

MANTHAN

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1. What the ICJ ruling means for the Kyoto Protocol



The Kyoto Protocol

[ˈkyō-(,)tō ˈprō-tə-,kól]

An international agreement that called for industrialized nations to significantly reduce their greenhouse gas emissions.

 Investopedia

Introduction: A Landmark ICJ Ruling

- In a landmark ruling issued last week, the International Court of Justice (ICJ) clarified that the Kyoto Protocol, adopted in 1997 and enacted in 2005, continues to remain in force and retains its legal relevance, even in the post-Paris Agreement era.
- The ruling came as part of an advisory opinion requested by the UN General Assembly on the obligations of countries to protect the climate system and the legal consequences of failing to do so.
- This is the first authoritative assertion about the Protocol's legal status after the adoption of the Paris Agreement in 2015.
- It corrects a common misconception that the Kyoto Protocol had become defunct or ceased to be operational once the Paris Agreement took effect in 2016 or after the Kyoto Protocol's second commitment period ended in 2020.

Understanding the Kyoto Protocol

Background and Purpose

- The Kyoto Protocol was the first legally binding treaty under the UN Framework Convention on Climate Change (UNFCCC).

- It was finalized in 1997 and entered into force in 2005, aiming to put the broader goals of the UNFCCC into action by mandating specific emission reduction targets for developed countries.

Commitment Periods and Responsibilities

- The first commitment period spanned 2008–2012, and the second from 2012–2020.
- Only Annex-I countries (mostly developed nations) were assigned binding emission reduction targets, based on their 1990 baseline emissions.
- Developing countries had no binding targets but were encouraged to take “nationally appropriate” actions to contribute voluntarily to climate goals.
- This differentiated approach followed the principle of Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC), recognizing that developed nations bear the historical responsibility for the climate crisis due to over a century of industrial emissions.

Reasons for Questioning the Protocol’s Validity

Lack of Universal Participation

- The United States, then the world’s largest emitter, did not ratify the Kyoto Protocol, making its implementation less effective.
- Other countries such as Canada and Japan eventually withdrew or refused to accept targets during the second commitment period.

Shift in Emissions Landscape

- By the mid-2000s, China became the world’s largest emitter, yet remained classified as a developing country and was not subject to mandatory reductions under the Protocol.
- This led to criticism from developed countries who argued the treaty was ineffective without the participation of major emitters like China.

Emergence of the Paris Agreement

- In response, global efforts shifted to creating a more inclusive and flexible climate framework.
- This led to the adoption of the Paris Agreement in 2015, which marked a transition from a top-down (Kyoto-style) approach to a bottom-up system where countries submit their Nationally Determined Contributions (NDCs) voluntarily.
- Although the Paris Agreement did not legally replace or terminate the Kyoto Protocol, the latter was increasingly viewed as irrelevant, especially after 2020 when no third commitment period was agreed upon.

What the ICJ Ruling Clarifies

Kyoto Protocol Still in Force

- The ICJ has definitively stated that the Kyoto Protocol has not been abrogated or replaced, and therefore continues to be in force as international law.
- It emphasized that the lack of a new commitment period after 2020 does not mean the treaty is void.
- “The absence of a new commitment period does not deprive the Kyoto Protocol of its legal effect,” the ICJ noted.

Legal Obligations Remain

- The ICJ further ruled that countries that were part of the Protocol remain legally obligated to comply with its provisions.
- Non-compliance with the Kyoto Protocol's commitments constitutes an internationally wrongful act, reinforcing that obligations under the treaty still carry legal weight.

Assessment of Past Commitments Still Valid

- Importantly, the ICJ clarified that the emission reduction commitments made during the first commitment period (2008–2012) are still open to assessment.
- Many countries failed to fully meet even the modest targets set for them in that period, and this non-compliance can now be scrutinized in legal terms.

Implications of the ICJ Ruling

Opening Doors to Climate Litigation

- Though the ICJ's advisory opinion is not legally binding, it strengthens the legal framework supporting climate accountability.
- It opens up new avenues for climate litigation, especially against countries that failed to meet their obligations under Kyoto.
- Countries may now face greater international legal scrutiny and possible compensation claims for their failure to act, especially if they are found to have contributed disproportionately to climate damage through inaction.

Reaffirmation of Differentiated Responsibility

- The ruling also reinforces the foundational principles of climate law, particularly the CBDR-RC, emphasizing that developed countries have an ongoing legal responsibility due to their historic contributions to climate change.

Kyoto Protocol

- The Kyoto Protocol is an international treaty adopted in 1997 in Kyoto, Japan, under the United Nations Framework Convention on Climate Change (UNFCCC).
- Its primary goal was to reduce greenhouse gas (GHG) emissions globally to combat climate change.
 - **Adopted:** December 11, 1997
 - **Entered into force:** February 16, 2005
 - **Binding targets:** For 37 industrialized countries and the European Community
 - **Commitment period:**
 - **First:** 2008–2012
 - **Second (Doha Amendment):** 2013–2020
- **Main Objectives:** Reduce emissions of six key greenhouse gases:
 - Carbon dioxide (CO₂)
 - Methane (CH₄)
 - Nitrous oxide (N₂O)
 - Hydrofluorocarbons (HFCs)

- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

Key Mechanisms:

- **Emissions Trading:** (“Carbon market”) Countries can trade emissions allowances.
- **Clean Development Mechanism (CDM):** Developed countries can invest in emission-reducing projects in developing countries.
- **Joint Implementation (JI):** Countries can invest in emission-reduction projects in other developed countries.
- **Participation and Challenges:**
 - Ratified by over 190 countries, but the United States signed but never ratified the protocol.
 - Canada withdrew in 2011.
 - Developing countries like China and India had no binding targets, which was a major criticism.
 - Some countries did meet or exceed their targets, but overall effectiveness was mixed.

Follow-up Agreement

- The Kyoto Protocol was succeeded by the Paris Agreement in 2015, which includes both developed and developing nations and focuses on limiting global temperature rise to well below 2°C.

QUESTIONS

1. Consider the following statements:

1. Kyoto Protocol came into force in the year 2005.
2. Kyoto Protocol deals primarily with the depletion of the Ozone layer.
3. Methane as a greenhouse gas is more harmful than carbon dioxide.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

2. Consider the following pairs

Terms sometimes seen in the news	: Their origin
----------------------------------	----------------

- | | |
|-----------------------------------|----------------------|
| 1. Annex-I Countries | : Cartagena Protocol |
| 2. Certified Emissions Reductions | : Nagoya Protocol |
| 3. Clean Development Mechanism | : Kyoto Protocol |

Which of the pairs given above is/are correctly matched?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 only
- D. 1, 2 and 3

3. Consider the following statements about the Kyoto Protocol and its commitments:
1. The Kyoto Protocol imposed emission reduction targets on both developed and developing countries.
 2. The Kyoto Protocol included mechanisms such as Emissions Trading, Clean Development Mechanism (CDM), and Joint Implementation (JI).
 3. The first commitment period of the Kyoto Protocol was from 2008–2012, while the second commitment period was from 2013–2020.

Which of the statements given above is/are correct?

- A. Only one statement
 - B. Only two statements
 - C. All of the above
 - D. None of the above
4. Consider the following statements regarding the Paris Agreement and its relation to the Kyoto Protocol:
1. The Paris Agreement legally replaced the Kyoto Protocol and took over its targets.
 2. The Paris Agreement operates on a bottom-up system where countries voluntarily submit their Nationally Determined Contributions (NDCs).
 3. The Paris Agreement has no legally binding targets for emission reductions.

Which of the above statements is/are correct?

- A. 1 and 2 only
 - B. 2 and 3 only
 - C. 1 and 3 only
 - D. 1, 2, and 3
5. Consider the following statements about the ICJ ruling on climate obligations:
1. The ICJ ruling stated that the failure to comply with Kyoto Protocol commitments is an internationally wrongful act.
 2. The ICJ ruling only applies to developed countries that were part of the Kyoto Protocol.
 3. The ICJ ruling has no implications for future climate litigation or accountability.

Which of the statements given above is/are correct?

- A. 1 only
 - B. 1 and 2 only
 - C. 2 and 3 only
 - D. 1, 2, and 3
6. Consider the following statements regarding the Kyoto Protocol:
1. The Kyoto Protocol was adopted in 1997 and entered into force in 2005.
 2. It was the first legally binding treaty under the UN Framework Convention on Climate Change (UNFCCC).

3. The Kyoto Protocol applied mandatory targets for emission reductions only to developing countries.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

7. Consider the following statements regarding the ICJ's ruling on the Kyoto Protocol:

- 1. The ICJ clarified that the Kyoto Protocol had been replaced by the Paris Agreement.
- 2. The ICJ ruling stated that countries are still legally obligated to comply with their Kyoto Protocol commitments.
- 3. The ICJ's advisory opinion is legally binding on all countries.

Which of the statements given above is/are correct?

- A. Only one statement
- B. Only two statements
- C. All of the above
- D. None of the above

2. 71st National film awards

- The 71st National Film Awards, presented by the National Film Development Corporation of India, were announced on 1 August 2025 to honour the best of Indian cinema in 2023.
- There were 332 entries in the feature film category, 115 in non-feature films, 27 books, and 16 critics' submissions.

Selection process

- The National Film Development Corporation of India invited online entries with the acceptable last date for entries until 18 September 2024.
- Feature and Non-Feature Films certified by Central Board of Film Certification between 1 January 2023, and 31 December 2023, were eligible for the film award categories.
- Books, critical studies, reviews or articles on cinema published in Indian newspapers, magazines, and journals between 1 January 2023, and 31 December 2023, were eligible for the best writing on cinema section. Entries of dubbed, revised or copied versions of a film or translation, abridgements, edited or annotated works and reprints were ineligible for the awards.
- For the feature and non-feature Films sections, films in any Indian language, shot on 16 mm, 35 mm, a wider film gauge or a digital format, and released in cinemas, on video or digital formats for home viewing were eligible.
- Films were required to be certified as a feature film, documentary, short film, or animation film, by the Central Board of Film Certification.



71st National Film Awards 2025

Who Took Home the Big Wins?

Category

Winner

Best Feature Film

12th Fail

(Produced by Vidhu Vinod Chopra)

Best Actor

Shah Rukh Khan (Jawan)
Vikrant Massey (12th Fail)

Best Actress

Rani Mukerji
(Mrs Chatterjee vs Norway)

Best Director

Sudipto Sen
(The Kerala Story)

**Best Popular Film Providing
Wholesome Entertainment**

**Rocky Aur Rani Kii
Prem Kahaani**

Feature Film

Jury

- For the Feature Film section, six committees were formed based on the different geographic regions in India.
- The two-tier evaluation process included a central committee and five regional committees.
- The central committee, headed by the director Ashutosh Gowariker, included the heads of each regional committee and five other jury members.
- At regional level, each committee consisted of one chief and four members.
- The chief and one non-chief member of each regional committee were selected from outside that geographic region. Ashutosh Gowariker (Chairperson).

The table below names the jury members for the central and regional committees:

Golden Lotus Award

All the awardees are awarded with ‘Golden Lotus Award (Swarna Kamal)’, a certificate and cash prize.

