

INTERNATIONAL ORGANISATION FOR STANDARDISATION



- It is an **international nongovernmental organization** established in 1947 and made up of national standards bodies.
- It is made up of members from the national **standards bodies of 177 countries.**
- **Headquarters:** Geneva, Switzerland.
- **Functions of ISO:**
 - The ISO plays a role in facilitating world trade by providing **common standards of safety, reliability, and quality.**
 - It **develops and publishes standards** for a vast range of **products, materials, and processes.**
 - It **publishes technical reports**, technical specifications, publicly available specifications, technical corrigenda, and guides.
- **Governance of International Organisation for Standardisation:**
 - **General Assembly:** It is the overarching organ and ultimate authority of the organization.
 - **ISO Council:** It is the **core governance body** of the organization and reports to the General Assembly. It **meets three times** a year and is made up of **21 member bodies**
 - **Technical Management Board:** The management of the technical work is taken care of by the Technical Management Board, which reports to Council.

NATIONAL PANCHAYAT AWARDS



- It is awarded by the **Ministry of Panchayati Raj** annually to recognize and incentivize best-performing Panchayats.

- **Background:** These awards have been revamped and **launched during the year 2022** aligning them with 9 **Localization of Sustainable Development Goals (LSDGs)** themes **aggregating 17 SDGs**.

Objective: To assess the **performance of Panchayats** in attainment of SDGs, promote competitive spirit among them and catalyze the process of LSDGs through Panchayati Raj Institutions for attaining LSDGs by 2030.

- The awards are given under the **Incentivization of Panchayats (IoP) scheme**, a central component of the Centrally Sponsored Scheme of **Rashtriya Gram Swaraj Abhiyan (RGSA)**.
- **All the Panchayats are ranked based on their performance under each of the following 9 LSDG themes :**
 - Poverty free and enhanced livelihoods Panchayat
 - Healthy Panchayat
 - Child Friendly Panchayat
 - Water Sufficient Panchayat
 - Clean and Green Panchayat
 - Self-sufficient infrastructure in Panchayat
 - Socially Just and Socially secured Panchayat
 - Panchayat with Good Governance
 - Women-Friendly Panchayat
- The awards are conferred **under two distinct categories**.
 - **Deen Dayal Upadhyay Panchayat Satat Vikas Puraskar (DDUPSVP):** Recognises outstanding Gram Panchayats for their performance across 9 LSDGs themes.
 - **Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar (NDSPSVP):** It is conferred to the **best-performing Panchayats** at the District, Block, and Gram Panchayat levels **on an overall basis**.

INDIA UNVEILS FIRST ORBITAL DATA CENTRE SATELLITE

- An orbital data centre is a network or **constellation of satellites** equipped with powerful **graphics processing units (GPUs)** similar to those used in terrestrial data centres.
- Unlike traditional satellites that mainly transmit data back to Earth, orbital data centres can process data and run artificial intelligence models directly in space.
- The concept extends the idea of edge computing, where computation happens close to the source of data generation instead of relying entirely on centralised cloud systems.
- In space, this allows faster and more efficient data analysis onboard satellites.
- **Pathfinder as a Demonstration Mission**
 - Pixxel, a Bengaluru-based satellite imaging company, has partnered with Sarvam to launch India's first orbital data centre satellite, named **Pathfinder**.
 - Scheduled for launch in late 2026, the 200-kg-class satellite will combine datacentre-grade graphics processing units (GPUs) with Pixxel's hyperspectral imaging technology, enabling advanced space-based data processing and AI applications.
 - The project aims to evaluate the performance of advanced computing systems in space, especially under extreme heat and radiation conditions encountered in orbit.

Why Global Firms Are Interested in Orbital Data Centres?

- **Rising Pressure on Earth-Based Data Centres** - Growing demand from artificial intelligence has increased pressure on terrestrial data centres, which face constraints related to energy, land, water availability, and regulatory requirements.
- **Advantage of Continuous Solar Power** - In space, satellites can access near-continuous solar energy, offering a potentially abundant and uninterrupted power source. Supporters see this as a major advantage for running energy-intensive computing systems in orbit.

