# UPSC Daily Current Affairs| Prelim Bits 03-03-2025

## Blue Ghost Mission 1

### Why in News?

*Firefly Aerospace, U.S. Company successfully landed its spacecraft on the Moon recently.*

- It is the ***second private mission*** to make a soft lunar landing.
- It is Nicknamed ***'Ghost Riders in the Sky'.***
- **Aim** - To land for a site near ***Mons Latreille***, a volcanic feature in Mare Crisium on the Moon's northeastern near side.

*Mare Crisium, once an ancient asteroid impact site, formed around 3 billion years ago when volcanic eruptions filled the basin with basaltic lava.*

- **Launch Vehicle -** SpaceX Falcon 9 rocket.
- **Size -** 2 metres tall and 3.5 meters wide.
- **Instruments –** It carries 10 instruments, including
  - A lunar soil analyzer,
  - A radiation-tolerant computer and
  - An experiment testing the feasibility of using the existing global satellite navigation system to navigate the moon.
- It is engineered for stability with shock-absorbing feet, a low centre of mass, and a broad footprint. It incorporated flight-proven technologies.
- Its Reaction Control System (RCS) thrusters fired as needed, ensuring a controlled and smooth landing.
- **Functions -** It will operate its payloads for a full lunar day (14 Earth days).
- On March 14, it will capture high-definition images of a total eclipse, where Earth blocked sunlight from reaching the Moon.
- On March 16, it will record the lunar sunset, gathering data on how solar activity causes lunar dust to levitate, a phenomenon first observed by ***Apollo 17 astronaut Eugene Cernan***.
- As part of ***NASA's Commercial Lunar Payload Services (CLPS)*** initiative, Blue Ghost Mission 1 delivered 10 scientific and technological instruments to the lunar surface.
- **Scientific contributions -** Blue Ghost's payloads will contribute to lunar research through groundbreaking experiments, including
  - Testing regolith collection,
  - Global navigation satellite system capabilities,
  - Radiation-resistant computing, and
  - Lunar dust mitigation.

| Commercial Lunar Payload Services (CLPS) program |
| --- |
| • It is a collaboration with commercial companies to deliver science and technology to the Moon.<br>• **Agency** – National Aeronautics and Space Administration (NASA).<br>• The program is intended to support NASA's Artemis lunar program.<br>• **Functions** - NASA contracts with companies to deliver payloads to the Moon.<br>• Companies bid on the services, including launching, landing, and payload integration.<br>• The contracts are indefinite delivery, indefinite quantity contracts. |

**References**


1. The Hindu | Blue Ghost Mission 1
2. Hindustan Times | 'Ghost Riders in the Sky'


## Chairman of Securities and Exchange Board of India (SEBI)

### Why in News?

*Union government has recently appointed Finance and Revenue Secretary Tuhin Kanta Pandey as the new chairman of the Securities and Exchange Board of India (SEBI) for 3 years.*

- **Appointed by -** The government via notification from the Appointments Committee of the Cabinet (ACC).
- **Age limit –** 65 Years.
- **Term -** The Chairman shall hold office for ***5 years***, as many be specified in the order of his appointment.
- **Appointed under -** Securities and Exchange Board of India (Terms and Conditions of Service of Chairman and Members) Rules, 1992.
- **Appointments committee -** Financial Sector Regulatory Appointments Search Committee consists
    - Cabinet Secretary – Chairman
    - Additional Principal Secretary to the Prime Minister – Member
    - Secretary, Department of Economic Affairs – Member
    - Three outside experts of repute in the fields of Finance, Economics, Law, Public Administration, Financial Markets and related subjects maintained by it – Member.
- **Pay -** Chairman shall have the option to receive pay as admissible to a Secretary to the Government of India.
- **Entitlement to PF -** The Chairman or a whole-time Member shall be entitled to subscribe to the General Provident Fund.
- The Chairman shall ***not accept*** any employment before the expiry of a period of 1 year from the date of demitting the office in SEBI, except with the previous sanction of the Central Government.
- The Central Government ***shall have power*** to relax the provisions of any of these rules with respect to any class or category of persons.

| Securities and Exchange Board of India (SEBI) |
|---|
| • It is a ***statutory body*** and a market regulator, which controls the securities market in India.<br>• **Aim** - To protect the interests of investors in securities and to promote and regulate the securities market.<br>• **Board -** SEBI is run by its board of members.<br>• The board consists of<br>- A Chairman and<br>- 2 members from the finance ministry,<br>- 1 member from Reserve Bank of India and<br>- 5 other members are also nominated by the Centre.<br>• **Headquarters** – Mumbai.<br>• **Regional offices** - Ahmedabad, Kolkata, Chennai and Delhi. |