Award	Film	Language	Awardee(s)	Cash prize
Best Feature Film	12 th Fail	Hindi	Producer: Vinod Chopra Films Director: Vidhu Vinod Chopra	₹3,00,000 each
Best Debut Film of a Director	Aatmapamphlet	Marathi	Ashish Avinash Bende	₹3,00,000
Best Popular Film Providing Wholesome Entertainment	Rocky Aur Rani Kii Prem Kahaani	Hindi	Producer: Dharma Productions Director: Karan Johar	₹3,00,000 each
Best Children’s Film	Naal 2	Marathi	Producer: Aatpat Production and Zee Studios Director: Sudhakar Reddy Yakkanti	₹3,00,000 each
Best Film in AVGC • Animator	Hanu-Man	Telugu	Jetty Venkat Kumar	₹3,00,000
Best Film in AVGC • Producer & Director			Producer: Primeshow Entertainment Director: Prasanth Varma	₹3,00,000 each
Best Direction	The Kerala Story	Hindi	Sudipto Sen	₹3,00,000

National Film Awards

- The National Film Awards are awards for artistic and technical merit given for excellence within the Indian film industry.
- Established in 1954, it has been administered, along with the International Film Festival of India and the Indian Panorama, by the Indian government’s Directorate of Film Festivals from 1973 until 2020, and by the NFDC since 2021.
- Every year, a national panel appointed by the government selects the winning entry, and the award ceremony is held in New Delhi, where the President of India presents the awards.
- This is followed by the inauguration of the National Film Festival, where award-winning films are screened for the public.
- Declared for films produced in the previous year across the country, they hold the distinction of awarding merit to the best of Indian cinema overall, as well as presenting awards for the best films in each region and language of the country.
- The Government of India conceived the ceremony to honor films made across India, on a national scale, to encourage the furthering of Indian art and culture.

- From 1973 until 2020, the Indian Directorate of Film Festivals administers the ceremony along with other major film events in India annually.
- Since then, National Film Development Corporation of India administers the ceremony.
- All the award winners are awarded a Medallion, a cash prize, and a certificate of merit. Six categories from the Feature Films section, three from the Non-Feature Films and Best Writing on Cinema sections each have been made eligible for Swarna Kamal (Golden Lotus Award), and the rest of the categories for Rajat Kamal (Silver Lotus Award).

Dadasaheb Phalke Award

- The Dadasaheb Phalke Award is India's highest award in the field of cinema, given by the Government of India and presented annually at the National Film Awards.
- The recipient is honoured for their "outstanding contribution to the growth and development of Indian cinema" and is selected by a committee consisting of eminent personalities from the Indian film industry.
- The award comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of ₹1,000,000 (US\$12,000).
- Presented first in 1969, the award was introduced by the Government of India to commemorate Dadasaheb Phalke's contribution to Indian cinema.
- Phalke (1870–1944), who is popularly known as and often regarded as "the father of Indian cinema", was an Indian filmmaker who directed India's first full-length feature film, Raja Harishchandra (1913).
- The first recipient of the award was actress Devika Rani, who was honoured at the 17th National Film Awards. As of 2024, there have been 54 awardees. Among those, actors Prithviraj Kapoor (1971) and Vinod Khanna (2017) are the only posthumous recipients.
- Kapoor's actor-filmmaker son, Raj Kapoor, accepted the award on his behalf at the 19th National Film Awards in 1971 and was also himself a recipient in 1987 at the 35th National Film Awards ceremony.
- Recipients include several pairs of siblings received this award in different years, for example: B. N. Reddy (1974) and B. Nagi Reddy (1986); Raj Kapoor (1987) and Shashi Kapoor (2014); Lata Mangeshkar (1989) and Asha Bhosle (2000); B. R. Chopra (1998) and Yash Chopra (2001).
- The most recent recipient of the award is veteran actor Mithun Chakraborty who was honoured at the 70th National Film Awards ceremony.



QUESTIONS

8. Which of the following presented the 71st National Film Awards?
- Ministry of Information and Broadcasting
 - Central Board of Film Certification
 - National Film Development Corporation of India
 - Film Certification Board of India

9. Consider the following statements regarding the jury for the feature film section of the 71st National Film Awards:

1. The jury for the feature film section included six committees based on geographic regions in India.
2. Ashutosh Gowariker was the head of the central committee, which included heads of each regional committee.
3. The chief and one non-chief member of each regional committee were selected from outside that geographic region.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

10. Consider the following statements regarding the 71st National Film Awards:

1. 12th Fail won the Best Feature Film award.
2. Shah Rukh Khan won his first-ever National Film Award for his role in Jawan.
3. Vikrant Massey was awarded the Best Actor award for his performance in Mrs. Chatterjee Vs Norway.

Which of the statements given above is/are correct?

- A. Only one statement
- B. Only two statements
- C. All of the above
- D. None of the above

3. New project plans to curb rhino poaching through radioactive isotope injections

- A South African university launched an anti-poaching campaign with a unique approach – injecting radioactive isotopes into rhino horns.
- It claimed that the method is harmless for the rhinos and allows customs agents to detect trafficked horns.
- After six years of intense research and testing, the University of the Witwatersrand, supported by the International Atomic Energy Agency (IAEA), formally launched the Rhisotope Project.
- Five rhinos were administered radioactive isotope injections in the Waterberg Biosphere Reserve.
- The university hopes the initiative will mark the start of mass treatment of South Africa's declining rhino population.



How the isotope tagging works

- According to the IAEA, radioactive isotopes or radioisotopes are the unstable form of an element that emit radiation to transform into a more stable form.
- The radiation can be traced, and typically causes changes in the substance it falls upon.
- Through a non-invasive procedure, rhino horns are tagged with low doses of radioactive isotopes, allowing for their ready detection by radiation portal monitors (RPMs) already deployed at borders, ports, and airports worldwide to identify unauthorised nuclear materials.
- To test this system, the researchers used 3D-printed rhino horns with identical shielding properties to real keratin, which is the substance that makes up rhino horn.
- According to the university, the tests confirmed that individual horns could be detected inside full 40-foot shipping containers.
- The procedure, according to the researchers, has proven to show no harm to the rhinos themselves, while making the horn “useless” and “poisonous” to humans.
- The university also announced the results of the pilot phase undertaken last June, when it injected radioisotopes into 20 rhinos at the Waterberg Biosphere in Waterberg, Limpopo, about 250 kilometres north of Johannesburg in South Africa.
- A team from Ghent University, Belgium, monitored the health and conducted cytological examinations on 15 treated rhinos, comparing these results with five untreated animals.

- The team used the biological dosimetry technique to culture blood samples and examined the formation of micronuclei in white blood cells, which indicates cellular damage.
- They found no such damage to the 20 rhinos in the pilot phase.

The scale of the poaching crisis

- According to the International Union for Conservation of Nature, the global rhino population was estimated to be about 500,000 at the start of the 20th century.
- It has since dwindled to 27,000, owing to the burgeoning demand for rhino horns.
- These horns are trafficked to Asian markets where they are used in traditional medicine, and also as a status symbol.
- South Africa, home to the world's largest rhino population, had lost over 10,000 rhinos to poaching over the last decade, with 103 losses reported by the South African Ministry of Forestry, Fisheries and the Environment in the first quarter of this year.
- While the project itself is not a cure-all or silver bullet to curb poaching, the researchers hope it will prove to be a great deterrent.
- It would certainly prove to be less disruptive to rhino behaviour compared to dehorning, in which rhinos' horns are removed to deter poaching.
- While a 2024 study showed that dehorning rhinos reduced poaching by 78 per cent over seven years on eight reserves, another study the previous year established that this measure impacted their ability to socialise with their peers and noted reductions in the sizes of their home ranges.
- The researchers are now looking to recreate the success of this project in protecting other endangered species, such as elephants or pangolins.

QUESTIONS

11. Consider the following statements regarding the rhino species:

1. The black rhino is found only in Africa, whereas the greater one-horned rhino is found only in India.
2. The greater one-horned rhino is classified as vulnerable on the IUCN Red List.
3. The Javan rhino is critically endangered and is found only in India.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 1 and 3 only
- D. 1, 2, and 3

12. Consider the following statements:

1. Asiatic lion is naturally found in India only.
2. Double-humped camel is naturally found in India only.
3. One-horned rhinoceros is naturally found in India only.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

13. Consider the following statements about the greater one-horned rhino:

- 1. The greater one-horned rhino is also known as the Indian rhino.
- 2. The greater one-horned rhino is identified by a single horn and is the largest among all rhino species.
- 3. The primary diet of the greater one-horned rhino consists of mainly fruits and aquatic plants.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2, and 3
- D. 1 only

14. Consider the following statements about the Indian Rhino Vision 2020 project:

- 1. The Indian Rhino Vision 2020 project aimed to increase the wild population of greater one-horned rhinos to at least 3,000 by 2020.
- 2. The project focused on conservation efforts only within Kaziranga National Park.
- 3. The project was launched in 2005 with a goal of distributing rhinos across seven protected areas in Assam.

Which of the statements given above is/are correct?

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2, and 3

15. Consider the following statements about rhino conservation in India:

- 1. The Ministry of Environment, Forest, and Climate Change (MoEFCC) has begun a project to create DNA profiles of all rhinos in India.
- 2. The New Delhi Declaration on Asian Rhinos 2019 aims to conserve the greater one-horned rhinoceros across the five rhino-range nations.
- 3. The greater one-horned rhino is listed as Endangered in the IUCN Red List.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 1 and 3 only
- D. 1, 2, and 3

16. Consider the following statements regarding the radioactive isotope injections for curbing rhino poaching:

1. The method of radioactive isotope injection in rhino horns was developed by a team from the University of Johannesburg.
2. The radioactive isotopes used in the project are harmless to the rhinos and can be detected using radiation portal monitors (RPMs) at borders, ports, and airports.
3. The Rhisotope Project aims to make rhino horns “useless” and “poisonous” to humans.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

4. New Vista Project Set to Unify India's Governance Structures



- The national capital is all geared up for the Central Vista Redevelopment Project, which is being crafted in the heart of the city.
- The Central Vista redevelopment project — comprising of a new Parliament, modernised Secretariat buildings and green public spaces — is said to further unify the governance structures and improve administrative productivity through closely connected, modern and purpose-designed offices.
- Following India's independence, a series of Central Secretariat buildings, including Udyog Bhawan, Nirman Bhawan, Shastri Bhawan, Rail Bhawan, and Krishi Bhawan, were built between 1956 and 1968.
- These structures were developed to meet the growing need for office space to accommodate the expanding functions of Central Government ministries.

What is the need for redevelopment?

- The Central Vista Development Master Plan is a transformative blueprint to elevate administrative efficiency by crafting purpose-driven, state-of-the-art office spaces for governance.
- It envisions creating modern, adaptable, and eco-friendly infrastructure to support the dynamic needs of India's Parliament, the Executive and Vice President's Enclaves, and an integrated Central Secretariat housing all ministries.
- The plan also revitalises Kartavya Path as a people-centric civic space.
- Beyond streamlining governance, the initiative places a strong emphasis on environmental sustainability — encouraging the use of public transport, prioritising pedestrian access, and expanding green cover across the redeveloped zones.
- These efforts aim to reduce carbon footprints while shaping a future-ready administrative core for the nation.

What India gains from redevelopment?

- The redevelopment project brings various governance as well as social benefits.

Governance Benefits –

- Bringing together all 51 Central Government Ministries into 10 Common Central Secretariat buildings will streamline the movement of resources, resulting in more efficient and coordinated administration.
- A close-knit departmental layout combined with adaptable and modular floor designs will empower the government to operate with greater efficiency and enhanced productivity.
- Expanding office spaces will bridge the gap between current capacity and rising demand, introducing cutting-edge work environments that boost productivity. These facilities will meet global benchmarks in infrastructure and technology.
- The redevelopment project will advance sustainability through the implementation of green infrastructure and clean transportation, thereby enhancing efficiency and synergy in government operations.

Social Benefits –

- Improved public spaces in the Central Vista, including the National Museum, IGNCA, reformed Kartavya Path, India Gate plaza and lawns.
- Nearly 80,000 square meters of government space within the North and South Blocks will be repurposed into public areas as these historic buildings transform into a National Museum complex.
- The renovated avenue will feature designated areas for social gatherings, offering visitors welcoming spots to enjoy leisurely activities.
- Central Vista embodies a vision of streamlined decision-making with all ministries closely connected for smoother coordination and shaded boulevards that invite every citizen into the heart of democracy.

- Meanwhile, the redevelopment project is rapidly reshaping India's administrative core, driven by large-scale employment, evolving infrastructure, and a steady pace of progress.

