

# SANSKRITI IAS DAILY CURRENT AFFAIRS

18-10-2026

## Martian Moons Exploration (MMX) Mission

**THE** The New Indian Express

### Japan's MMX mission targets Mars moon samples

Japan's MMX mission aims to collect samples from Mars' moon Phobos, investigate the moons' origins and uncover clues to the emergence of...



**Why in News:** Japan is preparing to launch the ambitious Martian Moons eXploration (MMX) mission to Phobos, one of Mars' moons, using Japan's H3 rocket.

### Mission Overview

- It is a mission of the **Japan Aerospace Exploration Agency (JAXA)**.
- The mission primarily focuses on **Phobos**, a Martian moon that has never been explored.
- It will observe the topography, internal structure, composition and gravity of the moon, and return samples of sand.
- It will also study both **Phobos and Deimos** to investigate their origins and evolution.



## Launch and Sample Return

- It will travel to the Martian system aboard Japan's **H3 rocket** from the **Tanegashima Space Center**.
- It is scheduled to reach Mars in **2027**.
- It aims to collect at least **10 grams** of material from Phobos and return it to Earth in **2031**.

## International Contributions

- A small rover, developed jointly by the **German Aerospace Center (DLR)** and France's **CNES**, will study the surface and support exploration.
- NASA is contributing two key technologies: the **MEGANE instrument**, which will analyse the elemental composition of Phobos, and a **pneumatic sampler**.
- The pneumatic sampler uses **high-pressure nitrogen gas** to lift surface particles into a collection container.

## National Strategic Trade Command Centre (NSTCC)

 News On AIR

### Govt launches National Strategic Trade Command Centre to boost governance of India's international trade ecosystem

Commerce and Industry Minister Piyush Goyal has launched the National Strategic Trade Command Centre (NSTCC) in New Delhi.



**Why in News:** The Commerce and Industry Minister launched the National Strategic Trade Command Centre (NSTCC) in New Delhi.

### Institutional Framework

- It is a strategic initiative to strengthen the monitoring, analysis and governance of India's international trade through integrated data analytics and evidence-based decision-making.
- It was developed by the **Department of Commerce** under the **Ministry of Commerce and Industry**.
- Its core is an **integrated analytics and visualisation platform** that converts trade data into actionable insights.
- It gives policymakers a consolidated view of trade performance, export promotion schemes, regulatory approvals, application processing and operational indicators.

### Objectives

- Improve monitoring of trade and pending applications.
- Compare the performance of schemes and regional offices.
- Use data to identify procedural hurdles and simplify regulations.

## Initial Coverage

- The first phase brings together dashboards covering key functions of the **Directorate General of Foreign Trade (DGFT)**.
- These include **IEC**, **Advance Authorisation**, **EPCG**, **Certificate of Origin (CoO)** and **SCOMET**, besides restricted imports and exports.
- Users can analyse data by national performance, Regional Authorities, schemes, products, destination markets and individual applications, subject to role-based access.

## Brihadiswara Temple

TH The Hindu

### ASI launches conservation works on upper rampart of Big Temple

ASI launches ₹59 lakh conservation on Brihadiswara Temple's upper rampart to safeguard the 1000-year-old UNESCO-listed monument.



**Why in News:** The Archaeological Survey of India (ASI) launched conservation works on the upper rampart of Brihadiswara Temple in Thanjavur.

### About the Temple

- It is a Hindu temple dedicated to **Lord Shiva** in **Thanjavur, Tamil Nadu**, also known as **Periya Kovil**, **RajaRajeswara Temple** and **Rajarajesvaram**.
- It is an example of **Dravidian architecture** of the Chola period, built under **Rajaraja I** between **1003 and 1010 CE**.
- It is part of the UNESCO World Heritage Site **Great Living Chola Temples**, along with Gangaikonda Cholapuram and Airavatesvara Temple.

### Architecture

- The complex spans over **40 acres**, and the entire structure is made of **granite**, built without mortar.
- The fortified walls were probably added in the **16th century**.
- The central tower, or **vimana**, is **66 m** high, and the vimana remains the tallest structure, unlike later Tamil temples where gopurams are taller.
- The **Kumbam** atop the vimana is carved from a single rock and weighs about **80 tons**.
- A large **Nandi** statue, carved from a single rock (about 4.9 m long and 4.0 m high), stands at the entrance.
- The complex is surrounded by two concentric rectangular enclosures (prakarams) entered through ornate **gopurams**.

## Thwaites Glacier

TOI The Times of India

### Britain-sized Doomsday Glacier is melting faster than feared

Antarctica's 'Doomsday Glacier' could unleash a bigger threat than previously feared, with new research warning that it could drive twice as...



**Why in News:** Antarctica's "Doomsday Glacier" could add up to 3 cm to global sea levels by 2100, twice as much as earlier estimates, according to a new study.

