1. **World Economic Forum's (WEF) Global Risks Report 2025:** As per the recent report, India, with nearly 900 million Internet users, faces a high risk of disinformation, which threatens its political stability, economic security, and social cohesion.
   - **About Global Risks Report 2025:** It defines a global risk as an event affecting a significant portion of the population, global GDP, and natural resources.
     - Highlights the impact of AI-generated content, algorithmic biases, and societal divides on truth and information integrity.
     - Identifies India's political disinformation at 46%, followed by general issues (33.6%) and religious content (16.8%).
   - **Political Disinformation:** Major political parties use **deep fakes and unverified content** to influence public opinion.
   - **About World Economic Forum (WEF):** Established in 1971 as a non-profit organisation by Klaus Schwab (German engineer & economist).
     - **In 2015,** formally recognized as an **international organization**, and engages global leaders to promote economic resilience, sustainability, and inclusivity.
     - **Key Reports Published by WEF:** Global Risks Report → Global Competitiveness Report → Global Information Technology Report → Global Gender Gap Report → Global Travel and Tourism Report → Global Enabling Trade Report
     - **Headquarters:** In Geneva, Switzerland.
2. **Indian Knowledge Systems (IKS) initiative:** The University Grants Commission (UGC) has released draft guidelines for incorporating IKS in undergraduate (UG) and postgraduate (PG) courses.
   - **About Indian Knowledge Systems (IKS) Initiative:** It was introduced by the Ministry of Education (MoE) under the National Education Policy (NEP) 2020 to integrate traditional Indian knowledge into modern education.
   - **Objectives:** Promote interdisciplinary research on all aspects of Indian Knowledge Systems.
     - Preserve and disseminate IKS for research and societal applications.
     - Engage in spreading India's rich heritage and traditional knowledge in fields such as Arts, Literature, Agriculture, Basic Sciences, Engineering & Technology, Architecture, Management, and Economics.

- **Functions:** Facilitate and coordinate IKS-related interdisciplinary work across institutions in India and abroad→Establish and guide subject-wise research groups of researchers from various institutions→Promote popularization schemes for IKS→Facilitate funding for projects and research mechanisms→Make policy recommendations for IKS promotion.

3. **Painted lady butterflies:** A recent study published in PNAS Nexus explores the migration patterns of Painted Lady Butterflies (Vanessa cardui), revealing that their migratory distances are influenced by environmental conditions rather than genetic differences.

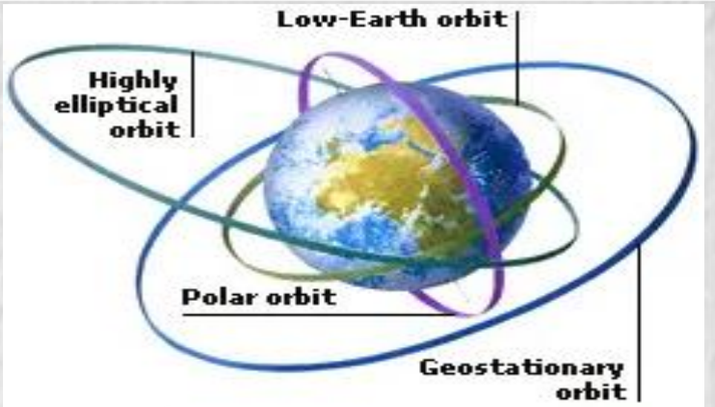
- **About Painted Lady Butterflies:** Found on every continent except Antarctica and South America.
  - Capable of thriving in diverse climates, from temperate grasslands to deserts.
  - Undertakes one of the longest insect migrations, covering up to 15,000 km in a single migratory cycle.
  - Follows a multi-generational migration cycle, with each cycle spanning 8 to 10 generations.
  - Unlike birds, no single butterfly completes the full migration; migration is a "family business."



- **Study Findings:** Short- and long-distance migrants among Painted Ladies do not exhibit significant genetic differences.
  - Migration distance is influenced by environmental factors rather than genetic makeup.
  - Butterflies form a single interbreeding population rather than distinct genetic groups.
- **Migration Pattern:** In **Spring**, butterflies migrate north from the Sahara Desert across the Mediterranean into Southern Europe for breeding.
  - **Late Summer & Autumn:** Offspring migrate south across Spain and Italy back to North Africa. They possess strong thoracic muscles, aiding in high-speed, long-distance flights.

4. **FRAM2 Polar-Orbiting Mission**: SpaceX launched FRAM2, a **sixth** private astronaut mission, on March 31, 2025, from NASA's Kennedy Space Center, Florida.

- **About FRAM2 Polar-Orbiting Mission:** This is the first-ever human spaceflight in a polar orbit, led by crypto entrepreneur Chun Wang.
  - The mission will orbit Earth from pole to pole, a trajectory never traveled by humans before.
  - Mission uses Crew Dragon, the only privately built spacecraft routinely flying orbital missions.



