



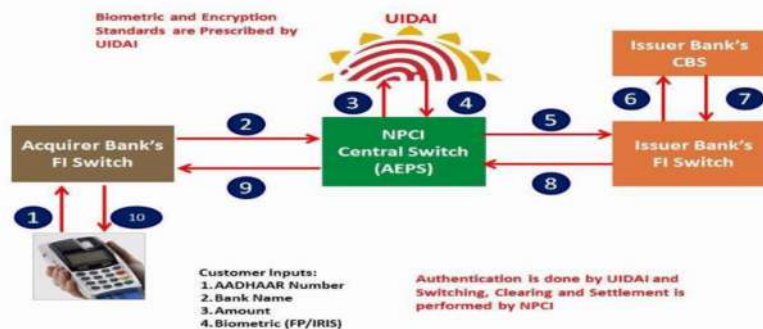
## Aadhar based Payment System

**Context:** The ABPS progress was evaluated, and the mixed wage payment route (NACH and ABPS) extended until December 31, 2023, or further notice.

- The Ministry informs states that beneficiaries must be asked for Aadhaar numbers when they come for work but can't be denied work for lacking it.
- Frequent bank account changes by beneficiaries cause payment rejections due to non-updating of new account numbers by officials.
- The best solution to avoid such issues is the Aadhaar Payments Bridge System (APBS) for timely wage payments.
- APBS links payments to Aadhaar, eliminating the need for account updates after location or bank account changes.
- Success rate for DBT-enabled payments is around 99.55%, while account-based payments have about 98% success.
- APBS helps genuine beneficiaries, curbs corruption, and doesn't affect work demand eligibility.
- APBS has been used under Mahatma Gandhi NREGS since 2017 and is now extended due to widespread Aadhaar availability.
- 81.89% of active workers are now eligible for APBS, with 88.51% of July 2023 wage payments made through it.
- Mahatma Gandhi NREGA benefits from the APBS ecosystem and the well-defined payment process.
- Aadhaar-based payment credits beneficiary accounts using a defined process with clear stakeholder roles.

## Aadhar-enabled Payment System

- AePS, created by NPCI, operates under a bank-led model, uniting various banks for seamless transactions.
- Users can utilize any bank's micro-ATM or PoS using AePS to access their accounts, promoting interoperability.
- AePS is used to deliver government benefits and subsidies to Aadhaar-linked bank accounts.
- This secure, user-friendly method is beneficial for those without smartphones or formal banking access.
- AePS eliminates the need for OTPs, bank details, and other financial information.



## National Automated Clearing House (NACH)

- NACH serves as a web-based platform that streamlines high-volume electronic transactions for Banks, Corporates, Financial Institutions, and Government.
- This electronic clearing service, established by NPCI, is particularly valuable for banks, handling bulk and recurring transactions.
- NACH aids in distributing subsidies, dividends, salaries, pensions, and collecting payments for utilities, loans, investments, insurance premiums, etc.
- The NACH system comprises ECS Credit and ECS Debit, along with local, regional, and national ECS variants.

## Laser-Induced Breakdown Spectroscopy (LIBS) Technique

**Context:** The Pragyan rover has verified the presence of sulfur at the South Pole of the Moon using the LIBS technique.

- The Chandrayaan-3 rover's LIBS instrument marks the first instance of on-site elemental composition measurements on the lunar surface near the South Pole.
- This LIBS tool, developed by ISRO's Laboratory for Electro-Optics Systems (LEOS), generates plasma from rocks or soil using powerful pulses of energy.
- Alongside the LIBS instrument, the rover is equipped with the Alpha Particle X-Ray Spectrometer, which is designed to further examine the elemental composition of the Moon's surface.
- The Laser-Induced Breakdown Spectroscopy (LIBS) technique involves using laser pulses to create plasma on a sample's surface, which then emits light. This emitted light is analyzed to determine the elemental composition of the sample.

## Face to Face Centres





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## Laser Pulse Technique (LIBS)

- LIBS is a scientific method that analyzes material composition using intense laser pulses.
- A high-energy laser pulse is focused on a material's surface, generating localized plasma.
- Plasma light is split into spectra and detected using charge coupled devices.
- Elements emit unique wavelengths in plasma, allowing determination of material composition.

