

ADITYA-L1 MISSION: INDIA'S FIRST MISSION TO STUDY THE SUN WILL BE LAUNCHED BY JUNE-JULY

Why in News?

- According to the Indian Space Research Organisation (ISRO) chairman S. Somanath, the country's first solar mission - Aditya-L1 mission, is likely to be launched by June-July this year.
- He was speaking at the handover ceremony of the Visible Line Emission Coronagraph (VELC) payload - one of seven payloads (instruments) on board Aditya – L1.

What is the Aditya-L1 Mission?

- Aditya (in Sanskrit means Sun) is a planned **coronagraphy spacecraft** to study solar atmosphere (solar corona - outermost part).
- It is currently being designed and developed by **ISRO** and various other Indian research institutes.
- **First** dedicated Indian mission to observe the Sun, it is planned to be launched in June-July 2023 aboard a **PSLV-XL launch vehicle**.
 - It was conceptualised in **2008** and was initially envisaged as a small 400 kg satellite.
 - The mission's objectives have subsequently been broadened and it is now intended to be a **comprehensive observatory of the sun and space environment**.
 - It will be placed in an orbit around the Lagrange (L1) point (L1 is about 1.5 million kms from Earth) between Earth and the sun (so renamed - "**Aditya-L1**").
 - **Lagrange points** are positions in space where objects sent tend to stay there, as **the gravitational pull of two large masses precisely equals** the centripetal force required for a small object to move with them.
 - These points in space can be used by spacecraft to **reduce fuel consumption** needed to remain in position.
 - The first Lagrangian point of the Sun-Earth system, **L1 orbit, allows Aditya-L1 to look at the Sun continuously**.

- The spacecraft will study coronal heating, solar wind acceleration, coronal magnetometry, origin and monitoring of near-UV solar radiation.
- It will continuously observe photosphere, chromosphere and corona, solar energetic particles and magnetic field of the Sun.

News Summary with respect to the Aditya-L1 Mission:

- In total Aditya-L1 has seven payloads, of which the **primary payload - the VELC**, is designed and fabricated by the **Indian Institute of Astrophysics (IIA, Bengaluru)**.
- The payload will be taken to the **R. Rao Satellite Centre (Bengaluru)**, where it will be integrated with the Aditya-L1 satellite and will undergo further testing, evaluation and finally launched using the PSLV.
- The VELC payload **will observe the corona continuously** and the data provided by it is expected to answer many outstanding problems in the field of solar astronomy.
- **No other solar coronagraph** in space has the ability to image the solar corona as close to the solar disk as VELC can (can image it as close as 1.05 times the solar radius).
- It can also do **imaging, spectroscopy, and polarimetry** at the same time, and can take observations at a very high resolution.
- **The other six payloads** are being developed by the ISRO and other scientific institutions.
- **Understanding the effect of the Sun** on the Earth and its surroundings has become very important now and Aditya-L1 aims to shed light on this topic.

MONUMENT MITRA SCHEME

The Secretary of the Ministry of Culture recently said that the government will hand over around 1,000 monuments under the control of the Archaeological Survey of India to the private sector for their upkeep under the Monument Mitra Scheme.



About Monument Mitra Scheme:

- **Nodal Ministry: Ministry of Culture** in respect of the monuments

under the Archaeological Survey of India.

- It applies to all centrally protected heritage properties.
- **Aim:**Ensuring quality & inclusive provision of amenities and facilities across heritage, natural, & tourist sites through the active participation of private and public sector organizations and individuals.
- Corporate entities will take over these monuments as part of their **Corporate Social Responsibility**.
- These organizations would be known as “**Monument Mitras**”for their collaboration initiative.
- The government has set the target to hand over 500 sites under the revamped Monument Mitra Scheme by the end of Azadi ka Amrit Mahotsav on 15 August 2023.

WHAT ARE KELP FORESTS?

A recent study published in the journal Nature revealed that Kelp forests are declining because of climate change.



About Kelp forests:

- Kelp thrives in **cold, nutrient-rich waters**.
- They attach to the seafloor and eventually grow to the water’s surface and rely on sunlight to generate food and energy, kelp forests are always coastal and require shallow, relatively clear water.
- They provide underwater habitats to hundreds of species of invertebrates, fishes, and other algae and have great ecological and economic value.

Distribution of Kelp forest

- Kelp forests have been observed throughout **the Arctic by the Inuit**. The Canadian Arctic alone represents 10 per cent of the world’s coastlines.
- They have adapted to severe conditions. These cool water species have special strategies to survive freezing temperatures and long periods of darkness and even grow under sea ice.
- In regions with cold, nutrient-rich water, they can attain some of the **highest rates of primary production** of any natural ecosystem on Earth.

