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PREFACE

Current Affairs UPSC CSE Prelims 2025

This high-quality monthly compilation of Current Affairs for Civil Services Exam Prelims 2025 is designed to help Civil Services Exam aspirants by:

1. **Saving preparation time:** Consolidates key current affairs from multiple sources for CSE Prelims.
2. **Reinforcing static concepts:** Links static concepts with current affairs
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- Aligns with the CSE prelims exam pattern.
- Aids understanding and recall by offering multiple perspectives on current affairs.
- Saves time, consolidates and aids quick revision

Details of our Current Affairs Test Series are on the back cover and inside this magazine.

Our team of content developers have worked rigorously to create this high-quality compilation, and we hope that all Civil Services and other competitive exam aspirants will make the best use of it. All the Best!

R. C. Reddy IAS Study Circle
Hyderabad



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Table of Contents

1. POLITY	(Page 1)
2. ECONOMY	(Page 9)
3. GEOGRAPHY	(Page 14)
4. ENVIRONMENT	(Page 27)
5. SCIENCE & TECHNOLOGY	(Page 38)
6. INTERNATIONAL RELATIONS	(Page 54)
7. ART AND CULTURE	(Page 64)
8. MISCELLANEOUS	(Page 66)



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POLITY

1. Allotment of election symbols to political parties in India

Context: The Election Commission of India told the Bombay High Court on Monday that the 'whistle' symbol would be allotted to Hitendra Thakur-led Bahujan Vikas Aghadi (BVA) for the upcoming Maharashtra assembly polls following requisite guidelines.

Allotment of election symbols to political parties in India Provisions under ECI order:

- The Election Commission of India (ECI) is responsible for the allotment of symbols.
- This is done under The **Election Symbols (Reservation and Allotment) Order, 1968**.
- This rule is meant to provide for specification, reservation, choice and allotment of symbols at elections in Parliamentary and Assembly Constituencies, for the recognition of political parties.
- Symbols can be either reserved, meaning they are exclusive to a recognised political party, or 'free'.
- A political party can be recognized as a national or state party if it meets the certain criteria.
- The EC publishes lists specifying the parties and their symbols through a notification in the Gazette of India.
- According to its notifications this year, there are six national parties, 26 state parties, and 2,597 registered unrecognised parties.

How different types of parties get symbols?

- **Unrecognised registered parties:** Unrecognised registered parties' candidates can choose from free, non-exclusive symbols. **These parties are newly registered or have not secured enough percentage of votes to fulfil the prescribed criteria to become a recognised party. After being selected by parties, in subsequent elections, these symbols are declared free again for others to choose.**
- **Recognised parties:** Recognised national and state parties get exclusive symbols.

2. Right to Property Judgement

Context: A nine-judge Constitution Bench of the Supreme Court, in a majority judgment, held on Tuesday (November 5, 2024) that **not every resource owned by private players can be considered a "material resource of the community" to be used by the government to serve the "common good"**.

- **'Right to property' is not the part of 'Basic Structure' of Constitution of India. This view is reaffirmed by Supreme Court in "Minerva mill case".**
- **The 44th Constitutional Amendment Act, 1978 removed 'Right to Property' from part-III of the Constitution.** It added right to property in Article 300, and hence made it a constitutional right.
- Also, as parliament able to remove right to property from Part-III and judiciary accepting this amendment support the argument that 'right to property' is not a part of 'Basic Structure' and its removal from part-III does not changes the Basic structure of constitution.

3. Section 354C in The Indian Penal Code, 1860

Context: The Kerala High Court has **clarified that capturing photographs of a woman in a public setting where there is no expectation of privacy does not fall under the offence of voyeurism as defined in Section 354C of the Indian Penal Code (IPC).**

Section 354C in The Indian Penal Code, 1860

354C. Voyeurism. —

- Any man who watches, or captures the image of a woman engaging in a private act in circumstances where she would usually have the expectation of not being observed either by the perpetrator or by any other person at the behest of the perpetrator or disseminates such image shall be punished on first conviction with imprisonment of either description for a term which shall not be less than one year, but which may extend to three years, and shall also be liable to fine, and be punished on a second or subsequent conviction, with imprisonment of either description for a term which shall not be less than three years, but which may extend to seven years, and shall also be liable to fine.

4. Justice Hema Committee report

Context: The Kerala High Court on Thursday (November 7, 2024) said the investigation into the various cases in connection with the revelations of sexual assault and harassment in the Justice Hema Committee report was progressing well.

Justice Hema Committee report

- The K. Hema Committee report on the issues faced by women in the Malayalam film industry was made public on August 19, 2024, five years after it was submitted to the Kerala government.
- The report revealed horrid tales of sexual exploitation, illegal bans, discrimination, drug and alcohol abuse, wage disparity and in some cases, inhuman working conditions.
- The 235-page report, published after redacting the names of the witnesses as well as the accused, notes that the Malayalam film industry is under the clutches of certain male producers, directors and actors.
- The committee confirms the rumoured existence of the practice of "casting couch" in the industry.
- The report also highlights the lack of changing rooms or toilet facilities on the set, especially in outdoor locations.
- The debates sparked in the public sphere by the release of the report appeared to have emboldened many women to speak out about harrowing experiences they have had in the past.
- A Special Investigation Team (SIT) consisting of senior women police officers has been constituted for conducting a preliminary inquiry into allegations of sexual harassment against a few actors of Malayalam cinema.



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5. CJI Achievements

Context: Justice Sanjiv Khanna took oath as the 51st Chief Justice of India (CJI) on Monday, with President Droupadi Murmu administering the oath of office at a ceremony held at Rashtrapati Bhavan.

	CJIs	Achievements
1	Justice Harilal Jekisundas Kania	First CJI to die in office.
2	Justice Yeshwant Vishnu Chandrachud	Longest serving CJI
3	Justice Kamal Narain Singh	Shortest tenure as CJI
4	Justice Harilal Jekisundas Kania	Youngest serving CJI

Chief Justice of India:

1. Constitutional Basis

- The position of the CJI is established under Article 124 of the Indian Constitution.
- The Supreme Court was established on January 28, 1950, two days after India became a Republic.

2. Role and Responsibilities

The Chief Justice of India is:

- **Head of the Judiciary:** Supervises the functioning of the Indian judicial system and the Supreme Court.
- **Adjudicator:** Participates in important constitutional benches and interprets the Constitution.
- **Administrative Authority:** Allocates cases among benches, oversees court schedules, and manages judicial appointments in the Supreme Court.
- **Swearing-In Authority:** Administers the oath of office to the President and Vice President of India.

- **Chairperson of NJAC (prior to its invalidation):** Was to head the National Judicial Appointments Commission before it was declared unconstitutional.

3. Selection Process

- The CJI is appointed by the President of India.
- Seniority Principle: By convention, the senior-most judge of the Supreme Court is appointed as the CJI.
- Seniority is determined by the date of appointment to the Supreme Court.

4. Tenure

- The tenure of the CJI is not fixed and depends on their date of appointment and mandatory retirement at 65 years of age.
- The length of service as CJI can vary significantly (e.g., Justice Kamal Narain Singh served for 17 days, while Justice Y.V. Chandrachud served for over 7 years).

5. Oath of Office

As per Article 124(6), the CJI takes an oath to:

- Uphold the Constitution.
- Faithfully discharge their duties.
- Maintain impartiality and integrity.

6. Removal Procedure

The Chief Justice of India can be removed through impeachment, as outlined in Article 124(4):

- Requires a majority in both Houses of Parliament.
- Grounds for removal: Proved misbehavior or incapacity.
- Only one impeachment motion has been initiated (against Justice V. Ramaswami) but was not successful.

6. Doctrine of Stare Decisis

Context: Highlighting the importance of public officials being held accountable, the Supreme Court laid down guidelines to curb illegal demolition of the homes of persons accused in criminal cases. Here are the details.

Doctrine of Stare Decisis:

The **Doctrine of Stare Decisis** (*Latin for "to stand by things decided"*) is the principle that courts should follow precedents set in previous judgments. Under **Article 141** of the Indian Constitution, the law declared by the Supreme Court is binding on all courts within the territory of India. **This ensures consistency, predictability, and stability in the legal system, reflecting the essence of the Doctrine of Stare Decisis.**

- **Article 136:** Grants the Supreme Court special leave to appeal.
- **Article 137:** Allows the Supreme Court to review its own judgments.
- **Article 142:** Empowers the Supreme Court to pass orders necessary to ensure "complete justice."

7. State Finance Commission

Context: After being nudged by the **Fifteenth Finance Commission, all states, except Arunachal Pradesh, have State Finance Commissions (SFCs) in place**, the latest being Gujarat, which formed its commission on November 4.

State Finance Commission

- State Finance Commission aims to maintain fiscal federalism between state Government and Local bodies. The **State Finance Commission is constituted based on the Constitutional requirement in Article-243 (1) and 243 (Y).**

Composition and Appointment of State Finance Commission

Appointment of the State Finance Commission:

- According to **Article -243 (1), the Governor** of the State constitutes the Finance Commission at the expiration of every 5 Years.

Composition of the State Finance Commission:

- **As per 243(1)(2), the Legislature of a State may provide for the composition of the Commission through a law.** However, there is no uniformity in the composition. It varies from State to State. It consists of a Chairman and a few members.

Qualification of the Chairman/Members of State Finance Commission:

- Some of the states have clearly specified the qualifications/conditions for the appointment of the Chairman and members, while in other states, there is no such specification. All such terms/conditions are specified by state legislatures.
- Before appointing a person as a chairman or Member of the State Finance Commission, the Governor has to satisfy herself/himself that the person to be appointed has no financial or any other interest as it is likely to affect prejudicially her/his functions as Chairman or Member of the state Finance Commission.