### About Thwaites Glacier

- It is located on the north coast of **West Antarctica**, bordering the **Amundsen Sea**.
- It covers about **192,000 sq. km**, roughly the size of Florida and slightly smaller than Great Britain.
- It has the world's widest glacial interface with the ocean, extending about **120 km**.
- It is named after American glacial geologist **Frederik T. Thwaites**.
- A portion of it is an ice shelf over the Amundsen Sea, held up in places by underwater plateaus.



### Impacts of Melting

- It contributes about **4%** of annual global sea-level rise; its collapse could destabilise the **West Antarctic Ice Sheet (WAIS)**.
- If it melted entirely, oceans could rise by about **65 cm**.
- It holds back neighbouring glaciers containing about **three metres** of potential sea-level rise.
- Higher seas would worsen coastal flooding, erosion and storm surges, threatening cities, low-lying islands and ports.

### Causes of Instability

- Bottom-water temperatures in the Amundsen Sea are rising due to global warming.
- Warming waters are slowly melting submerged ice at the glacier's base, making it more unstable.

## Other Important News of the day

### Defence

#### YJ-21 Missile

 Moneycontrol.com

#### World's fastest anti-ship missiles ranked: From Zircon and YJ-21 to BrahMos

Russia, China and India have developed some of the fastest missiles designed to attack warships. But the speed a missile reaches is only...



**Why in News:** Footage released by Chinese state media has, for the first time, shown the launch of a **YJ-21 anti-ship ballistic missile** by a Chinese People's Liberation Army H-6K bomber, eight years after the missile was unveiled.

#### About YJ-21

- The YJ-21, also known as the **Eagle Strike 21**, is a Chinese **hypersonic anti-ship ballistic missile**.
- It is designed to strike large, high-value naval targets such as **aircraft carriers**.
- It entered service in **2022**; it was initially deployed on naval platforms, and a bomber-launched variant was revealed in **May 2024**.

#### Features

- It is a **solid-fuelled, two-stage** missile with aerodynamic and propulsion systems optimised for hypersonic flight.
- It achieves cruise speeds above **Mach 6** in its midcourse phase and terminal velocities up to **Mach 10**.
- Its maximum range is approximately **1,500 km**.
- Its quasi-ballistic flight path allows high-G manoeuvres during the terminal approach.
- It uses an **inertial navigation system (INS)** along with an active radar-homing or infrared terminal-stage seeker.

### Science and Technology

#### PUFFINS Telescope Mission

 The Hindu

#### Bengalurean to head NASA's \$20 million space telescope mission

Bengaluru-born Dr. Ramya Anche leads NASA's PUFFINS space telescope mission to study tiny interstellar dust grains.



**Why in News:** Bengaluru-born astronomer Dr. Ramya Anche will head the \$20 million NASA space telescope mission PUFFINS.

#### About PUFFINS

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|                                     | <ul style="list-style-type: none"> <li>➤ PUFFINS stands for <b>Polarimetry in the Ultraviolet to Find Features in InterStellar dust</b>.</li> <li>➤ It is a <b>SmallSat</b> selected under NASA's highly competitive <b>Astrophysics Pioneers programme</b>.</li> <li>➤ It is a NASA-funded mission, jointly undertaken by the <b>University of Arizona, McDonald Observatory</b> and other scientists.</li> <li>➤ The small satellite will carry a telescope with an aperture of about <b>10 inches</b> to observe the ultraviolet light of about <b>70 stars</b>.</li> </ul> <p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>➤ It will study the smallest grains of <b>interstellar dust</b> using <b>UV spectropolarimetry</b>.</li> <li>➤ The measurements will reveal the characteristics, presence and behaviour of dust particles, including their interaction with the <b>magnetic field of the Milky Way</b>.</li> <li>➤ It aims to bridge gaps in existing astronomy studies of interstellar dust using ultraviolet polarisation.</li> </ul> <p><b>Interstellar Dust</b></p> <ul style="list-style-type: none"> <li>➤ Interstellar dust refers to particles that exist in the space between stars.</li> <li>➤ Particles can be smaller than <b>50 nanometres</b>, so they cannot be detected using traditional optical or infrared techniques.</li> </ul> |
| <p><b>Organisations in News</b></p> | <p><b>Financial Services Institutions Bureau (FSIB)</b></p> <div>  BusinessLine           <p><u>Financial Services Institutions Bureau to be headed by SCL Das, former Secretary, MSME Ministry</u></p> <p>FSIB to be headed by SCL Das with a seven-member panel, outlining appointments, governance, and performance databank for PSBs, FIs,...</p> </div> <div>  </div> <p><b>Why in News:</b> The government reconstituted the Financial Services Institutions Bureau.</p> <p><b>Institutional Framework</b></p> <ul style="list-style-type: none"> <li>➤ It is an autonomous body of the Government of India set up under the <b>Department of Financial Services (DFS)</b>, Ministry of Finance.</li> <li>➤ It replaced the erstwhile <b>Banks Board Bureau (BBB)</b> in <b>July 2022</b>.</li> </ul> <p><b>Structure</b></p> <ul style="list-style-type: none"> <li>➤ FSIB is headed by a <b>chairman</b>, a central government nominee.</li> <li>➤ The board comprises the Secretary of the DFS, the chairman of <b>IRDAI</b> and a deputy governor of the <b>RBI</b>.</li> </ul>                                                    |

