

## DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 08-07-2024

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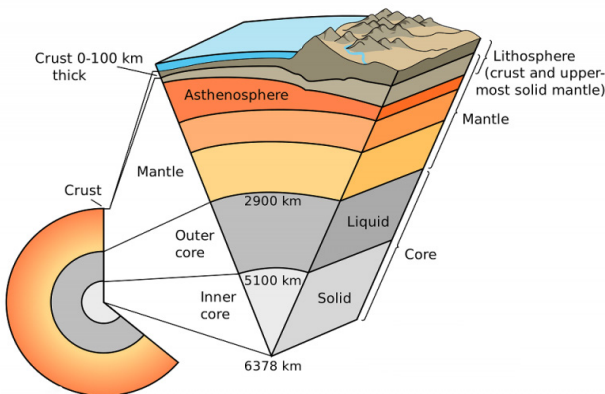
## EARTH'S CORE IS ROTATING IN REVERSE DIRECTION

### Context

- A research by scientists has revealed that the rotation speed of Earth's core is slowing down and has even reversed, a phenomenon called 'backtracking'.

### Earth's core

- The inner part of the planet can be divided into three different layers: **crust, mantle, and core**.
- Earth's core** is the hottest part of the planet, equivalent to that of the Sun's surface.
- It is around **5,180 kilometers** deep inside the Earth and consists mainly of **iron and nickel**.
- The inner core is surrounded by a **liquid metal outer core**, which acts as a barrier with the rest of the Earth.
- This barrier allows Earth's core, like a hot solid ball of metal, to spin independently and not necessarily align with the rest of the planet.



### Rotation of inner core

- Earth's magnetic field pulls on the solid ball of hot metal, causing it to spin.
- Also the gravity and flow of the fluid outer core and mantle exert a drag on the core.
- The push and pull of these forces have resulted in variations in the core's rotational speed.

### Impact

- When the core spins more slowly, the mantle speeds up. This shift makes **Earth rotate faster**, and the **length of a day shortens**.
- But such rotational shifts translate to mere thousandths of a second in day length.

Source: LM

## GLOBAL PLANETARY DEFENCE EFFORTS AHEAD OF EARTH'S 2029 CLOSE ENCOUNTER WITH ASTEROID APOPHIS

### Context

- The Indian Space Research Organization (ISRO) aims to actively participate in a '**Global Planetary Defence Efforts**' ahead of **Earth's 2029** close encounter with **Asteroid Apophis**, in a recent international workshop held in Bengaluru marked **Asteroid Day 2024**.

### Apophis Asteroid (aka 99942 Apophis)

- It is a **near-Earth asteroid** with a diameter of approximately 370 metres. Its trajectory brings it within 32,000 kilometres of Earth, and is **expected to pass by our planet in 2029**.
  - While this distance may seem vast in cosmic terms, it's remarkably close by astronomical standards.
- While the chances of a direct impact are low, the potential consequences demand proactive measures.
- Planetary Defence:** ISRO recognizes the importance of studying Apophis during this close encounter.
  - By doing so, scientists hope to gain insights into planetary defence strategies that could prevent future asteroid impacts on Earth.

### ISRO's Interest

- ISRO recognizes the significance of **studying Apophis** during its close approach. The agency aims to contribute to planetary defence efforts by understanding the asteroid's composition, structure, and behaviour.
- Observation and Study:** ISRO intends to study Apophis when it is 32,000 kilometres away from Earth. This observation will provide valuable data for developing effective defence strategies.
- Collaboration:** ISRO may collaborate with other space agencies, including the Japan Aerospace Exploration Agency (JAXA), the European Space Agency (ESA), and NASA.
  - It could involve placing instruments on the joint Apophis mission or providing support in other ways.
- Support and Knowledge Sharing:** ISRO may contribute by placing instruments on the joint mission or providing other forms of support.
  - The goal is to learn from this unique opportunity and enhance our understanding of asteroids and planetary defence.

- ♦ By participating in the mission, India can contribute to planetary defence research.

### Learning from NASA's DART Mission

- The ISRO referred to **NASA's Double Asteroid Redirection Test (DART)** Mission in 2022, which facilitated the change of trajectory of an asteroid in deep space.
- NASA's DART showed that a spacecraft's kinetic impact with its target asteroid, **Dimorphos**, had successfully altered the orbit of the asteroid.