Terms of Service

- Term of members:** Every member of the State Finance Commission holds office for such period as may be specified in the order of the Governor appointing her/him. It shall be eligible for reappointment.
- Salaries of members:** Chairman and Members of the State Finance Commission shall be paid fees or salaries and such allowances as the State Government may prescribe from time to time.
- Condition of the service:** The Governor may specify whether the Chairman and Members of the Finance Commission may render whole-time or part-time service to the State Finance Commission.

8. AFSPA

Context: A year and a half after the start of ethnic violence in Manipur, the Centre November 14 reimposed the Disturbed Areas status under the Armed Forces (Special Powers) Act (AFSPA) in the jurisdiction of six police stations in the state's valley areas, including violence-hit Jiribam.

About the AFSPA

- AFSPA was first promulgated in 1942, by Linlithgow, in response to the Quit India movement in 1942. Its aim was "to confer special powers upon certain officers of the armed forces.

- After Independence, the Act was retained by the ordinance enacted in 1958, to control increasing violence in the North-eastern States, which the State governments found difficult to control. In simple terms, AFSPA gives armed forces the power to maintain public order in "disturbed areas".

What is a "disturbed area" under AFSPA?

- According to Section 3 of the AFSPA, an area can be declared disturbed due to differences or disputes between members of different religious, racial, language, or regional groups or castes or communities.
- The Central Government or the Governor of the State or administrator of the Union Territory can declare the whole or part of the State or Union Territory as a disturbed area.

Powers given to armed forces under AFSPA

The armed forces have the following powers in the disturbed area,

- Authority to prohibit a gathering of five or more persons in an area,
- Can use force or even open fire after giving due warning if armed forces feel a person is in contravention of the law.
- Can arrest a person without a warrant, enter or search premises without a warrant, and ban the possession of firearms.

Criticism of AFSPA

- In 2013, the Supreme Court appointed **Hegde Commission**. The commission found that all seven deaths in the six cases it investigated were **extrajudicial executions**.
- The commission also said that the AFSPA was widely **abused by security forces** in Manipur. This commission report applies to other areas where the AFSPA is in force.
- The Justice B.P. Jeevan Reddy Committee recommended the repeal of the Armed Forces (Special Powers) Act, 1958 (AFSPA).

9. Section 79 of IT Act

Context: The government on November 16, reiterated its stance to revisit the safe harbour clause for social media intermediaries such as X, Telegram, Facebook, Instagram, etc, amid an increase in instances of misinformation and fake news over these platforms.

Section 79 of IT Act:

- The **Safe Harbour provision** in India is governed by Section 79 of the Information Technology (IT) Act, 2000.
- It offers conditional immunity to intermediaries (e.g., social media platforms) from legal liability for third-party content, provided they adhere to government rules and regulations.
- Platforms must comply with requirements such as appointing grievance officers, promptly removing unlawful content upon notification, and following due diligence norms under the IT Rules, 2021.
- Failure to meet these conditions can result in the loss of this immunity, making platforms liable for user-generated content.

10. Section 223 of BNS

Context: The Supreme Court has put the Centre for Air Quality Management (CAQM) in the dock to respond, on November 25, to allegations that it hid information that stubble-burning farmers knew about the timings of satellites tasked to spot fires, but the statutory body argues that its interventions reduced crop burning in Punjab by 71% and 44% in Haryana over the past four years.

About Section 223 of BNS:

Section 223 of the Bharatiya Nyaya Sanhita (BNS), 2023, deals with Disobedience to Order Duly Promulgated by Public Servant.

Key Points of Section 223:

- Offence:** Disobeying a lawful order issued by a public servant.
- Punishment:**
 - If the disobedience causes or tends to cause obstruction, annoyance, injury, or risk of such, the punishment can be:

- Simple imprisonment for up to 6 months
- Fine up to Rs. 2,500, or both.

- If the disobedience causes or tends to cause danger to human life, health, or safety, or causes or tends to cause a riot or affray, the punishment can be:

- Imprisonment of either description for up to 1 year
- Fine up to Rs. 5,000, or both.

11. Police Custody and Judicial Custody

Context: The situation in Rajasthan's violence-hit Tonk district was stable on November 15, a day after the arrest of independent candidate for the Deoli-Uniara Assembly bypoll Naresh Meena, who was sent to judicial custody for a fortnight.

Difference between Police Custody and Judicial Custody:

Feature	Police Custody	Judicial Custody
Duration	2 hours to 15 days, extendable to 15 days by the Magistrate	Minimum 24 hours to 60 days
Control	Complete control lies with the police officer on duty	Decision-making rests with the judge/magistrate based on court laws
Investigation	Investigation is conducted by the police	The magistrate relies on evidence provided by interrogation reports and trial court hearings
Procedure	Can occur without filing an FIR based on credible sources	Follows established legal procedures
Charges	Charges can be nullified if not proven guilty in court	Charges are formally filed and processed through the legal system
Jail	The accused is kept in police lock-up	The accused is held in central jails, away from public scrutiny ()

12. Case-laws related to right to shelter under Article 21 of Constitution

Context: The Supreme Court on November 13 underscored that it is unconstitutional to demolish a person's property without adhering to the due process of law, simply on the grounds of their alleged involvement in a crime. A Bench of Justices B.R. Gavai and K.V. Viswanathan issued a slew of guidelines to prevent illegal and retributive bulldozing of homes and private properties of accused persons by States.

Case-laws related to right to shelter under Article 21 of Constitution:

1. **Olga Tellis v. Bombay Municipal Corporation (1985):** This landmark case established that the right to life under Article 21 of the Constitution includes the right to livelihood and, by extension, the right to shelter. The court held that slum dwellers cannot be evicted without providing alternative accommodation.
2. **Chameli Singh v. State of UP (1995):** This case further clarified the scope of the right to shelter, stating that it includes not only the right to a roof over one's head but also the right to adequate living space, safe and decent surroundings, clean and decent water, electricity, sanitation, and other civic amenities.
3. **Sudama Singh and others v. Government of Delhi (1997):** This case dealt with the issue of unauthorized colonies and held that the government has a duty to provide basic amenities like water and sanitation to these areas, even if they are not formally recognized.

While,

1. **Vellore Citizens' Welfare Forum v. Union of India (1996):** This case dealt with the issue of pollution from tanneries in Tamil Nadu.
2. **Hussainara Khatoon v. State of Bihar (1979):** This landmark case highlighted the issue of undertrials languishing in jails for years without trial. The Supreme Court ordered the release of undertrials who had been detained for excessive periods. This case emphasized the importance of speedy trials and the right to a fair hearing. (Right to life, right to speedy justice etc.)

13. Veto power

Context: The United States on November 20 vetoed a UN Security Council push to call for a ceasefire in Gaza that Washington said would have emboldened Hamas.

"We made clear throughout negotiations we could not support an unconditional ceasefire that failed to release the hostages," said U.S. Ambassador to the UN Robert Wood.

What is Veto power?

- **Striking down a resolution:** The UNSC veto power is the power of the five permanent members of the UNSC to veto (strike down) any "substantive" resolution.
- **The veto power originates in Article 27 of the United Nations Charter, which states:**
 - Each member of the UNSC shall have a vote.
 - Decisions of the UNSC on procedural matters shall be made by an affirmative vote of nine members.
 - Decisions of the UNSC on all other matters shall be made by an affirmative vote of nine members, including the concurring votes of the permanent members.
- This means that a negative vote from any of the permanent members will **block the adoption of a draft resolution.**
 - A permanent member that **abstains or is absent from the vote will not block** a resolution from being passed.
- Although the "power of veto" is not mentioned by name in the UN Charter, Article 27 requires concurring votes from the permanent members.
 - For this reason, the "power of veto" is also referred to as the principle of "great power unanimity" and the veto itself is sometimes referred to as the "great power veto".
- The first veto ever recorded was in 1946, when the Soviet Union blocked a draft resolution regarding the withdrawal of foreign troops from Lebanon and Syria.

- Russia/Soviet Union has almost half of the total number, with 143 vetoes.
- Since 1992, after the fall of the Soviet Union, Russia has been the most frequent user of the veto, followed by the US and UK.
- **China has used the veto the least out of all permanent members just 16 times.**

14. 6th Schedule of Indian Constitution

Context: **Karbi Anglong Autonomous Council (KAAC) in Assam has decided to send back more than 1,000 Kuki-Zo people who came from ethnic violence-scarred Manipur.**

About 6th Schedule:

6th Schedule of Indian Constitution Objectives

The objectives of the Sixth Schedule of the Indian constitution are:

- To provide for the administration of tribal areas in the northeastern states of **Assam, Meghalaya, Tripura, and Mizoram.**
- To protect tribal land and resources and prohibits the transfer of such resources to non-tribal individuals or communities.
- To ensure the tribal communities are not exploited or marginalized by non-tribal populations and that their cultural and social identities are preserved and promoted.

6th Schedule of Indian Constitution Provisions

The significant provisions of the Sixth Schedule are as follows

- **Article 244(2): The provisions of the Sixth Schedule shall apply to the administration of the tribal areas in the States of Assam, Meghalaya, Tripura, and Mizoram.**
- **Autonomous districts and autonomous regions:**
 - The tribal areas in the four states of Assam, Meghalaya, Tripura, and Mizoram are to be administered as **Autonomous Districts.**
 - If there are different Scheduled Tribes in an autonomous district, the Governor can divide the district inhabited by them into **Autonomous Regions.**

- **The Governor is empowered to organize and reorganize the autonomous districts. He can also increase, decrease the boundaries or alter the name of any autonomous district.**

• Constitution of District Councils and Regional Councils:

- **There shall be a District Council for each autonomous district consisting of not more than 30 members, of whom not more than four persons shall be nominated by the Governor, and the rest shall be elected on the basis of adult suffrage.**

- There shall be a separate **Regional Council** for each area constituted an autonomous region.

• Powers of the District Councils and Regional Councils to make laws:

- The District and Regional councils are empowered to make laws on certain specified matters like lands, management of forest (other than the Reserved Forest), inheritance of property, etc.
- These councils also empowered to make law for the regulations and control of money-lending or trading by any person other than Scheduled Tribe residents in that Scheduled District.
- However, all laws made under this provision require the assent of the Governor of the State.