**References**


1. Business Standard | New SEBI chairman
2. The Hindu | SEBI Chairman


## Geological Survey of India

### Why in News?

*Geological Survey of India (GSI), one of the nation's oldest and prestigious scientific institutions, hosted a 'Grand Walkathon' themed 'Geoscience for a safe world' recently as part of its 175$^{th}$ anniversary celebrations.*

- It is a ***repository of geological information*** required in various fields in the India.
- It has also attained the status of a geo-scientific organisations of international repute.
- **Founded in –** 1851.
- It was primarily established to explore coal deposits for the railways.
- **Nodal Ministry -** At present, the Geological Survey of India is an attached office of the Ministry of Mines.
- **Headquarters –** Kolkata.
- **Regional offices -** Lucknow, Jaipur, Nagpur, Hyderabad, Shillong and Kolkata and state unit offices in almost all the states of the country.
- **Functions** - Its main functions relate to creating and updating of national geoscientific information and mineral resource assessment.
- Objectives achieved through ground surveys, air-borne and marine surveys, mineral prospecting and investigations, multi-disciplinary geological, geotechnical, geo-environmental, natural hazards studies.
- It is also by glaciology, seismological studies, and fundamental research.
- It provides impartial and up-to-date geological expertise and geoscientific information of all kinds, with a focus on policy making decisions, commercial and socio-economic needs.
- GSI also emphasises on systematic documentation of all geological processes, *both surface and subsurface, of India and its offshore areas.*

- The organisation carries out this work through geological, geophysical, & geochemical surveys using the latest and most cost-effective techniques and methodologies.
- GSI's core competence in survey and mapping is continuously enhanced through accretion, management, coordination and utilization of spatial databases.
- It functions as a 'Repository' for the purpose and uses the latest computer-based technologies for dissemination of geoscientific information and spatial data.

**Reference**

The Hindu | Geological Survey of India (GSI)

## Maple Syrup Urine Disease (MSUD)

### Why in News?

*Scientists have created a new gene therapy for a debilitating genetic disorder called maple syrup urine disease (MSUD).*

- **Recent Findings -** The treatment can prevent recurrence of deadly symptoms in a cow calf born with the disease.
- It prevented newborn death, normalized growth, restored coordinated expression of the affected genes and stabilized biomarkers in a calf as well as in mice.
- **Maple syrup urine disease (MSUD)** – It is a ***rare genetic disorder*** characterized by deficiency of an enzyme complex (branched-chain alpha-keto acid dehydrogenase).
- Branched-chain alpha-keto acid dehydrogenase is required to break down (metabolize) the 3 branched-chain amino acids (BCAAs) leucine, isoleucine and valine, in the body.
- The result of this metabolic failure is that all 3 BCAAs, along with a number of their toxic byproducts, (specifically their respective organic acids), all accumulate abnormally.
- In the classic, severe form of MSUD, plasma concentrations of the BCAAs begin to rise within a few hours of birth.
- If untreated, symptoms begin to emerge, often within the first 24-48 hours of life.
- **Types -** The classic type, intermediate type, intermittent type and possibly a thiamine-responsive type.
- **Cause** - When a mutated form of the BCKDHA, BCKDHB or DBT gene is inherited from both parents.
- **Symptoms -** Non-specific symptoms of increasing neurological dysfunction and include lethargy, irritability and poor feeding, soon followed by
    - Focal neurological signs such as abnormal movements, increasing spasticity and shortly thereafter, by seizures and deepening coma.
- It is characterized by a *distinctive sweet odor in the urine,* reminiscent of maple syrup.
- **Risk level -** If untreated, progressive brain damage is inevitable and death occurs usually within weeks or months.
- **Treatment** - The disorder can be successfully managed through a specialized diet in which the three BCAAs are rigorously controlled.
- However, even with treatment, patients of any age with MSUD remain at high risk for

developing acute metabolic decompensation (metabolic crises).
    - Often triggered by infection, injury, failure to eat (fasting) or even by psychological stress.

**Reference**

The Hindu | Maple syrup urine disease

## Hipposideros Srilankaensis

### Why in News?

*A global research team from Osmania University have identified and described a new species of bat.*

- It is a new species of ***leaf-nosed bat species***.
- **Endemic to -** Sri Lanka.
- **Taxonomy**
    - **Scientific Name** – Hipposideros srilankaensis.
    - **Family** – Hipposideridae.
- **Named after** –Its ***endemic nature to Sri Lanka***.
- **Habitat** – Found in *dense forests to caves*.
- **Morphology** – A broad noseleaf, distinct ear shape, and cranial characteristics distinct from the Indian Hipposideros brachyotus.
- **Uniqueness** - Genetic analysis further confirmed its distinctiveness from other closely related species in the region.



