight parts per billion, far beyond the sensitivity of most indoor air quality sensors.



- The frozen smoke, technically known as **aerogel**, is an extraordinary material.

- It was originally developed in the 1930s.
- The name aerogel comes from the combination of the Greek word “aero”, meaning air, and “gel”, since aerogels are derived from gels.
- It is hailed as a **miracle material**.
- **Properties**
  - Aerogel can claim a **low density, high thermal resistivity and a highly porous structure**.
  - The texture of aerogel is **similar to a fine, dry sponge**, but feels much lighter
  - In fact, aerogel holds the record as the lightest solid in the world.
  - When pressed softly, aerogel will return to its original form, but when pressed harder, a dimple forms. Put aerogel under too much pressure, however, and it will shatter like glass into many tiny pieces.
  - They are composed mostly of air and can be **used to remove contaminants**.

## What is Formaldehyde?

- It is a common **Volatile organic compound (VOC)** and is emitted by household items including pressed wood products (such as MDF), wallpapers and paints, and some synthetic fabrics.
- For the most part, the levels of formaldehyde emitted by these items are low, but levels can build up over time.
- Formaldehyde can lead to serious **health problems** with prolonged exposure even at low concentrations.

## DHOKRA SHILPKALA



Chhattisgarh's Ocher Studio is helping to preserve India's 4,000-year-old craft- Dhokra Shilpkala

- The word "Dhokra" is believed to be derived from the **Dhokra Damar tribes**, who are the traditional metal smiths of **Central India**.

- The origins of Dhokra Shilpkala can be traced back to the tribal communities residing in the regions of **Chhattisgarh, Jharkhand, West Bengal, and Odisha**, where it evolved as an integral part of their cultural and religious practices.
- **Technique and Process:** What sets Dhokra Shilpkala apart is its remarkable technique of **metal casting**, which involves using the **lost wax casting method**, also known as cire perdue.
- **Artistry and Designs:**
  - Its design has rustic charm and the organic nature of its designs.
  - Artisans draw inspiration from **nature, mythology, and everyday life**, incorporating motifs such as **animals, birds, deities, and tribal symbols** into their creations.
  - From miniature figurines and jewellery to larger-than-life sculptures and functional objects, Dhokra Shilpkala encompasses a wide range of artistic expressions.
- **Issues:** The rapid pace of **urbanisation**, coupled with the rise of **mechanised production techniques**, has threatened the livelihoods of traditional artisans and endangered this ancient craft.

## What is the Lost wax method?

- The process begins with the creation of a **clay core**, which serves as the base for the final metal sculpture.
- Artisans then coat this clay core with a **layer of beeswax**, meticulously sculpting the intricate designs and patterns by hand.
- The entire structure is then **heated, allowing the wax to melt and drain out**, leaving behind a cavity in the shape of the original sculpture.
- Molten metal, typically a combination of brass and bronze, is poured into this cavity, filling the space left by the melted wax.
- After cooling and solidifying, the clay mould is broken away, revealing the final metal casting.

## WEATHER INFORMATION NETWORK AND DATA SYSTEM (WINDS)

### Why in News?

- The Union Ministry of Agriculture & Farmers Welfare, Government of India, has initiated the weather information network and data system (WINDS) to generate long-term, hyper-local weather data.

### Why is India Transitioning to Hyperlocal Extreme Weather Forecasting?

- Weather forecasting **plays a pivotal role** in the country's functioning because predicting rain, cyclones, heatwaves and drought accurately are **critical to inform decision making** on disaster management.
- In India, the **Indian Meteorology Department (IMD)** is the principal government agency in all matters relating to meteorology.
  - It specialises in the incredibly complex science of predicting weather patterns by observing, modelling and interpreting a multitude of variables.
- However, in tropical countries like India, **weather variability is inherently higher**.
  - IMD's forecasts have improved vastly in the last few years as it has upgraded to technologies similar to the **US, the UK and Japan**, which are known to produce accurate forecasts.
  - Yet, there are still many days and geographies for which Indian **forecasts go wrong**, especially during winter and summer monsoon.

### Major Hurdle in the Indian Weather Forecasting:



- **Lack of weather monitoring ground stations:**
  - Currently, **IMD operates around 800 automatic weather stations (AWS)**, 1,500 automatic rain gauges (ARG) and 37 doppler weather radars (DWR).

- This is **against the total requirements of more than 3,00,000** ground stations (AWS/ARG) and around 70 DWRs.
- Several Indian State governments and private companies operate a significant network of ground stations (more than 20,000), many of which are not currently used by IMD due to **inaccessibility and reliability of data**.
- **Old prediction technologies:**
  - Currently, most of the prediction software used in forecasting are based on the global forecasting system and weather research and forecasting models, both of which are **not modern**.
  - Thus, there is an **urgent need for an integrated system** to fill these data gaps.