New Indian Parliament Building

Design & Architecture

- The new building, known as Sansad Bhavan, is triangular, purpose-designed to maximize space efficiency and blend with the existing heritage structure
- It spans around 64,500–65,000 sqm over three to four floors, with a striking architectural fusion of modern design and India's cultural heritage
- Entrances include Gyan Dwar, Shakti Dwar, and Karma Dwar, alongside six mythological gates—Gaja, Ashwa, Garuda, Makara, Shardula, and Hamsa. These reflect India's symbols of wisdom, power, protection, and history.

Chambers & Capacity

- **Lok Sabha:** 888 seats (up from 543), expandable to 1,272 for joint sessions
- **Rajya Sabha:** 384 seats (up from 250)
- The Constitution Hall at the building's core symbolizes placing citizens at the heart of democracy

Sustainability & Technology

- It's a green-rated ("Platinum" / GRIHA 5-Star) building with 30% lower electricity consumption, rainwater harvesting, wastewater recycling, natural lighting, indoor air quality systems, and long-term structural safety, including seismic resistance
- Equipped with smart tech: digital voting interfaces, touch-screen desks, biometric and language-interpretation systems, programmable microphones, enhanced acoustics, and digital displays for streamlined legislative processes.

Cultural Integration

- The Lok Sabha chamber draws inspiration from the peacock (India's national bird), while the Rajya Sabha evokes the lotus (national flower); thematic carvings and designs enhance the symbolism.
- Built-in heritage galleries and exhibition spaces showcase traditional crafts and national history, including a Shilp Deergha gallery with works by artisans across India.

Timeline & Development

- Foundation stone laid on December 10, 2020, construction began in early 2021 under Tata Projects Ltd
- Officially inaugurated by Prime Minister Modi on May 28, 2023, marking a central milestone of the Central Vista Redevelopment Project
- Parliament sessions moved into the building by September 2023

Context & Controversy

- The project is part of the broader Central Vista Redevelopment, which includes new ministerial and residential blocks, aiming for a modernized government precinct by 2026
- It has faced political and heritage criticism: opposition boycotted the inauguration; concerns were raised over its cost, the sidelining of the President in ceremonials, and implications of erasing colonial-era architecture.



The Sengol

- The Sengol is a traditional Tamil ceremonial sceptre that gained national attention in India in 2023, when it was placed in the new Indian Parliament building by Prime Minister Narendra Modi.
- **Origin:** The word Sengol comes from the Tamil word “semmai”, meaning righteousness or justice.
- **Historical Significance:** Traditionally used by Tamil kings, the Sengol symbolized the transfer of power and the just rule of a king.

Modern Relevance

- In 1947, during India’s independence, the Sengol was ceremonially handed over to Jawaharlal Nehru, India’s first Prime Minister, to mark the transfer of power from British rule to Indian self-governance.
- It was kept in a museum in Allahabad for decades.
- In May 2023, it was brought back into public attention and installed near the Speaker’s chair in the Lok Sabha (Lower House of Parliament), symbolizing dharma and just governance.

Design

- The Sengol is often topped with Nandi, the sacred bull of Lord Shiva, symbolizing justice, strength, and impartiality.
- It is made of gold or silver, depending on the ceremonial importance.

Symbolism

- It represents righteous rule, the moral responsibility of leaders, and continuity of Indian civilizational values.

QUESTIONS

17. Consider the following statements regarding the Central Vista Redevelopment Project:
1. The Central Vista Redevelopment project aims to create a modernized Parliament and eco-friendly infrastructure, improving the administrative productivity of India.
 2. The project envisions relocating all Central Government Ministries to a single building for better coordination.
 3. The redevelopment project will only focus on the construction of new government office buildings, excluding the renovation of public spaces.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1, 2, and 3

18. Consider the following statements regarding the New Indian Parliament building:
1. The new Parliament building is designed in a triangular shape to maximize space efficiency.
 2. The building includes entrances named after mythological symbols like Gyan Dwar, Shakti Dwar, and Karma Dwar.
 3. The new building spans an area of around 100,000 sqm.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 1 only
- C. 2 and 3 only
- D. 1, 2, and 3

19. Consider the following statements about the Sengol:

1. The Sengol symbolizes the transfer of power and was ceremonially handed over to Jawaharlal Nehru in 1947 during India's independence.
2. The Sengol is a ceremonial Tamil sceptre, typically topped with the symbol of Nandi, the sacred bull of Lord Shiva.
3. The Sengol is made of silver regardless of its ceremonial importance.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1, 2, and 3

20. Which of the following is NOT part of the Central Vista Redevelopment?

- A. New Parliament building
- B. Revitalizing public spaces
- C. Building new residential complexes for citizens
- D. Creating modern office spaces for ministries

5. Nationalist Nawrocki Sworn In As Polish President

A New Era of Political Tension

- Karol Nawrocki, a conservative historian and staunch supporter of Donald Trump's MAGA movement, was sworn in as the President of Poland.
- His election victory is expected to set the stage for significant political tensions within Poland, particularly with the centrist government led by Prime Minister Donald Tusk.
- Nawrocki's presidency signals a departure from the policies of outgoing President Andrzej Duda, and his political stance has already drawn attention, both in Poland and abroad.

Election Victory and its Impact on Prime Minister Tusk

- Nawrocki's election marks a significant blow to the pro-European Union course championed by Prime Minister Donald Tusk, leader of the centrist opposition party Civic Platform (PO).



- Tusk had hoped to secure another term as prime minister by emphasizing Poland's commitment to the EU, but Nawrocki's victory, backed by the nationalist opposition party Law and Justice (PiS), leaves Tusk's government in a weaker position.
- While Nawrocki was sworn in as president, it is expected that his veto powers will create a deadlock, much like his predecessor Andrzej Duda, who often blocked the government's initiatives.
- One area where Nawrocki is likely to clash with the government is judicial reforms.
- Under PiS's influence, Duda had rolled back judicial reforms that many critics said undermined the independence of Poland's courts. Nawrocki's stance on these issues suggests that this conflict will continue under his leadership.
- Additionally, Nawrocki's proposals, such as tax cuts, are seen as potentially popular measures with voters but could create budgetary challenges for the government already under pressure.

The Role of the President and Potential Foreign Policy Shifts

- As Poland's new president, Nawrocki has made it clear that he does not see a place for Ukraine in NATO or the European Union, a sharp contrast to the position held by his predecessor, Andrzej Duda. Nawrocki's skepticism toward Ukraine's future within these institutions could be a point of contention, especially as Poland has been one of Ukraine's strongest supporters since the outbreak of the war with Russia.

- Moreover, Nawrocki's resistance to Ukraine's NATO membership might complicate Poland's broader foreign policy, particularly its relationship with the United States.
- While the PiS and Nawrocki strongly support Poland's alliance with the U.S., Nawrocki's stance on EU defense policies is at odds with Tusk's position.
- Tusk believes the European Union should play a larger role in defense matters, while PiS and Nawrocki see this as a threat to Poland's relationship with Washington.
- Nawrocki's stance on defense issues and NATO membership could shift Poland's foreign policy priorities, especially as it grapples with its role in European security in the wake of Russia's invasion of Ukraine.

Political Uncertainty and Criticisms of Nawrocki's Past

- Although Nawrocki's election victory has brought him to the presidency, much remains uncertain about how he will approach his new role.
- Despite being little known to the public prior to PiS's endorsement, Nawrocki is seen as a political newcomer, and political observers are unsure whether he will fully align with PiS's policies or try to carve out his own path.
- During the campaign, Nawrocki's past was frequently scrutinized. Allegations emerged that he had acquired a second property from an elderly man in return for a promise of care that he did not fulfill.
- Although Nawrocki denied the accusations, the controversy added fuel to his tough-guy image, which was further amplified by his admission of involvement in an organized fight between football hooligans—a past incident that enhanced his reputation as an amateur boxer.
- Nawrocki's victory was also marred by allegations of election irregularities. Supporters of the defeated liberal candidate Rafal Trzaskowski filed thousands of protests to the Supreme Court, citing issues at some polling stations.
- However, these protests were not sufficient to overturn the election result.
- PiS has accused their liberal opponents of trying to subvert the will of the people, and Nawrocki's supporters are planning marches in the capital to show their support for his inauguration.

The Road Ahead: Political and Social Tensions in Poland

- With Nawrocki now in office, Poland faces the prospect of heightened political tensions and a divided society.
- The ongoing ideological divide between PiS's conservative nationalist agenda and Tusk's pro-European Union stance is likely to continue, as Nawrocki uses his veto power to challenge the government's initiatives.
- Moreover, his presidency may lead to a more assertive nationalist rhetoric and policies that further challenge Poland's relationship with the EU, while also shifting its focus toward deeper ties with the United States.
- While Nawrocki's supporters rally behind his vision for Poland, the country's future under his leadership remains uncertain, and much will depend on how he navigates domestic politics, foreign policy challenges, and economic issues.

Poland

1. Geography

- **Location:** Central Europe, bordered by Lithuania, Belarus, Ukraine, Slovakia, the Czech Republic, Germany, and the Baltic Sea to the north.
- **Area:** 312,696 square kilometers, making it the 9th largest country in Europe.
- **Capital:** Warsaw (Warszawa), located in the central-eastern part of the country.
- **Major Cities:** Kraków, Wrocław, Gdańsk, Poznań, Łódź, and Szczecin.

2. Population

- **Population:** Around 38 million (as of 2023), making it the 6th most populous country in Europe.
- **Language:** The official language is Polish.
- **Ethnic Groups:** Predominantly ethnic Poles, with minorities including Germans, Ukrainians, Belarusians, and others.

3. Government

- **Type of Government:** Poland is a parliamentary republic with a President (currently Andrzej Duda) serving as the head of state and a Prime Minister (currently Mateusz Morawiecki) serving as the head of government.
- **Legislature:** The Sejm (lower house) and the Senate (upper house).
- **European Union Membership:** Poland joined the EU in 2004 and is also a member of NATO, the UN, the Visegrád Group, and the Schengen Area.

4. History

- Poland has a rich and complex history, characterized by periods of independence and foreign rule.
- **Early History:** The origins of Poland date back to the 10th century when the Piast dynasty established a unified Polish state.
- **Partitions of Poland (1772–1795):** The country was partitioned between Austria, Prussia, and Russia, disappearing from the map for 123 years.
- **World War II:** Poland was invaded by both Nazi Germany and the Soviet Union in 1939. The country endured severe losses, with millions of Polish civilians and Jews perishing during the war. The devastation left a long-lasting impact on the country.
- **Communist Era:** After WWII, Poland became a Soviet satellite state, but in 1989, the Solidarity movement led to the collapse of communism and the establishment of a democratic government.

5. Economy

- **Economic Overview:** Poland has a mixed economy, with a strong industrial base, a rapidly growing service sector, and agriculture.
- **Currency:** The currency is the Polish złoty (PLN).
- **GDP:** Poland has one of the largest economies in Central Europe, with a GDP of over \$700 billion USD.
- **Major Industries:** Manufacturing (automobiles, machinery, electronics), coal, food processing, and textiles.
- **Agriculture:** Poland is a major producer of agricultural products like potatoes, apples, grains, and dairy.

6. Culture

- **Language:** The Polish language is part of the Slavic language family and has a rich literary tradition.
- **Cuisine:** Polish cuisine is hearty and flavorful, with dishes like pierogi (dumplings), kielbasa (sausage), bigos (hunter's stew), and żurek (sour rye soup).
- **Music & Arts:** Poland has produced many famous composers, including Frédéric Chopin and Krzysztof Penderecki, and has a long tradition of visual art, film, and theater.
- **Religious Influence:** Poland is predominantly Roman Catholic (about 87% of the population), and the Church has had a significant influence on the country's culture and history.