• Administration of justice in autonomous districts and autonomous regions:

- The District and Regional Councils are empowered to constitute **Village and District Council Courts** for the trial of suits and cases where all parties to the dispute belong to Scheduled Tribes within the district.
- The High Courts have jurisdiction over the suits and cases which is specified by the Governor.
- However, the Council Courts are not given the power to decide cases involving offenses punishable by death or imprisonment for five or more years.

- The District and Regional Councils are empowered to assess and collect land revenue and impose taxes on professions, trades, animals, vehicles, etc. The Councils are given the **power to grant licenses or leases for the extraction of minerals** within their jurisdiction.
- The District Councils and Regional Councils are given the power **to establish, construct or manage primary schools**, dispensaries, markets, cattle ponds, fisheries, roads, road transport and waterways in the districts.
- **To autonomous districts and autonomous regions, the acts of Parliament or the state legislature do not apply or apply with specified modifications and exceptions.**
- The **Governor can appoint a commission to investigate** and provide a report on any issue pertaining to the management of the autonomous districts or regions.

15. Women members of Constituent Assembly of India

Context: On **Constitution Day (November 26), President Droupadi Murmu recalled the role women members played in the Constituent Assembly, the body tasked with formulating the Constitution of independent India.**

Women members of Constituent Assembly of India

The **Constituent Assembly of India**, responsible for drafting the Indian Constitution, included **15 women members**. These trailblazers came from diverse backgrounds and played vital roles in shaping the nation. Here's a list of the 15 women members:

12. **Ammu Swaminathan:** Freedom fighter, social worker, and leader of the All India Women's Conference.
13. **Annie Mascarene:** First woman MP from Kerala; a prominent freedom fighter.
14. **Begum Aizaz Rasul:** The only Muslim woman in the Assembly, known for her contributions to education and women's rights.
15. **Durgabai Deshmukh:** Renowned social reformer and founder of the Andhra Mahila Sabha.
16. **Hansa Jivraj Mehta:** A reformist and educationist; advocated for gender equality.

1. **Hansa Jivraj Mehta:** A reformist and educationist; advocated for gender equality.
2. **Kamla Chaudhary:** A freedom fighter and social worker from Uttar Pradesh.
3. **Leela Roy:** A freedom fighter, social worker, and prominent associate of Netaji Subhas Chandra Bose.
4. **Malati Choudhury:** Gandhian and activist from Odisha.
5. **Purnima Banerji:** Activist and member of the Indian National Congress.
6. **Rajkumari Amrit Kaur:** India's first Health Minister and a key advocate for women's rights.
7. **Renuka Ray:** Social worker, advocate for women's property rights, and leader in Bengal.
8. **Sarojini Naidu:** Known as the "Nightingale of India," she was a poet, activist, and the first woman to preside over the Indian National Congress.
9. **Sarojini Naidu's niece (Sucheta Kripalani):** First woman Chief Minister of Uttar Pradesh; she actively participated in the Quit India Movement.
10. **Vijaya Lakshmi Pandit:** Sister of Jawaharlal Nehru, diplomat, and first woman President of the UN General Assembly.
11. **Dakshayani Velayudhan:** The first Dalit woman in the Assembly, she advocated for social equality.



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ECONOMY

1. High Value Debt Listed Entities

Context: Markets regulator Securities and Exchange Board of India (SEBI) has proposed raising the threshold for identifying High Value Debt Listed Entities (HVDLEs) to ₹1,000 crore from ₹500 crore at present to reduce compliance burdens.

What are High Value Debt Listed Entities (HVDLEs)?

- HVDLEs, defined as listed entities with outstanding listed debt securities above a specific threshold (often ₹500 crore or more), must comply with SEBI's standards to promote transparency and mitigate risks associated with their debt exposure.
- In India, SEBI is the primary regulatory authority for High Value Debt Listed Entities.
- SEBI has introduced a framework that mandates HVDLEs to follow additional disclosure and corporate governance norms.
- These entities are required to disclose details on their financial obligations, including information about leverage, potential defaults, and governance measures.

2. Foreign Exchange Management Act

Context: The Enforcement Directorate has searched 19 premises across five States linked to the main vendors of Amazon and Flipkart for suspected violation under the Foreign Exchange Management Act (FEMA), according to an agency official.

About Foreign Exchange Management Act (FEMA):

- FEMA is an enactment that deals primarily with the provisions relating to cross-border trade and payments thereof.
- It defines the procedures, formalities, and dealings of all foreign exchange transactions in India.
- It was introduced in 1999 as a replacement for the earlier Foreign Exchange Regulation Act (FERA).
- FEMA's head office is known as Enforcement Directorate and is situated in Delhi.
- Primary objective: To help facilitate external trade and payments in India.

Applicability:

- It is applicable to all parts of India.
- It is also equally applicable to the offices and agencies located outside India but managed or owned by an Indian Citizen.
- FEMA is applicable to the following entities and transactions
 - Any citizen of India residing in the country or outside (NRI);
 - Any overseas company that is owned 60% or more by an NRI (Non-Resident Indian);
 - Any Associate Branches or subsidiaries, outside India, of companies or bodies corporate, registered or incorporated in India;
 - Exports of any goods and services from India;
 - Imports of goods and services to India;
 - Banking, financial, and insurance services provided outside India;
 - Cross-border sale, purchase, and exchange of any kind (i.e. Transfer).

3. Gross Domestic Product (GDP) estimates to shifted earlier to 4PM

Context: The ministry of statistics and programme implementation (MoSPI) has advanced the release time of the Gross Domestic Product (GDP) estimates to 4PM, from 5:30 PM earlier. This has been to provide the public more time to analyse the national accounts data, an official release said.

More on news:

- Recently, MoSPI advanced the release timings of the Consumer Price Index (CPI) and Index of Industrial Production (IIP) data as well. Both the data sets will now be released at 4PM on the 12th day of every month, from its previous time of 5:30.

- In a release issued on Friday, MoSPI said: “With a perspective to provide the users/media/public more time on the day of release to access GDP data, the ministry has decided to revise the release time for the press releases of GDP estimates.”
- NR Bhanumurthy, director, Madras School of Economics said that even though Indian markets will close, but foreign markets will remain open. “There are many foreign investors, and advancing data release will give slightly early signals to those investors.”
- In September, many economists had suggested the statistics ministry to advance the release of the GDP data. They were of the view that early release would give more time for analysis by the users on the same day.
- The National Statistical Office (NSO), under MoSPI, releases annual and quarterly estimates of GDP in accordance with the pre-specified releases/publication schedule laid down in advance release calendar of various macroeconomic indicators.
- The next press release of GDP estimates for the second quarter (July – September) of FY25 will thus be available on November 29, 2024, at 4:00 PM.

4. Railway Committees

Context: The landmark report of the 2015 expert committee on Railway Reforms, headed by the late economist Bibek Debroy, did clear the decks for a complete overhaul of the national transporter to achieve economic viability in operational terms and recover its loss of competitiveness in the transportation market.

The committees related to reforms in railways are:

- **Rakesh Mohan Committee (National Transport Development Policy Committee (NTPDC)), 2010**
 - The Government of India set up the NTPDC in the year 2010, under the chairmanship of Dr. Rakesh Mohan. NTPDC aimed to provide a long-term transport policy for the country up to the year 2029-30.
- **Dinesh Trivedi Committee (2012)**
 - committee was entrusted with investigating the impact of the fuel price hike on the financial position of Indian Railways.

• Bibek Debroy Committee (2015)

- The landmark report of the 2015 expert committee on Railway Reforms, headed by the late economist Bibek Debroy, did clear the decks for a complete overhaul of the national transporter to achieve economic viability in operational terms and recover its loss of competitiveness in the transportation market.

While,

Naresh Chandra Committee (2002)

- This committee was established to examine various issues related to corporate governance in India.

Malhotra Committee (1994)

- This committee, chaired by R.N. Malhotra, was established to review the Indian insurance sector and recommend reforms.

5. D-SIBs by the RBI

Context: The Reserve Bank of India (RBI) on November 13 retained the State Bank of India, HDFC Bank and ICICI Bank as Domestic Systemically Important Banks (D-SIBs).

Which Banks Have Been Classified as D-SIBs by the RBI?

- **Banks Identified as D-SIBs:**
 - State Bank of India (SBI)
 - HDFC Bank
 - ICICI Bank
 - These banks continue to be classified as D-SIBs under the same bucketing structure as in the 2023 list.
- **Timeline of Classification:**
 - SBI and ICICI Bank were announced as D-SIBs in **2015 and 2016**, respectively.
 - HDFC Bank was added to the list in **2017**.
 - The current classification is based on data as of **March 31, 2024**.

Why Have D-SIBs Been Created?

- **Systemic Importance:**
 - Certain banks are deemed systemically important due to their size (size exceeding **2% of GDP**), complexity, interconnectedness, and lack of substitutability.
 - Their failure could cause significant disruption to the economy and essential banking services.
- **Perception of “Too Big to Fail” (TBTF):**
 - D-SIBs are perceived as TBTF, creating an expectation of government support during distress.
 - This leads to funding advantages but also amplifies risk-taking, reduces market discipline, and increases future distress risks.
- **Need for Additional Policy Measures:**
 - To address systemic risks and moral hazard issues, D-SIBs are subjected to additional capital and policy requirements.

What Are the Different Buckets for D-SIBs?

- Banks are categorized based on their systemic importance score:
 - **Bucket 4:** SBI
 - **Bucket 3:** HDFC Bank
 - **Bucket 1:** ICICI Bank

What Are the Capital Requirements for D-SIBs?