## Elements on the Moon

- Initial analysis shows Aluminum (Al), Sulphur (S), Calcium (Ca), Iron (Fe), Chromium (Cr), and Titanium (Ti) on the lunar surface.
- Further measurements reveal manganese (Mn), silicon (Si), and oxygen (O) presence.
- Detecting Sulphur is crucial for insights into Moon's history, linked to volcanic activities.
- Sulphur presence can provide valuable information about the Moon's formation and evolution.
- Ongoing investigations focus on understanding the presence of Hydrogen.

## Guidelines for Research and Entrepreneurship Across Aspiring Innovators in Technical Textiles (GREAT)

**Context:** The Ministry of Textiles has granted approval to 26 engineering institutions to introduce Technical Textiles within the framework of the National Technical Textiles Mission.

- Ministry of Textiles approved these guidelines under the National Technical Textiles Mission (NTTM).
- Grant-in-aid of up to INR 50 Lakhs for 18 months is provided.
- Focuses on translating prototypes to technologies, products, and commercialization.
- Emphasizes Technical Textiles' application areas: Agro-textiles, Building-textiles, Geo-textiles, Home-textiles, Medical-textiles, Mobile-textiles, Packaging-textiles, Protective-textiles, Sports-textiles, etc.
- Includes High-performance fibers, Sustainable and Recyclable Textile materials, Smart Textiles (AI, IoT, 3D/4D Printing), indigenous Machinery/Equipment/Instruments.
- Incubators receive an additional 10% of total grant-in-aid.
- Incubatees must invest 10% of funding in two equal installments.
- Aims to boost technical textiles startup ecosystem, especially in Bio-degradable, Sustainable, High-performance & Specialty fibers, and Smart textiles.

## Institutes Upgrading and Training

- 26 institutes approved for upgrading laboratory infrastructure and training trainers in technical textiles.
- 15 applications from Public Institutes (INR 105.55 Crores) and 11 from Private Institutes (INR 45.47 Crores).
- Institutes like IIT Delhi, NIT Jalandhar, NIFT Mumbai, Anna University, among others, included.

## Enabling Academic Institutes in Technical Textiles' Education (Round II)

- Ministry to re-open guidelines for academic institutes under NTTM with eased parameters.
- Eligibility criteria include NBA score of 750 and above, NAAC rating of A+/3.26 or above, or top 200 NIRF ranked institutes.
- Targeting inclusion of new courses/papers in curriculum by academic year 2025-26.

## Quality and Regulation of Technical Textiles

- Ministry notified 02 QCOs for 31 Technical Textiles products, effective from 7th October 2023.
- QCOs for 28 more products (including Agrotiles, Medical Textiles) likely to be issued in September 2023.
- Multiple stakeholder consultations with industries to assess QCOs' impact on the economy and society.

## National Technical Textiles Mission

- The Ministry of Textiles initiated this mission, spanning 4 years from 2020-21 to 2023-24, with a budget of Rs. 1480 crores.
- The primary objective is to establish India as a global leader in Technical Textiles. The mission sets a target of achieving a domestic market size of \$40-50 billion by 2024, with an average annual growth rate of 15-20%.
- Aligned with the 'Make in India' initiative, the mission encourages the domestic production of machinery and equipment related to Technical Textiles.
- The mission is structured around four main components:
  - Research, Innovation, and Development.
  - Promotion and Market Development.
  - Export Promotion.
  - Education, Training, and Skill Development.
- The focus is on integrating technical textiles into flagship national programs, reducing import dependence, and fostering domestic manufacturing of capital goods in the sector.

## Face to Face Centres





## NEWS IN BETWEEN THE LINES

### Liquid Apogee Motor



#### What is Liquid Apogee Motor?

- The Liquid Apogee Motor (LAM) is a small but powerful engine used for orbital adjustments of satellites and spacecraft.
- Its main function is to fine-tune the trajectory of the spacecraft during its journey in space.

#### Developed by LPSC:

- LAM is developed by the Liquid Propulsion Systems Centre (LPSC), an ISRO center based in Thiruvananthapuram.
- LPSC is responsible for liquid and cryogenic propulsion systems used in various space missions.

#### Role in Space Missions:

- LAM has played a crucial role in multiple space missions, including the Mars Orbiter Mission (Mangalyaan), Chandrayaan-3, and more.

