

**Mains Exam Practice (MEP): Questions of the Day**

1. "Discuss the significance of using modern technologies like Lidar for mapping ancient structures such as the Cyclopean Wall in Rajgir. How can such initiatives contribute to heritage preservation and archaeological research in India?"[BPSC GS 1: Section II](38 Marks)
2. "India has become the fourth country in the world to achieve space docking with the successful completion of the SPADEX mission. Discuss the significance of this achievement for India's space exploration programme and its possible impact on future space missions."[BPSC GS 2 Section III: 38 marks]

**Bihar Special**

**Rajgir's Ancient Security Wall (Cyclopean Wall)**

**Why in the news?**

Under the supervision of ISRO (Indian Space Research Organization), mapping Rajgir's ancient security wall (Cyclopean Wall) using Lidar (Light Detection and Ranging) technology and preparing a 3D dimensional model will begin soon.

- ❖ The Superintendent Archaeologist, Archaeological Survey of India, Patna has been directed to determine the use of the Lidar system for the Cyclopean Wall.
- ❖ Apart from Patna, the teams of the Archaeological Department from Sarnath, Jodhpur, Chandigarh, Rajkot, Chennai, and Dehradun boards will also be included in the survey.
- ❖ It is believed that the Cyclopean Wall of Rajgir is older than the Great Wall of China.

**About Lidar technology**

- ❖ Lidar is a technology that is used to create high-resolution models of the height of the ground with a vertical accuracy of 10 cm.
- ❖ It consists of a laser, a scanner and a GPS survey receiver mounted on a platform. The 3D model created by this will bring out the grandeur and original form of the security wall.



### Cyclopean Wall

- ❖ The Cyclopean Wall, built 2,600 years ago, is one of the world's oldest protective stone fortifications, pre-dating the Great Wall of China.
- ❖ Constructed without mortar using undressed and semi-dressed stones, the 45km-long wall encircled Raj-griha (Rajgir), the ancient capital of the Magadh Empire.
- ❖ With a height of 3-15ft, a width of 12-14ft, and at least 24 gates with bastions and watchtowers, it served as a defense against invasions, as noted in Buddhist texts.

### International Relations

2026 will be marked as a 'dual year' between India and Spain

Why in the news?

External Affairs Minister S. Jaishankar, during his official visit to Spain, announced that 2026 will be marked as a 'dual year' between India and Spain to celebrate culture, tourism, and advancements in artificial intelligence.

#### Indian Diaspora and Bilateral Ties

- ❖ S. Jaishankar praised the Indian diaspora for positively shaping India's global image.

- ❖ Spanish Foreign Minister Jose Manuel Albares commended the Indian community's contributions to Spain's economy and society.
- ❖ The diaspora is seen as pivotal in strengthening India-Spain relations.



### India-Spain Trade and Collaboration

- ❖ Annual trade between India and Spain stands at USD 10 billion.
- ❖ Collaborations include railways, clean technology, drones, and space exploration.

### Science And Technology

India became the fourth country in the world to dock in space

Why in the news?

The Indian Space Research Organisation (ISRO) announced on 16 Jan 2025 that India has successfully achieved space docking, becoming the fourth country in the world to do so.

- ❖ The docking was part of the SpaDeX mission, a significant milestone for India's space exploration program.

### SpaDeX Mission

- ❖ The Space Docking Experiment (SpaDeX) demonstrated successful satellite docking in low-Earth orbit.
- ❖ The process involved moving from a 15-meter hold point to a 3-meter hold point, followed by docking, retraction, and rigidisation for stability.
- ❖ Control of the two satellites as a single object was successfully established post-docking.
- ❖ SpaDeX was launched on **December 30, 2024**, via the PSLV-C60 rocket, carrying innovative payloads.
- ❖ With this achievement, India became the fourth country, after Russia, the United States, and China, to conduct successful space docking.
- ❖ The SpaDeX mission also aimed to showcase the transfer of electric power between the docked spacecraft, a technology that will be vital for in-space robotics, spacecraft control, and payload operations following undocking.



### SpaceX launches 3 Indian startups' high-tech sats

#### Why in the news?

Indian space-tech startups Pixxel, Digan-tara and XDLINX Space Labs on 15th Jan 2025 successfully launched their high-tech satellites to monitor Earth and space objects.

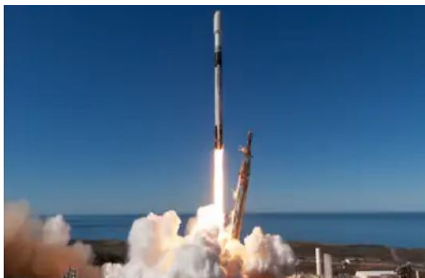
- ❖ The satellites were launched aboard Elon Musk-owned SpaceX's Transporter-12 rideshare mission from Vandenberg Space Force Base in California, US.