## Hipposideros brachyotus

- It is a species previously considered a subspecies of ***Hipposideros galeritus.***
- The research confirmed that it is a distinct species *endemic to India* and reclassified it as Hipposideros brachyotus.
- **Uniqueness** – Genetic analysis further confirmed its distinctiveness from other known species in the region.
- Echolocation call analysis further supported its classification.

*36 species of bats are found in India and that Hyderabad is home to 14 different species of bats.*

**References**


1. The Hindu| New Bat Species
2. Zootaxa| Hipposideros Srilankaensis


## One Liners 03-03-2025

### History, Art and Culture

**Dholavira**

• It is a *UNESCO World Heritage Site*.
• **Location** – Arid island of Khadir in Kachchh district, *Gujarat*.
• **Features** – Advanced *town planning* skills with:
- Sophisticated water conservation system,
- Well-structured reservoirs and
- Urban settlements and so on.
• **Significance** – It is one of the most well-preserved archaeological sites in the subcontinent, showcasing architectural and engineering brilliance of the *Harappan people.*

### Geography

**Planetary Parade**

• **About** – It is a rare alignment in which all seven other planets in our solar system will line up in the night sky.
• All *7 planets and Moon* will align on the same side of the Sun.
• **Planets visible to the naked eye** – Mercury, Venus, Mars, Jupiter and Saturn.
• **Planets visible through telescope** – Uranus and Neptune.
• This rare cosmic event *won't happen again until 2040*.

### Polity & Governance

**Aadhaar Good Governance Portal**

• **About** – It is a digital platform to *streamline approval process* for Aadhaar authentication requests.
• **Launched by** – Ministry of Electronics and Information Technology (MeitY).
• **Provision** – Under the Aadhaar Authentication for Good Governance (**S**ocial **W**elfare, **I**nnovation, **K**nowledge) Rules, 2020.
• **SWIK ((Social Welfare, Innovation, Knowledge) Rules** – It were introduced as a facilitating provision to section 4(4) (b)(ii) of the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016.

## Baroda Kisan Pride Scheme

*Bank of Baroda will shortly launch Baroda Kisan Pride scheme in Karnataka.*

• **Aim & objectives** – To encourage farmers to adopt scientific practices in agriculture.
• To provide *adequate and timely cash credit facility to farmers* at competitive pricing.
• **Eligibility Criteria:**
  - Corporate/Companies of individual farmers.
  - Farmer's Producer Organizations/ Farmer's Producer Companies.
  - Proprietorship/Partnership firms.
  - Co-operatives of farmers/Joint borrowers
  - Large individuals /Other individual farmers
  - Lease cultivators
• **Loan amount** – Rs.5 lakh to 10 crore.

## Sugamya Yatra

• **Aim** – To *break myths associated with wheel chair users*, promote accessibility and encourage inclusivity in society.
• **Organized on** – International Wheel chair Day, 2025 (March 1st).
• **Organized by:**
  - Department of Empowerment of Persons with Disabilities (DEPwD).
  - Ministry of Social Justice and Empowerment (MSJE).
  - Chief Commissioner for Persons with Disabilities (CCPD).

# Economy

## M-score Methodology

• **About** – It is a mathematical model that uses *financial ratios and 8 variables* to identify whether a company has manipulated its earnings.
• **Developed by** – Messod Beneish.
• **Uses** – To *uncover financial fraud*.

## Gender Budget (GB)

• **Union Budget allocation, 2025** – A record of Rs.4, 49,028.68 crore was allocated to the Gender Budget (GB) in Budget 2025-56.
• **Rise in allocation** – *37.3%* increase from FY24 and accounting for 8.86% of total Budget.
• **Reason for rise in allocation** – It is primarily due to the inclusion of *PM Garib Kalyan Anna Yojana*, as it accounts for *24%* of General Budget.

# Security

## Exercise Desert Hunt 2025

• It is an integrated *Tri-Service Special Forces* exercise.
• **Conducted by** – Indian Air Force.
• **Elite Para (Special Forces)** – Indian Army, Indian Navy and Indian Air Force.
• **Aim** – At enhancing *interoperability, coordination and synergy* among the 3 Special Forces units.
• To ensure swift and effective response towards emerging security challenges.

# Miscellaneous

## Tuhin Kanta Pandey

• He was appointed as *11th chairperson* of the Securities and Exchange Board of India (SEBI).
• **Appointment approval by** – Appointment Committee of the Cabinet.
• **Tenure** – *3 years*.

**United Nations World Wildlife Day (WWD)**

• **Celebrated on** – *3rd March*, every year.
• **Objective** – To celebrate *wild animals & plants*, recognize their unique roles and contributions of wildlife to people and the planet.
• **Theme, 2025** – Wildlife Conservation Finance: Investing in People and Planet.
• **WWD, 2025** – Will serve as a platform for exchange and exploration of innovative financial solutions for *wildlife conservation.*

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