#### Components and Propellant:

- LAM uses a combination of propellants, typically mono-methyl hydrazine (MMH) and mixed oxides of nitrogen (MON3).

#### Orbital Adjustment:

- LAM engines are used primarily for adjusting the orbit of a spacecraft.
- They are activated to alter the spacecraft's velocity, trajectory, or position as needed for the mission's objectives.

#### LAM in Aditya-L1 Mission:

- LAM plays a critical role in ISRO's Aditya-L1 mission, which aims to study the sun.
- In this mission, LAM will be used to position the Aditya spacecraft in a halo orbit at Lagrangian Point L1, 1.5 million km away from Earth.

### Walking Leaves



#### About:

- Walking Leaves, also known as leaf insects, are a group of insects that closely resemble leaves in appearance.
- Walking Leaves are insects that imitate the appearance of leaves, belonging to the order Phasmida or Phasmatodea.
- More than 50 species of these flat, usually green insects are known for their striking leaf-like appearance.
- They primarily feed on plants and are commonly found in densely vegetated areas.
- Their natural habitat extends from Indian Ocean islands to parts of South Asia, Southeast Asia, Papua New Guinea and Australia.
- Females walking leaves are generally larger than males.
- These insects are often brown or green in colour, some with speckled patterns or serrated edges resembling nibbled leaves.
- Walking leaves reproduce sexually, with females laying eggs.

### Blue Supermoon



On August 30, a rare event took place in the sky with the rise of a "Super Blue Moon," which is the result of the combination of a supermoon and a Blue Moon.

#### What is Blue Supermoon?

- Blue Supermoon, a rare celestial event, is captivating sky gazers worldwide for the first time since 2009.

#### What is a Blue Moon?

- A Blue Moon takes place when there are 13 full Moons in a year, rather than the usual 12.
- The occurrence is due to the specific arrangement of days in a year.

#### Blue Moon and Supermoon Combination:

- This blue Moon is also a supermoon, signifying the Moon's closest proximity to Earth in its orbit.
- The Moon appears unusually bright during a supermoon due to its close approach to Earth.

#### Naming and Coloration

- The term "blue Moon" does not refer to the color of the Moon; it is named for its deviation from the typical naming scheme of Moons.

The phenomenon's name is a historical quirk and has no relation to the Moon's color.

### Funga



Recently, the United Nations Biodiversity initiative aims to give equal recognition and protection to fungi by encouraging the use of the term "funga" in conjunction with "flora and fauna."

#### The Importance of Fungi:

- Fungi, Animalia, Plantae, Protista, Archaea/Archaeobacteria and Bacteria form the six "kingdoms" of biology.
- Fungi are crucial for decomposition, forest regeneration, digestion in mammals, carbon sequestration, nutrient cycles, antibiotics, and various human consumables (bread, beer, chocolate).

#### Incorporating "Funga" in Language:

- Language shapes reality, and using "funga" is essential to highlight fungi's importance.
- The UN suggests integrating "funga" in everyday conversations, educational materials, media, and social media vocabulary to underscore fungi's role.

#### Inclusive Conservation Efforts

- The Species Survival Commission (SSC) of IUCN adopted "mycologically inclusive" language to acknowledge fungi's role.

#### Recognizing Fungi's Role:




- Fungi play a vital role in maintaining Earth's ecosystems, ranging from forest health to nutrient cycles.
- Integrating "funga" in communication helps promote understanding of fungi's essential role in the web of life.

