

**Regent Education and Research Foundation Group of Institutions**  
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**(Useful for UPSC/WBPSC/SSC Exams.)**

- GSLV-F14 placed INSAT-3DS into the intended **geosynchronous transfer orbit** and then to a **Geo-stationary Orbit** (refer to the box).
  - ⊖ It was launched from **Satish Dhawan Space Centre** in **Sriharikota** (Andhra Pradesh).
- **INSAT-3DS Satellite**
  - ⊖ It is a follow-on mission of **Third Generation Meteorological Satellite**.
  - ⊖ It will aid presently operational **INSAT-3D and INSAT-3DR** which are dedicated **meteorological geostationary satellites**. **Objectives**
    - ⊖ ♦ **Monitor Earth's surface, carry out Oceanic observations** and its **environment**.
    - ♦ Provide **vertical profile** of various **meteorological parameters** of **Atmosphere**.
    - ♦ Provide **Data Collection and Data Dissemination capabilities**.
    - ♦ Provide **Satellite Aided Search and Rescue services (SA&SR)**.
  - ⊖ **Onboard payloads:** Imager Payload, Sounder Payload, Data Relay Transponder, and SA&SR transponder.
  - ⊖ **Indian Industries** have significantly contributed to its making.
- **GSLV-F14:** GSLV-F14 is **16<sup>th</sup> flight** of India's **Geosynchronous Satellite Launch Vehicle (GSLV)** and **10<sup>th</sup> flight** with **Indigenous Cryogenic stage**.
  - ⊖ **GSLV is a three-stage launch vehicle** having a **liftoff mass of 420 tonnes**.
    - ♦ **First stage** comprises a **solid propellant motor**.
    - ♦ **Second stage** comprises **earth-storable propellants**.
    - ♦ **Third stage** is a **cryogenic stage**.
  - ⊖ GSLV can launch spacecraft capable of performing **communications, navigation, earth resource surveys**, and any other proprietary mission.

- **Geosynchronous Transfer Orbit (GTO):** Transfer orbits are a special kind of orbit used to get from one orbit to another.
  - ⊖ To attain geosynchronous (and also geostationary) Earth orbits, a spacecraft is launched into an **elliptical orbit with an apoapsis altitude of around 37,000 km**. This is called a GTO.
- **Geostationary orbit (GEO):** Satellites in **GEO** circle Earth **above the equator from west to east** by travelling at the same rate as Earth. This makes **satellites in GEO** appear to be **'stationary'** over a fixed position.
  - ⊖

**Public Accounts Committee (PAC) financial limits for 'New Service (NS)' and 'New Instruments of Service (NIS)' report**

- The report approved a proposal by the Ministry of Finance to **raise financial limits** for NS and NIS (it was last revised in 2006). This limit
  - ⊖ is **applied** whenever **expenditure provisions** are **augmented through appropriation of funds** from the savings available within the same sections of Grants/Appropriation.
  - ⊖ **Expenditure beyond financial limits** can be done through **supplementary proposals** (from ministries/departments) for which **parliamentary approval is necessary**.
- **Key highlights**

Specification	NS	NIS
<b>Definition</b>	Refers to <b>expenditure</b> arising out of a <b>new policy decision</b> , not brought to <b>notice of Parliament</b> earlier, including a new activity or a new investment	Refers to a relatively <b>large expenditure</b> arising out of the <b>expansion of an existing policy</b> .
<b>Object Head</b>	Machinery & equipment; ICT Equipment; Building & Structure; Infrastructure Assets; Arms & Ammunition; and Land.	Investment; loans and advances; subsidies; etc.
<b>Reporting limit</b>	Above <b>Rs 50 crore to Rs 100 crore</b>	<b>20% of the original appropriation or up to Rs 100 crore</b> whichever is higher.

- **Rationale for revision**
  - ⊖ **Economic growth:** Due to expansion in **GDP growth (6-7% on YoY basis)**, budget size is also expected to grow.
  - ⊖ **Delays in project execution:** Low financial limits for NS/NIS expenditure prompted a rise in **supplementary proposals**. **Enhanced monitoring:** Defining NS/NIS uniformly at standardised Object Head would enable effective scrutiny by CAG.

## Fourteenth Meeting of Conference of Parties (COP14) to Convention on the Conservation of Migratory Species of Wild Animals (CMS)

- COP14 concluded in **Samarkand, Uzbekistan** with a **host of new measures** to safeguard migratory species (see table).