#### About the WINDS Portal:

- It is a promising step forward by the **Department of Agriculture & Farmers Welfare** launched in July 2023.
- Under this programme, **more than 200,000 ground stations (AWS and ARG) will be installed**.
- It will help tremendously in enhancing weather data utilisation by generating long-term, hyper-local weather data and thus in improving weather predictions and decision making.
- The system will **promote the data for wider applications** in agriculture and other sectors and will help in creating a **national-level data base**.
- It will assist in establishing the protocols required to access the country-wide data by the various public and private concerns.

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#### [SAFETY FOR CHILDREN ONLINE](#)

- In early February, Meta CEO Mark Zuckerberg provided a public apology to parents whose children were victims of online predators during a Congressional hearing.
- The Big Tech and the Online Child Sexual Exploitation Crisis hearing was reportedly called to examine and investigate the plague of online child sexual exploitation.

## What are the issues with children's safety online?

- **Challenges**
  - **Exposure to Inappropriate Content**
    - Children may come across inappropriate content such as violence, pornography, hate speech, etc. while browsing the internet.
  - **Online Predators and Grooming**
  - There is a risk of children encountering online predators who use social media and gaming platforms to establish relationships with children.
    - They can use this relationship to groom them for exploitation or abuse.
  - **Cyberbullying**
    - Children can become victims of cyberbullying, which involves the use of digital technology to harass, intimidate, or humiliate others.
      - This can have serious psychological and emotional consequences for children.
  - **Privacy Concerns**
    - Children may not fully understand the importance of privacy settings and may unknowingly share personal information online.
  - **Addictive Behaviour**
    - Excessive screen time and use of digital devices can lead to addictive behaviour among children.
      - This will affect their mental and physical health, as well as their academic performance and social interactions.
- **Responsibility of tech companies**
  - Vast amounts of data, including about non-verbal behaviour are collected by the tech companies.
    - This allows them to facilitate hyper-personalised profiling, advertising, and increased surveillance, impacting children's privacy, security, other rights and freedom.

- Across the world, parents and activists are aggressively advancing the agenda of having the tech companies take responsibility, or provide platforms that are safe by design for children and young users.

## Reach of generative AI

- Generative AI brings potential opportunities, such as homework assistance, easy-to-understand explanations of difficult concepts, and personalised learning experiences.
  - Generative AI is a type of artificial intelligence technology that can produce various types of content, including text, imagery, audio and synthetic data.
- For children with disabilities, a world opens up as they can interface and co-create with digital systems in new ways through text, speech or images.
- But generative AI could also be used by bad actors or inadvertently cause harm or society-wide disruptions at the cost of children's prospects and well-being.
  - Generative AI can quickly make text-based lies that look just like those written by people. These lies can be more convincing than what humans write.
  - AI-generated images are sometimes indistinguishable from reality.
  - Children are vulnerable to the risks of mis/disinformation as their cognitive capacities are still developing.
  - There is also a debate about how interacting with chatbots that have a human-like tone will impact young minds.
- **Responsibilities of parents**
  - Use an internet security suite
  - Use parental controls
  - Teach kids about privacy
  - Monitor what your kids post online
  - Create rules such as which websites they can visit and how long they can spend online.
  - Report online abuse



## ARAL SEA

Recently, NASA's Earth Observatory posted a detailed analysis of the reason behind Aral Sea's disappearance.



**Aral Sea** stands at the boundary between **Kazakhstan to the north and Uzbekistan to the south.**

- It was once a large saltwater lake of Central Asia and the world's fourth largest body of inland water. The remnants of it nestle in the climatically inhospitable heart of Central Asia, to the **east of the Caspian Sea.**
- The Aral Sea depression was formed toward the end of the **Neogene Period** (which lasted from about 23 to 2.6 million years ago).
- It was made by waters from the **Syr Darya** and the **Amu Darya rivers** that were dependent on glacial melt.
- It drains **Uzbekistan** and portions of **Kazakhstan, Tajikistan, Afghanistan, Turkmenistan, Iran, and Kyrgyzstan.**
- **Climate:** The Aral Sea is located within the harsh climate region of Central Asia. The area experiences a **desert-continental climate**, characterised by hot summers, cold winters, and varying diurnal air temperature.

### **Reason for its disappearance**

- According to the space agency, in 1960 the Soviet Union undertook a major water diversion project where they diverted the Syr Darya and the Amu Darya rivers for irrigation projects.
- Though the project made the desert region surrounding the sea bloom, it had a devastating impact on the Aral Sea.
- The waterbody slowly started drying up and today it is on the verge of complete disappearance.