- **Additional Common Equity Tier 1 (CET1) Requirement:**
 - SBI: **0.80% of RWAs** (Risk Weighted Assets)
 - HDFC Bank: **0.40% of RWAs**
 - ICICI Bank: **0.20% of RWAs**
- **Implementation Timeline:**
 - Higher surcharges for SBI and HDFC Bank applicable from **April 1, 2025**.
 - Up to March 31, 2025, surcharges will remain at **0.60% for SBI** and **0.20% for HDFC Bank**.

Foreign G-SIBs with Indian Branches:

- Required to maintain additional CET1 capital surcharge proportionate to their RWAs in India as per their home regulator's requirement.

How Are D-SIBs Selected?

Two-Step Process:

1. Selection of Sample Banks:

- Only banks with a size greater than **2% of GDP** are included in the sample. Smaller banks are excluded.

2. Computation of Systemic Importance:

- Based on a range of indicators, a composite score is calculated.
- Banks above a specific threshold are designated as D-SIBs and categorized into buckets with corresponding capital requirements.

Which Are Global SIBs?

Global Systemically Important Banks (G-SIBs):

- Identified by the Financial Stability Board (FSB) in consultation with Basel Committee on Banking Supervision (BCBS).
- The 2023 list includes **29 G-SIBs**, such as:
 - **JP Morgan Chase, Bank of America, Citigroup, HSBC, Agricultural Bank of China, Barclays, BNP Paribas.**
- Methodology implemented since the **2021 G-SIB assessment**.



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6. Trade deficit the U.S. has with China

Context: Donald Trump, the President-elect of the U.S., has promised to impose tariffs of up to 60% on Chinese imports to correct the huge trade deficit the U.S. has with China.

What will be the impact?

- The imposition of tariffs by the U.S. will raise the domestic price of such products in U.S. markets.
- If the tariffs are across the board and cover a large part of consumer goods sold in the U.S., then it will increase domestic inflation.
- However, if it helps to reduce the overall trade deficit of the U.S., it may improve the value of the U.S. dollar and moderate domestic inflation.
- If the tariffs shift consumption away from Chinese goods and other imported goods, it will boost domestic production and increase domestic supply of consumer goods and help moderate inflation.
- However, if China and other countries which are threatened by U.S. tariffs, respond with appropriate tariffs of their own on American goods, triggering another round of global trade wars, the intended policy impact of the action on the trade balance between the U.S. and its major trading partners, may not materialise to the desired extent.
- On the contrary, it could have a debilitating impact on global commodity prices, and worsen inflation in most countries.

7. Tractor tax

Context: Thousands of farmers protested at Britain's parliament on Tuesday, some driving tractors through central London, to demand the scrapping of an inheritance tax that they say will destroy family farms and threaten food production.

What is tractor tax?

- The measure, dubbed the tractor tax by critics and announced in the new government's budget last month as it sought to raise funds, has drawn an angry backlash from farmers who say the ruling Labour Party does not understand rural communities.

- The passing of farms down through generations was tax-free, but under the policy set out by finance minister Rachel Reeves, from 2026, 20% tax would be paid on the value of a farm above 1 million pounds.
- Farmers say that while their land and machinery have a high value, the farms themselves have low profit margins, meaning their children would have to sell land to cover the tax bill.
- The government said the tax change would affect about 500 farms a year, based on the number of inherited farms in 2021-22, with the tax rate payable in instalments over 10 years. But farmers say the numbers affected will be much higher.

8. International Securities Identification Number

Context: A combination of factors, including rising interest rates, regulatory action and funding scarcity, could moderate growth in the non-banking finance company (NBFC) sector from 18% in 2024 to 13-15% in the coming year, according to rating agency ICRA.

International Securities Identification Number (ISIN):

- The International Securities Identification Number (ISIN) is a unique 12-character alphanumeric code assigned to specific securities, such as stocks, bonds, derivatives, and mutual funds, to standardize their identification across global markets. ISINs are used worldwide to ensure consistency in securities trading, settlement, and record-keeping.

Structure of ISIN:

An ISIN comprises three parts:

1. **Country Code:** The first two letters represent the country of issuance based on the ISO 3166 standard (e.g., IN for India, US for the United States).
2. **Security Identifier:** The next nine characters uniquely identify the security.
3. **Check Digit:** The last character is a digit used for error detection.

For example:

- **ISIN for a Stock in India:** INE123B01016
- **ISIN for a Bond in the US:** US1234567890

Uses of ISIN:

1. **Global Standardization:** ISIN ensures securities are universally identifiable, reducing confusion across borders.
2. **Facilitates Trading:** Used in stock exchanges and depositories for seamless trading and settlement of securities.
3. **Regulatory Compliance:** Required for reporting to regulators and for ensuring transparency in financial markets.
4. **Risk Management:** Helps in accurate tracking and management of securities in investment portfolios.

Who Issues ISINs?

- ISINs are issued by the country's respective **National Numbering Agency (NNA)**. In India, for example, ISINs are issued by the **Central Depository Services Limited (CDSL)** and **National Securities Depository Limited (NSDL)**.

Advantages of ISIN:

1. **Uniformity:** Eliminates discrepancies in identifying securities across different countries and systems.
2. **Transparency:** Enhances clarity in transactions for investors, traders, and regulators.
3. **Ease of Settlement:** Simplifies cross-border settlement and clearing processes.



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GEOGRAPHY

1. Molopo and Limpopo Rivers

Context: The party of Botswana's opposition candidate Duma Boko was declared the election winner on November 1 over incumbent President Mokgweetsi Masisi in a seismic change that ended the ruling party's 58 years in power since independence from Britain.

About the rivers:

- The **Molopo and Limpopo Rivers** form the border between **Botswana and South Africa**.
- Specifically:
 - The Molopo River forms part of the southern border between the two countries
 - The Limpopo River forms part of the eastern border between Botswana and South Africa
- The **Limpopo** is the larger and more significant of the two rivers. It forms what is known as the "great grey-green, greasy Limpopo River" (made famous by Rudyard Kipling's "Just So Stories"). It serves as a **border for not just Botswana and South Africa, but also Zimbabwe and Mozambique in parts of its course**.
- The **Molopo** River is generally dry for much of the year, being an ephemeral river that only flows after heavy rains. Despite being dry most of the time, it still serves as an important geographical boundary marker between the two countries.



2. Location of Indonesia

Context: New Delhi may be looking east, at Indonesia's new President Prabowo Subianto, as chief guest for its Republic Day 2025 celebrations, sources said. A number of high-level interactions with the new Indonesian government and defence deals are on the anvil, besides a possible invitation to the Indonesian military to participate in the parade.



3. Rivers and associated states

Context: Villagers from Assam and Meghalaya, particularly along areas with ongoing inter-state boundary disputes, have united against illegal sand mining that threatens the local ecosystem, livelihoods, and road infrastructure.

	Rivers	Neighbouring states
1	Tungabhadra River	Karnataka and Andhra Pradesh
2	Tapti River	Gujarat and Maharashtra
3	Sutlej River	Punjab and Himanchal Pradesh
4	Manda River	Meghalaya and Assam

Dudhnoi (Manda) River (Meghalaya-Assam border)

- It flows along the **Assam-Meghalaya border**, especially near Nokmakundi and surrounding villages
- It eventually joins the Brahmaputra River
- It is a **primary site for illegal sand mining in the North Garo Hills region, leading to erosion and water scarcity for cultivation**.

Context: *Eight people went on trial in France on November 4, charged with contributing to the climate of hatred that led to an 18-year-old Islamist radical of Chechen origin beheading teacher Samuel Paty outside Paris in 2020.*

1. France
2. Switzerland
3. Italy
4. Germany
5. Austria
6. Slovenia
7. Liechtenstein
8. Monaco



Context: International companies and the government of Namibia had high hopes only months ago they could quickly cash in on offshore discoveries and turn the country they saw as the world's last frontier of untapped oil into a prolific producer.

1. **Angola** (to the north)
2. **Zambia** (to the northeast)
3. **Botswana** (to the east)
4. **South Africa** (to the southeast and south)



Context: A series of volcanic eruptions of Mount Lewotobi Laki Laki on Indonesia's remote island of Flores killed nine people and injured dozens of others, as buildings crumbled and terrified residents ran for their lives in the darkness.

	<i>Volcanos</i>	<i>Locations</i>
1	Mount Lewotobi Laki Laki	Indonesia
2	Mount Yasur	Vanuatu
3	Mount Merapi	Indonesia
4	Mount Pinatubo	Philippines

- **The 1,584-meter (5,197-foot) Mount Lewotobi Laki Laki is one of 120 active volcanoes in the country.**
- Indonesia is prone to earthquakes, landslides and volcanic activity because it sits along the “Ring of Fire,” a horseshoe-shaped series of seismic fault lines around the Pacific Ocean.
- Indonesia’s Center for Volcanology and Geological Disaster Mitigation has recorded 4,796 volcanic eruptions across the vast archipelago nation since January.
- **Mount Ibu in North Maluku province has erupted 1,930 times, Mount Semeru in East Java province 1,634 times and Mount Lewotobi Laki Laki 872 times.**
- About 6,500 people were evacuated in January after Mount Lewotobi Laki Laki began erupting, spewing thick clouds and forcing the government to close the island’s Frans Seda Airport.
- No casualties or major damage were reported, but the airport has remained closed since then due to seismic activity.



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7. Location of Bolivia

Context: Bolivia's constitutional court has barred former leader Evo Morales from standing for re-election next year, after reaffirming that a president cannot serve more than two terms. In a ruling made public on Friday, the court said the mandate of an elected official is "only for two periods, whether consecutive or not."

Bolivia shares land border with following countries:

- Brazil: To the north and east.
- Paraguay: To the southeast.
- Argentina: To the south.
- Chile: To the southwest.
- Peru: To the northwest



8. Cities & Rivers

Context: Soon after winning the 2023 Assembly elections and becoming the first Congress Chief Minister of Telangana, A. Revanth Reddy proposed an ambitious plan to redevelop Hyderabad's Musi riverfront. But much like Chennai's Cooum, Kolkata's Hooghly and Delhi's Yamuna, the Musi meanders through what was once the heart of Hyderabad; the ugly centre of an urban sprawl.