Agenda items	Key outcomes
<b>Migratory Species Conservation</b>	<ul style="list-style-type: none"> <li>➤ <b>Samarkand Strategic Plan for Migratory Species</b> for 2024-2032.</li> <li>➤ New <b>Global Guidelines</b> addressing the impacts of <b>Light Pollution</b> on migratory species.</li> </ul>
<b>Species specific mandates</b>	<ul style="list-style-type: none"> <li>➤ <b>Addition of 14 species</b> to CMS Appendices including Eurasian Lynx, Pallas's Cat and Sand Tiger Shark.</li> <li>➤ <b>New Concerted Actions for six species</b>, including Chimpanzee, Straw-colored Fruit Bat, and Blue Shark.</li> <li>➤ Three new <b>Action Plans for aquatic species</b>, the Atlantic Humpback Dolphin, the Hawksbill Turtle and the Angelshark.</li> </ul>
<b>Migratory Birds</b>	<ul style="list-style-type: none"> <li>➤ Agreement on <b>Central Asian Flyway (CAF)</b> spanning 30 Range States of migratory birds. It includes establishment of a coordinating unit in India.</li> </ul>
<b>Scientific Reports</b>	<ul style="list-style-type: none"> <li>➤ First ever <b>State of the World's Migratory Species</b> report.</li> </ul>
<b>New Global Initiative</b>	<ul style="list-style-type: none"> <li>➤ New <b>Global Partnership on Ecological Connectivity (GPEC)</b> was launched. <ul style="list-style-type: none"> <li>⊖ It aims to ensure that <b>ecological connectivity is maintained, enhanced, and restored</b> in critical areas for migratory species.</li> <li>⊕ <b>Belgium, France, Monaco, and Uzbekistan</b> are CMS Parties supporting GPEC.</li> </ul> </li> </ul>

- **India** was one of the recipients of the **Migratory Species Champion Programme** for its contribution to **conservation of migratory birds in CAF**.

### Convention on the Conservation of Migratory Species of Wild Animals (CMS)

- Also known as **Bonn Convention**, it is the **only global convention specializing in the conservation of migratory species**.
- It has **two appendices**:
  - ⊖ **Appendix I**: Lists migratory species threatened with extinction.
  - ⊖ **Appendix II**: Lists migratory species that would significantly benefit from international cooperation.
- **India is a party to CMS**.

## Centre Raises Authorised Capital of FCI from Rs 10,000 crore to Rs 21,000

Authorised capital is the **amount of share capital** which a **company is authorised to issue** by its Memorandum of Association (MoA).

- ⊖ The company **cannot raise more than the amount of capital** as specified in the MoA.
- ⊖ Authorised capital is also called **Nominal or Registered capital**.

- Enhanced authorised capital would help the Food Corporation of India (FCI) embark upon
  - ⊖ **modernizing storage facilities**,
  - ⊖ **improving transportation networks**,
  - ⊖ and adopting **advanced technologies**.
- Enhanced authorised capital and further infusion will also **lessen the interest burden** and affect the subsidy of Centre positively.

### ➤ About FCI

- ⊖ **Public sector undertaking** under the Ministry of Consumer Affairs, Food and Public Distribution set up under the Food Corporation Act of 1964. Mandates
  - ⊖ ♦ Undertake **procurement of foodgrains** at a **minimum support price (MSP)** to protect the interest of farmers.
  - ♦ **Distribution of food grains** throughout the country for **public distribution system (PDS)**.
  - ♦ Maintain a satisfactory level of **operational and buffer stocks of foodgrains** to ensure National Food Security.
- ⊖ Centre **provides equity to the FCI** for working capital requirements and the creation of capital assets.
  - ♦ FCI resorts to **Cash Credit, short-term Loans, Ways & Means** etc. to match the gap in fund requirements.

### Key initiatives to enhance the effectiveness of FCI

Purchasing **lab equipment** and developing a **software platform for Quality Checking labs**.

