

ABHIGYAN APP



Recently, the Union Home Minister launched the Abhigyan app in New Delhi.

- It is a **centralised platform** created to support law enforcement in making better use of crime-related data.
- It is developed by the **National Crime Records Bureau (NCRB)**.
- **Features of Abhigyan App:**
 - It enables field police personnel to **access a vast repository of criminal records directly on their smartphones**.
 - It is **secured with two-step authentication** and allows **real-time fingerprint identification** within seconds, strengthening ground-level policing.
 - It is equipped with features such as **fast identification, portability, and access to millions of records**.
 - The app is linked to the **National Automated Fingerprint Identification System (NAFIS)**, which stores fingerprint scans of accused, convicts, and those in prisons on a centralised platform.
 - A demonstration of the app showed that prints can be matched with the NAFIS database in 35 seconds.

Key Facts about National Crime Records Bureau:

- It was established in 1986 to act as a repository of **information on crime and criminals**.
- It was set up based on the **recommendations of the Tandon Committee**, the National Police Commission (1977-1981) and the Task Force of the Home Ministry.
- **Nodal Ministry:** It comes under the Ministry of Home Affairs (MHA), Government of India.
- **Headquarters:** New Delhi.

CULTURAL DIPLOMACY - SHOWCASING INDIA'S HERITAGE ON THE GLOBAL STAGE

- During the Indian PM's recent visits to France and Slovakia, as well as interactions at the G7 Summit, India employed cultural diplomacy.
- It presented a curated selection of traditional handicrafts, textiles, agricultural products, and classical knowledge texts to foreign dignitaries.
- These gifts highlighted India's diverse cultural heritage, regional craftsmanship, and traditional knowledge systems.

Cultural Diplomacy as a Soft Power Tool:

- The selection of gifts reflected India's strategy of using soft power to strengthen diplomatic ties.
- By showcasing products with deep historical, cultural, and geographical significance, India projected its **civilizational identity** while promoting **local artisans**, traditional industries, and indigenous products globally.

Promotion of India's Knowledge and Culinary Heritage:

- **Charaka Samhita and Sushruta Samhita:**
 - A copy of each was gifted to Slovak Parliament Speaker Richard Raš.
 - **Importance:** Foundational texts of **Ayurveda**. Reflect India's scientific, medical, and intellectual heritage. Demonstrate the historical depth of indigenous healthcare knowledge.
- **Thekua:**
 - The Prime Minister also gifted Thekua, a traditional sweet snack from **Bihar**.
 - **Significance:** Closely associated with regional festivals and cultural traditions. Represents India's diverse culinary heritage and local food culture.

GI-Tagged and Traditional Products at the G7 Summit:

- During the G7 Summit, the Prime Minister presented products that highlight India's agricultural diversity and traditional knowledge systems.

- **Nagauri Ashwagandha (Rajasthan):**
 - Valued in **Ayurveda** as a Rasayana herb.
 - Supports vitality, immunity, mental well-being, and overall health.
 - Demonstrates the integration of traditional medicine with modern wellness research.
 - Provides livelihood opportunities to rural communities.
- **Lakadong Turmeric (Meghalaya):** Renowned for its exceptionally high curcumin content, it represents India's rich agro-biodiversity and premium agricultural products.
- **Ramban Honey (Jammu & Kashmir):** Produced in the Chenab Valley region, it reflects sustainable rural livelihoods and natural-resource-based economies.
- **Banarasi Silk Stoles:** Symbolize India's globally recognized handloom and weaving traditions. Showcase centuries-old craftsmanship from Varanasi.

Significance for India:

- **Cultural and diplomatic dimensions:** Strengthens bilateral relations through cultural diplomacy. Enhances India's soft power projection. Promotes regional crafts and indigenous traditions on international platforms.
- **Economic and developmental impact:**
 - Supports artisans, weavers, tribal communities, and farmers.
 - Creates **global visibility** for Geographical Indication (GI) products and traditional industries.
 - Encourages export promotion and preservation of cultural heritage.
- **Civilizational messaging:**
 - Reflects the idea of “**Vasudhaiva Kutumbakam**” and India's civilizational continuity.
 - Demonstrates the integration of traditional knowledge, culture, craftsmanship, and sustainable livelihoods.