	Cities	Rivers
1	Hajipur	Ganges
2	Mahad	Savitri
3	Rairangpur	Khadkhai
4	Morbi	Machchu

9. Suez Canal

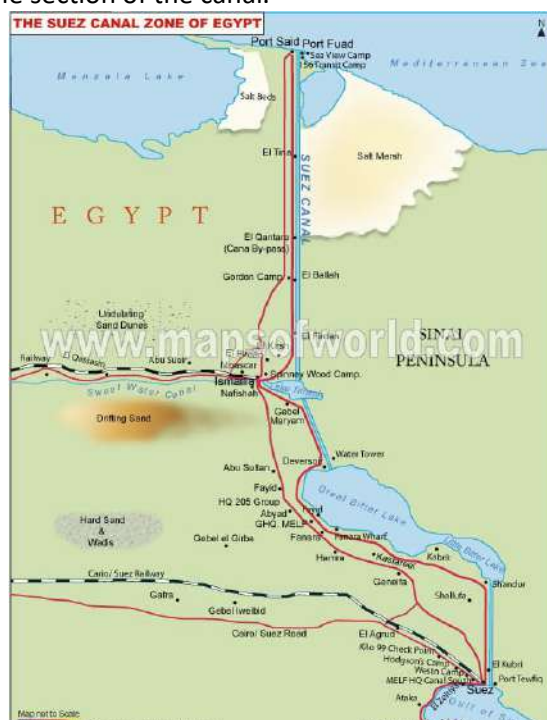
Context: Since 2020, thousands of graves have been demolished at the UNESCO-listed World Heritage Site, one of the oldest necropolises in the Muslim world.

Suez Canal:

Arrangement of these locations along the Suez Canal from South (Gulf of Suez) to North (Mediterranean Sea):

1. Port Suez (at the southern entrance)
2. Little Bitter Lake
3. Greater Bitter Lake
4. Lake Timsah
5. Port Said (at the northern entrance)

As the ship sails northward, it would encounter these bodies of water and ports in this order. The Bitter Lakes (both little and greater) are interconnected salt lakes, while Lake Timsah is a natural freshwater lake in the middle section of the canal.



10. Location of Spain

Rivers flow through Spain:

- **Tagus:** The longest river in Spain and the Iberian Peninsula.
- **Ebro:** The largest river entirely within Spain.

Rivers that do not flow through Spain:

- **Seine:** Flows through France, particularly Paris.
- **Elbe:** Flows through Germany and the Czech Republic.
- **Neva:** Flows through Russia, particularly Saint Petersburg.



11. Contested geographical landmasses

Context: China held sea and air combat drills at disputed Scarborough Shoal, an uninhabited area of reefs and rocks it had seized from the Philippines in the South China Sea.

	Contested geographical landmasses	Contesting states
1	Abeyi	Sudan and South Sudan
2	Bassas da India	France and Madagascar
3	Scarborough Shoal	China and the Philippines
4	Pyrdiwah	India and Bangladesh

About the Scarborough Shoal baseline conflict:

- China on November 10 published new baselines for the shoal including geographic coordinates.
- A nation's territorial waters and exclusive economic zone are typically defined as the distance from the baselines.
- Tensions between China and the Philippines have been building over their competing claims to Scarborough Shoal and other outcrops in the South China Sea.
- Clashes have occurred including the Chinese coast guard firing water cannons at Filipino ships.
- China seized the shoal, which lies west of the main Philippine Island of Luzon, in 2012, and has since restricted access to Filipino fishermen there.
- A 2016 ruling by an international arbitration court found that most Chinese claims in the South China Sea were invalid but Beijing refuses to abide by it.
- The Philippine Department of Foreign Affairs summoned the Chinese ambassador in Manila to protest China's baselines around Scarborough Shoal.
- The department said the baselines infringe upon Philippine sovereignty and contravene international law, particularly the 1982 U.N. Convention on the Law of the Sea and the 2016 arbitration.
- The baselines have no legal basis and are not binding on the Philippines, it said.

12. Places located in Ecuador

Context: The number of inmates killed in a riot in Ecuador's largest and most dangerous prison rose to 17, authorities said November 13, a day after the goriest prison episode under the watch of President Daniel Noboa broke out.

Places located in Ecuador:

The Galápagos Islands

- A volcanic archipelago in the Pacific Ocean, 1,000 km (620 miles) off Ecuador's coast.
- Known for its unique biodiversity, the islands inspired Charles Darwin's theory of natural selection.
- Features include endemic species like giant tortoises, marine iguanas, and flightless cormorants.

2. Andean Highlands (Sierra Region)

- Ecuador's Andes Mountains run north to south, dividing the country into distinct regions.
- Home to **Cotopaxi**, one of the highest active volcanoes in the world, and **Chimborazo**, whose peak is the furthest point from Earth's center.
- The "Avenue of the Volcanoes" is a chain of towering volcanic peaks.

3. Amazon Rainforest (Oriente Region)

- Eastern Ecuador is part of the Amazon Basin, a lush tropical rainforest rich in biodiversity.
- Contains protected areas like **Yasuni National Park**, a UNESCO Biosphere Reserve and one of the most biodiverse places on Earth.

While places located outside Ecuador:

- Machu Picchu, Peru:** An ancient Inca citadel high in the Andes Mountains, known as the "Lost City of the Incas."
- Angel Falls, Venezuela:** The world's highest uninterrupted waterfall, located in the remote jungles of Venezuela.

13. Rivers & Origin

Context: Four days after three children and three women were allegedly abducted by armed militants in Jiribam district during an encounter with the Central Reserve Police Force (CRPF) and the police, the Manipur police are yet to trace the victims.

	Rivers	Origin points
1	Barak	Japvo Mountain, Manipur Hills
2	Gandak	Triveni Sangam, Indo-Nepal Border
3	Mahananda	Paglajhora Falls
4	Suru	Panzella glacier, Pensi La pass

14. Countries that have a coastline with the North Sea

Context: **U.K. jets were scrambled to monitor a Russian reconnaissance aircraft flying close to U.K. airspace, Defence Minister Luke Pollard said in London on November 15.**

The countries that have a coastline with the North Sea:

- Norway
- Denmark
- Germany
- Netherlands
- Belgium
- France (small portion)
- United Kingdom (eastern coast)

**15. Asian Capitals Location**

Context: **Bangladesh and India are "twins" and must have better relations, says Muhammad Yunus, Bangladesh's Chief Advisor to the Interim Government.**

However, he warns that former Prime Minister Sheikh Hasina, whom he accused of instigating her political supporters from India, could pose a challenge to ties.

To arrange the cities in **North to South order**, we compare their latitudes:

- Seoul (South Korea):** ~37.56°N
- Hanoi (Vietnam):** ~21.03°N
- Dhaka (Bangladesh):** ~23.81°N
- Vientiane (Laos):** ~17.97°N
- Naypyidaw (Myanmar):** ~19.75°N

Given below is sequence of Asian Capitals in view of above context



16. Chennai-Vladivostok maritime route

Context: The Chennai-Vladivostok eastern maritime corridor has become operational and is carrying oil, food, and machines, Minister for Ports, Shipping, and Waterways Sarbananda Sonowal said on November 18.

The Chennai-Vladivostok maritime route primarily passes through the following seas:

1. **Bay of Bengal:** This is the initial sea route from Chennai, India.
2. **Andaman Sea:** This sea lies between the Indian subcontinent and Southeast Asia.
3. **South China Sea:** This is a marginal sea of the Pacific Ocean.
4. **East China Sea:** This sea lies between China, Japan, North and South Korea.
5. **Sea of Japan:** This sea lies between Japan, Russia, North and South Korea.

While **Sea of Okhotsk** and the **Bering Sea** are part of the Pacific Ocean and border Russia, they lie beyond the Vladivostok port and hence do not fall under the route.



17. Location of Italy

Context: India and Italy agreed to negotiate a defence industrial road map, and agreement for the mutual protection and exchange of classified information as also an agreement on cooperation in the maritime and port sector. This was stated in the Joint Strategic Action Plan 2025-29, which outlines their vision for the next five years.



18. Caucasus Mountain range

Context: Police in Georgia's capital early on Tuesday moved in to break up a tent camp that demonstrators set up on a central thoroughfare to protest the results of last month's parliamentary election and demand a new vote.

The Caucasus Mountain range primarily forms a border between Russia and Georgia. However, it also extends into parts of Azerbaijan and Armenia.



19. Regions in news

Context: An attack by paramilitary forces that began on November 19 evening has left 40 people dead, a medic said from a central Sudan village, following a month of escalating violence in Al-Jazira state. It is the latest in a month-long series of attacks by the RSF following the defection of a key paramilitary commander to the Army's side

	Regions	Countries
1	Darfur	Sudan
2	Kivu	Democratic Republic of Congo
3	Ogaden	Ethiopia
4	Arakan	Myanmar

20. Deserts in Saudi Arabia

Context: Saudi Arabia's de facto ruler is using the oil-rich kingdom's sovereign wealth fund to bankroll vanity projects linked to a host of rights abuses, Human Rights Watch said on November 20.

The following deserts are found in **Saudi Arabia**:

1. **Rub' al Khali Desert (Empty Quarter):** This is the largest contiguous sand desert in the world, spanning Saudi Arabia, Oman, the UAE, and Yemen.
2. **Nafud Desert:** Located in northern Saudi Arabia, it is a significant desert known for its red sand dunes.
3. **Ad-Dahna Desert:** A narrow stretch of desert connecting the Nafud Desert in the north to the Rub' al Khali Desert in the south.

The other deserts are outside Saudi Arabia:

- **Dasht-e Kavir Desert:** Located in Iran.
- **Dasht-e Lut Desert:** Also, in Iran.