### Conclusion

- ISRO's interest in planetary defence underscores the need for global collaboration in safeguarding our planet from potential cosmic hazards. As Apophis approaches Earth, scientists and space agencies worldwide are gearing up to study and prepare for planetary defence efforts.
- India's participation in this endeavour reflects its commitment to advancing space science and protecting our home planet.

Source: IE

## CROP INSURANCE COVERAGE UNDER PRADHAN MANTRI FASAL BIMA YOJANA

### In News

- General insurance companies reduced their exposure to crop insurance under the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** during FY24 despite the government's push to expand the insurance coverage in the farm sector.

### About

- Gross direct premium underwritten by insurers declined by 4.17 per cent to Rs 30,677 crore during the fiscal as against Rs 32,011 crore in the previous year even as farmers faced crop losses due to floods, unseasonal rains and heatwaves.
- Crop insurance premium underwritten had risen by 8.66 per cent to Rs 29,465 crore in the previous fiscal (FY23).
- The decline is mainly due to the 32 per cent fall in premium income underwritten by state-owned Agriculture Insurance Company (AIC) to Rs 9,890 crore during FY24 from Rs 14,619 crore a year ago,
  - ♦ Four government-controlled insurers — AIC, New India Assurance, Oriental Insurance and SBI General — reduced their exposure to crop insurance in FY24.

### Pradhan Mantri Fasal Bima Yojana (PMFBY)

- It was launched in 2016, aims to provide a simple, affordable, and comprehensive crop insurance product to Indian farmers.
- **Covered Crops** - Food crops (Cereals, Millets and Pulses), Oilseeds, Annual Commercial / Annual Horticultural crops.

### Key Features

- **Coverage and Benefits:** It covers all non-preventable natural risks from pre-sowing to post-harvest, ensuring financial support in the event of crop failure due to natural calamities, pests, or disease
  - ♦ It also covers individual farms nationwide for localized disasters like hailstorms, landslides, floods, and wildfires, as well as post-harvest losses from cyclones, heavy rain, and hail.
- **Premium Rates:** The premium rates for PMFBY are significantly subsidized, making the insurance affordable for farmers. The premium rates are fixed at 2% of the sum insured for all Kharif crops and 1.5% for all Rabi crops. For commercial and horticultural crops, the premium is 5%.
- **Participation:** The scheme is voluntary for farmers, but states are encouraged to achieve maximum coverage. It is mandatory for loanee farmers (those who have taken agricultural loans) to enroll in PMFBY.
- **Sum Insured:** The scheme ensures that farmers receive adequate compensation based on the area sown, type of crop, and extent of damage suffered. There is no upper limit on government subsidy, ensuring maximum benefits for the farmers.
- **Technology Integration:** PMFBY leverages technology for quicker assessment and settlement of claims. The use of smartphones, remote sensing, and satellite imagery helps in accurate estimation of crop losses, ensuring transparency and efficiency.

### Benefits

- **Financial Security:** Farmers are assured of financial support in case of crop failure, reducing their vulnerability to economic distress.
- **Risk-taking:** Encouraging farmers to adopt innovative and modern agricultural practices
- **Inclusive Growth:** PMFBY promotes inclusive growth by covering small and marginal farmers who are often the most vulnerable to crop losses.
- **Ease of Access:** The simplified procedures and extensive use of technology make it easier for farmers to enroll and claim insurance.

- **Ensuring flow of credit to the agriculture sector;** which will contribute to food security, crop diversification and enhancing growth and competitiveness of the agriculture sector.

### Challenges and the Way Forward

- PMFBY has been instrumental in providing relief to farmers, certain challenges persist.
  - ◆ Issues such as **delayed claim settlements,**
  - ◆ **inadequate awareness** among farmers
  - ◆ High financial liabilities in the States,
  - ◆ Unreliable loss & yield assessment.

### Conclusion and Way Forward

- In a country where agriculture forms the backbone of the economy, safeguarding the interests of farmers becomes paramount.
- By offering a comprehensive and accessible insurance product, PMFBY empowers farmers, improves agricultural practices, and contributes to the overall growth and stability of the Indian agricultural sector.
- PMFBY represents a significant step towards ensuring the financial security of farmers across the nation.
- There is a need for greater coordination among stakeholders including insurance companies, banks, and state governments to ensure effective implementation of PMFBY.

Source:IE

### Who Holds the Power to Order Expunction?

- The **Chairman of the Rajya Sabha** (Upper House **Rule 261**) and the **Speaker of the Lok Sabha** (Lower House **Rules 380 and 381**) have the authority to order the expunction of remarks.

