

BHARAT RATNA

Karpoori Thakur, a prominent Gandhian socialist leader and former Bihar chief minister will be awarded the 'Bharat Ratna' posthumously.



About Bharat Ratna:

- It is the **highest civilian** Award of the country which was instituted in **the year 1954**.

Eligibility:

- Any person without distinction of race, occupation, position or sex is eligible for these awards.
- Though **usually conferred on India-born citizens**, the Bharat Ratna has been awarded to one naturalised citizen, Mother Teresa, and to two non-Indians, Pakistan national **Khan Abdul Ghaffar Khan** and former South African President **Nelson Mandela**.
- The original statutes did not provide for posthumous awards but were amended in 1955 to permit them. Former Prime Minister Lal Bahadur Shastri became the first individual to be honoured posthumously.

It is awarded in **recognition of exceptional service/performance** of the highest order in any field of **human endeavour**.

- The **recommendations** for Bharat Ratna are made by **the Prime Minister** himself to the President and no formal recommendations for this are necessary.
- The number of annual awards is restricted to a **maximum of three in a particular year**.
- On conferment of the award, the recipient receives a **Sanad (certificate)** signed by the President and a medallion. The award **does not carry any monetary grant**.

WHAT IS THE MPEMBA EFFECT?

The Mpemba effect continues to captivate scientists with its complex interplay of physical mechanisms.



About Mpemba effect:

- It is named after Tanzanian student **Erasto Mpemba**, who brought attention to this counterintuitive phenomenon in 1969, making for curious observations.
- The effect is that **hot water can freeze faster than cold water** in similar conditions.
- While Aristotle, Francis Bacon, and René Descartes had noticed the effect centuries earlier, the Mpemba effect caught scientists' attention only more recently.

Different Experiments

- Researchers have conducted numerous experiments to determine the causes of this confusing phenomenon, but a consensus conclusion remains wanting.
- One cause, they have posited, is **microbubbles** left suspended in water that has been heated by boiling.
- These cavities promote convection and transfer heat faster as the water cools.

Evaporation: as warmer water evaporates more, it also takes away some heat (evaporation is inherently endothermic, which is how sweat cools your skin). Both convection and accelerated heat transfer are enhanced in warmer water because such water is less dense.

- Yet another factor could be the **presence of frost in cold water**. Frost is an insulator and could slow the loss of heat.
- Scientists have also considered whether compounds in water like calcium carbonate could be precipitated by boiling, and then dissolve, thus increasing the water's freezing point.

WHAT IS ELECTION SEIZURE MANAGEMENT SYSTEM?



Recently, the Election Commission of India (ECI) has conducted a training programme in virtual mode on the recently introduced Election Seizure Management System (ESMS) for the officers concerned from Andhra Pradesh.

About Election Seizure Management System:

- It is a **dedicated technology platform** designed and developed to **digitise data for intercepted/Seized items** (Cash/Liquor/Drugs/ Precious Metal/Freebies/Other Items) direct from field through Mobile App.
- It also allows Banks to generate QR code-based receipts for case movement.

Key Features

- Automate desired report in required format for all stakeholders
- Dashboard analytics for received data from multiple agencies
- Avoid duplicate data entry by Agencies
- Banks may generate QR code-based receipts in PDF format and issue for legal cash transfer.
- In this **platform** all the enforcement agencies such as police, transportation authorities, Central tax agencies and others share information in real time.
- The platform is for **real-time updates** on seizures from the field.

It is a system that ensures **seamless coordination and intelligence** sharing amongst enforcement agencies.

- It is a platform where all the **central and state enforcement agencies** will be onboarded.
- These agencies are required to upload details of every recorded movement and seizure of illicit cash, liquor, drugs etc.

WHAT IS INSAT-3DS?



Indian Space Research Organisation has completed all key tests on Insat-3DS satellite before the final review which will be followed by its shipping to the spaceport in Srihari Kota, Andhra Pradesh.