7. Tourism

- **Famous Landmarks:**
 - Wawel Castle in Kraków, a UNESCO World Heritage Site.
 - Auschwitz-Birkenau Memorial in Oświęcim, a former Nazi concentration camp.
 - Białowieża Forest, one of Europe's last primeval forests, also a UNESCO World Heritage Site.
 - Tatra Mountains, a popular destination for hiking and skiing.
 - Gdańsk's historic Old Town and Warsaw's Royal Castle.
- **Natural Attractions:** Poland is known for its natural beauty, with numerous national parks, lakes, rivers, and the Baltic coastline.

8. Sports

- Football (Soccer) is the most popular sport, with clubs like Legia Warsaw and Lech Poznań being well-known. The national team is also a regular contender in international tournaments.
- Volleyball, handball, and basketball are also popular sports in Poland.
- **Winter Sports:** The Tatra Mountains are famous for skiing and other winter sports.

9. Education

- Poland has a strong education system with free public schooling. Higher education is provided by numerous universities and institutions, including the University of Warsaw, Jagiellonian University (in Kraków), and Warsaw University of Technology.
- **Literacy Rate:** Very high, around 99%.

QUESTIONS

21. Consider the following countries:

1. Lithuania
2. Russia
3. Belarus
4. Slovakia
5. Czech Republic
6. Germany
7. Turkey

Which of the above countries share border with Poland?

- A. 1, 2, 3, 4, and 7 only
- B. 2, 3, 4, 5, 6 and 7 only
- C. 1, 3, 5, 6 and 7 only
- D. 1, 2, 3, 4, 5 and 6 only

22. Consider the following statements about the Poland:

- 1. Poland is a country in Central Europe.
- 2. Poland is a member of the NATO.
- 3. Poland is a member of the European Union.
- 4. Its official currency is Euro.

Which of the statements given above is/are correct?

- A. 1 and 4 only
- B. 2 and 4 only
- C. 1 only
- D. 1, 2, and 3

23. Consider the following statements about the Poland:

- 1. Poland was invaded by both Nazi Germany and the Soviet Union in 1939.
- 2. Poland is a parliamentary republic with a President serving as the head of state and a Prime Minister serving as the head of government.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

6. Status of the 'recall' vote in Taiwan

Political Power Shift in Taiwan (2024 Elections)

- Taiwan's 2024 elections resulted in a significant shift in the balance of power between the executive and legislative branches. While the ruling Democratic Progressive Party (DPP) retained the presidency with William Lai Ching-te winning 40.1% of the vote, it lost its majority in the unicameral Legislative Yuan.
- The Kuomintang (KMT) opposition party secured 52 seats, and with the support of the Taiwan People's Party (TPP) (8 seats), formed a 60-seat opposition bloc against DPP's 51 seats in the 113-member legislature.




- This structural imbalance — with the executive held by the DPP and the legislature dominated by the opposition — resulted in repeated gridlocks, with the KMT blocking or delaying several key bills proposed by the DPP.
- This tension eventually laid the groundwork for Taiwan’s rare and controversial use of recall mechanisms.


The Bluebird Movement and the Genesis of the Recall Campaign

- The recall vote was spearheaded by the Bluebird Movement, a civic uprising that emerged in May 2024, after the opposition, led by KMT, hastily passed controversial legislative reforms.
- These reforms sought to curb executive and judicial authority, while strengthening the legislature’s oversight powers, all without undergoing proper parliamentary deliberation.
- The movement took its name from the Bluebird Road in Taipei, where over 100,000 citizens protested against what they described as unconstitutional behavior by the opposition.
- Protesters argued that the KMT was acting as a proxy for the Communist Party of China (CPC), accusing the party of endangering Taiwan’s democracy and national security.
- The Bluebird Movement was backed by the DPP and other civil society organizations, who rallied behind a massive recall petition targeting 24 KMT lawmakers.
- This marked the beginning of what was termed “The Great Recall” effort.



July 26 No recall votes pass

 Fail (pro-recall votes did not exceed 25% of eligible voters in the district)

 Fail (pro-recall votes exceeded 25% of eligible voters but trailed votes against)

Hsinchu City

Cheng Cheng-chien (鄭正鈐)

Taoyuan

Niu Hsu-ting (牛煦庭)

Tu Chuan-chi (涂權吉)

Lu Ming-che (魯明哲)

Wan Mei-ling (萬美玲)

Lu Yu-ling (呂玉玲)

Chiu Jo-hua (邱若華)

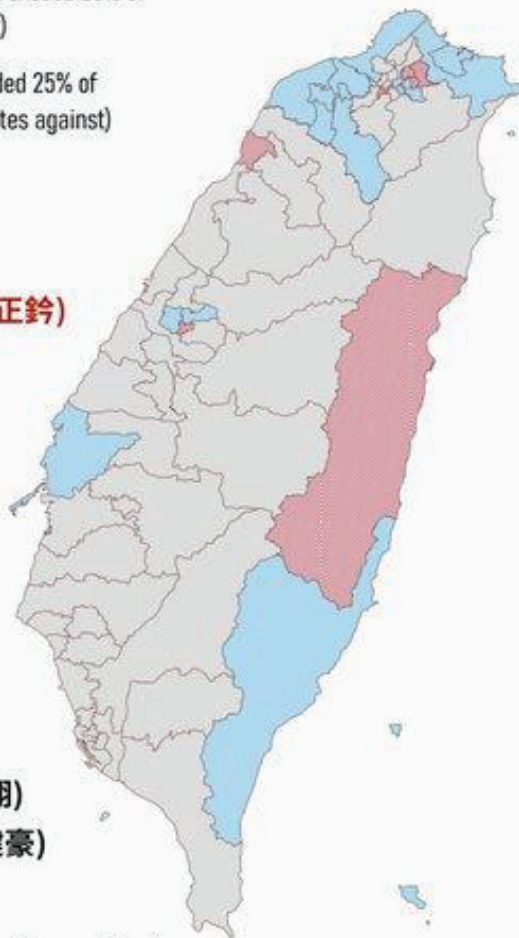
Taichung

Liao Wei-hsiang (廖偉翔)

Huang Chien-hao (黃健豪)

Lo Ting-wei (羅廷璋)

Source: Central Election Commission



Taipei

Wang Hung-wei (王鴻薇)

Lee Yen-hsiu (李彥秀)

Lo Chih-chiang (羅智強)

Hsu Chiao-hsin (徐巧芯)

Lai Shyh-bao (賴士葆)

New Taipei

Hung Mong-kai (洪孟楷)

Yeh Yuan-chih (葉元之)

Chang Chih-lun (張智倫)

Lin Te-fu (林德福)

Liao Hsien-hsiang (廖先翔)

Keelung

Lin Pei-hsiang (林沛祥)

Yunlin County

Ting Hsueh-chung (丁學忠)

Hualien County

Fu Kun-chi (傅崐冀)

Taitung County

Huang Chien-pin (黃建賓)

Legal Framework: The Taiwan Public Officials Election and Recall Act

- The recall campaign was executed under the Taiwan Public Officials Election and Recall Act, a constitutional provision that allows citizens to remove elected representatives.
- The act includes three stages:
 - Initiation** – Requires a petition signed by at least 1% of the local electorate.
 - Secondary Approval** – Needs 10% voter support to proceed to voting.
 - Final Voting Threshold** – A successful recall requires 25% of all eligible district voters to vote in favor of removal.
- This complex, multi-step process ensures that recalls are not taken lightly and are supported by a significant portion of the population.

Round One Recall Vote Results (July 26, 2025)

- The first round of voting was held on July 26, where all 24 KMT lawmakers facing recall successfully retained their seats.
- Despite widespread protests and media coverage, the recall effort failed to secure the required 25% district-wide voter support.
- In fact, in each case, more constituents voted against the recall, signaling either support for the incumbents or general voter fatigue and skepticism toward the recall effort.
- This outcome was a significant blow to the DPP and the Bluebird Movement, both of which had invested considerable political capital into the campaign.

Second Round Recall Set for August

- Despite the setback, a second round of recall votes targeting seven more KMT lawmakers is scheduled for late August 2025.
- The DPP is under immense pressure to secure at least six recalls — the number needed to flip the legislative majority in its favor.
- Failure to do so would further entrench the KMT-led legislative majority and potentially weaken DPP's credibility.
- On the other hand, a successful recall could drastically shift the balance of power, allowing DPP to pass legislation more effectively.

KMT's Response and Political Fallout

- In response to their survival, the KMT has demanded a cabinet reshuffle, arguing that the recall effort was politically motivated and indicative of poor governance by the DPP-led executive.
- The party has painted the movement as a misuse of democratic tools for partisan advantage.
- KMT lawmakers insist that the recall was not about democratic accountability, but a frustrated DPP attempting to reverse electoral losses through undemocratic means.
- This narrative has resonated with portions of the public, especially those fatigued by constant political confrontation.

Impact on Taiwanese Society: Polarization and Democratic Tensions

- Rather than uniting the country under the banner of democratic accountability, the recall effort appears to have deepened existing political polarization.
- Critics argue that the process may have been weaponized by the ruling party to suppress opposition, raising concerns about the long-term health of Taiwan's democracy.
- Supporters, however, view the recalls as a necessary mechanism to hold elected officials accountable, especially in cases where parliamentary procedures were allegedly violated.
- The mixed results and the upcoming second round highlight Taiwan's struggle to maintain a functioning democracy amidst divided governance.

Taiwan

GEOGRAPHY

- **Location:** East Asia, in the western Pacific Ocean, ~180 km off the southeastern coast of China.
- **Main Island:** Taiwan Island (~99% of territory).
- **Other Islands:** Kinmen, Matsu, Penghu, and others.
- **Terrain:** Mountainous in the east, flat to gently rolling plains in the west.

- **Highest Point:** Yushan (Jade Mountain) – 3,952 m.

POLITICAL SYSTEM

- **Type:** Democratic Republic
- **President (2025):** Lai Ching-te (Lai Ching-te, DPP)
- **Premier:** Cho Jung-tai
- **Legislature:** Legislative Yuan (unicameral)

HISTORY – KEY EVENTS

Pre-20th Century

- Originally inhabited by Austronesian peoples.
- Dutch and Spanish briefly colonized in the 17th century.
- Annexed by Qing Dynasty (China) in 1683.

Japanese Rule (1895–1945)

- Taiwan ceded to Japan after First Sino-Japanese War.
- Modern infrastructure built; widespread industrialization.
- Returned to China (ROC) after Japan's defeat in WWII.

Post-WWII

- **1949:** Chinese Civil War ends – ROC government retreats to Taiwan after Communist takeover of mainland China.
- Since then, Taiwan has operated as a de facto independent country, though claimed by the People's Republic of China (PRC).

INTERNATIONAL STATUS

- Not a UN member (lost UN seat to PRC in 1971).
- Recognized diplomatically by only a few nations (e.g., Vatican City, Eswatini).
- Maintains informal relations and representative offices in most countries.
- U.S. follows “One China Policy” but supports Taiwan militarily under the Taiwan Relations Act.
- Regular flashpoint in China–U.S.–Taiwan tensions.

ECONOMY

- **Type:** Highly developed, export-driven
- **GDP (Nominal):** ~\$800 billion USD (2025 est.)
- **GDP per capita:** ~\$34,000 USD

Major Industries

- Semiconductors (home to TSMC, global leader)
- Electronics (computers, smartphones)
- Machinery
- Petrochemicals
- Finance
- **Agriculture:** rice, fruits, tea

Key Companies

- TSMC (Taiwan Semiconductor Manufacturing Co.)
- Foxconn (Hon Hai Precision)
- Acer, ASUS, MediaTek

SOCIETY & CULTURE

Ethnic Groups

- Han Chinese (~95–97%)
- Hoklo (70%), Hakka (15%)
- Indigenous Austronesian peoples (~2–3%)
- **Religion:** Mix of Buddhism, Taoism, Confucianism, Christianity, and folk beliefs.
- **Languages**
 - Mandarin (official)
 - Taiwanese Hokkien (widely spoken)
 - Hakka
 - Indigenous languages (protected)
- **Literacy:** ~98.9%
- **Human Rights & Freedoms:** Highly rated; free press, gender equality, same-sex marriage legalized in 2019 (first in Asia).