NATIONAL TESTING AGENCY (NTA) - EXAM CONDUCT AND CHALLENGES

- The NTA was established in **2018** by the Ministry of Education as an autonomous and specialised testing organisation to conduct entrance examinations for higher educational institutions.
- **Objectives:** The agency was created with the aim of:
 - Conducting transparent, efficient, and standardised examinations
 - Reducing the burden on educational institutions
 - Utilising technology to improve testing processes
 - Ensuring merit-based admissions through fair assessments
- **Major Examinations Conducted by NTA**
 - National Eligibility-cum-Entrance Test (NEET-UG)
 - Joint Entrance Examination (JEE Main)
 - Common University Entrance Test (CUET)
 - University Grants Commission-National Eligibility Test (UGC-NET)
 - CSIR-UGC NET and other specialized examinations
- Over the years, NTA has emerged as one of the largest examination-conducting agencies in the world, handling millions of candidates annually.

Importance of Examination Integrity

- Competitive examinations serve as gateways to higher education and public employment. Their credibility depends upon:
 - Confidentiality of question papers
 - Fairness and transparency in evaluation
 - Secure digital infrastructure
 - Efficient logistics and coordination
 - Public trust in the examination process
- Even isolated instances of paper leaks or procedural lapses can undermine confidence in the merit-based selection system and affect the future of millions of students.

Performance of NTA Since Its Establishment

- The initial years of NTA witnessed the relatively smooth conduct of major examinations.
 - NEET, JEE Main, and UGC-NET in 2019 and 2020 were conducted without major controversies.
 - The agency successfully expanded computer-based testing and centralized examination administration.
- However, concerns began to emerge regarding examination security, technical glitches, and operational management.

Key Challenges in Conducting Large-Scale Examinations

- The increasing scale of competitive examinations presents several challenges:
 - Securing question papers across thousands of centres
 - Preventing digital and cyber-enabled leaks
 - Managing technology-driven examinations
 - Ensuring coordination among multiple agencies and state administrations
 - Maintaining candidate confidence in the examination system
- The growing use of encrypted messaging platforms, social media, and dark web networks has further complicated examination security.

Way Forward

- To strengthen examination integrity, India needs:
 - End-to-end digital security protocols
 - Real-time monitoring of examination logistics
 - Independent security audits
 - Stronger accountability mechanisms
 - Better coordination between testing agencies and law-enforcement agencies
 - Adoption of international best practices in high-stakes testing
- Institutional reforms should focus not only on responding to leaks but also on preventing them through robust systems and proactive oversight.

KALAMKARI PAINTING



- It is a highly popular form of **hand-painted or block-printed cotton textile and paintings**, practised in Andhra Pradesh.
- It came up as a textile tradition during the reign of Qutb Shahis at Golconda in the 16-17th century.
- “The word ‘Kalam’ meant pen, while ‘Kari’ meant craftsmanship.
- **Kalamkari Painting Techniques:**
 - The process of creating Kalamkari begins by **soaking the fabric** in a mixture of **astringents and buffalo milk**, followed by drying it in the sun.
 - The outlines of the design in **red, black, brown, and violet** are drawn using a **mordant**, after which the cloth is dipped in an alizarin bath.
 - **Wax is then applied** to the areas that remain undyed, and the fabric is immersed in indigo dye.
 - Once the wax is removed, the remaining areas are hand-painted.
 - Artists use a **bamboo or date palm stick with fine hair**, applying **natural dyes** extracted from roots, leaves, seeds, and minerals like iron and copper.
- **Kalamkari Painting Styles:** It is broadly divided into two distinct styles based on the regions where the art form developed—**Srikalahasti and Machilipatnam**.
- **Srikalahasti Kalamkari:**
 - It is practised in Srikalahasti of Tirupati district and is done entirely by hand using the kalam (pen).
 - **Theme:** It **portrays mythological figures and themes**, religious iconography, temple architecture, and Hindu deities.
- **Machilipatnam Kalamkari:**
 - Also known as **Pedana Kalamkari**, developed in Pedana near Machilipatnam.
 - **Theme:** It uses **block-printing techniques**, focusing on **floral and geometric designs**.