21. Location of Senegal

Context: Senegal's ruling party won over three-quarters of parliamentary seats in weekend elections, according to national provisional results announced on Thursday, potentially handing them the means to deliver their ambitious reform agenda.

Each of these countries shares a land border with only one other country:

- South Korea borders North Korea.
- The UK borders Ireland.
- Papua New Guinea borders Indonesia.
- Monaco borders France.
- The Gambia is almost entirely surrounded by Senegal.
- Lesotho is entirely surrounded by South Africa.
- Timor-Leste borders Indonesia.

22. Countries lie on the Tropic of Cancer

Context: Mali's ruling junta on November 21 appointed its spokesperson, Abdoulaye Maiga, as Prime Minister a day after firing Choquel Maiga who had criticised the administration, state television ORTM reported.

The following African countries lie on the Tropic of Cancer: Western Sahara, Mauritania, Mali, Algeria, Libya, Egypt, Niger



Thus, the order of countries the Mekong passes through, from its origin to its end, is:

China → Myanmar → Laos → Thailand → Cambodia → Vietnam



23. Mekong River

Context: A teenager has died after drinking tainted alcohol in Vang Vieng, Laos. Australia's prime minister confirmed the news about one of its residents on Thursday The US State Department confirmed an American also died in the same party town, bringing the death toll to four in the poisoning incident.

Mekong River:

The Mekong River flows through several countries in Southeast Asia, and the order of these countries, from its origin to its mouth, is as follows:

1. **China** (The river begins in the Tibetan Plateau in China, though China is often excluded in regional context.)
2. **Myanmar** (The river flows through Myanmar, marking a natural boundary in some areas.)
3. **Laos** (The Mekong continues through Laos, where it forms part of the boundary with Thailand.)
4. **Thailand** (The river flows along Thailand's border with Laos.)
5. **Cambodia** (After passing through Thailand, the Mekong enters Cambodia.)
6. **Vietnam** (Finally, the river flows through Vietnam before emptying into the South China Sea, forming the Mekong Delta.)

24. Important Volcano sites

Context: A volcano erupted with lava spewing from a fissure on the Reykjanes Peninsula in southwestern Iceland on Wednesday evening (November 20, 2024.) It was its seventh eruption since December.

	Volcano sites	Locations
1	Piton de la Fournaise	Reunion Island, France
2	Popocatepetl	Mexico
3	Sakurajima	Japan
4	Reykjanes	Iceland



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25. Location of Hungary

Context: Hungarian Prime Minister Viktor Orbán on Friday denounced the International Criminal Court's issuing of an arrest warrant for Israeli Prime Minister Benjamin Netanyahu, saying he would defy it by inviting him to Hungary. Member countries of the ICC are required to detain suspects facing a warrant if they set foot on their soil.

Hungary shares borders with seven countries:

1. Slovakia
2. Ukraine
3. Romania
4. Serbia
5. Croatia
6. Slovenia
7. Austria



26. Location of Nigeria

Context: Islamic morality police in the northern Nigerian city of Kano are to resume their crackdown on betting shops after a supreme court ruling on gambling. The Nigerian supreme court quashed a 2005 law on Friday that established a national lottery commission and legalised sports betting and gambling.

Nigeria shares land borders with four countries:

1. Niger: To the north
2. Chad: To the northeast
3. Cameroon: To the east
4. Benin: To the west



27. Rivers in Europe

Context: Romanians started voting in the first round of a presidential election that may give hard-right politician George Simion a chance of winning, with voters focused on high living costs and the country's support for Ukraine. Opinion surveys show leftist Prime Minister Marcel Ciolacu moving to the run-off with Mr. Simion.

The two rivers that form the natural boundary between Romania and its neighbors **Moldova** and **Bulgaria** are:

1. Prut River:

- Forms the natural boundary between Romania and **Moldova**.
- It flows into the Danube River and acts as a significant geographic and political border.

2. Danube River:

- Serves as the natural boundary between Romania and **Bulgaria**.
- The Danube is the second-longest river in Europe and a vital waterway for trade and transportation.



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28. Islands and associated countries

Context: Greece's coastguard has found the bodies of eight migrants - six minors and two women - who drowned off the island of Samos, authorities said on Monday, in the second migrant shipwreck in the Aegean Sea this month.

	Name of Islands	Countries
1	Pantelleria	Italy
2	Ibiza	Spain
3	Chergui	Tunisia
4	Gozo	Malta

29. Location of Uzbekistan

Context: The United Arab Emirates said on Monday that the police arrested three Uzbek nationals for the killing of an Israeli-Moldovan rabbi.

Uzbekistan is bordered by five countries:

1. Kazakhstan
2. Kyrgyzstan
3. Tajikistan
4. Afghanistan
5. Turkmenistan

30. Pennaiyar river water sharing

Context: The Supreme Court on November 26 asked the Union government to place on record the report prepared by a committee negotiating a dispute between Tamil Nadu and Karnataka over the sharing of the Pennaiyar river water.

More on news:

- The States had moved into the negotiation mode after Karnataka took the initiative, after the formation of the new government in the State in May 2023, to try and resolve the dispute through talks.
- The court had in January directed the Union government to constitute a new negotiation committee under Section 4 of the Inter-State River Water Disputes Act of 1956 to make a serious endeavour for a resolution between the two States.
- In 2018, Tamil Nadu had moved the court against Karnataka's work on check dams and diversions' structures on the river.
- The State had told the Supreme Court that Karnataka had no right to utilise the waters of Pennaiyar river to the detriment of the people of Tamil Nadu.

- The flowing water of an inter-State river is a national asset and no single State can claim exclusive ownership of its water, Tamil Nadu had argued.
- It had argued that an 1892 agreement over the river water was “valid and binding” on the party States. It had said a river even included the stream, tributaries and other streams contributing water directly or indirectly into it.

	Interstate Rivers	Projects on the rivers	Concerned states
1	Periyar River	Mullaperiyar Dam	Kerala and Tamil Nadu
2	Vamsadhara River	Neradi Barrage	Odisha and Andhra Pradesh
3	Mahadayi River	Kalasa-Banduri project	Goa and Karnataka

31. Location of Colombia

Context: Around 2,000 indigenous people are camping outside the government building in Bogota, Colombia demanding a meeting with officials to discuss their rights over ancestral lands.

Colombia shares land borders with five countries:

1. **Panama** to the northwest
2. **Venezuela** to the east
3. **Brazil** to the southeast
4. **Peru** to the south
5. **Ecuador** to the southwest



32. Location of South Korea

Context: South Koreans remain widely opposed to directly supplying arms to Ukraine, polls show, despite renewed international requests from Kyiv and allied capitals after North Korean troops were reported to be helping Russia. Ukraine has asked Seoul for a range of weapons and Seoul has said it could consider such aid, depending on future steps by Russia and North Korea. If we consider South Korea as the center and move counter-clockwise around the Korean Peninsula, the water bodies fall in the following order:

1. **Korea Bay** (to the northwest, near the border with North Korea)
2. **Yellow Sea** (to the west of the peninsula)
3. **Cheju Strait** (to the south, separating mainland South Korea from Jeju Island)
4. **Korean Strait** (to the southeast, connecting the East China Sea and East Sea/Sea of Japan)
5. **East Sea** (to the east of the peninsula, also known as the Sea of Japan internationally).

This order follows the natural geography of the region as we move counter-clockwise around the peninsula.



33. Kagera River

Context: The Global Operations Centre of the Central Bureau of Investigation (CBI) has coordinated with the National Investigation Agency (NIA) and the Interpol National Central Bureau-Kigali for securing the return of a terror case accused from Rwanda. The accused, Salman Rehman Khan, was wanted as a Lashkar-e-Taiba (LeT) operative in a case registered by the NIA.

Context: Syrian armed groups have launched a large-scale attack on areas controlled by government forces, setting off fierce clashes for a second day and seizing territory in Western Aleppo, government and Opposition factions said on Thursday. Syria's armed forces said the offensive was led by Hayat Tahrir al-Sham.

	<i>Places in the news</i>	<i>Countries</i>
1	Aleppo	Syria
2	Kurram	Pakistan
3	Baalbek	Lebanon
4	Al Hudaydah	Yemen



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1. **Angola** to the north
2. **Zambia** to the northeast
3. **Botswana** to the east
4. **South Africa** to the south and east



- **Lake Victoria:** The second-largest freshwater lake in the world by surface area, shared with Tanzania and Kenya.
- **Lake Albert:** Located in the western part of Uganda, shared with the Democratic Republic of Congo.
- **Lake Edward:** Another Rift Valley Lake, shared with the Democratic Republic of Congo.
- **Lake Kyoga:** A shallow lake located in central Uganda.

While,

- **Lake Tanganyika:** The second-largest freshwater lake by volume and depth in the world, shared by Tanzania, the Democratic Republic of Congo, Burundi, and Zambia.
- **Lake Turkana:** The world's largest permanent desert lake and the world's largest alkaline lake, located in Kenya.



37. Important Seas

Context: Thousands of demonstrators protesting the Georgian government's decision to suspend negotiations to join the European Union rallied outside Parliament in the capital, Tbilisi, for a second straight night on Friday, surrounded by a heavy police presence.

	Seas	Bordering countries
1	White Sea	Russia
2	Black Sea	Georgia, Russia, Bulgaria, Romania, Ukraine, Turkey
3	Yellow Sea	South Korea, N. Korea, China
4	Red Sea	Egypt, S. Arabia, Yemen, Sudan, Eretria, Djibouti

38. Overseas territories & associated countries

Context: A 'cayuco' boat from Senegal with 136 migrants arrives at a port on the Canary Island archipelago on Thursday after being rescued at sea by a Spanish Sea Search and Rescue agency vessel.