Studies on "Shelf-Life", and "Pest Management for Fortified Rice" for **efficient food security management**

**E-office** implementation has made FCI a **less paper organization**.

## India's Department of Atomic Energy (DAE) begins construction phase for contributions to Proton Improvement Plan (PIP-II) project

- ▶ PIP-II is the **first particle accelerator on U.S. soil (at Fermilab)** to be built with significant contributions from international partners.
  - ⊕ Institutions from **India, France, Italy, Poland and UK** are part of collaboration. India will contribute **\$140 million worth components**.  
It will power the **world's most high-energy neutrino beam** to the underconstruction Deep Underground Neutrino Experiment (DUNE) at Long-Baseline Neutrino Facility (LBNF).
- ▶ Particle accelerators **propel charged particles (Protons, Atomic Nuclei, Electrons etc.)** at high speeds, close to the speed of light.  
Accelerators feature **four principal components** – Source for producing particles, **Composite device** to speed them up, **Metallic tubes in vacuum** to allow free movement and **Electromagnets** to steer the beam particles.
- ▶ **Some Large Particle Accelerators:**
  - Large Hadron Collider (LHC):** Most powerful accelerator, located at CERN in Geneva. Significant achievements - discovery of **Higgs Boson**, previously unknown **hadrons** etc.
  - Stanford Linear Accelerator Centre (SLAC), USA:** Longest linear particle accelerator in the world. Significant achievements - discovery of **quark** and **tauleptons**.
  - European Synchrotron Radiation Facility (ESRF):** Located in Grenoble, France, and is home to most intense hard x-ray source in the world.

### Significance of Particle Accelerators:

**Fundamental research:** Colliding sub-nuclear particles near speed of light, allowing search for new particles and forces and understanding origins of universe.

**Health:** Sterilizing medical equipment and synthesizing radiopharmaceuticals for **cancer diagnosis and therapy**.

**Environment:** Detect trace chemical elements in air, water or soil.

**Industry:** Improving durability of materials.

## Rhodamine-B

- ▶ Sale of cotton candy has been banned in Tamil Nadu after samples reveal use of **toxic industrial dye (Rhodamine-B)** as artificial colouring agent.
  - ⊕ It is **prohibited in the food industry** by Food Safety and Standards Authority of India (FSSAI).
- ▶ **Rhodamine-B:**
  - ⊕ Rhodamine-B is an organic chloride salt used as a **colouring agent for dyeing in textile, paper, leather, and paint industry**. **Impact on human health:**
    - ◆ **Immediate effect:** Stomach fullness, itching, and breathing problems.
    - ◆ **Potential Chronic Health Effects:** Liver dysfunction, Intestine cancers, neurotoxicity, and Kidney failure.

## Committee on Estimates (CoE) submitted report on action taken by the government on recommendations contained in its 26th report

- ▶ In its 26<sup>th</sup> report, CoE gave various recommendations on the subject **"Evaluation of Electric Vehicle (EV) Policy"**.
- ▶ EV is a type of vehicle that uses **one or more electric motors for propulsion instead of an Internal Combustion Engine (ICE)**.  
Compared to traditional vehicles, EVs produce **fewer emissions and are more energy-efficient**.  
Till November 2022, **more than 18 lakhs EVs** are being used on Indian roads.
- ▶ **Steps taken for promotion of EVs:**
  - Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (**FAME India**) scheme
  - PLI scheme – **National Programme on Advanced Chemistry Cell Battery Storage**
  - PLI Scheme for **Automobile and Auto Component**
  - Reduction in GST** on EVs from 12% to 5%
  - Amendment to Model Building Bylaws 2016** to establish charging stations,
- ▶ **Recommendations in 26<sup>th</sup> Report:**
  - Framing of a **strong National Policy framework on EVs**
  - Extension of FAME-II** scheme beyond 2024 for two more years
  - Framing comprehensive plan for **rollout of nationwide public charging network**
  - Promotion of **technologies other than EVs** such as flexfuel, Hydrogen ICE etc.
  - A national **strategy for disposal and reuse of EV batteries**

## Jnanpith Award

The 58<sup>th</sup> Jnanpith Award for the year 2023 has been awarded to **Jagadguru Swami Rambhadracharya ji** for Sanskrit and **Shri Gulzar** for Urdu.

- ▶ **Jnanpith Award**
  - ⊕ The Award has been given by **Bharatiya Jnanpith** annually since **1965** for outstanding contributions to **Indian literature**.
    - ◆ **Bharatiya Jnanpith**, formally established in 1944, is one of the **premier literary organizations and publication houses** in India.
  - ⊕ Recognized as the **highest literary award**.
  - ⊕ Conferred for **literature in Indian languages and English**.
  - ⊕ Presented by **Presidents, Prime Ministers and international celebrities**.