EDUCATION & TECHNOLOGY

- **Education:** Mandatory 12-year system; competitive higher education
- **Tech Sector:** Global hub for high-tech manufacturing, especially semiconductors and ICT.

MILITARY

- **Name:** Republic of China Armed Forces
- **Branches:** Army, Navy (with Marines), Air Force
- **Conscription:** Yes (1-year mandatory service for men as of 2024)
- **U.S. Support:** Significant arms sales and training; increasing cooperation in response to growing tensions with China.

CHALLENGES

- **Cross-Strait Relations:** Ongoing threat of military action from China; PRC has not ruled out force to unify.
- **International Isolation:** Diplomatic recognition limited; relies on unofficial ties.
- **Aging Population:** Birth rate among the lowest in the world.
- **Economic Dependence:** Trade heavily reliant on China and global tech supply chains.

SYMBOLS

- **Flag:** Blue sky with a white sun, red field (represents ROC)
- **National Flower:** Plum blossom
- **National Anthem:** “San Min Chu-i” (Three Principles of the People)

QUESTIONS

24. Consider the following statements about the Taiwan, officially known as the Republic of China:

1. It has not been a charter member of the United Nations (UN) since 1971.
2. Historically, the Republic of China joined the United Nations as a founding member and was one of five permanent members of the Security Council until the People's Republic of China took the "China" seat in 1971.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

25. Consider the following statements regarding the Bluebird Movement and Taiwan's recall vote:

1. The Bluebird Movement emerged in May 2024 after the KMT passed controversial legislative reforms.
2. The recall vote was conducted under the Taiwan Public Officials Election and Recall Act, which requires a petition signed by at least 10% of the electorate.
3. The first round of the recall vote held in July 2025 resulted in the successful removal of all 24 targeted KMT lawmakers.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 only
- C. 2 and 3 only
- D. 1, 2, and 3

26. Which of the following movements is the Bluebird Movement often compared to?

- A. Wild Strawberry Movement
- B. Sunflower Movement
- C. 1990 Wild Lily Movement
- D. Taiwan Independence Movement

27. Which of the following terms became ubiquitous in Taiwanese politics after the Sunflower Movement and was used again during the Bluebird Movement?

- A. Democracy deficit
- B. Black box
- C. Transparency crisis
- D. Economic liberalization

28. What was the primary demand of the Umbrella Movement during the 2014 Hong Kong protests?

- A. Transparency in the election of the Chief Executive
- B. Greater economic independence for Hong Kong
- C. Immediate independence of Hong Kong from China
- D. Removal of the Hong Kong Police Force

29. Taiwan shares maritime border with which of the following?

- 1. East China Sea
- 2. South China Sea
- 3. People's Republic of China
- 4. Japan
- 5. Russia
- 6. Philippines

Select the correct answer using the codes given below:

- A. 1, 2, 4 and 6 only
- B. 1, 2, 3, 5 and 6 only
- C. 1, 2, 3, 4 and 6 only
- D. All of the above

7. Uttarkashi cloudburst

- Two separate cloudbursts in Dharali and Sukhi Top unleashed chaos across the region, with Dharali village in Uttarkashi facing the worst impact. Visuals from the area show widespread devastation as muddy torrents tore through settlements, leaving behind a trail of destruction.
- A cloudburst is a sudden, intense rainfall event that results in a large amount of water falling over a short period, often in a small, localized area.
- The rain can be so heavy that it leads to flash flooding, landslides, and other destructive outcomes.

Definition

- A cloudburst is typically defined as a rainfall event where more than 100 millimeters (about 4 inches) of rain falls in a very short period (typically within an hour or less).
- In some cases, rainfall amounts can exceed 300 millimeters (about 12 inches) in just a few minutes.

Causes of Cloudbursts

Several factors contribute to the formation of cloudbursts

- **Geographic Features:** Mountains and valleys can enhance the effects of rainfall. When moist air is forced upwards by terrain, it cools and condenses, leading to heavier rainfall.



- The combination of orographic lifting (air rising over mountains) and high moisture levels can result in cloudbursts.
- **Atmospheric Instability:** This is the primary factor. Warm, moist air rises, and as it cools, the moisture condenses into water droplets, forming clouds.
- If there is an instability in the atmosphere, a rapid ascent of moist air can occur, which results in very heavy rainfall over a short period.
- **Thunderstorms:** Cloudbursts often occur during intense thunderstorms. Thunderstorms are associated with strong updrafts that can rapidly lift warm, moist air, leading to quick condensation and intense rainfall.
- **Convergence of Air Currents:** In some cases, the interaction of air masses—like the convergence of winds from different directions—can create localized areas of intense precipitation.

Cloudburst vs. Other Rain Events

- Unlike regular rainfall or thunderstorms, cloudbursts are extremely localized and occur very quickly.
- They often involve very heavy rain over a short duration, which is much more intense than typical thunderstorms or steady rainfall events.

Characteristics

- **Localized:** They affect a small area, and the surrounding regions may receive little or no rain.
- **Duration:** A cloudburst can last anywhere from a few minutes to an hour, but the rainfall is so intense that the impact is immediate.
- **Intensity:** The rainfall rate can be incredibly high. In some cases, rainfalls of over 100 mm (4 inches) per hour are observed, which can overwhelm drainage systems and lead to flash flooding.
- **Flash Flooding:** Since the rainfall is so intense, it can rapidly cause flash floods in rivers, streams, or urban areas with poor drainage.

Environmental and Societal Impacts

- **Flash Flooding:** This is the most common result of cloudbursts. Flash floods can cause severe damage to infrastructure, homes, and agriculture. They can also lead to loss of life.
- **Landslides:** In mountainous regions, the sudden downpour can saturate the soil and cause landslides or mudslides, which can block roads, damage property, and pose a danger to lives.
- **Soil Erosion:** Cloudbursts can erode soil rapidly, especially in areas with little vegetation. This can lead to loss of soil fertility and increase the risk of future flooding.
- **Urban Impact:** In urban areas with poor drainage, cloudbursts often overwhelm the sewage systems and lead to street flooding, property damage, and traffic disruptions.

Regions Prone to Cloudbursts

- **Himalayan Region:** In countries like India, Nepal, and Pakistan, the combination of mountainous terrain and the monsoon season makes cloudbursts quite common.
- **Western Ghats in India:** Cloudbursts are often seen in the Western Ghats, especially during the monsoon season.
- **Andes and Other Mountain Ranges:** Mountainous areas around the world are more prone to cloudbursts due to the orographic effect.
- **Tropical and Subtropical Areas:** Tropical rainforests and regions with frequent thunderstorms are also prone to these intense rain events.

Predicting and Warning Systems

- Predicting cloudbursts is challenging because of their sudden and highly localized nature.
- However, modern meteorological technology, such as radar systems and satellite imagery, helps meteorologists detect conditions that are conducive to cloudbursts, such as:
 - Moisture levels in the atmosphere.
 - Atmospheric instability.
 - Rapid updrafts in thunderstorms.
- Meteorologists can use these data points to issue early warnings for areas that might be at risk.

Mitigation Strategies

- **Improved Drainage Systems:** Urban areas at risk should develop efficient drainage systems to prevent floodwater from accumulating.
- **Flood Control Infrastructure:** Construction of flood barriers, retention ponds, and other infrastructure can help minimize the damage caused by flash floods.
- **Community Awareness:** Educating communities in areas prone to cloudbursts about the risks and emergency protocols is important to reduce casualties.
- **Better Forecasting:** Investing in advanced meteorological technology and early warning systems can help reduce the impact of cloudbursts by providing alerts to local populations.

Cloudbursts and landslides in Uttarakhand

- Cloudbursts and landslides in Uttarakhand are common natural disasters, often caused by a combination of geographic, meteorological, and human factors.

1. Cloudbursts in Uttarakhand

- A cloudburst refers to a sudden, heavy rainfall over a small area in a very short period, often leading to flash floods and significant damage.
- The reasons for cloudbursts in Uttarakhand include:

a. Topography

- Uttarakhand is located in the Himalayas, which has steep slopes and high mountains.
- The region's geography plays a major role in cloudbursts, as moist air from the Bay of Bengal or Arabian Sea is forced upwards when it hits the mountain ranges. This can cause rapid condensation of moisture, resulting in sudden, intense rainfall.

b. Monsoon Winds

- During the monsoon season, the southwest monsoon winds bring heavy moisture to the region.
- When this moist air collides with the steep slopes of the Himalayas, it rapidly ascends, cooling down and causing heavy rainfall.

c. Climate Change

- Climate change is altering global weather patterns, including the monsoon season. In the past few decades, the frequency of cloudbursts has increased in many parts of the Himalayas, including Uttarakhand.
- Warmer temperatures cause increased evaporation, leading to heavier and more unpredictable rainfall.

d. Deforestation

- Deforestation in the region reduces the soil's ability to retain moisture, exacerbating the effects of heavy rainfall.
- Without trees, the rainwater runs off quickly, leading to increased risk of floods, particularly during cloudbursts.

2. Landslides in Uttarakhand

- Landslides are another common hazard in Uttarakhand, especially during heavy rainfall and the monsoon season.

a. Geology

- Uttarakhand's mountainous terrain is made up of weak, fractured rocks and unstable soil.
- The steep slopes of the Himalayas, combined with loose soil and rock formations, make the region particularly prone to landslides. Earthquakes also trigger landslides by destabilizing these already fragile slopes.

b. Heavy Rainfall

- Heavy rains, particularly after a cloudburst, increase the water content in the soil. This added weight, combined with the saturation of the soil, makes slopes more likely to collapse, causing landslides.
- Prolonged rainfall weakens the stability of the earth on steep hillsides, especially in areas with already poor soil structure.

c. Road Construction and Infrastructure Development

- The construction of roads, buildings, and other infrastructure in fragile hill slopes can disturb the natural stability of the land.
- Excavation, cutting, and blasting for roads often remove protective vegetation and destabilize the soil, increasing the likelihood of landslides.

d. Deforestation and Land Use Change

- Unsustainable land use, such as deforestation for timber, agriculture, or development, reduces the natural root systems that bind the soil.
- When trees and vegetation are removed, the soil becomes more prone to erosion and landslides. Urbanization also leads to greater water runoff, increasing the risk of landslides.

e. Earthquakes and Tectonic Activity

- The region is seismically active because of the tectonic plate collision between the Indian and Eurasian plates.
- Earthquakes can trigger landslides by destabilizing already weak slopes, especially during or after heavy rainfall.

f. Glacial Melting and Water Accumulation

- In some parts of Uttarakhand, the melting of glaciers due to rising temperatures and climate change leads to the accumulation of large amounts of water in the mountains.
- This water, when it finds a path, can create mudflows and landslides.

QUESTIONS

30. Consider the following statements about cloudbursts in Uttarakhand:

1. Cloudbursts in Uttarakhand are caused by moist air from the Bay of Bengal or Arabian Sea being forced upwards by the steep slopes of the Himalayas.
2. Cloudbursts are a common phenomenon in the Uttarakhand region, often occurring during the winter season.
3. Climate change has increased the frequency of cloudbursts in the Himalayan region, including Uttarakhand.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

31. Consider the following statements about the environmental and societal impacts of cloudbursts in Uttarakhand:

1. Cloudbursts can cause flash floods, landslides, and soil erosion, resulting in severe damage to infrastructure, agriculture, and property.
2. The main environmental factor contributing to cloudbursts in Uttarakhand is the lack of vegetation in the region.
3. Deforestation in Uttarakhand reduces the soil's ability to retain moisture, exacerbating the impact of cloudbursts.

Which of the statements given above is/are correct?

- A. 1 only
- B. 1 and 3 only

C. 2 and 3 only

D. 1, 2, and 3

32. Consider the following statements about the geography of Uttarakhand and its role in natural disasters:

1. Uttarakhand's steep slopes and weak, fractured rocks make the region prone to landslides.
2. The Himalayan geography of Uttarakhand enhances the effects of cloudbursts, as moist air from the Bay of Bengal or Arabian Sea is forced upwards.
3. The region's high vegetation density helps stabilize the soil and prevent natural disasters like landslides.