	Name of oversea territories	Countries
1	Faroe Islands	Denmark
2	Mayotte	France
3	Sint Maarten	Netherland
4	Turks and Caicos Islands	United Kingdom



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ENVIRONMENT

1. Sanjay Dubri Tiger Reserve

Context: A resort and a conference hall built within tiger reserve corridors at Madhya Pradesh's Sanjay Dubri and Bandhavgarh have emerged as a point of contention between the state's Wildlife and Tourism departments.

About Sanjay Dubri Tiger Reserve

- Sanjay-Dubri Tiger Reserve is wildlife paradise located in Sidhi district of Madhya Pradesh.
- The National Park was established in 1975.
- The world-famous white tigers "MOHAN" was found and rescued from the forest of this landscape by Maharaja of Rewa in 1951.
- The Reserve is mainly recognized for the presence of majestic Royal Bengal Tiger, which is the National Animal of India and practically one of the most fascinating animals in the world.
- The reserve with some of its dense forests, bamboo vegetations and vast grasslands along with some perennial streams, offers an excellent habitat for the solitary predator.
- Over the years, under the expert management practices of administrative body the reserve has witnessed a rise in number of the Tigers and also in other species of animals.
- Declared as a Tiger Reserve in 2006, the Reserve is blessed naturally as it is home to about 11 perennially flowing rivers like- Gopad, Banas, Neur, Umrari, Kormar, Mawai and Mohan.



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2. United Nations Convention on Biological Diversity

Context: The 16th edition of the Convention of Biological Diversity (CBD) in Cali, Colombia which was to have concluded on November 1 after two weeks of negotiations and involving about 190 countries, saw representatives of countries trying to iron out a conclusive deal well past the deadline.

United Nations Convention on Biological Diversity (UNCBD)

- The **United Nations Convention on Biological Diversity (UNCBD)**, adopted in 1992 at the Rio Earth Summit, established an international legal framework aimed at the conservation of biodiversity, sustainable use of its components, and fair and equitable sharing of benefits arising from genetic resources.
- The UNCBD holds **Conferences of the Parties (COPs)**, where member countries meet to assess progress, set new goals, and adopt strategies for biodiversity conservation.

What is the Convention about?

- This convention follows meetings in 2022 at Montreal, Canada. At that meet, countries agreed to protect 30% of land and water by 2030, known as the '30-by-30 agreement', at a time when less than 17% of land and 10% of marine areas were protected.
- In 2022, the Kunming-Montreal Global Biodiversity Framework (KMGBF), as it is formally known, set 23 action-oriented global targets for urgent action in the decade to 2030.
- The actions listed in each target needed to be initiated immediately and completed by 2030.
- Other than the 30-by-30 goals, targets include reducing the introduction of invasive alien species by 50% and minimising their impact by 2030.
- It also aimed to reduce pollution risks and the negative impact of pollution from all sources to tolerable levels by 2030; set up a mechanism for "benefit-sharing from the use of digital sequence information on genetic sources" and traditional knowledge, and integrating biodiversity into policies, regulations, planning and development processes.

- **A key aim of the COP-16 was to agree on mechanisms to implement these targets as well as discuss ways to organise funding.**
- While there were calculations that about **\$200 billion** would be required annually to achieve these targets, less than tenth of this money has actually been committed.

What are some decisions taken at COP-16?

- In the run-up to COP-16, one of the most contentious issues was on the **Digital Sequence Information (DSI) agreement.**
- This deals with “**benefit-sharing**” or how, for example, medicines and drugs made from analysing the DNA of living organisms, stored in databases and which are used in commercial products, can be shared with the local communities where such organisms are housed.
- There were plans to create a ‘multi-lateral mechanism’, but no agreement was forthcoming on which countries or corporations ought to be contributing, and how.
- The major texts that have so far been formally adopted by the convention include agreements on biodiversity and climate change, mainstreaming biodiversity, putting a check on invasive species and the technical needs to support the implementation of the KMBGF.

	UNCDB CoPs	Locations	Outcomes
1	COP 5	Nairobi	Cartagena Protocol was finalized.
2	COP 10	Nagoya	Nagoya Protocol on Access and Benefit-sharing.
3	COP 12	Pyeongchang	Mid-Term Review of Aichi Biodiversity Targets.



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3. Critically endangered Cat Ba langurs

Context: A new study shows the remarkable adaptability of the critically endangered Cat Ba langurs.

What does the study reveal?

- Despite low genetic diversity, the langurs have retained key genetic traits that help them survive in their isolated environment on Cat Ba Island in Vietnam.
- One of the remarkable adaptations is the ability to drink salt water.
- Due to the dramatic decline of its population, the species suffers from genetic impoverishment, high inbreeding and a potentially increased susceptibility to disease.
- Analysis of their genetic information shows that genetic diversity has been maintained in functionally important areas of their genetic information.
- **This enables the Cat Ba langurs (*Trachypithecus poliocephalus*) to continue to cope adequately with changing environmental conditions.**
- **This extraordinary ability is a direct consequence of their isolated island home, where there are only limited freshwater sources.**
- The researchers show that changes in certain genes have **probably increased tolerance to salt water.**
- These genetic adaptations enable langurs to cope with the high sodium content of salt water and thus contribute to their survival in this unique environment.

4. Surge in Sale of e-vehicles

Context: The PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) scheme, launched by the Indian government, aims to accelerate electric vehicle (EV) adoption, develop necessary charging infrastructure, and create a robust EV manufacturing ecosystem in the country.

Surge in Sale of e-vehicles

- The Ministry of Heavy Industries is leading the nationwide push for electric vehicle adoption, contributing to India's ambitious net-zero target for 2070. Through initiatives like the Electric Mobility Promotion Scheme (EMPS) and the **PM E-DRIVE schemes, electric two-wheelers (e-2W) sales have surged to 5,71,411 units in 2024-25.**
- During the same period, sales of electric three-wheelers (e-3W), including **e-rickshaws and e-carts, reached 1,164 units, while electric three-wheelers in the L5 category hit 71, 501 units.**

About PM E-DRIVE Scheme:

- PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) scheme has an outlay of Rs 10,900 crore over a period of two years for promotion of electric mobility in the country.

Components of the scheme

- Subsidies and Demand Incentives:** The scheme allocates Rs 3,679 crore to incentivise the purchase of electric two-wheelers (e-2Ws), three-wheelers (e-3Ws), **electric ambulances, trucks, and other emerging EV categories.**
- E-Vouchers for EV Buyers:** Buyers of electric vehicles will be issued an e-voucher under the scheme to avail demand incentives. **The e-voucher will be Aadhaar-authenticated and sent to the buyer's registered mobile number after the purchase.**
- E-Ambulance Deployment:** A budget of Rs 500 crore has been allocated to deploy electric ambulances. This new initiative aims to provide comfortable and environmentally friendly patient transport. Performance and safety standards for e-ambulances will be developed in consultation with MoHFW, MoRTH, and other relevant stakeholders.
- Incentives for E-Trucks:** Under this component **Rs 500 crore has been allocated to promote the deployment of e-trucks, a major contributor to air pollution.** Those who hold a scrapping certificate from authorised MoRTH Vehicle Scrapping Centres (RVSFs) will be eligible for the incentives.

- Charging Infrastructure:** To address range anxiety and support the growth of electric vehicles, **Rs 2,000 crore will be used to install public charging stations (EVPCS) in cities with high EV penetration and along selected highways.**

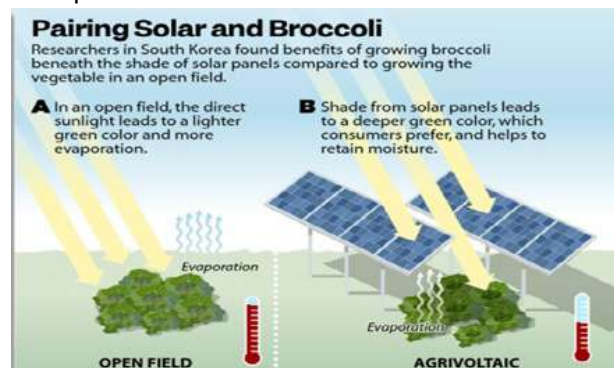
5. Agrovoltaic farming

Context: The **Seventh Session of the International Solar Alliance (ISA)** culminated in New Delhi. A visit to a farm site at Najafgarh was organized on the concluding day. During the site visit, the practical implementation of agrivoltaic systems was showcased to the delegates of various countries.

What is Agrovoltaic farming?

Agrovoltaic farming, also known as agrivoltaics, is a sustainable farming practice where agricultural activities are combined with photovoltaic (solar panel) systems on the same piece of land. This approach offers several advantages, such as:

- Land Optimization:** It maximizes the use of land by enabling the simultaneous production of crops and solar energy, especially in regions with limited arable land.
- Microclimate Benefits:** The partial shading provided by solar panels can reduce heat stress on crops, improve soil moisture retention, and decrease water evaporation.
- Renewable Energy Production:** The solar panels generate electricity, providing an additional income source for farmers or powering on-site agricultural equipment.
- Environmental Impact:** This system promotes sustainability by reducing the carbon footprint and dependence on fossil fuels.



6. Commission for Air Quality Management

Context: Commission for Air Quality Management (CAQM) has doubled the fines applicable on farmers caught indulging in it, according to an order passed on Thursday, November 7, 2024.

Commission for Air Quality Management (CAQM):

- The CAQM is a **statutory body** established under the Commission for Air Quality Management in National Capital Region (NCR) and Adjoining Areas, Act 2021.
- It undertakes action for the prevention and control of Air pollution in Delhi-NCR & Adjoining Areas which impacts the air quality of the National Capital Territory (NCT) of Delhi.
- The Commission is required to **coordinate its actions on monitoring of air quality with the government of Delhi and the adjoining states**, which includes Punjab, Haryana, Rajasthan, and Uttar Pradesh.