SICKLE CELL ANAEMIA



- It is a **group of inherited blood cell disorders** that affect hemoglobin, the molecule in red blood cells (RBCs) that delivers oxygen to cells throughout the body.
- **How Does it Affect Blood Flow?**
 - Normally, RBCs are **disc-shaped and flexible** enough to move easily through the blood vessels. People with SCD have **atypical hemoglobin molecules** called **hemoglobin S**, which can distort RBCs into a sickle, or crescent, shape.
 - When RBCs sickle, they do not bend or move easily and can block blood flow to the rest of the body.
- **What causes it?**
 - The cause of SCD is a **defective gene, called a sickle cell gene**.
 - A person will be born with SCD only **if two genes are inherited—one from the mother and one from the father**.
 - If you are born with one sickle cell gene, it's called sickle cell trait. People with sickle cell trait are generally healthy, but they can pass the defective gene on to their children.
- **Symptoms:**
 - Signs and symptoms of sickle cell disease **usually begin in early childhood**.
 - **Early stage:** Extreme tiredness or fussiness from anemia (low number of RBCs), painfully swollen hands and feet, and jaundice.
 - **Later stage:** Severe pain, anemia, organ damage, and infections.
- **Treatments:**
 - A **bone marrow transplant** (stem cell transplant) can cure SCD. There are treatments that can help relieve symptoms, lessen complications, and prolong life.
 - Gene therapy is also being explored as another potential cure.



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BITUMEN



The ongoing conflict in West Asia has hit India's push to expand road infrastructure as Bitumen was also caught in the crossfire with an import dependency ranging between 30 to 40%.

- It is a dense, highly viscous, **petroleum-based hydrocarbon**.
- It is found in **deposits such as oil sands and pitch lakes** (natural bitumen) or is obtained as a residue of the distillation of crude oil.
- Bitumen is primarily used for paving roads and is **known as black gold** in the pavement industry.

Properties:

- It is known **for its waterproofing and adhesive properties**.
- It has adhesive properties, and is **soluble in carbon disulphide**.
- It is composed of complex hydrocarbons and contains elements like calcium, iron, sulfur, and oxygen.
- The quality of material and ease of production depends on the source and type of crude oil from which it is derived.

Applications:

- Bitumen is versatile and widely used.
- It is commonly used in the **construction industry, notably for roads and highways**.

INDIAN COAST GUARD



The Indian Coast Guard (ICG) marked the 12th International Day of Yoga (IDY) 2026 with great enthusiasm and nationwide participation through its flagship initiative, “Yoga Sangam 2026.”

- It is a **maritime armed force** operating under the **Ministry of Defence, Government of India**.
- It is a **multi-mission organization**, conducting round-the-year real-life operations at sea.
- It was formally **established in 1978** by the **Coast Guard Act, 1978** as an independent Armed force of India.

Headquarters: The Headquarters of the ICG is **located in New Delhi**, and is under the command of the Director General Indian Coast Guard.

Moto: “VAYAM RAKSHAMAH” – WE PROTECT

Mission:

- To **protect our ocean and offshore wealth**, including oil, fish, and minerals.
- To **assist mariners in distress** and safeguard life and property at sea.
- To **enforce maritime laws** with respect to the sea, poaching, smuggling, and narcotics.
- To **preserve the marine environment** and ecology and protect rare species.
- To **collect scientific data** and back up the Navy during war.