About Insat-3DS:

- It is a collaborative effort between **ISRO** and the **India Meteorological Organisation (IMD)**.
- It is part of a series of **climate observatory satellites** aimed at enhancing climate services. Comprising three dedicated Earth observation satellites, including INSAT-3D and INSAT-3DR already in orbit.
- It will be launched by using the **Geosynchronous Launch Vehicle (GSLV-F14)**.

What is GSLV-F14?

- It is a more advanced rocket utilising liquid propellant.
- The rocket, distinguished by its **higher capacity** and the use of **cryogenic liquid propellants** in all **three stages**, presents a more complex engineering challenge but allows for a substantially higher lift-off weight capacity.

Key facts about INSAT-3DR

- It is an **advanced meteorological satellite** of India configured with an imaging System and an Atmospheric Sounder.
- The significant improvements incorporated in INSAT-3DR are:
 - Imaging in Middle Infrared band to **provide night time pictures of low clouds** and fog
 - Imaging in two Thermal Infrared bands for estimation of **Sea Surface Temperature (SST)** with better accuracy
 - Higher Spatial Resolution in the Visible and Thermal Infrared bands
- **Payloads:** INSAT-3DR carries a multi spectral Imager, 19 channel Sounder, Data Relay Transponder and Search and Rescue Transponder.

WHAT IS END-TO-END ENCRYPTION?



End-to-end (E2E) encryption protects information in a way that has transformed human rights organisations', law-enforcement agencies', and technology companies' outlook on their ability to access and use information.

- Encryption is a **way of protecting data** from unauthorised access or tampering.
- It works by transforming the data into a secret code that only the intended recipient can decipher. This comes in useful for various cases, such as securing online communications, storing sensitive information, and verifying digital identities.
- There are **two main types of encryption**:
 - **Symmetric**: It uses the **same key to encrypt and decrypt** the data. In symmetric encryption, the key used to encrypt some information is also the key required to decrypt it.
 - **Asymmetric**: It uses a pair of keys: **one public and one private**. The public key can be shared with anyone, but the private key must be kept secret.
- The term encryption is generally used when referring to the privacy of stored data, while end-to-end encryption protects data as it's **transferred between a location – which is crucial** wherever there's a rapid exchange of information.
- In an E2EE-enabled app, only the person on each end – the sender and receiver – can read any exchanged messages.
- This is because messages get encrypted on your device before being sent and only are decrypted when they reach your intended recipient.

Issues with End-to-end encryption

- Some **potent malware can also 'snoop'** on your messages by infiltrating your device via other means – an SMS and reading them before they are encrypted.
- The company that installs E2E encryption on its products can **install a backdoor** or an exception that allows the company to surmount the encryption and access the messages.

MALDIVES RULES OUT RESEARCH BY CHINESE VESSEL IN ITS WATERS



- As per the foreign ministry of the Maldives Government, diplomatic request was made by the Chinese government for the necessary clearances to make a port call, for rotation of personnel and replenishment.

- The ministry said that the Chinese research vessel Xiang Yang Hong 03 will not be carrying out research in Maldivian waters, but will arrive for a port call.
- Reports of Chinese vessel heading to Maldives have drawn considerable attention in India.
- The Ministry said the Maldives has always been a welcoming destination for vessels of friendly countries and continues to host both civilian and military vessels making port calls for peaceful purposes.

The Chinese Vessel Xiang Yang Hong 03:

- The research vessel Xiang Yang Hong 03 is expected to arrive in Malé on 8 February, following a planned exploration of the southern Indian Ocean from January to May 2024.
- The arrival of Xiang Yang Hong 03, which marine traffic portals describe as a research or survey vessel, is expected early next month.
- The vessel had earlier called at Sri Lankan ports, but did not obtain clearance for a visit early this year.

Deteriorating Ties between India & Maldives:

- The visit of the Chinese vessel to the Maldives is the latest source of tension for India, during a challenging phase of its ties with the Maldives.
- Maldivian President **Mohamed Muizzu**, who was elected to office in September 2023, has demanded that Indian troops be withdrawn from the Maldives.
- He did not renew a joint hydrographic survey exercise with India.
- During his recent state visit to China, Mr. Muizzu also pledged to elevate strategic ties with the Chinese.

