

### Bharatiya Antariksh Station

The government of India has approved the building of the first module of the country's space station, to be called Bharatiya Antariksh Station (BAS-1), by extending the scope of its Gaganyaan mission.

#### Key Points

- ❖ **First unit of first space station:** The cabinet meeting approved the building of the first unit of the country's first space station.
- ❖ Approval by the cabinet is given for development of the first module of Bharatiya Antariksh Station (BAS-1) and undertake missions to demonstrate and validate various technologies for building and operating BAS
- ❖ **Targets 2035 and 2024:** India's space ambitions include the development of a space station (Bharatiya Antariksh Station) by 2035 and Indian Landing on the Moon by 2040.
- ❖ The Indian Space Research Organisation (Isro) plans to launch a series of Gaganyaan and Chandrayaan follow-on missions, including the development of associated space transportation and infrastructure capabilities, to achieve the target.

#### Gaganyaan Mission

- ❖ **Approved in:** December 2018
- ❖ The Gaganyaan Programme envisages undertaking the **human spaceflight to Low Earth Orbit (LEO)** and to lay the foundation of technologies needed for an Indian human space exploration programme in the long run.
- ❖ **Collaboration:** Gaganyaan Programme will be a national effort led by ISRO in collaboration with Industry, Academia and other National agencies as stakeholders. The programme will be implemented through the established project management mechanism within ISRO.

- ❖ The target is to develop and demonstrate critical technologies for long duration human space missions. To achieve this goal, ISRO will undertake four missions under ongoing Gaganyaan Programme by 2026 and development of the first module of BAS & four missions for demonstration & validation of various technologies for BAS by December, 2028.

#### Revise Gaganyaan

- ❖ **Scope of BAS:** The revised Gaganyaan programme includes the scope of development and precursor missions for BAS, and factoring one additional uncrewed mission and additional hardware requirement for the developments of ongoing Gaganyaan Programme.
- ❖ Being developed in collaboration with industry, academia and other national agencies as stakeholders, Gaganyaan project includes the development and demonstration of critical technologies for long duration human space missions

### Chandrayaan 4

The union cabinet has approved the mission to the moon, named Chandrayaan-4.

#### Key Points

- ❖ **Aim:** Its aim is to develop and demonstrate technologies for returning to Earth after a successful landing on the Moon. It will also collect lunar samples for analysis back on Earth.
- ❖ **Time span:** The mission is expected to be completed within 36 months of approval with the participation of industry and academia.
- ❖ **Fund:** The total fund requirement for the technology demonstration mission "Chandrayaan-4" is Rs. 2104.06 Crore. This budget includes spacecraft development, two LVM3 launches, deep space network support, and special tests.

- ❖ It will help India become self-sufficient in technologies for manned missions and lunar sample analysis

### Shukrayaan-1

The Union Cabinet approved the Venus Orbiter Mission.

#### Key Points

- ❖ After the success of its Moon and Mars missions, Indian Space Research Organisation (ISRO) now shifts its focus to Venus, the planet often referred to as Earth's twin due to its similar size and mass, but vastly different environmental conditions.
- ❖ Venus Orbiter Mission has been named Shukrayaan-1. It is designed to explore the mysteries of Venus.

#### About the mission

- ❖ **Naming:** The name Shukrayaan-1 is derived from the Sanskrit words 'Shukra', meaning Venus, and 'Yaana', meaning craft.
- ❖ This mission, first conceived in 2012, marks India's maiden effort to study Venus.
- ❖ **Aim:** Shukrayaan-1 aims to orbit Venus and investigate its thick, toxic atmosphere, study its surface, and explore the planet's geological evolution. The mission is crucial in understanding how Venus, once thought to have Earth-like conditions, became a hostile environment with temperatures exceeding 450°C.
- ❖ **Objective:** One of the primary objectives is to unravel the history of Venus's runaway greenhouse effect and provide insights into how planetary environments, like Earth and Venus, can evolve so differently.

- ❖ **Equipment:** Shukrayaan-1 will carry advanced scientific instruments, including a synthetic aperture radar (SAR) to map the surface and an infrared spectrometer to analyze the Venusian atmosphere.
- ❖ The total budget for the Venus Orbiter Mission is ₹1,236 crore, out of which ₹824 crore will be spent on the spacecraft.

### Next Generation Launch Vehicle

The Union Cabinet approved the development of a next-generation launch vehicle (NGLV).

#### Key Points

- ❖ It is a significant step towards the Government's vision of establishing & operating the Bharatiya Antariksh Station and towards developing capability for Indian Crewed Landing on the Moon by 2040.
- ❖ **Payload:** NGLV will have 3 times the present payload capability with 1.5 times the cost compared to LVM3, and will also have reusability resulting in low-cost access to space and modular green propulsion systems.
- ❖ **Reusability:** It is designed to have a maximum payload capability of 30 tonnes to Low Earth Orbit, which also **has a reusable first stage**.
- ❖ The NGLV development project will be implemented with maximal participation from the **Indian industry**, who is also expected to invest in the manufacturing capacity at the outset itself, thereby allowing a seamless transition to the operational phase subsequent to the development.
- ❖ NGLV will be demonstrated with three development flights (D1, D2 & D3) with a

target of **96 months (8 years)** for the **completion of the development phase**.