- Between Ellesmere Island and Labrador, as well as along the coasts of Lancaster Sound, Ungava Bay, Hudson Bay, Baffin Bay, and Resolute Bay in Hudson Bay and eastern Canada, kelp forests have been scientifically documented.
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GREEN INDIA MISSION

India is lagging behind in the targets to increase the number and quality of tree- and forest-cover plantations set in the Green India Mission, according to a recent data accessed via the Right To Information Act.



About Green India Mission:

- National Mission for a Green India (GIM) is one of the eight Missions under the National Action Plan on Climate Change (NAPCC).
- GIM was **launched** in the year **2014** as a **Centrally Sponsored Scheme**.
- **Aim:** To **respond to climate change** by a combination of **adaptation and mitigation** measures, which would help:
 - **enhance carbon sinks**
 - **adaptation** of vulnerable species/ecosystems **to the changing climate**
 - **adaptation** of forest-dependant communities
- **Objectives:**
 - **Increased forest/tree cover on 5 million hectares (mha) of forest/non-forest lands and improved quality of forest cover on another 5 mha** (a total of 10 mha).
 - **Improved ecosystem services** including biodiversity, hydrological services and carbon sequestration **as a result of treatment of 10 mha**.
 - **Increased forest-based livelihood income of about 3 million households** living in and around the forests.
 - **Enhanced annual CO2 sequestration by 50 to 60 million tonnes** in the year 2020.
- The Mission has **clear targets for different forest types** and ecosystems.

- Activities under Green India Mission will be **implemented under convergence with** Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Compensatory Afforestation Fund Management and Planning Authority (CAMPA) and the National Afforestation Programme (NAP).
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WHAT IS THE 'HALWA' CEREMONY?

The 'halwa ceremony', which marks the final stage of the Union Budget-preparation, took place recently, at the Finance Ministry headquarters in New Delhi.



About 'Halwa' ceremony:

- It is a customary pre-Budget event that formally flags off the printing of different documents associated with the Budget and marks the final stage of the Union Budget-preparation.
- It involves the **preparation of the traditional dessert 'halwa' in a massive kadhai (wok)** which is then served to the entire staff in the Finance ministry.
- The **finance minister gives the go-ahead** by stirring the kadhai and serving the sweet to officials.
- It takes place in the basement of the Finance Ministry's North Block in Central Delhi, where a special printing press is located.
- After the 'halwa ceremony', officials involved in the Budget-making process are 'locked in' at the North Block. They are kept in absolute isolation and completely cut off from the outside world till the finance minister finally presents the Budget.

The "lock-in" which follows the 'halwa ceremony' is observed to maintain the secrecy of the Budget preparation process.

WHAT ARE ETIKOPPAKA TOYS?

An Etikoppaka toy craftsman is one among the seven persons from Andhra Pradesh who have been selected for this year's Padma Awards.



About Etikoppaka toys:

• These are traditional toys made by artisans of Etikoppaka village located on the banks of Varaha River in Visakhapatnam district of Andhra Pradesh.

- These toys are made out of wood and are coloured with natural dyes derived from seeds, lacquer, bark, roots and leaves.
- The artisans mainly use the wood from trees known as 'ankudu' (Wrightia Tinctoria) that is soft in nature.
- These toys have no sharp edges. They are rounded on all sides.
- Etikoppaka toys received Geographical Indication (GI) tag IN 2017.
- **Why are they called lacquer toys?**
 - While making the Etikoppaka toys, lac, a colourless resinous secretion of numerous insects, is used.
 - The already prepared vegetable dyes are further mixed to the lac, during the process of oxidation.
 - After this process, the end product obtained is rich and colored lacquer.
 - The lac dye is used for decorating the Etikoppaka toys, which are exported all over the world.
 - Thus, the toys are also called lacquer toys because of the application of lacquer coating.

What is the Geographical Indication (GI) tag?

- A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- In order to function as a GI, a sign must identify a product as originating in a given place.
- Geographical Indications are covered as a component of intellectual property rights (IPRs) under the Paris Convention for the Protection of Industrial Property.
- At the International level, GI is governed by the World Trade Organisation's (WTO's) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

- In India, **Geographical Indications registration** is administered by the **Geographical Indications of Goods (Registration and Protection) Act, 1999**.
 - The **first product in India** to be accorded with GI tag was **Darjeeling tea** in the year 2004-05.
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INDIA TO MOVE TO T+1 SETTLEMENT SYSTEM

Why in News?

- After China, India will become the second country in the world to start the **‘trade-plus-one’ (T+1) settlement cycle** in top listed securities from January 27.
- This will help in bringing operational efficiency, faster fund remittances, share delivery, and ease for stock market participants.

What’s the T+1 Settlement Plan?