Which of the statements given above is/are correct?

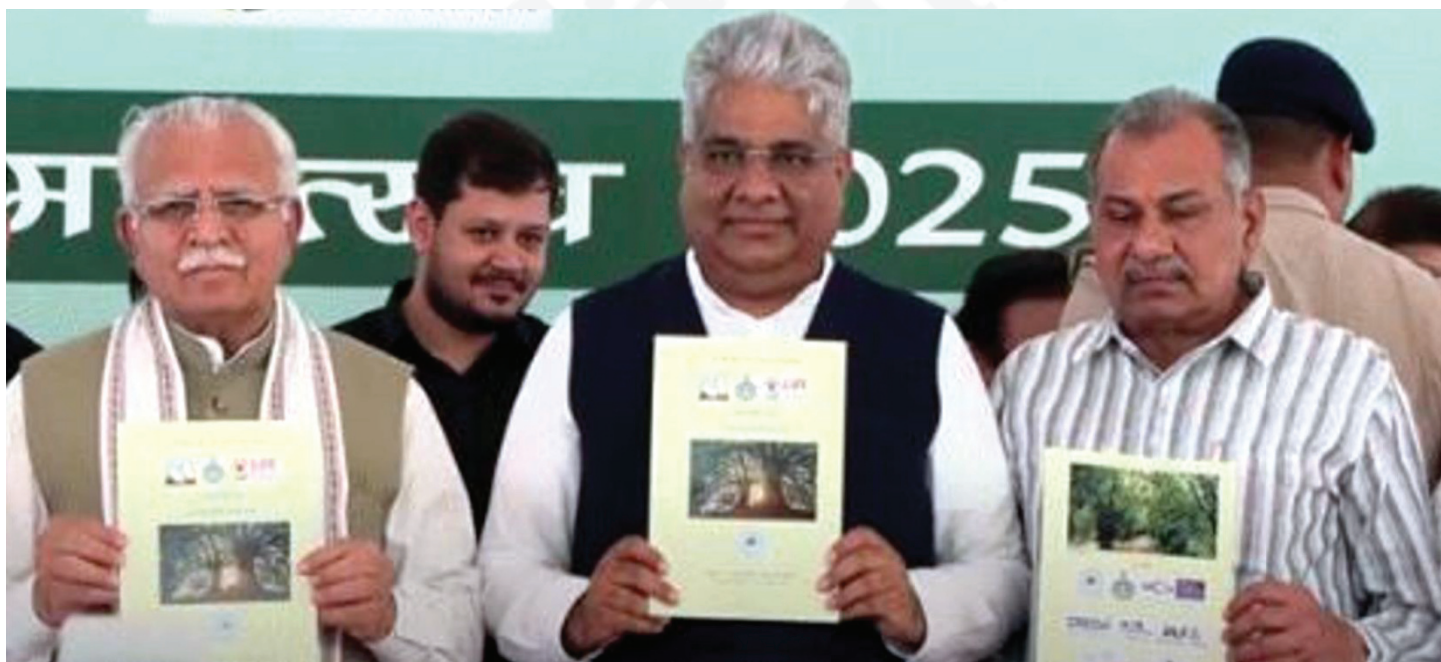
A. 1 and 2 only

B. 1 only

C. 2 and 3 only

D. 1, 2, and 3

8. Matri Van Initiative Launched to Create 750-Acre Urban Forest in Aravalli Hills



- Minister for Environment, Forest and Climate Change Bhupender Yadav and Minister for Housing and Urban Affairs Manohar Lal presided over the Launch of the Matri Van Initiative in Gurugram – a theme-based Urban Forest spread over 750 acres in the Aravalli Hill area.
- Mr Lal said that Carbon emissions have become the foremost global challenge for mankind. Besides using carbon capture technology to fight this challenge, the Minister encouraged citizens to imbibe the tradition of preventing deforestation and planting more trees to become Van Mitras.

- He added that metro cities like Gurugram must become an example for others in pioneering initiatives like green buildings, eco-tourism through wildlife safaris, theme-based biodiversity parks etc.
- Further speaking on the occasion, Union Minister Bhupender Yadav noted that the Matri van green cover will act as a heart and lungs for the whole of Delhi-NCR.
- He said that this project would provide the public, including young and senior citizens alike, a serene environment to lead a healthy and stress-free life.
- The Matri Van initiative – a theme-based urban forest dedicated to nurturing generations through mother-nature-inspired green efforts – would be developed in an area of 750 acres in the Aravalli Hill area, along the Gurugram-Faridabad Road.
- It is envisioned as a unique ecological and cultural space that will contribute to biodiversity, public well-being, and urban sustainability.

Aravalli Hill Range

- The Aravalli Hill Range is one of the oldest mountain ranges in India, stretching from the northeastern part of the country to the southwestern part, specifically through Rajasthan, Haryana, and Gujarat.
- It is a series of low mountain ranges and hills, rich in biodiversity, and plays a crucial role in the geography and climate of the region.

1. Geography & Location

- The Aravallis run from the northeast to the southwest, spanning about 800 km.
- The range begins near Delhi in the north and stretches all the way down to Gujarat in the southwest.
- The Aravallis are mostly made up of gneiss and granite rocks, and they form a natural barrier between the plains of Haryana and Rajasthan and the Thar Desert in the west.

2. Significance

- The range serves as a natural boundary and also as a climatic divide, influencing the weather patterns between the northern and western regions of India.
- It plays a role in preventing the expansion of the desert by reducing the dry winds from the west.
- The Aravallis are known for their rich biodiversity, including several species of flora and fauna, many of which are endemic to the region.

3. Biodiversity & Wildlife

- The area is home to various wildlife sanctuaries and national parks, such as Sariska Tiger Reserve, Kailadevi Sanctuary, and Ranthambhore National Park (on the southern edges of the Aravallis).
- It is a habitat for various species, including tigers, leopards, sambars, and several species of birds.

4. Cultural & Historical Importance

- The Aravallis are historically significant, with several forts, temples, and palaces built along the hills, especially by the Rajputs.
- Jaipur and Udaipur are two major cities in the region that are closely linked with the Aravalli Range.
- Some famous sites in the area include the Amber Fort, Kumbhalgarh Fort, and the Ajmer Sharif Dargah.

5. Environmental Concerns

- The Aravalli Range has been under threat from urbanization, mining, and deforestation, which have led to environmental degradation.
- Many of the hills have been quarried for their mineral resources, leading to soil erosion and loss of vegetation.

6. Important Cities Near Aravalli

- Jaipur (Rajasthan) - Known as the “Pink City,” located on the eastern edge of the Aravallis.
- Udaipur (Rajasthan) - Famous for its lakes and palaces, also nestled in the Aravalli hills.
- Delhi is at the northern end of the range.

7. Climate

- The climate of the Aravalli range varies greatly depending on the altitude and location.
- In the lower regions, it experiences semi-arid conditions, while higher elevations can see more rainfall and moderate temperatures.

Importance of Aravalli Range

1. Ecological Significance

- **Biodiversity Hub:** The Aravallis host a rich variety of flora and fauna, contributing to the biodiversity of India. Some areas are home to rare species like the Indian Wolf, Leopards, and various types of birds and reptiles.
- The range also supports forests and grasslands, which are crucial for maintaining ecological balance.
- **Water Catchment Areas:** The Aravallis play a critical role in the water cycle. They act as a natural barrier for rain-bearing winds, helping to capture monsoon rains. The mountains also form the watershed for several important rivers like the Saraswati and Luni.
- **Soil Conservation:** The Aravalli range helps in preventing soil erosion in the region. Their vegetation acts as a natural barrier, helping conserve soil and maintain agricultural productivity in surrounding areas.

2. Climate Regulation

- The Aravallis act as a climate buffer for the regions to the north and west, especially in the states of Rajasthan and Haryana. They help in moderating temperatures and reducing the intensity of the hot desert winds coming from the Thar Desert.
- They also contribute to the formation of microclimates, which support agriculture in otherwise arid areas.

3. Geological and Historical Significance

- The Aravalli Range is one of the oldest mountain ranges in the world.
- Some parts of the range are more than 2.5 billion years old, offering unique geological insights.
- They provide a window into the Earth’s ancient geological processes.
- The Aravallis have witnessed the evolution of civilizations over millennia.
- They have been home to numerous kingdoms, forts, and settlements, including the Rajput rulers, whose legacy is still visible in the form of forts and temples along the range.
- **Mining Resources:** The region is rich in minerals like marble, mica, and limestone, which have been historically important for local economies. However, mining has also raised environmental concerns, leading to the depletion of natural resources.

4. Cultural and Historical Importance

- The Aravalli range holds immense cultural significance due to its long history of settlement and development. It houses numerous historical sites like ancient temples, forts, and palaces from various Indian dynasties.
- The city of Jaipur, a UNESCO World Heritage city, is located on the foothills of the Aravallis, and the range is closely tied to the region’s history and culture.
- The Aravalli Range also plays a role in mythology. In Hindu and other Indian traditions, the mountains are considered sacred.

5. Environmental Threats

- Over the years, deforestation, mining, and urbanization have posed significant threats to the environment of the Aravalli range.
- These activities lead to habitat destruction, soil erosion, and a loss of biodiversity.
- **Water Scarcity:** The depletion of water resources due to overuse and poor management is a growing issue in the region, despite the Aravallis' role in groundwater recharge.
- **Climate Change:** The Aravallis are vulnerable to the impacts of climate change, which could affect their biodiversity and ecological balance.

6. Strategic Importance

- The range also has some military significance, as it provides natural defense barriers in the northern part of India, especially for the regions bordering Rajasthan and Haryana.

7. Tourism and Recreation

- The Aravallis are a popular spot for nature lovers, trekkers, and adventure enthusiasts. Places like Mount Abu, the only hill station in Rajasthan, are a prime tourist attraction.
- The Sariska Tiger Reserve and Ranthambhore National Park are also located in the Aravalli range, attracting wildlife tourists.

QUESTIONS

33. Consider the following statements regarding the Matri Van Initiative:

1. The Matri Van project is located in the Aravalli Hills and aims to create a 750-acre urban forest.
2. The initiative emphasizes carbon capture technology as the primary tool to combat climate change.
3. The project includes the creation of green spaces to promote environmental sustainability and public well-being.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

34. Consider the following statements regarding the Aravalli Range:

1. The Aravalli Range is known for its rich biodiversity, with several wildlife sanctuaries and national parks like Sariska Tiger Reserve and Ranthambhore National Park.
2. The range plays a significant role in preventing soil erosion, as its vegetation acts as a natural barrier.
3. The Aravalli range is located exclusively in the state of Rajasthan.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

35. Consider the following statements regarding the cultural and historical importance of the Aravalli Range:
1. The Aravallis are rich in cultural heritage, housing several historical forts, temples, and palaces from ancient Indian dynasties.
 2. Jaipur and Udaipur are major cities in Rajasthan, closely linked with the Aravalli Range, contributing to its cultural significance.
 3. The Aravalli Range is not mentioned in Indian mythology or traditions.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 1, 2, and 3
- D. 1 only

36. Which of the following rivers originate from the Aravalli Range?

1. Luni
2. Sabarmati
3. Sakhi
4. Sahibi
5. Sahibi

Select the correct answer using the codes given below:

- A. 1, 2 and 5 only
- B. 1, 2, 3 and 5 only
- C. 1, 4 and 5 only
- D. 1, 2, 3, 4 and 5

9. India's Dhruva Space to launch Leap-1 satellite mission aboard SpaceX Falcon-9

- Dhruva Space, budding space tech startup from India, is set to launch its first commercial satellite mission, LEAP-1, marking a pivotal transition from technology demonstrations to customer-driven satellite deployments.
- The mission, scheduled aboard SpaceX's Falcon 9 in Q3 2025, exemplifies significant Indo-Australian collaboration with growing US support, underlining Dhruva Space's expanding global commercial presence.
- LEAP-1 utilises Dhruva Space's indigenously developed P-30 satellite platform, successfully space-qualified during the LEAP-TD mission on ISRO's PSLV-C58 in January 2024.
- The mission carries two distinct payloads: Akula Tech's Nexus-01, featuring an advanced artificial intelligence (AI) module, and Esper Satellites' OTR-2 mission, equipped with a cutting-edge hyperspectral imager. This payload fusion enhances capabilities across applications including defense, disaster response, agriculture, mining, and environmental monitoring.