## Aarogya-Doctors on Wheels

- ▶ "Aarogya-Doctors on Wheels" initiative is launched for the Udhampur district of J&K.
- ▶ It is an **Artificial Intelligence-driven Tele Clinic** to provide healthcare facilities in far flung areas of the region.
  - ⊕ Herein a patient can narrate his illness or complaint in native language and the AI doctor understands the language and responds to the patient in the same language.
- ▶ This free telemedicine facility overcomes the problems of 'Accessibility, Availability and Affordability'.

## Paruveta Utsavam

- ▶ Efforts are being made to get UNESCO to declare the ongoing annual 'Paruveta utsavam' (mock hunting festival), as an 'intangible cultural heritage'.
- ▶ Festival starts annually on Makarasankranti at Sri Narasimha Swamy temple, Ahobilam in Andhra Pradesh and lasts for about 40 to 45 days.
- ▶ Ahobilam is situated amidst Nallamala Forest in Eastern Ghats, and is the centre of worship of Narasimha, the lion-headed avatar of Lord Vishnu.
- ▶ It is one of 108 Divya Desams (Temples of Shri Vishnu).

## Water discovered on Asteroids

- ▶ Asteroids named **Iris and Massalia** (rich in silicate) were found to emit the unique wavelength that "unambiguously" indicated the presence of water molecules.
  - Discovery was made by studying SOFIA's observations.
    - ◆ SOFIA was NASA's airborne astronomical observatory that was retired in 2022.
- ▶ **Asteroids**
  - They are small, rocky objects that orbit the Sun. They are much smaller than planets.
  - Significance of water on asteroids**
    - ◆ Can shed light on how water was delivered to Earth.
    - ◆ Could be helpful in search for extraterrestrial life.



## YUVA VIGYANI KARYAKRAM (YUVIKA)

- ▶ Indian Space Research Organisation (ISRO) is organizing a special program for School Children called "Young Scientist Programme" or YUVIKA.
- ▶ **Key objectives:**
  - ⊕ Impart basic knowledge on Space Science, Space Technology, and Space Applications to the younger students.
  - ⊕ Encourage more students to pursue Science, Technology, Engineering, and Mathematics (STEM) based research and aligned careers.

Program envisages classroom training, practical demonstration of experiments, model rocketry interactions with ISRO scientists, and field visits.

## Economic cooperation between India and Taiwan

India and Taiwan signed a migration and mobility agreement that will facilitate the employment of Indian workers in Taiwan.

Though India and Taiwan do not have formal diplomatic ties, the bilateral trade relations have been growing deeper.

The total investment of Taiwanese enterprises in India is around \$4 billion, covering areas including footwear, machinery, automobile components, ICT products, etc.

## Agricultural and Processed Food Products Export Development Authority (APEDA)

APEDA has taken agricultural exports to USD 26.7 billion in the fiscal year 2022-23.

In 2022-23, India's agricultural exports reached USD 53.1 billion, with APEDA contributing a significant 51% of India's Agri-exports.

### About APEDA

Established under the Agricultural and Processed Food Products Export Development Authority Act, 1985.

APEDA is entrusted with responsibility of export promotion and development of scheduled products such as fruits, vegetables, poultry, dairy, confectionery products etc.

APEDA, as Secretariat to National Accreditation Board, accredits certification bodies under National Programme for Organic Production.

## Vasudev Balwant Phadke (1845 – 1883)

- ▶ Home Minister paid tribute to freedom fighter Vasudev Balwant Phadke on his death anniversary.
- ▶ **Key Contributions:**
  - Modern India's first revolutionary, he is regarded as the "Father of the Armed Struggle for India's Freedom".
    - ◆ He is said to be the inspiration for Bankimchandra's Anandamath.
  - ⊕ During the great famine, Phadke toured the Deccan fomenting disaffection against the British and pleading for Swaraj.
    - ◆ He formed a band of about 300 Bhils, Kolis, Ramoshis and Dhangras to attack British strongholds.
  - ⊕ Established Aikyavardhini Sabha and first school of national education in Pune.
- ▶ **Values:** Patriotism, Leadership, Courage etc.