### How Does Expunction Work?

- Parliament maintains a verbatim record of everything spoken and transpiring during sessions.
- MPs enjoy certain privileges and freedom of speech under **Article 105** of the Constitution. However, these privileges are subject to other constitutional provisions and house rules.
- The **Presiding Officer (Chairman or Speaker)** can expunge words, phrases, or expressions that violate parliamentary etiquette.
- The **Lok Sabha Secretariat** maintains a comprehensive list of 'unparliamentary' words and expressions.

Source:TH

## DIGITAL BHARAT NIDHI

### Context

- The Department of Telecommunications (DoT) released draft rules to operationalise the **Digital Bharat Nidhi (DBN)**, by the central government at increasing telecom connectivity in rural areas.

### About

- **Digital Bharat Nidhi** was established through the **Telecommunications Act, 2023**. It would replace the erstwhile Universal Service Obligation Fund (USOF).
  - ◆ **USOF** is a pool of funds generated by a 5 percent Universal Service Levy charged upon all the telecom fund operators on their **Adjusted Gross Revenue (AGR)**.
  - ◆ USOF was established in **2003**, and has been criticized for its **underutilization**.
  - ◆ Between 2017 and 2022, the government had collected Rs 41,740 crore as part of contributions made by telcos towards the USOF, and only **72 percent** of it has been utilized.
- The money would be used to fund the **expansion of telecom networks in remote and rural areas**, where private companies resist offering their services.

## NEWS IN SHORT

### EXPUNCTION POWERS IN PARLIAMENT

#### Context

- Recently, Leader of Opposition in Lok Sabha wrote to Lok Sabha Speaker regarding a portion of his speech expunged during Motion of Thanks on the President's address.

#### About the Expunction

- Expunction refers to the **removal or deletion** of specific words, phrases, or expressions from the official records of Parliamentary proceedings, as it plays a crucial role in **maintaining decorum** and ensuring that discussions remain respectful.
- The purpose of expunction is to eliminate content that is deemed '**defamatory, indecent, unparliamentary, or undignified**'.

### How will the Digital Bharat Nidhi work?

- As per the Telecom Act, contributions made by telecom companies towards the Digital Bharat Nidhi will first be credited to the **Consolidated Fund of India (CFI)**.
- The Centre will deposit the collected funds to the DBN from time to time.

Source: IE

## PROJECT PARI

### Context

- The **Ministry of Culture** initiates Project PARI for the **46th World Heritage Committee Meeting**.

### About

- Project PARI (Public Art of India)**, seeks to bring forth public art that draws inspiration from millennia of artistic heritage while incorporating modern themes and techniques.
- Artists from all over the country have come together to create the various **wall paintings, murals, sculptures and installations** being prepared under this project.
- The creative canvas inspired by the styles of;
  - ◆ **Phad paintings** (Rajasthan), **Thangka painting** (Sikkim/Ladakh), **Gond art** (Madhya Pradesh), **Tanjore paintings** (Tamil Nadu), and
  - ◆ **Kalamkari** (Andhra Pradesh), **Alpona art** (West Bengal), **Cheriyal painting** (Telangana), **Pichhwai Painting** (Rajasthan), **Lanjia Saura** (Odisha), and
  - ◆ **Pattachitra** (West Bengal), **Bani Thani Painting** (Rajasthan), **Warli** (Maharashtra), **Pithora Art** (Gujarat), **Aipan** (Uttarakhand), **Kerala Murals** (Kerala), **Alpana art** (Tripura) and more.

Source: PIB

## INTERNET ARCHIVE

### Context

- Internet Archive recently has been at the centre of a legal battle with traditional book publishers over copyright violations.

### About the Internet Archive

- It is **non-profit organisation** that aims to digitise, preserve, lend, and share multimedia content.
- It operates as a **vast digital library**, providing free access to millions of books, movies, software, music, and websites, and uses the **doctrine of fair use** to defend itself.

- It typically employs a system called '**controlled digital lending**' to limit the number of people who can access an ebook simultaneously.

### Legal Challenge

- Traditional publishers**, including Hachette, HarperCollins, Wiley, etc have accused Internet Archive of **copyright infringement**, by claiming that the organisation illegally made their books available to the public by scanning physical copies and distributing digital files.
- Public Domain vs. Copyrighted Works:** While many books digitised by Internet Archive were already in the public domain (such as historical sources and old classics), the publishers argue that copyrighted works were also made available without authorization.