- Akula Tech's AI module promises unprecedented on-orbit intelligence with onboard data processing and AI/ML model re-training capabilities for rapid, near-real-time insights. Nexus-01's AI flexibly supports applications such as fire detection and spectral analysis, continuously improving via live sensor data retraining.
- Meanwhile, Esper Satellites' hyperspectral imager delivers spectrally rich Earth observation data through their EarthTones API, setting a new standard in remote sensing technology.
- Dhruva Space complements the mission with Ground Station-as-a-Service (GSaaS) and its proprietary Integrated Space Operations & Command Suite (ISOCS) for seamless real-time mission management and data downlinking.
- The mission patch symbolises the synergy of Indo-Australian-American collaboration, integrating motifs representing AI, hyperspectral Earth observation, and space heritage.
- Leadership from all partners highlight LEAP-1 as a landmark for innovation and cost-effective deployment in space.
- Dhruva Space's CEO Sanjay Nekkanti emphasised the mission's role in scaling commercial payload hosting and fostering international space business partnerships, notably between India and Australia.



- LEAP-1 represents a strategic milestone that positions Dhruva Space at the forefront of global commercial satellite operations, marrying indigenous Indian technology with international collaboration to serve diverse space applications worldwide.
- This endeavour firmly establishes Dhruva Space's commitment to pioneering full-stack hosted payload solutions with transformative impact on Earth and beyond.

SpaceX's Falcon 9

- SpaceX's Falcon 9 is a reusable, two-stage rocket designed and manufactured by SpaceX for the reliable and safe transport of satellites, cargo, and crew into space.
- It's one of the most prominent rockets in commercial spaceflight and has been at the forefront of SpaceX's ambitious goal to reduce the cost of space travel.

1. Reusable Design

- One of Falcon 9's most revolutionary aspects is its reusability. Both the first stage (the booster) and the second stage are designed to be reused multiple times, significantly reducing launch costs.
- The first stage can land either on a drone ship at sea or on a landing pad on land, depending on the mission. This landing capability is a critical step toward making space travel more affordable and sustainable.

2. Payload Capacity

- Falcon 9 can carry a variety of payloads, including satellites, cargo, and even crewed spacecraft (like the Crew Dragon capsule).
- It has a maximum payload capacity of around 22,800 kg (50,265 lbs) to low Earth orbit (LEO), and up to 8,300 kg (18,300 lbs) to geostationary transfer orbit (GTO).

3. Propulsion

- Falcon 9 uses RP-1 (refined kerosene) and liquid oxygen (LOX) for fuel. The Merlin engines, designed by SpaceX, power both stages of the rocket.
- The first stage has 9 Merlin engines, while the second stage is powered by a single Merlin Vacuum engine optimized for use in the vacuum of space.

4. First Flight & Development

- The first flight of Falcon 9 occurred on June 4, 2010, marking a huge milestone for SpaceX.
- Over the years, the rocket has undergone several iterations, with improvements in its thrust, payload capacity, and reusability.

5. Key Missions

- **Dragon Cargo Flights:** Falcon 9 regularly transports cargo to the International Space Station (ISS) as part of NASA's Commercial Resupply Services program.
- **Crew Dragon:** Falcon 9 is the rocket used to launch the Crew Dragon spacecraft, which carries astronauts to and from the ISS under NASA's Commercial Crew Program.
- **Starlink:** SpaceX has been using Falcon 9 to launch its Starlink constellation, which aims to provide global high-speed internet coverage.

6. Performance and Milestones

- **First stage landings:** Falcon 9's first stage achieved its first successful landing in December 2015, and since then, SpaceX has completed hundreds of landings.

- **Rapid reusability:** As of now, the first stage of Falcon 9 can be reused for several missions, with some boosters flying 10+ times.

7. Future Developments

- SpaceX continues to enhance Falcon 9's performance and reusability with each launch.
- While the Starship (a fully reusable spacecraft being developed by SpaceX) is being prepared for higher payloads and interplanetary missions, Falcon 9 remains a workhorse for both government and commercial satellite launches, as well as crewed missions to the ISS.

QUESTIONS

37. Consider the following statements regarding Dhruva Space's LEAP-1 mission:

1. LEAP-1 is Dhruva Space's first commercial satellite mission, launching aboard SpaceX's Falcon 9 rocket.
2. The mission's payload includes a hyperspectral imager and an AI module, with a focus on applications in agriculture, defense, and environmental monitoring.
3. LEAP-1 will use the P-30 satellite platform, which was developed during the LEAP-TD mission on ISRO's PSLV-C58.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

38. Consider the following statements about SpaceX's Falcon 9 rocket:

1. Falcon 9 is a reusable rocket designed by SpaceX for carrying satellites, cargo, and crewed spacecraft into space.
2. The first stage of the Falcon 9 rocket is powered by Merlin Vacuum engines, optimized for the vacuum of space.
3. The Falcon 9 has a maximum payload capacity of 22,800 kg to low Earth orbit (LEO).

Which of the statements given above is/are correct?

- A. 1 and 3 only
- B. 1 only
- C. 1 and 2 only
- D. 1, 2, and 3

39. Consider the following statements about the significance of the LEAP-1 mission:

1. The LEAP-1 mission will focus on developing AI/ML models for on-orbit data processing and real-time insights in space applications.
2. The mission's AI payload is capable of fire detection, spectral analysis, and retraining models using live sensor data.

3. LEAP-1 is a joint effort between India, Australia, and China to develop space technologies for global applications.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

40. Consider the following statements about the objectives of the LEAP-1 mission:

1. The LEAP-1 mission aims to enhance the commercial payload hosting capabilities of Dhruva Space and foster international partnerships.
2. The mission utilizes SpaceX's Falcon 9 to carry payloads related to defense, agriculture, and mining.
3. The mission's objective is to reduce the cost of space travel by developing affordable satellite launch solutions for smaller payloads.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 only
- C. 1 and 3 only
- D. 2 and 3 only



ANSWER KEY AND EXPLANATION

1. **C Statement 1 is correct:** The Kyoto Protocol was adopted in 1997 and came into force on February 16, 2005. It established legally binding obligations for developed countries to reduce greenhouse gas emissions.

Statement 2 is incorrect: The Kyoto Protocol primarily addresses the issue of greenhouse gas emissions and climate change, not the depletion of the ozone layer. The Montreal Protocol (adopted in 1987) specifically deals with the protection of the ozone layer by regulating substances that deplete it.

Statement 3 is correct: Methane (CH₄) is a more potent greenhouse gas than carbon dioxide (CO₂), in terms of its heat-trapping ability, though it is present in much smaller quantities. Over a 20-year period, methane has a global warming potential 84-87 times greater than CO₂.

Therefore, statements 1 and 3 are correct, while statement 2 is incorrect. Thus, the correct answer is 'C' 1 and 3 only.

2. **C Pair 1 is Incorrect:** Annex-I Countries refers to a group of developed countries listed under the Kyoto Protocol, who are obligated to reduce greenhouse gas emissions. However, the Cartagena Protocol is related to the Convention on Biological Diversity and deals with the safe handling, transport, and use of living modified organisms (LMOs), not emissions reductions. Hence, this pair is incorrect.

Pair 2 is incorrect: Certified Emissions Reductions (CERs) are a part of the Kyoto Protocol's Clean Development Mechanism (CDM). CERs are awarded to countries or entities that reduce emissions via projects in developing countries. The Nagoya Protocol, on the other hand, is related to the Convention on Biological Diversity and focuses on access to genetic resources and the fair sharing of benefits derived from them. So, this pair is incorrect.

Pair 3 is correct: The Clean Development Mechanism (CDM) is a key component of the Kyoto Protocol, allowing industrialized countries to invest in emission-reduction projects in developing countries as a way to meet their emission reduction targets under the Protocol. This pair is correct.

Thus, only Pair 3 is correctly matched, and the correct answer is 'C' 3 only.

3. **B Statement 1 is incorrect** because the Kyoto Protocol only imposed binding emission reduction targets on developed countries, not developing countries.

Statement 2 is correct. The Protocol included mechanisms like Emissions Trading, CDM, and JI to help countries meet their targets.

Statement 3 is correct. The first commitment period was from 2008–2012, and the second commitment period (Doha Amendment) was from 2013–2020.

4. **B Statement 1 is incorrect** because the Paris Agreement did not legally replace the Kyoto Protocol; it created a new framework. The Kyoto Protocol is still in force.

Statement 2 is correct. The Paris Agreement operates on a bottom-up system, where countries voluntarily set their Nationally Determined Contributions (NDCs).

Statement 3 is correct. While the Paris Agreement includes goals for emission reductions, the targets are not legally binding on countries, unlike the Kyoto Protocol's mandatory targets for developed countries.

5. **A Statement 1 is correct.** The ICJ ruled that failure to comply with Kyoto Protocol commitments constitutes an internationally wrongful act, highlighting the legal consequences of non-compliance.

Statement 2 is incorrect because the ruling applies to all countries that were part of the Kyoto Protocol, not just developed countries.

Statement 3 is incorrect because the ICJ ruling opens avenues for climate litigation and greater accountability for countries failing to meet their climate obligations.

6. **A Statement 1 is correct** as the Kyoto Protocol was adopted in 1997 and entered into force in 2005.

Statement 2 is correct because it was indeed the first legally binding treaty under the UNFCCC.

Statement 3 is incorrect because the Kyoto Protocol imposed binding emission reduction targets only on developed countries, not developing countries. Developing countries were encouraged to take voluntary actions.

7. **A Statement 1 is incorrect** because the ICJ clarified that the Kyoto Protocol has not been replaced and remains in force.

Statement 2 is correct. The ICJ ruled that countries are still legally obligated to comply with the Kyoto Protocol's provisions, even after the Paris Agreement.

Statement 3 is incorrect because the ICJ's advisory opinion is not legally binding; it is an advisory opinion requested by the UN General Assembly.

8. **C** The 71st National Film Awards, presented by the National Film Development Corporation of India, were announced on 1 August 2025 to honour the best of Indian cinema in 2023.

9. **D Statement 1 is correct.** There were six committees based on different geographic regions in India.

Statement 2 is correct. Ashutosh Gowariker was the head of the central committee and it included heads of each regional committee.

Statement 3 is correct. The chief and one non-chief member of each regional committee were selected from outside that region, ensuring diversity in the evaluation process.

10. **A Statement 1 is correct.** 12th Fail won the Best Feature Film award.

Statement 2 is correct. Shah Rukh Khan won his first-ever National Film Award for his performance in Jawan.

Statement 3 is incorrect. Vikrant Massey won the Best Actor award for 12th Fail, not for Mrs. Chatterjee vs Norway.

11. **A Statement 1 is correct.** The black rhino is native to Africa, and the greater one-horned rhino is found only in India.

Statement 2 is correct. The greater one-horned rhino is listed as vulnerable on the IUCN Red List.

Statement 3 is incorrect. The Javan rhino is critically endangered and is not found in India; it is primarily found in Indonesia. Thus, statements 1 and 2 are correct.

12. **A Statement 1 is correct:** The Asiatic lion (also called the Indian lion) is found naturally only in India, particularly in the Gir Forest of Gujarat. This species was once widespread in the Middle East and Asia, but now it is only found in India, making this statement correct.

Statement 2 is incorrect: The double-humped camel (also known as the Bactrian camel) is not naturally found only in India. It is native to the central Asian steppes, including countries like Mongolia and China. While there are domesticated populations in parts of India, the camel is not native to India alone.

