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Lokmanya Tilak National Award, 2023

- **Prime Minister Narendra Modi** will be honoured with the **Lokmanya Tilak National Award** in **Pune on August 1** next month. This award is being given to PM Modi for his brilliant leadership and for instilling a sense of patriotism among the citizens.
- **"On August 1**, on the 103rd death anniversary of Lokmanya Tilak, the Tilak Smarak Mandir Trust (Hind Swaraj Sangh) will confer the Lokmanya Tilak National Award on Prime Minister Modi," said **Deepak Tilak**, president of the organizing trust.
- Organizers said **Nationalist Congress Party (NCP)** chief **Sharad Pawar** has been invited as the chief guest at the award ceremony. Along with this, Maharashtra Governor **Ramesh Bais**, Chief Minister **Eknath Shinde**, Deputy Chief Minister **Devendra Fadnavis** and **Ajit Pawar** have also been invited.
- This award is given to individuals from various fields for their contribution to the country.

- ➔ This award has already been given to other Prime Ministers including **Indira Gandhi, Atal Bihari Vajpayee** and **Manmohan Singh**.
- ➔ This award in science and social field **N. R. Narayana Murthy, G. Madhavan, Dr. Koti Harinarayan, Cyrus Poonawalla** and **Prakash Amte** have also been given.
- ➔ This award was started **in 1983**. It is given every year on the death anniversary of **Lokmanya Tilak on 1 August** by the '**Lokmanya Tilak Trust**'.
- ➔ The Tilak Memorial Temple Trust was earlier known as '**Hind Swaraj Sangh**'.
- ➔ August 1, 2023 is the 103rd death anniversary of Lokmanya Tilak.
- ➔ The award carries a memento, a certificate and **Rs 1 lakh**.



Launch Vehicle Mark-3

- The **Indian Space Research Organization (ISRO)** is planning to launch the **Chandrayaan-3 mission** to the Moon on July 14 at 2.35 pm IST from **Sriharikota** on board the launch vehicle Mark III.
- **Chandrayaan-3** is largely a copy of its predecessor Chandrayaan-2, which was launched in July 2019 as an orbiter equipped with a rover ('Pragyan') and a lander ('Vikram').
- **PSLV (Polar Satellite Launch Vehicle)**: Known as a workhorse with a very low failure rate, PSLV can carry up to 3.8 tons in Low Earth Orbit.
- **Geosynchronous Satellite Launch Vehicle (GSLV)**: ISRO has developed GSLV to launch heavy payloads into higher orbits if required.
- **GSLVs** also have many configurations like **PSLVs**.
- The most powerful configuration is **LVM 3**.
- **SSLV (Small Satellite Launch Vehicle)**: It is a 3-stage launch vehicle configured with three solid propulsion stages and a liquid propulsion-based Velocity Trimming Module (VTM) as the terminal stage.

→ **LVM 3 has 3 phases:**

1. The first (lowest stage) is in the form of 2 S200 booster straps on the sides of the rocket body. They use a solid fuel called Hydroxyl-terminated Polybutadiene.
2. The second stage is powered by the Vikas engine, it uses liquid fuel, which is Nitrogen Tetroxide or Unsymmetrical Dimethylhydrazine.
3. The topmost stage is powered by a cryogenic engine. It uses liquefied hydrogen along with liquefied oxygen.

→ **Some of the LVM 3 missions launched are:**

- OneWeb India-2 Mission
- OneWeb India-1 Mission
- Mission Chandrayaan-2
- GSAT-29 Mission
- GSAT-19 Mission
- CARE Mission

EVOLUTION OF THE INDIAN LAUNCH VEHICLE

Satellite Launch Vehicle (SLV-3):

Height: 22m

Fuel: Four solid stages

Weight: 17 tonnes

Capability: Placing 40kg class payloads in low earth orbit



Augmented Satellite Launch Vehicle

Height: 23.8m

Weight: 40 tonnes, 23.8 m tall

Fuel: Five stage, all-solid propellant

Capability: Orbiting 150kg class satellites into 400km circular orbits



Polar Satellite Launch Vehicle

Height: 44.4m

Weight: 295 tonnes

Capability: 1600kg satellites in 620km sun-synchronous polar orbit and 1,050kg satellite in geo-synchronous transfer orbit (GTO)

Fuel: Four stages using solid and liquid propulsion systems alternately



GSLV Mark I and II

Height: 49 m

Weight: 414 tonne

Capability: Placing INSAT-II class of satellites (2000 – 2,500kg) into GTO

Fuel: Three stages, S125 solid booster with four liquid (L40) strap-ons, GS2 liquid engine and GS3 cryogenic stage



GSLV Mark III

Height: 42.4m

Weight: 630 tonnes

Fuel: Three stage; two identical S200 Large Solid Booster (LSB) with 200 tonne solid propellant, the L110 re-startable liquid stage, the cryogenic stage

Capability: Placing communication satellites of INSAT-4 class, weighing 4,500-5,000kg in GTO, LEO, polar and intermediate circular orbits



Geocoding

- ➔ Recently, the Goods and Services Tax Network (GSTN) has made 'live' the Geocoding functionality for all the States and Union Territories.
- ➔ It converts the address or description of a place into geographic coordinates.
- ➔ It has been introduced to ensure the accuracy of address details in GSTN records and to streamline the address location and verification process.
- ➔ GST Network has already geocoded **1.8 crore prime locations** of **businesses**.
- ➔ The functionality is available for General, Composition, SEZ units, SEZ Developers, Input Service Distributor and Casual Taxpayers who are live and suspended.
- ➔ This is a one-time activity and no modification of the address is allowed once submitted.
- ➔ This functionality will not be visible to those taxpayers who have already geocoded their addresses through fresh registration or basic amendment.