- The T+1 settlement cycle means that **trade-related settlements must be done within a day, or 24 hours, of the completion of a transaction**.
 - For example, under T+1, if a customer bought shares on Wednesday, they would be credited to the customer’s demat account on Thursday.
 - This is different from T+2, where they will be settled on Friday.
- As many as 256 large cap and top mid-cap stocks, including Nifty and Sensex stocks, will come under the T+1 settlement from January 27.
- The **United States, United Kingdom and Eurozone markets are yet to move to the T+1 system**.

What was the existing system in India?

- Until 2001, stock markets had a weekly settlement system.
- The markets then moved to a rolling settlement system of T+3, and then to T+2 in 2003.

What are the Benefits of T+1?

- In the T+1 format, **if an investor sells a share, she will get the money within a day, and the buyer will get the shares in her demat account also within a day**.

- This shorter trade settlement cycle augurs well for the Indian equity markets from a liquidity perspective, and it shows how well we have grown on the digital journey to ensure seamless settlements within 24 hours.
- This will also help investors in reducing the overall capital requirements with the margins getting released on T+1 day, and in getting the funds in the bank account within 24 hours of the sale of shares.
- The shift will boost operational efficiency as the rolling of funds and stocks will be faster.

Will T+1 Format make Markets Safer?

- According to a paper published by the Securities and Exchange Board of India (SEBI), a **T+1 settlement cycle not only reduces the timeframe but also reduces and frees up capital required to collateralize that risk.**
- A shortened settlement cycle also reduces the number of outstanding unsettled trades at any point of time, and thus decreases the unsettled exposure to Clearing Corporation by 50 per cent.
- The narrower the settlement cycle, the narrower is the time window for a counterparty insolvency/ bankruptcy to impact the settlement of a trade.
- Further, the capital blocked in the system to cover the risk of trades will get proportionately reduced with the number of outstanding unsettled trades at any point of time.

INDIA, EGYPT DECLARE 'STRATEGIC PARTNERSHIP'

Why in news?

- President of the Arab Republic of Egypt, Abdel Fattah El-Sisi, is on a State Visit to India from 24-27 January 2023.
- President Sisi, who is on his second State Visit to India, was also the Chief Guest at India's Republic Day 2023.
- During this visit, President Sisi and PM Modi held bilateral talks.

India-Egypt Bilateral Relations

- India and Egypt, two of the world's oldest civilizations, have enjoyed a history of close contact from ancient times.
- Ashoka's edicts refer to his relations with Egypt under Ptolemy-II.
- Close friendship between President Nasser and PM Nehru led to a Friendship Treaty between the two countries in 1955.

Political Relations

- Both countries have cooperated closely in multilateral fora and were the founding members of Non-Aligned Movement.
- The year 2022 is of particular significance since it marks the 75th anniversary of diplomatic relation between India and Egypt.
- Egypt has been invited as a **Guest Country** during India's Presidency of G-20.

Economic Relations

- Bilateral trade has expanded rapidly in 2021-22, amounting to 7.26 billion registering a 75% increase compared to FY 2020-21.
- India's exports to Egypt during this period amounted to US\$ 3.74 billion and Egypt's exports to India reached US\$ 3.52 billion.
- In FY 2021-22, the top Indian imports from Egypt were Mineral Oil/Petroleum, Fertilizers, Inorganic Chemicals and Cotton.
- Main items of export to Egypt from India were Buffalo Meat, Iron & Steel, Engineering Products, Light Vehicles and Cotton Yarn.
- India was the 6th most important trading partner for Egypt in FY2021-22.
- Around 50 Indian companies have invested in various sectors in Egypt with a combined investment exceeding US\$ 3.15 billion.
- Egyptian investments in India are to the tune of US\$ 37 million.

GREEN RAILWAY STATION CERTIFICATION

Recently, the Visakhapatnam railway station of East Coast Railway has been awarded the 'Green Railway Station Certification with the highest rating of Platinum' by the Indian Green Building Council (IGBC).

About Green Railway Station Certification:

- It is a rating system developed by the **Confederation of Indian Industry and Indian Green Building Council** with the support of the Environment Directorate of Indian Railway
- It is a voluntary and consensus-based programme.
- This is the first of its kind holistic rating in India to address environmental sustainability in Indian railway stations.

Key facts about Indian Green Building Council (IGBC)

- It is part of the Confederation of Indian Industry (CII) formed in the year 2001.
 - The council offers a wide array of services which include developing **new green building rating programmes**, certification services and green building training programmes.
 - The council also organises Green Building Congress, its annual flagship event on green buildings.
 - The council is **committee-based**, member-driven and consensus-focused. All the stakeholders, corporate, Government, academia and nodal agencies participate in the council activities through local chapters.
 - The council also closely works with several State Governments, Central Government, World Green Building Council, and bilateral multi-lateral agencies in promoting green building concepts in the country.
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