Statement 3 is Incorrect: The one-horned rhinoceros (also called the Indian rhinoceros) is primarily found in India, but it is also found in Nepal, Bhutan, and parts of Bangladesh. It is not restricted to India alone, so this statement is not entirely correct.

Thus, the correct answer is ‘A’ 1 only because the Asiatic lion is naturally found only in India, while the other two species are not confined to India alone.

13. A Statement 1 is correct. The greater one-horned rhino is commonly called the Indian rhino.

Statement 2 is correct. It is identified by its single horn and is the largest rhino species.

Statement 3 is incorrect. The greater one-horned rhino primarily grazes on grasses but also consumes leaves, branches, and shrubs, not just fruits and aquatic plants.

Thus, statements 1 and 2 are correct.

14. A Statement 1 is correct. The Indian Rhino Vision 2020 aimed to achieve a wild population of at least 3,000 greater one-horned rhinos.

Statement 2 is incorrect. The project was not limited to Kaziranga National Park; it aimed to spread rhinos across seven protected areas in Assam.

Statement 3 is correct. The Indian Rhino Vision 2020 was launched in 2005 with a goal to distribute rhinos across seven protected areas in Assam.

Thus, statements 1 and 3 are correct.

15. A Statement 1 is correct. The MoEFCC has indeed started a project to create DNA profiles for all rhinos in India.

Statement 2 is correct. The New Delhi Declaration on Asian Rhinos 2019 is a declaration signed by the five rhino-range nations to conserve rhinos.

Statement 3 is incorrect. The greater one-horned rhino is listed as Vulnerable in the IUCN Red List, not Endangered.

Thus, statements 1 and 2 are correct.

16. B Statement 1 is incorrect. The University of the Witwatersrand, not Johannesburg, developed the method.

Statement 2 is correct. The radioactive isotopes are harmless to rhinos and can be detected by radiation portal monitors (RPMs) at various global checkpoints.

Statement 3 is correct. The process aims to make the rhino horn “useless” and “poisonous” to humans by injecting radioactive isotopes.

17. A Statement 1 is correct. The project is aimed at creating a modernized Parliament and eco-friendly infrastructure to improve administrative efficiency.

Statement 2 is correct. The project plans to bring together 51 Central Government Ministries into 10 Common Central Secretariat buildings for better coordination.

Statement 3 is incorrect. The project includes renovation of public spaces like the National Museum, IGNCA, Kartavya Path, and India Gate, not just the construction of office buildings.

18. A Statement 1 is correct. The new Parliament building is triangular in shape and designed to maximize space efficiency.

Statement 2 is correct. The building features entrances like Gyan Dwar, Shakti Dwar, and Karma Dwar, along with mythological gates symbolizing wisdom, power, and protection.

Statement 3 is incorrect. The new Parliament building spans around 64,500–65,000 sqm, not 100,000 sqm.

19. **A Statement 1 is correct.** The Sengol symbolized the transfer of power from British rule to Indian independence, handed over to Jawaharlal Nehru in 1947.

Statement 2 is correct. The Sengol is traditionally topped with Nandi, symbolizing justice, strength, and impartiality.

Statement 3 is incorrect. The Sengol can be made of gold or silver depending on its ceremonial importance.

20. **C** The Central Vista Redevelopment focuses on creating new Parliament buildings, modern office spaces, and revitalizing public spaces but does not involve building residential complexes for citizens.

21. **D** Poland is a country in Central Europe. It extends from the Baltic Sea in the north to the Sudetes and Carpathian Mountains in the south, bordered by Lithuania and Russia to the northeast, Belarus and Ukraine to the east, Slovakia and the Czech Republic to the south, and Germany to the west.

22. **D Statement 1 is correct:** Poland is indeed a Central European country. It shares borders with Germany, the Czech Republic, Slovakia, Ukraine, Belarus, and Russia (via the Kaliningrad Oblast), making it part of Central Europe.

Statement 2 is correct: Poland has been a member of NATO since 1999. It is part of the North Atlantic Treaty Organization, which it joined as part of NATO's expansion after the end of the Cold War.

Statement 3 is correct: Poland is a member of the European Union (EU), having joined in 2004. It is an active member of the EU, participating in the EU's economic, political, and security affairs.

Statement 4 is incorrect: Poland's official currency is the Polish złoty (PLN), not the Euro. Although Poland is a member of the European Union, it has not adopted the Euro as its official currency.

Since Statements 1, 2, and 3 are correct and Statement 4 is incorrect, the correct answer is '**D**' 1, 2, and 3.

23. **C** Poland was invaded by both Nazi Germany and the Soviet Union in 1939. The country endured severe losses, with millions of Polish civilians and Jews perishing during the war. The devastation left a long-lasting impact on the country. Poland is a parliamentary republic with a President serving as the head of state and a Prime Minister serving as the head of government.

24. **C** Taiwan, officially known as the Republic of China, has not been a charter member of the United Nations (UN) since 1971. Historically, the Republic of China joined the United Nations as a founding member and was one of five permanent members of the Security Council until the People's Republic of China took the "China" seat in 1971.

25. **A Statement 1 is correct.** The Bluebird Movement emerged in May 2024 after the KMT passed controversial reforms.

Statement 2 is correct. The recall process follows the Taiwan Public Officials Election and Recall Act, with an initial petition requiring 1% of the electorate's support.

Statement 3 is incorrect. The first round of the recall vote in July 2025 failed, and all 24 KMT lawmakers successfully retained their seats.

Thus, the correct answer is ‘A’ 1 and 2 only.

- 26. B** The Bluebird Movement is often compared to the Sunflower Movement due to its explosive growth, the similarity in how both movements gained traction in a short period, and the fact that both were driven by perceived threats to Taiwan’s sovereignty.
- 27. B** The term “black box” became widely used in Taiwanese politics after the Sunflower Movement and was referenced again during the Bluebird Movement, referring to the KMT’s efforts to pass laws without transparency or oversight.
- 28. A** The Umbrella Movement was a political movement that emerged during the 2014 Hong Kong protests. Its name arose from the use of umbrellas as a tool for passive resistance to the Hong Kong Police Force’s use of pepper spray to disperse the crowd during a 79-day occupation of the city demanding more transparent elections, which was sparked by the decision of the Standing Committee of the National People’s Congress (NPCSC) of the People’s Republic of China of 31 August 2014 that prescribed a selective pre-screening of candidates for the 2017 election of Hong Kong’s chief executive.
- 29. C** The main island of Taiwan, also known as Formosa, lies between the East and South China Seas in the northwestern Pacific Ocean, with the People’s Republic of China (PRC) to the northwest, Japan to the northeast, and the Philippines to the south.
- 30. C** **Statement 1 is correct.** Cloudbursts in Uttarakhand are caused by moist air from the Bay of Bengal or Arabian Sea, which is forced upwards by the Himalayan slopes, leading to intense rainfall.
Statement 2 is incorrect. Cloudbursts typically occur during the monsoon season, not the winter season.
Statement 3 is correct. Climate change has indeed led to an increase in the frequency of cloudbursts in the Himalayan region, including Uttarakhand.
Thus, the correct answer is ‘C’ 1 and 3 only.
- 31. B** **Statement 1 is correct.** Cloudbursts often lead to flash floods, landslides, and soil erosion, causing significant damage to infrastructure, agriculture, and property.
Statement 2 is incorrect. While the lack of vegetation is a contributing factor, the main environmental cause of cloudbursts is the rapid condensation of moist air due to topographical features.
Statement 3 is correct. Deforestation reduces the soil’s ability to retain moisture, making the region more susceptible to flooding and erosion during cloudbursts.
Thus, the correct answer is ‘B’ 1 and 3 only.
- 32. A** **Statement 1 is correct.** Uttarakhand’s steep slopes and weak, fractured rocks make it prone to landslides during heavy rainfall or after earthquakes.
Statement 2 is correct. Himalayan geography enhances the effects of cloudbursts, especially when moist air is forced upwards, leading to heavy rainfall.
Statement 3 is incorrect. While vegetation can help stabilize soil, deforestation in the region has reduced soil stability, making it more vulnerable to landslides.
Thus, the correct answer is ‘A’ 1 and 2 only.

- 33. C** **Statement 1 is correct.** The Matri Van Initiative aims to develop a 750-acre urban forest in the Aravalli Hills near Gurugram.
Statement 2 is incorrect. The initiative does not focus solely on carbon capture technology but places more emphasis on planting trees and creating green spaces for sustainability.
Statement 3 is correct. The project aims to provide green spaces for public well-being and promote environmental sustainability.
Thus, the correct answer is ‘C’ 1 and 3 only.
- 34. A** **Statement 1 is correct.** The Aravalli Range is home to many wildlife sanctuaries and national parks like Sariska and Ranthambhore.
Statement 2 is correct. The vegetation of the Aravallis helps prevent soil erosion and maintains the region’s ecological balance.
Statement 3 is incorrect. The Aravalli Range stretches across Rajasthan, Haryana, and Gujarat, not just Rajasthan.
Thus, the correct answer is B. 1 and 2 only.
- 35. A** **Statement 1 is correct.** The Aravalli Range is home to many historical forts, temples, and palaces built by ancient Indian dynasties.
Statement 2 is correct. Jaipur and Udaipur are closely linked with the Aravalli Range and are historically and culturally significant cities.
Statement 3 is incorrect. The Aravalli Range is mentioned in Indian mythology and is considered sacred in many traditions.
Thus, the correct answer is ‘A’ 1 and 2 only.
- 36. D** Several rivers originate from the Aravalli Range, including the Luni, Sabarmati, and Sakhi rivers. The Banas River, a tributary of the Yamuna, also flows from the Aravalli Range. Additionally, the Sahibi River, another tributary of the Yamuna, originates in the Aravalli Range.
- 37. D** **Statement 1 is correct.** LEAP-1 is indeed Dhruva Space’s first commercial satellite mission, scheduled for launch aboard SpaceX’s Falcon 9.
Statement 2 is correct. The LEAP-1 mission includes payloads like Akula Tech’s Nexus-01 AI module and Esper Satellites’ OTR-2 hyperspectral imager, aimed at applications such as agriculture, defense, and environmental monitoring.
Statement 3 is correct. The mission uses the P-30 satellite platform, which was space-qualified during the LEAP-TD mission on ISRO’s PSLV-C58 in January 2024.
Thus, the correct answer is ‘D’ 1, 2, and 3.
- 38. A** **Statement 1 is correct.** Falcon 9 is a reusable rocket designed by SpaceX for satellite launches, cargo, and crewed spacecraft like Crew Dragon.
Statement 2 is incorrect. The first stage of Falcon 9 is powered by Merlin engines (not Merlin Vacuum engines, which are used in the second stage).
Statement 3 is correct. Falcon 9 has a payload capacity of 22,800 kg to LEO.
Thus, the correct answer is ‘A’ 1 and 3 only.

39. A Statement 1 is correct. The LEAP-1 mission focuses on the AI/ML models for on-orbit data processing and gaining real-time insights in space applications, particularly with fire detection and spectral analysis.

Statement 2 is correct. The mission's Nexus-01 AI module is capable of fire detection, spectral analysis, and retraining models using live sensor data. **Statement 3 is incorrect.** The LEAP-1 mission involves India, Australia, and the US (not China) in a collaborative effort to advance space technologies.

Thus, the correct answer is 'A' 1 and 2 only.

40. A Statement 1 is correct. The LEAP-1 mission is a strategic effort by Dhruva Space to enhance its commercial payload hosting capabilities and build international collaborations, particularly between India and Australia.

Statement 2 is correct. The mission carries payloads related to defense, agriculture, and mining, contributing to various real-world applications.

Statement 3 is incorrect. The mission aims to expand satellite hosting and provide cutting-edge technology rather than primarily focusing on reducing the cost of space travel.

Thus, the correct answer is 'A' 1 and 2 only.