- **Reducing Data Transmission Burden**
 - Earth observation satellites generate massive volumes of image and sensor data.
 - Processing this information directly in orbit and transmitting only the final results can significantly reduce data transfer costs and communication bottlenecks.
- **Strategic Competition Among Tech Companies**
 - Major global technology and space firms are increasingly exploring orbital computing as a future strategic sector.
 - Elon Musk has suggested that advanced satellites and reusable rockets could support large-scale orbital computing infrastructure in the coming years.

Challenges Facing Orbital Data Centres

- **Heat Management in Space** - Although space is extremely cold, its vacuum prevents convection — the natural process through which heat is carried away on Earth. As a result, powerful GPU chips used in orbital data centres can overheat easily.
- **Radiative Cooling Systems** - To manage heat, satellites must use specialised cooling systems that circulate heat through ammonia-filled loops to external panels, which then radiate the heat into space as infrared energy.
- **Radiation Damage** - Cosmic radiation poses another major challenge. High-energy particles can cause “bit flips,” where computer data changes unexpectedly, and can gradually damage semiconductor components over time.
- **Limitations of Space-Grade Hardware** - Radiation-hardened chips used in spacecraft are generally less advanced than commercial GPUs on Earth, creating performance limitations for space-based computing systems.
- **Power Storage Constraints** - Orbital systems rely heavily on solar energy, but they must also store sufficient power for periods when satellites pass through Earth’s shadow and sunlight is unavailable.
- **Maintenance Difficulties** - Repair and maintenance in orbit are extremely difficult without robotic servicing systems. Therefore, orbital data centres must be built with strong redundancy and backup mechanisms from the beginning to ensure reliability.

GOVERNOR'S ROLE IN A HUNG ASSEMBLY EXPLAINED

- Under Article 164 of the Constitution, the Governor appoints the Chief Minister.
- However, the Constitution does not prescribe a fixed procedure for selecting a Chief Minister in the event of a hung Assembly.
- The Governor's primary responsibility is to ensure the formation of a stable and responsible government while preserving **constitutional governance** in the State.
- Recommendations of the **Sarkaria Commission** and various Supreme Court judgments emphasise that Governors must act impartially and constitutionally rather than on personal discretion.
- **Exploring Government Formation**
 - The Governor is expected to explore all reasonable possibilities for government formation by consulting political parties, alliances, and independent MLAs within a reasonable timeframe.
 - While some time may be allowed to establish majority support, the Governor **cannot delay indefinitely**, as prolonged uncertainty may encourage political defections and horse-trading.
- **Power to Dissolve the Assembly**
 - The Supreme Court of India, in cases such as **B.R. Kapur case and Rameshwar Prasad case**, recognised that the Governor may recommend dissolution of the Assembly under **Article 174(2)(b)** if no party is able to form a stable government.
 - If all possibilities of forming a government fail, the Governor may recommend President's Rule under **Article 356** as a last constitutional option.

Order of Preference for Inviting a Party to Form Government

- **First Preference: Pre-Poll Alliance with Majority** - The Sarkaria Commission recommended that the Governor should first invite a pre-poll alliance that has secured a clear majority in the Assembly.

- **Second Preference: Single Largest Party** - If no alliance has a majority, the Governor may invite the single largest party, provided it can demonstrate majority support through alliances or backing from other legislators.
- **Supreme Court's View on Minority Governments** - In the **S.R. Bommai** case, the Supreme Court of India clarified that the Constitution does not require the ruling party to independently hold a majority. What matters is whether the government enjoys the confidence of the Legislative Assembly.
- **Third Preference: Post-Poll Alliances** - The next option is a post-election alliance formed after results are declared. Such coalitions are constitutionally valid if they can demonstrate majority support in the House.
- **Rise of Coalition Politics** - The Court recognised that post-poll alliances among ideologically compatible parties have become common in India's coalition-era politics and are legitimate means of forming governments.
- Recent debates have focused on concerns that Governors may misuse discretionary powers, to advance the political interests of the ruling party at the Centre.

Floor Test as a Measure of Majority

- Critics have argued that Governor Rajendra Arlekar's insistence on physical letters of support has delayed government formation.
- A petition before the Supreme Court contends that the Governor is constitutionally bound to invite C. Joseph Vijay to form the government and then require him to prove majority through a floor test in the Assembly.
- **Supreme Court's Evolving Position**
 - Although the S. R. Bommai case initially suggested that floor tests were mainly for testing whether an incumbent government had lost majority support.
 - Later, Supreme Court judgments increasingly treated floor tests as the most objective and transparent method of determining legislative confidence.
 - People's electoral mandate should not depend solely on the Governor's personal discretion and that majority claims should ideally be tested on the Assembly floor.