### Wayback Machine and Beyond

- Despite the legal challenges, the Wayback Machine, **another service provided by Internet Archive**, remains accessible.
- It allows users to explore archived versions of websites, preserving snapshots of internet history.

### National Archives of India

- Originally established as the Imperial Record Department in 1891 in Calcutta, the capital of British India, and is now **located in Delhi**.
- It is the repository of all non-current government records, holding them for the use of administrators and scholars.
- It functions under the **Ministry of Culture**.
- Abhilekh Patal portal: National Archives of India** has made efforts to make available all the records digitally — on the newly created portal.

Source: TH

## GALLANTRY AWARDS

### In News

- President Droupadi Murmu on Friday (5th July 2024) conferred 36 Gallantry Awards to the personnel of the Armed Forces, Central Armed Police Forces, and State and Union Territory Police

### About Gallantry Awards

- Gallantry Awards are prestigious honors bestowed upon individuals who display exceptional courage, valor, and devotion to duty.
- These gallantry awards are announced twice in a year - first on the occasion of the Republic Day and then on the occasion of the Independence Day.

### Wartime Gallantry Awards:

- **Param Vir Chakra (PVC)** : It is the highest military decoration for valor in India.
  - ♦ It is awarded for acts of conspicuous bravery in the presence of the enemy.
  - ♦ It is a posthumous award in most cases and is symbolized by a bronze circular medal with a purple ribbon.
- **Maha Vir Chakra (MVC)** : It is the second-highest military award for gallantry.
  - ♦ It recognizes acts of exceptional courage and valor during combat.
- **Vir Chakra (VrC)** : The Vir Chakra is awarded for acts of bravery in the face of the enemy.
  - ♦ It is a gallantry award for both officers and other ranks.

### Peacetime Gallantry Awards

- **Ashoka Chakra**: The Ashoka Chakra is the highest peacetime gallantry award.
  - ♦ It is given for acts of valor, self-sacrifice, and exceptional courage outside the battlefield.
- **Shaurya Chakra** : It is awarded for acts of bravery not in direct combat.
  - ♦ It recognizes exceptional courage and selflessness.
- **Kirti Chakra** : It is a peacetime gallantry award.
  - ♦ It is given for acts of bravery and courage in non-combat situations.

#### Do you know ?

- Order of precedence of these awards is the Param Vir Chakra, the Ashoka Chakra, the Mahavir Chakra, the Kirti Chakra, the Vir Chakra and the Shaurya Chakra.

Source: TH

## PEARL SPOT

### In News

- Kerala University of Fisheries and Ocean Studies (Kufos) preparing to launch a genome editing mission to boost Pearl Spot production

### About

- Genome editing will target the genetic makeup of the fish inhibiting faster rate of growth.
- It would also help enhance breeding and seed production of pearl spots

### About Pearl Spot(*Eetroplus suratensis* )

- It is commonly known as “Karimeen” in Kerala and is an indigenous fish extensively found along the east and south-west coasts of Peninsular India.
- It is a euryhaline species that inhabits mainly brackish water and river mouths.
- It is distributed in the coastal regions of peninsular India and Sri Lanka.
- In India, the wild populations have been recorded from the states of Kerala and Tamil Nadu.
  - ♦ There are also populations in Goa, Andhra Pradesh, Orissa and West Bengal
- **Use and Trade** : It is a popular food fish. It is known locally as Karimeen and is considered a delicacy.
- **Threats** : Wild populations are subject to various pressures brought on by people, such as habitat deterioration due to disposal of solid and liquid wastes, the discharge of human fecal matter and an increasing number of tourism resorts
- **IUCN Red List Status** Least Concern.

Source: TH

## PROJECT ZORAWAR

### Context

- The Indian Army plans to acquire a fleet of lightweight tanks, under ‘**Project Zorawar**’, aimed at deploying them in high-altitude regions of eastern Ladakh by 2027.

### About

- Zorawar is a lightweight tank jointly developed by the DRDO and Larsen and Toubro.
- It is named after the 19th century Dogra General Zorawar Singh, who led military expeditions to Ladakh and Western Tibet.
- The tank will be able to navigate steep mountains and cross water bodies like rivers far more easily than its forerunners such as the heavy-weight T-72 and T-90 tanks.
- This will allow it to be deployed in areas like eastern Ladakh’s Pangong Tso Lake.

Source: TOI