#### About the launch:

- ❖ Pixxel launched the first three satellites of its Firefly constellation, India's first private satellite constellation.
- ❖ Achieved the world's highest-resolution commercial hyperspectral imaging with a 5-meter resolution, six times sharper than the 30-meter standard. Three additional Firefly satellites are planned for launch in 2025.
- ❖ Digantara launched the world's first commercial Space Situational Awareness (SSA) satellite, SCOT, via SpaceX's Transporter-12 mission.
- ❖ SCOT will enhance space safety by tracking Resident Space Objects (RSOs) in Low Earth Orbit (LEO).



- ❖ Hyderabad-based XDLINX Space Labs launched its ELEVATION-1 technology demonstrator satellite aboard SpaceX's Transporter-12 mission.
- ❖ ELEVATION-1 is the first-ever Satcom E-band communications satellite, designed to achieve data rates in the 10Gbps range.

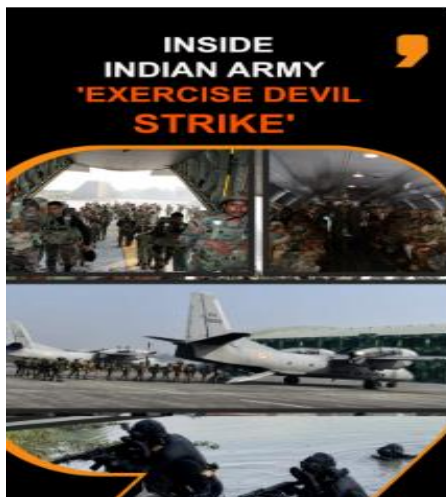


### Defence And Security

#### Exercise Devil Strike

##### Why in the news?

The Indian Armed Forces are set to conduct Exercise Devil Strike from January 16 to 19, a joint exercise involving the elite airborne soldiers from the Indian Army and the Indian Air Force



- ❖ The exercise will occur at the training areas and firing ranges, validating critical drills and enhancing operational readiness in a challenging environment.
- ❖ The exercise comprises complex airborne operations on various aircraft including troop and equipment insertion in hostile terrain. The exercise focuses on assessment and refinement of the logistic sustenance strategies ensuring troops remain well-equipped and operational in extremely challenging conditions.

### Miscellaneous

#### ISKCON Temple

##### Why in the news?

Prime Minister Narendra Modi inaugurated the Sri Sri Radha Mohan Temple, established by the International Society for Krishna Consciousness (ISKCON), in the Kharghar area of Navi Mumbai, Maharashtra on Jan 15, 2025.



- ❖ The temple, named Sri Sri Radha Madanmohanji Temple, was built with the efforts of ISKCON over 12 years at a cost of ₹170 crore and is Asia's second-largest ISKCON temple.
- ❖ Spread over nine acres, the temple complex encompasses a college for Vedic education, a library, an Ayurvedic healing centre, a cow shelter, an ashram for senior citizens, a Vedic museum, an organic farm, and a cultural centre.

#### About ISKCON

- ❖ ISKCON stands for International Society for Krishna Consciousness
- ❖ A. C. Bhaktivedanta Swami Prabhupada founded ISKCON
- ❖ The ISKCON Temple, Patna, known as Sri Radha Banke Bihari Ji Mandir, is a revered shrine dedicated to Lord Krishna, located at Budh Marg in Patna.
- ❖ This 108-foot-tall multi-story temple is supported by 84 pillars and covers an area of two acres.
- ❖ The foundation stone of the establishment was laid in the year 1984.

#### Fast Track Immigration Program across seven airports

##### Why in the news?

Union Home Minister Amit Shah launched the Fast Track Immigration Trusted Traveller Program (FTI-TTP) at seven major airports across India on **16th Jan 2025**.

- ❖ These airports include Mumbai, Chennai, Kolkata, Bengaluru, Hyderabad, Kochi, and Ahmedabad.
- ❖ The FTI-TTP, previously launched at Delhi's Indira Gandhi International Airport in June 2024, is part of the government's Viksit Bharat@2047 vision.
- ❖ The program aims to provide world-class immigration facilities to travellers, making international travel seamless and secure.
- ❖ Initially, the facility will be available free of cost for Indian citizens and Overseas Citizens of India (OCI) cardholders.



## Sports

### Novak Djokovic



#### Why in the news?

Novak Djokovic set a new record by surpassing Roger Federer for the most Grand Slam matches played, with **430 matches**.

- ❖ He achieved this milestone during his match against Jaime Faria, winning 6-1, 6-7 (4), 6-3, 6-2.
- ❖ Djokovic's Grand Slam record now stands at **379 wins and 51 losses**.

## News in Short

- ❖ The Asian Water Bird Census will begin for the fourth time across the country on **February 2, 2025**

- ❖ The international arm of NPCI has partnered with Magnati, a payment solutions provider in West Asia, to expand the acceptance of UPI payments in the UAE.
  - The collaboration aims to enable UPI-based QR payments at Magnati's POS terminals, offering Indian travellers in the UAE seamless payment options.
- ❖ The third edition of India Energy Week (IEW) will be held from **11 to 14 February 2025** at the Yashobhoomi Convention Centre, New Delhi.



PW Web/App: <https://smart.link/7wwosivoicgd4>

For more such content, subscribe to our Telegram Channel [https://t.me/pw\\_upsc](https://t.me/pw_upsc)