- Besides holding bilateral talks with Chinese President **Xi Jinping**, Muizzu's China visit was marked by signing 20 agreements, an **aid of \$130 million to Maldives**.
- Despite sustained pressure from the Indian government, Mohamed Muizzu granted permission on 3 January for Chinese research vessels to dock in the Maldives.
 - India had previously expressed objections to the Sri Lankan and Maldivian governments regarding the docking of the Xiang Yang Hong 03.

Growing Chinese Presence in the Indian Ocean:

- In April 2023, a representative from the Indian Navy briefed the Parliamentary Standing Committee on Defence, revealing that China had experienced a significant naval expansion over just a decade.
- Importantly, they noted that China's naval fleet had grown from 250 to over 350 ships, solidifying its position as the world's largest navy.
- The representative highlighted further concerns about the nature of the data generated by Chinese research activities in international waters.
- While regulations permit research in these waters, the representative pointed out that the data collected often has both civilian and military applications.

FCRA REGISTRATION FOR SEVERAL NGOS CANCELLED

Why in news?

- The Foreign Contribution Regulation Act, 2010 (FCRA) registration of two prominent NGOs — Centre for Policy Research (CPR) and World Vision India (WVI) have been cancelled this month.
- The MHA alleged that CPR diverted foreign donations to fund protests and legal battles against developmental projects and misused funds to affect India's economic interests.

The Foreign Contribution (Regulation) Act (FCRA):

- **Background:**

- The Union Ministry of Home Affairs (MHA) monitors the implementation of the FCRA.
- The law sought **to regulate foreign donations to individuals and organisations in order for them to function** in accordance with the values of a sovereign democratic republic.
- **Salient features:**
 - The FCRA requires every person or NGO seeking to receive foreign donations to be
 - Registered under the Act.
 - To open a bank account for the receipt of the foreign funds in State Bank of India, Delhi.
 - To utilise those funds only for the purpose for which they have been received and as stipulated in the Act.
 - **To file annual returns** and must not transfer the funds to another NGO.
 - The Act prohibits the receipt of foreign funds by
 - Candidates for elections,
 - Journalists or newspaper and media broadcast companies,
 - Judges and government servants,
 - Members of legislature and political parties or their office-bearers,
 - Organisations of political nature.

Cancellation of registration:

- The government reserves the right to revoke any NGO's FCRA registration **if it discovers a violation of the Act.**
- Registration can be revoked if -
 - The NGO has not engaged in any reasonable activity in its chosen field for the benefit of society **for two consecutive years** or if it has become defunct.

- In the opinion of the Central Government, it is necessary in the public interest to revoke the certificate, etc.
 - An audit uncovers irregularities in an NGO's finances, such as the misutilisation of foreign funds.
 - Once an NGO's registration is cancelled, **it is ineligible for re-registration for 3 years.**
 - All government orders can be challenged in the **High Court.**
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POLICE REFORM IN INDIA

Why in News?

- The Supreme Court recently observed that the 2022 incident of 4 Gujarat Police officers publicly flogging Muslim men after tying them to a pole in Kheda district for allegedly disrupting a garba event amounted to an “atrocious”.
- In this context, we will try to analyse the status of police reforms in India.

Status of Police Reforms in India:

- Police reforms have been **on the agenda of Governments almost since independence.**
 - But even after decades since India's independence, the police are seen as **selectively efficient, unsympathetic to the underprivileged.**
 - It is further accused of politicisation and criminalisation.
 - In this regard, one needs to note that the **basic framework for policing in India was made way back in 1861**, with little changes thereafter.
 - However, society has undergone dramatic changes. The public expectations from police have multiplied and newer forms of crime (**like cybercrimes**) have surfaced.
 - Therefore, the policing system needs to be -
 - Reformed to be in tune with present day scenarios and
 - Upgraded to effectively deal with the crime and criminals, uphold human rights and safeguard the legitimate interests of one and all.
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