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|                              | <ul style="list-style-type: none"> <li>➤ It also has three part-time expert members from banking and three from the insurance sector.</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>➤ Recommend persons for appointment as <b>whole-time directors (WTDs)</b> and <b>non-executive chairpersons (NECs)</b> in Public Sector Banks, financial institutions and public sector insurers.</li> <li>➤ Advise the Government on appointments, transfer, extension of term and termination of services of such directors.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Places in News</b></p> | <p><b>Macquarie Island</b></p> <div>  <p>The Express Tribune</p> <p><a href="#">Australia confirms first H5N1 bird flu case on sub-Antarctic Macquarie Island</a></p> <p>Australia's Chief Veterinary Officer Beth Cookson said official testing confirmed the highly pathogenic virus strain "in samples collected...</p>  </div> <p><b>Why in News:</b> Australia confirmed its <b>first case of H5N1 bird flu</b> on the sub-Antarctic Macquarie Island, with the virus found in the island's vulnerable elephant seal population.</p> <p><b>Location and Status</b></p> <ul style="list-style-type: none"> <li>➤ It is a subantarctic island in the southwestern <b>Pacific Ocean</b>, politically part of Australia's state of <b>Tasmania</b>.</li> <li>➤ It lies about <b>1,500 km</b> southeast of Tasmania, midway between New Zealand and Antarctica.</li> <li>➤ It became part of the Tasmanian State Reserve in <b>1978</b> and a UNESCO World Heritage Site in <b>1997</b>.</li> <li>➤ It covers <b>128 sq. km</b> (about 34 km long and 5 km wide) and has no permanent population, though a research station has existed since <b>1948</b>.</li> </ul> <p><b>Geological Significance</b></p> <ul style="list-style-type: none"> <li>➤ It is the only place on Earth where rocks from the <b>Earth's mantle</b> (6 km below the ocean floor) are actively exposed above sea level.</li> <li>➤ It is an exposed part of the undersea <b>Macquarie Ridge</b>, where the Pacific and Indian-Australian plates meet.</li> <li>➤ Its geological evolution began about 10 million years ago, and it remains seismically active.</li> </ul> |

- The ridge is one of only three that impede the **Antarctic Circumpolar Circulation**.

#### Flora and Fauna

- The island is treeless, with grasses and many species of moss.
- It is a vital breeding ground for penguins, including the **royal penguin**, which breeds exclusively here, along with king, gentoo and southern rockhopper penguins.
- It is also home to fur seals such as the **New Zealand fur seal** and the **southern elephant seal**.



#### Kamchatka Peninsula

**Why in News:** An earthquake of magnitude 7 struck the Kamchatka Peninsula region of Russia.

#### Geographical Features



- It lies in far eastern Russia, between the **Sea of Okhotsk** on the west and the **Pacific Ocean and Bering Sea** on the east.
- It is one of the largest peninsulas in the world and part of **Kamchatka Krai**.
- It sits on the **Pacific Ring of Fire** and is home to over **150 volcanoes**, including **29 active volcanoes**.

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|  | <ul style="list-style-type: none"> <li>➤ It is one of the most concentrated areas of geothermal activity and contains the UNESCO World Heritage Site “Volcanoes of Kamchatka”.</li> <li>➤ The highest point is <b>Klyuchevskaya Sopka</b> in the Eastern Range.</li> <li>➤ The <b>Kuril island chain</b> runs from its southern tip to near Japan's Hokkaido Island.</li> </ul> <p><b>Climate</b></p> <ul style="list-style-type: none"> <li>➤ It has severe climate with prolonged, cold and snowy winters and wet, cool summers.</li> </ul> |
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## Uttar Pradesh in News

### Prayagraj Railway Stations Introduce Healthy, Fusion Food Stalls

 The Times of India

#### [Prayagraj railway stations introduce healthy, fusion food stalls](#)

Prayagraj Junction and Chheoki stations to add innovative stalls with hygienic, healthy and fusion foods, including millet dishes,...



#### Why in News?

The **North Central Railway (NCR)**, **Prayagraj Division**, plans to introduce three innovative catering stalls at **Prayagraj Junction and Prayagraj Chheoki** to offer healthy, hygienic and fusion food options.

#### Key Features

- **Locations:** Platforms 1 and 7/8 at Prayagraj Junction and platforms 3/4 at Prayagraj Chheoki.
- **Shri Anna (Millets):** The menu will include **ragi pizza, jowar momos, bajra khichdi and millet-crust pizza.**
- **Fusion Food:** Offerings include **truffle pani puri, bati chokha pizza, bati chokha paratha, paneer tikka and Korean kimchi momos.**
- **Healthy Snacks:** Bengali jhal muri, chana jor, masala corn and roasted gram will also be available.
- **Objective:** To provide passengers with diverse, hygienic and quality food options suited to changing dietary preferences.