- ➔ **GST** It is a non-profit non-govt company registered under **section 8 of the Companies Act, 2013.**
- ➔ It will provide shared IT infrastructure and service to both Central and State Governments including taxpayers and other stakeholders.
- ➔ Private partners hold **51% equity** in GSTN and Central and State Governments hold **49% equity** in GSTN.

Key Solution Design Principles

Platform Approach	Designed as a platform powered by a faceless Open API architecture
Openness	Adoption of Open API and Open Standards
No Vendor lock-in & Replace-ability	Vendor neutrality to be driven by design ensuring plugability & adherence to standards
Security & Privacy	Privacy and data integrity & disseminate data to authenticated & authorized users
Scalability	Scalability to be driven by application design ensuring scaling out with hardware addition
Availability	Load Balanced in an active-active fashion avoiding single point of failure
Manageability	Ensuring non-intrusive monitoring of components assuming infrastructural failure is commonplace
Reliability	Ensure Data integrity & prevent unauthorized manipulation of data
Data Driven Decision Making	Capture enough system analytical data to provide improvement indicators
Reconstruction of Truth	Tamper resistance capacity & source of truth (original data of invoices & final returns) could be used to reconstruct derived data



Wilson's Little Penguin

- On the **Southern Taranaki Peninsula** of **New Zealand's North Island**, researchers made a remarkable discovery. They have discovered the remains of the smallest extinct penguin species ever discovered, shedding light on the interesting world of these flightless birds and providing important historical insights.
- Researchers have unearthed the fossilized remains of a new unknown penguin species. These bones are known as those of Wilson's little penguin (*Eudyptula wilsonae*).
- Named **Wilson's** little penguin (*Eudyptula wilsonae*), these remains offer a glimpse into the history of these fascinating creatures. Fossil skulls found in the **southern Taranaki region** are remarkably similar in size and appearance to those of little penguins living in our world today.
- The discovery is of great importance as it confirms the origin of little penguins in New Zealand and their presence during the **Neogene period**.
- By studying these fossils, scientists are able to fill in the gaps in the history of ecosystems.

- ➔ Little penguins, including their subspecies, currently live in New Zealand, Australia and Tasmania. Understanding their origins and historical presence increases our understanding of the unique biodiversity of these regions.
- ➔ Speculation is rife about the unfortunate deaths of baby penguins washed up **on New Zealand beaches**.
- ➔ The researchers suggest that climate change may have played a role in these events. Rising sea surface temperatures, **fueled by climate change**, could cause prey species to migrate out of penguin reach, leading to **malnutrition** and **death**.



Little penguins

Global Survey on Digital and Sustainable Business Facilitation

- This is a survey released every two years. The survey deals with the measures taken by **individual countries** to facilitate trade.
- The global survey covers a set of nearly 60 trade facilitation measures, along with the trade facilitation agreements of the **World Trade Organization (WTO)**. These measures of trade facilitation are classified into the following **11 sub-groups**.
- Transparency, Formalities Institutional Arrangements and Cooperation Transit Facilitation: Paperless Trade Cross-Border Paperless Trade: Trade Facilitation for Small and Medium Enterprises (SMEs) Agriculture Trade Facilitation Women in Trade Facilitation: Trade Finance for Trade Facilitation and in Times of Crisis business facility.
- India's score has increased from **90.32 percent** in 2021 to **93.55 percent** in 2023.

- ➔ In this survey, India is the best-performing country among all the countries in the South Asia region. India's overall score is higher than many developed countries like **Canada, France, the UK, and Germany**.
- ➔ India has achieved a perfect **score of 100 per cent** in four key areas. These areas are transparency, formalities, institutional arrangements and cooperation and paperless trade.
- ➔ India's score has also improved substantially in the Women in Ease of Doing Business component. Scores in this component increase from **66.7 percent** in 2021 to **77.8 percent** in 2023.
- ➔ **The improvement in India's score has been mainly due to the following initiatives:**
 - Turant Customs,
 - Single Window Interface for Facilitating Trade (SWIFT),
 - Pre-arrival data processing,
 - e- Sanchit,
 - Integrated Border Management etc.

- **ESCAP** was established in **1947**. It is one of the five regional commissions of the United Nations. Its headquarter is in **Bangkok (Thailand)**.
- It promotes cooperation among its **53 member states** and **9 associate members** to address the challenges facing sustainable development.