WHAT ARE RAINBOW CLOUDS?



- A rainbow cloud can occur because of something called **cloud iridescence**.
- Cloud iridescence occurs when **sunlight is diffracted** by **extremely small water droplets or tiny ice crystals suspended in clouds**.
- Diffraction happens when light bends and spreads after encountering particles similar in size to the wavelength of visible light.
- This process **separates sunlight into multiple colours**, creating the **striking pastel shades and rainbow-like patterns** seen across the clouds.
- They form **most clearly when cloud particles are unusually small and relatively uniform in size**.

Why is the Phenomenon Relatively Rare?

- Cloud iridescence does not appear frequently because several atmospheric conditions must align at the same time.
- The **clouds need to be thin enough for sunlight to pass through while also containing droplets or ice crystals that are nearly identical in size**.
- Even small differences between particles can weaken the colours or prevent the phenomenon from appearing altogether.
- The **position of the Sun and the observer's viewing angle** are extremely important.
- Which Clouds Can Produce Iridescence?
 - **Newly forming clouds and semi-transparent clouds** are **more likely to produce vivid iridescence because their particles tend to be more uniform**.
 - It is commonly seen in **altocumulus, cirrocumulus, cirrus, and lenticular clouds**.

The Difference Between Rainbow Clouds and Real Rainbows:

- Despite the popular nickname, rainbow clouds are not technically rainbows.
- **Traditional rainbows** form when **sunlight is refracted, reflected, and dispersed inside raindrops** after rainfall.
- **Cloud iridescence**, on the other hand, is mainly caused by **diffraction and interference involving microscopic droplets** or ice crystals.
- **Iridescent clouds** usually appear much **closer to the Sun** and often **produce softer, less structured colour patterns** than ordinary rainbows.
- Instead of forming a large arc across the sky, the colours **spread unevenly across sections of cloud**.

LITCHI



- It is a delicious **juicy fruit** belongs to **Sapindaceae family**.
- **Required Climatic Conditions for Litchi:**
 - **Climate:** It is a **sub-tropical fruit** and thrives best **under moist sub-tropical climate**.
 - It usually prefers low elevation and can be **grown up to an altitude of 800 m**.
 - **Soil:** Deep, well **drained loamy soil**, rich in organic matter and having pH in the range of 5.0 to 7.0 is ideal for the crop.
 - **Temperature:** The temperature **should not go beyond 40.5 0C** in summer and below freezing point in winter.
 - **Rain:** Prolonged rain may be harmful especially at the time of flowering, when it interferes with pollination.
 - The young trees require protection against frost and hot winds for several years till they are firmly established.
 - It is **sensitive to frost** during winter and **dry heat in summer**.

- **Distribution of Litchis Cultivation:**
 - **India is the second largest producer** of litchi in the World after China. Other major producing countries are Thailand, Australia, South Africa, Madagascar and Florida in US.
 - It is widely cultivated in India, especially in **Bihar, West Bengal, Uttar Pradesh, Jharkhand, and Assam.**

KEY FACTS ABOUT TRINIDAD AND TOBAGO



- It is an **island country** of the **southeastern West Indies**.
- It is the 5th largest island country in the West Indies and the **most industrialised and prosperous nation** in the Caribbean.
- Forming the two **southernmost links in the Caribbean chain**, it lies close to the continent of **South America, northeast of Venezuela and northwest of Guyana**.
- It consists of **two main islands—Trinidad and Tobago**—and several smaller islands.
- **Trinidad** – the **larger** of the two islands, is crisscrossed by **mountain ranges**; the most dominant of these is the **Northern Range**, which is a **continuation of the Andes**
- The country is home to the **Pitch Lake**, one of the **world’s largest natural asphalt deposits**.
- It **achieved independence** from the **United Kingdom** in 1962 and obtained membership in the Commonwealth and the United Nations that same year.
- It became a **republic** in 1976.
- The **capital is Port of Spain**, located on the northwestern coast of Trinidad.
- **Language:**
 - Although **English** is the **official language**, most people speak **Trinidad English**, a creole language.
 - A few people, mostly in rural areas, speak a **French-derived creole**, **Spanish**, or **Caribbean Hindustani** (a dialect of Hindi).