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<p><b>Red Sand Boa</b></p> 	<p><b>Name and Classification:</b> The Red Sand Boa (<i>Eryx johnii</i>) falls under the reptile category and is classified as 'Near Threatened' by the IUCN.</p> <p><b>Illegal Trade:</b></p> <ul style="list-style-type: none"> <li>➤ 172 incidents of red sand boa seizures documented from 2016 to 2021</li> <li>➤ Compiled by the Counter Wildlife Trafficking unit of WCS-India</li> </ul> <p><b>High-Incidence Regions:</b></p> <ul style="list-style-type: none"> <li>➤ Maharashtra recorded the highest number of incidents (59)</li> <li>➤ Urban areas like Pune, Thane, Raigad, and Mumbai Suburban most affected</li> <li>➤ Uttar Pradesh had the second highest number (33), particularly near the Nepal border</li> </ul> <p><b>Reasons for Trade:</b></p> <ul style="list-style-type: none"> <li>➤ High demand for the pet trade</li> <li>➤ Use in black magic practices</li> </ul> <p><b>Conservation Concerns:</b></p> <ul style="list-style-type: none"> <li>➤ Red Sand Boa's 'Near Threatened' status reflects decreasing population trends</li> <li>➤ Importance of addressing illegal trade to conserve the species</li> </ul>
<p><b>Place in News</b></p> <p><b>Gabon</b></p>	<p>In a recent development, mutinous soldiers in Gabon seized power after the president's election victory extended his family's 55-year rule.</p> <p><b>Gabon: (Capital: Libreville )</b></p> <p><b>Political Boundaries:</b></p> <ul style="list-style-type: none"> <li>➤ Gabon is a country located on the west coast of Central Africa.</li> <li>➤ It shares its political boundaries with the following countries: Gabon's northern border is shared with Equatorial Guinea, to the north and northeast, eastern border is with the Republic of the Congo, western coastline along the Atlantic Ocean.</li> </ul>  <p><b>Physical Features of Gabon:</b></p> <p><b>Rivers:</b> The Ogooué River is the most significant river in Gabon, flowing through the country and playing a vital role in transportation and commerce.</p> <p><b>Monts de Cristal:</b> This mountain range is located in the northeastern part of Gabon and includes the highest point in the country, Mount Iboundji.</p> <p><b>Recent Coups in Africa:</b></p> <p><b>Niger (July 2023):</b> Presidential guard detained Mohamed Bazoum and announced power seizure.</p> <p><b>Burkina Faso (Jan 2022):</b> Army ousted President Roch Kabore, citing failure to contain militant violence.</p> <p><b>Chad (April 2021):</b> Army took over after President Idriss Deby's death during rebel clashes.</p> <p><b>Guinea (Sept 2021):</b> President Alpha Conde ousted by a commander.</p> <p><b>Mali (Aug 2020):</b> Army ousted President Ibrahim Keita following anti-government protests.</p>
<p><b>Place in News</b></p> <p><b>Alladi Ramakrishnan</b></p>	<p><b>Alladi Ramakrishnan: (August 9, 1923-June 7, 2008)</b></p> <p>He was an eminent Indian physicist known for his significant contributions to theoretical physics and his instrumental role in establishing the Institute of Mathematical Sciences (IMSc) in Chennai, India.</p> <p><b>Influence of Niels Bohr:</b></p> <ul style="list-style-type: none"> <li>➤ Physics Nobel Laureate Niels Bohr's visit to India in 1960 highlighted the impact of Ramakrishnan's teaching on his students.</li> <li>➤ Bohr's praise for Ramakrishnan's work garnered attention.</li> </ul> <p><b>Foundation of IMSc:</b></p> <ul style="list-style-type: none"> <li>➤ With support from Prime Minister Jawaharlal Nehru, Ramakrishnan established the Institute of Mathematical Sciences (IMSc) in 1962.</li> <li>➤ He served as its founding director and played a crucial role in shaping its academic direction.</li> </ul> <p><b>Leadership and Legacy:</b></p> <ul style="list-style-type: none"> <li>➤ Ramakrishnan's leadership and dedication helped IMSc grow into a prominent research institution.</li> <li>➤ He fostered an environment conducive to theoretical physics research and nurtured young talents.</li> </ul> 
<h2 style="text-align: center;">POINTS TO PONDER</h2>	
<ul style="list-style-type: none"> <li>❖ Recently who is appointed by the National Institute of Disaster Management (NIDM) for the climate change awareness campaign? - Maithili Thakur</li> <li>❖ Which flagship scheme has recently launched by the Karnataka government? - Gruha Lakshmi</li> <li>❖ What is the primary payload on India's Aditya-L1 mission? - VELC (Visible Emission Line Coronagraph)</li> <li>❖ What is the name of the repository set to open in Finland for deep geological disposal? - Onkalo</li> <li>❖ According to the report for 2023 by the University of Chicago, which country is the second most polluted country in the world? - India</li> </ul>	

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