  - The Crew Dragon capsule will be in a free-flying mission for 3–5 days, conducting 22 research experiments on spaceflight and microgravity effects on the human body.
- **About Polar Orbit:** It is a type of Low Earth Orbit (LEO), ranging from 200 km to 1,000 km in altitude. Satellites travel from pole to pole rather than west to east (as in equatorial orbits).
  - Deviation of up to 10° from the North-South trajectory is still classified as a polar orbit.
- **Significance of Polar Orbits:** Allows full Earth coverage over time due to planetary rotation.
  - Widely used for Earth observation, climate monitoring, and reconnaissance missions.
  - FRAM2 is the first human mission to use a polar orbit, marking a major milestone in space exploration.

5. **Exercise INIOCHOS-25:** The exercise aims to hone skills, exchange tactical knowledge, and strengthen military ties with 12 other air forces, including those of the US, Israel, and France.
   - **About INIOCHOS:** It is a biennial multinational air exercise hosted by Greece's Hellenic Air Force, provides a platform for air forces to refine combat tactics and enhance interoperability.
     - Designed to simulate modern-day air warfare challenges in realistic combat scenarios.
   - **INIOCHOS-25:** Multiple air and surface assets from 15 countries.
     - **IAF contingent**: Su-30 MKI fighters & IL-78 and C-17 aircraft for combat support.
     - **Participating nations and aircraft:** France -M-2000 → Israel - G-550 → Italy – Tornado → Montenegro - B-412 → Poland F-16 → Qatar - F-15 → Slovenia - 2 PC-9 → Spain - F-18 → UAE - M-2000/9 → US - F-16, KC-46, KC-135.
   - **Key Objectives:** Train in planning and executing combined air operations, enhance combat tactics in complex warfare scenarios, and gain insights into operational best practices through multinational collaboration.

6. **Agrivoltaic Project:** Uttar Pradesh has become the first state in India to adopt an Agrivoltaic project.
   - **About Agrivoltaic System:** It is also known as agri-voltaic systems or solar farming.
     - Allows farmers to produce electricity while growing crops.
     - Utilizes photo-voltaic (PV) technology with solar panels installed on agricultural land.
     - **Presently used in:** India, USA, France, UK, and Germany (Still in its **initial stages in India**)
   - **Funding from ADB:** Ministry of Finance (Department of Economic Affairs) approved the technical assistance proposal for the project.
     - Asian Development Bank (ADB) granted USD 0.50 million (~₹4.15 crore) for technical assistance.
     - Uttar Pradesh is the first Indian state to receive such financial support from ADB.
   - **About the Asian Development Bank (ADB):**
     - **Established:** 1966 to promote social & economic development in Asia-Pacific.
     - **Provides:** Loans, technical assistance, grants, and equity investments.
     - **Headquarters:** Manila, Philippines.
     - **Members:** 68 members (49 from Asia-Pacific, 19 from other regions).
   - **ADB & India:** India is a founding member and the fourth-largest shareholder in ADB.
7. **CARTOSAT-3:** ISRO's Earth observation satellite (CARTOSAT-3), captured high-resolution images of the destruction caused by a 7.7-magnitude earthquake in Myanmar on March 28, 2025.
   - **About CARTOSAT-3:** Third-generation agile Earth observation satellite developed by ISRO.
     - Successor to the IRS (Indian Remote Sensing) series with high-resolution imaging capabilities.
     - Launched via PSLV-C47 (Polar Satellite Launch Vehicle).
   - **Applications of CARTOSAT-3:**
     - **National Security & Defense:** Military applications: Supports strategic surveillance, border security, and defense planning.
     - **Previous Uses**: Cartosat-2 aided 2016 surgical strikes across LoC.
       - ✓ Assisted 2015 Myanmar-Manipur military operations.



- **Disaster Management & Urban Planning:** Natural Disaster Assessment: Earthquake, flood, and landslide monitoring.
  - ✓ Urban & Rural Infrastructure Planning, Coastal Land Use & Regulation Cartography & Remote Sensing, Detection of Natural & Man-Made Changes in geographical features.

8. **Saturn's Moon:** Astronomers discovered **128 new moons orbiting Saturn**, increasing its total count to 274 moons.



- **About Saturn's Moons:** The International Astronomical Union has formally recognized the 128 new moons.
  - The new moons are assigned numerical designations and will later be named after Gallic, Norse, and Canadian Inuit gods.
  - Most of the moons fall into the Norse cluster, prompting astronomers to find more Viking deities for naming.
  - Identified using the "shift and stack" technique, which enhances faint objects by tracking their motion.
  - All 128 new moons are irregular moons, potato-shaped objects just a few kilometers across.
  - The discovery was made using the Canada-France-Hawaii telescope, with further observations in 2023.
- **About Titan – Saturn's Largest Moon:** Titan is the only moon in the solar system with a thick atmosphere.
  - It has an Earth-like liquid cycle with rivers, lakes, and seas on its surface.
  - Larger than Mercury, Titan is the second-largest moon in the solar system, just 2% smaller than Jupiter's Ganymede.
- **About:** Saturn is the second-largest planet in the solar system after Jupiter. It is a gas giant composed mainly of hydrogen and helium.
  - Distinctive rings made of ice, rock, and dust.
  - Average orbital distance: 1.4 billion km from the Sun.
  - **Rotation period:** 10.7 hours, but it takes 29.5 Earth years to orbit the Sun.
  - Moons and rings influence the planet's gravitational and atmospheric dynamics.