- ❖ **Funds:** The total fund approved is Rs. **8240.00 Crore** and includes the development costs, three developmental flights, essential facility establishment, Programme Management and Launch Campaign.

### Bio-RIDE

The Union Cabinet has approved 'Bio-RIDE' scheme to support cutting edge research and development in Biotechnology

#### Key Points

- ❖ The Union Cabinet has approved continuation of the two umbrella schemes of Department of Biotechnology (DBT), merged as one scheme-'Biotechnology Research Innovation and Entrepreneurship Development (Bio-RIDE)' with a new component namely Biomanufacturing and Biofoundry.
- ❖ Bio-RIDE scheme is designed to **foster innovation, promote bio-entrepreneurship, and strengthen India's position as a global leader** in biomanufacturing and biotechnology.
- ❖ **Aim:** It aims to accelerate research, enhance product development, and bridge the gap between academic research and industrial applications.
- ❖ The scheme is part of the Government of India's mission to harness the potential of bio-innovation to tackle national and global challenges such as healthcare, agriculture, environmental sustainability, and clean energy.
- ❖ **Components:** The scheme has three broad components:

- Biotechnology Research and Development (R&D);
- Industrial & Entrepreneurship Development (I&ED)
- Biomanufacturing and Biofoundry

- ❖ **Budget:** The proposed outlay for the implementation of the unified scheme 'Bio-RIDE' is Rs.9197 crore during the 15th finance Commission period from 2021-22 to 2025-26.

### Pradhan Mantri Janjatiya Unnat Gram Abhiyan

The Union Cabinet has approved Pradhan Mantri Janjatiya Unnat Gram Abhiyan.

#### Key Points

- ❖ The Abhiyan is for improving the socio-economic condition of tribal communities, by adopting saturation coverage for tribal families in tribal-majority villages and aspirational districts.
- ❖ **Fund outlay:** Total outlay is of Rs.79,156 crore (Central Share: Rs.56,333 crore and State Share: Rs. 22,823 crore).
- ❖ **Coverage:** This will cover around 63,000 villages benefitting more than 5 crore tribal people as announced in the Budget Speech 2024-25. It will cover 549 districts and 2,740 blocks spread across all tribal majority villages across 30 States / UTs.
- ❖ India has a ST population of 10.45 crore as per 2011 census and there are more than 705 tribal communities, spread across the country, living in remote and hard-to-reach areas.
- ❖ The Pradhan Mantri Janjatiya Unnat Gram Abhiyan envisions saturation of critical gaps in **social infrastructure, health, education, livelihood, through different**

schemes of Govt of India by convergence and outreach and ensure holistic and sustainable development of tribal areas and communities based on learnings and success of PMJANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan).

### Leprosy

The World Health Organization WHO has declared Jordan as the first country in the world to eliminate leprosy, marking a significant milestone in global public health efforts.

#### What is Leprosy?

- ❖ **Causing agent:** Leprosy is a chronic, progressive bacterial infection caused by the **bacterium Mycobacterium leprae**.
- ❖ It primarily affects the nerves of the **extremities, the skin, the lining of the nose, and the upper respiratory tract**. Leprosy is also known as **Hansen's disease**.
- ❖ Hansen's disease produces skin ulcers, nerve damage, and muscle weakness.
- ❖ **Transmission:** The disease is transmitted through droplets from the nose and mouth. Prolonged, close contact over months with someone with untreated leprosy is needed to catch the disease. The disease is **not spread through casual contact** with a person who has leprosy like shaking hands or hugging, sharing meals or sitting next to each other. Moreover, the patient stops transmitting the disease when they begin treatment.

- ❖ **Treatment:** Leprosy is a **curable disease**. The currently recommended treatment regimen consists of three drugs: dapsone, rifampicin and clofazimine.

### Person In News- Appointment

#### Squadron Leader Mohana Singh

She became the first woman fighter pilot to join the elite 18 'Flying Bullets' squadron, operating India's indigenously 'Made in India' LCA Tejas fighter jet's squadron.

### Important News- Other States

#### Jammu and Kashmir

J&K achieved over 61% voter turnout in the 1st phase of assembly polls, the highest in 35 years.

Voting was peaceful across all 24 Assembly Constituencies in 7 districts: Kishtwar (80.14%: Highest), Pulwama (46.65%), Shopian (55.96%), Kulgam (62.46%), Anantnag (57.84%), Ramban (70.55%), and Doda (71.34%).

#### New Delhi

The 5th edition of Nadi Utsav 2024 was celebrated at the Indira Gandhi National Centre for the Arts – IGNCA in New Delhi.

The theme of the ustav was 'Rivers in Reverse: Making of a Lifeline', focusing on the components of a river and its surrounding culture.

### Miscellaneous

- ❖ **Moneyview becomes the 6th Indian startup** to achieve unicorn status in 2024 after Krutrim, Perfios, Porter, Rapido, and Ather.