Powers:

- Restricting activities influencing air quality.
- Investigating and conducting research related to environmental pollution impacting air quality, preparing codes and guidelines to prevent and control air pollution,
- Issuing directions on matters including inspections, or regulations, which will be binding on the concerned person or authority.
- All the directions and orders by the Commission are of binding nature, and any person, officer, or authority shall be bound to comply with the same.
- The commission is directly accountable to the parliament.

Composition:

- Chairperson:** To be chaired by a government official of the rank of Secretary or Chief Secretary. He will hold the post for three years or until s/he attains the age of 70 years.
- It will also have five ex officio members who are either Chief Secretaries or Secretaries in charge of the department dealing with environment protection in the States of Delhi, Punjab, Haryana, Rajasthan, and Uttar Pradesh.
- Three full time technical members.

- Three members from non-government organisations.
- Technical members from Central Pollution Control Board (CPCB), Indian Space Research Organisation, and NITI Aayog.

7. Carbon Border Adjustment Mechanism

Context: India has voiced its disapproval of "protectionist" measures that link trade barriers and carbon emissions, at the ongoing climate talks in Baku, Azerbaijan.

Carbon Border Adjustment Mechanism

- The Carbon Border Adjustment Mechanism (CBAM) is a policy initiative by the **European Union (EU)** aimed at reducing carbon emissions by imposing a carbon price on imports from countries with less stringent climate policies.
- It ensures that imported products face the same carbon costs as those produced within the EU, promoting fair competition and encouraging global decarbonization efforts.

Key Features of CBAM:

- Objective:**
 - CBAM aims to **prevent carbon leakage**, where companies shift production to countries with looser carbon regulations to avoid stricter EU climate policies.
 - It aligns with the EU's climate goals, particularly its European Green Deal, targeting net-zero emissions by 2050.
- Scope:**
 - Initially, CBAM covers sectors with high carbon emissions, including cement, steel, aluminium, fertilizers, electricity, and hydrogen.
 - The mechanism calculates the embedded carbon emissions in imported products and imposes an equivalent carbon price.
 - paying the adjustment.

- **Implementation Timeline:**

- **2023-2025:** Transition phase where importers report the carbon emissions of their goods without paying the adjustment.
- **2026 onwards:** Full implementation where importers will be required to purchase **CBAM certificates** corresponding to the embedded carbon emissions of their imports.

- **Working Mechanism of CBAM:**

- **CBAM Certificates:**

- Importers must buy CBAM certificates to cover the carbon emissions of their imported goods, matching the EU's Emissions Trading System (ETS) price.
- The price of CBAM certificates will reflect the EU's internal carbon price, ensuring a level playing field for domestic and foreign producers.

- **Calculation of Carbon Emissions:**

- The carbon footprint of imported goods is calculated based on direct emissions during their production.
- If a country already imposes a carbon price, this can be deducted from the CBAM obligation, avoiding double taxation.

8. EU Deforestation Regulation

Context: India's major plantation sectors such as rubber and coffee have heaved a sigh of relief as the EU Parliament has voted in favour of a proposal by the European Commission to delay the implementation of EU Deforestation Regulation (EUDR) allowing growers, exporters and traders additional time for compliance.

More on news:

- Accordingly, large coffee operators and exporters must meet EUDR regulations by December 30, 2025, while micro and small growers and traders have time until June 30, 2026 to comply, as against the earlier EU set mandatory due diligence procedures and compliance deadline of December 2024.

- Being EUDR-compliant indicates a grower's forest-based coffee produce is legal, and not sourced from any deforested land or unethically cultivated.
- Notably, over 70% of Indian coffees are sold in EU countries, and therefore the compliance extension has direct implications on coffee players in India, although India was one among the few countries which grew coffee under two tier thick shade of native trees, say industry players.

About European Union Deforestation Regulation (EUDR):

- It was **scheduled to commence on 30 December 2024.**
- It has been introduced to **limit the EU market's impact on global deforestation/forest degradation** and biodiversity loss, promote deforestation-free supply chains, reduce the EU's contribution to greenhouse gases (GHG) emissions, and protect human rights and the rights of indigenous people.
- Under the EUDR, certain products for export to the European Union (EU) will have to meet new rules relating to the land on which they were produced.
- Commodities targeted by the EUDR are: Cattle (including beef), Cocoa, Wood, Coffee, Oil Palm, Rubber, and Soya
- It also extends to a range of relevant products derived from these commodities, such as leather, chocolate, and paper.
- Exporters will need to prove that these goods/products do not originate from land where forests haven't been cut since Jan. 1, 2021, regardless of whether the deforestation was legal in the countries of origin.
- They will **need to provide clear evidence** to EU operators and EU traders to support this.
- **Small businesses further down the supply chain** are subject to the **same obligations** and retain legal responsibility if regulations are violated. But they are **not liable for due diligence for parts of their products** that were already subject to review.

- Failure to comply can result in financial penalties and restricted access to the EU market.

9. Mitigation Work Programme

Context: At the closing plenary of a meeting of subsidiary bodies on the Mitigation Work Programme (MWP) on November 16, India said developed countries, which had historically contributed the most to greenhouse gas emissions and had more resources and ability to act on climate change, had repeatedly delayed climate action and continuously shifted goalposts.

About Mitigation Work Programme (MWP):

- The Mitigation Work Programme (MWP) is a process established by the United Nations Framework Convention on Climate Change (UNFCCC) to help countries scale up their mitigation ambition and implementation to achieve the 1.5°C goal of the Paris Agreement.

Objectives of WMP:

- **Generate discussions:** Foster innovative discussions among policymakers and stakeholders to overcome barriers to scaling up mitigation action.
- **Inclusive participation:** Ensure diverse participation to support national processes and practical domestic policymaking pathways.
- **Explore opportunities:** Identify cost-effective and scalable mitigation opportunities to help countries implement and enhance their Nationally Determined Contributions (NDCs).
- **Operationalization:** Conduct annual global dialogues and investment-focused events from 2023-2026.
- **Address equity and sustainable development:** Focus on equity, sustainable development, and synergies with adaptation, considering regional approaches.



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10. Forest Cover and Green Cover as per Indian state forest report

Context: The Global Forest Watch (GFW) project monitoring data that said India had lost 2.33 million hectares of tree cover is “devoid of facts, ground reality and internationally accepted norms”, the Union Environment Ministry and the Forest Survey of India (FSI) have told the National Green Tribunal.

Forest Cover and Green Cover as per Indian state forest report (ISFR):

- **Forest Cover:** The forest canopy area is covered on the ground irrespective of the legal status of the land. It includes all tree patches which have a canopy density of more than 10% and an area of 1 ha or more in size.
- **Canopy Density:** It is defined as the proportion of an area in the field/ground that is covered by the crown of trees.
- **Recorded Forest Area (RFA):**
 - Forest Area (or recorded forest area) refers to all the geographic areas recorded as forest in government records.
 - Recorded forest areas comprise Reserved Forests (RF) and Protected Forests (PF), which have been constituted under the provisions of the Indian Forest Act, 1927.
 - Besides RFs and PFs, the recorded forest area may include all such areas, which have been recorded as forests under any State Act or local laws or any revenue records.
- **TOF (Trees Outside Forest):** Trees found outside the recorded forest areas. TOF refers to all trees growing outside RFA irrespective of patch size which could also be larger than 1 ha.
- **Tree cover:** All patches of trees occurring outside RFA which are of size less than 1 ha including the scattered trees. Tree cover forms an important part of the trees outside forests (TOF). Therefore, tree cover can be considered as a subset of TOF.
- **Forest & Tree Cover:** ‘Forest cover’ and ‘tree cover’ put together constitutes ‘Forest & Tree Cover’ which is the key parameter for monitoring progress as per the National Forest Policy’ goal of achieving 33% of the country’s geographical area under green cover.

11. High-altitude sickness

Context: In September, a trekker from Idukki, Kerala, died in Uttarakhand while attempting to scale Garur Peak due to respiratory failure. Every year, numerous tourists like this succumb to the effects of high-altitude sickness in the pristine but challenging inner Himalayas. These regions present hidden dangers due to their extreme altitudes, where thinner air and reduced oxygen can lead to potentially fatal conditions.

What is high-altitude sickness?

- High-altitude sickness, or Acute Mountain Sickness (AMS), occurs when the body cannot acclimatise to high elevations, typically over 8,000 feet (2,400 metres).
- As altitude increases, the air pressure and oxygen levels decrease, leading to hypoxia — a shortage of oxygen in the body's tissues.
- Early symptoms of AMS include headache, nausea, fatigue, and shortness of breath.
- If left untreated, it can escalate into high-altitude pulmonary edema (HAPE), a life-threatening condition where fluid accumulates in the lungs, or high-altitude cerebral edema (HACE), where fluid collects in the brain.
- Both conditions require immediate medical intervention, and descent to lower altitudes is often the only way to prevent fatal outcomes.
- At higher altitudes, the body tries to adjust by increasing the breathing rate, which can cause hyperventilation, and produce more red blood cells to carry oxygen, which thickens the blood and strains the heart.
- In cases of HAPE, fluid accumulation in the lungs exacerbates breathing difficulties, while HACE causes symptoms like confusion, hallucinations, and even coma.

	Name of peaks	Locations (States/UTs)
1	Chamser Kangri	Ladakh
2	Frey Peak	Sikkim
3	Friendship Peak	Himanchal Pradesh
4	Garur Peak	Uttarakhand

12. Guru Ghasidas-Tamor Pingla Tiger Reserve

Context: Earlier this month, the Chhattisgarh government notified the Guru Ghasidas-Tamor Pingla in the state as India's 56th tiger reserve. The reserve is expected to help Chhattisgarh improve its tiger population, which has been dwindling in recent years. It also opens an avenue to the state's ambition of reintroducing cheetahs at the reserve — the last cheetah was spotted here in the 1940s.

About Guru Ghasidas-Tamor Pingla Tiger Reserve

- The Guru Ghasidas-Tamor Pingla is the fourth tiger reserve in Chhattisgarh after Achanakmar, Indravati, and Udanti Sitanadi.
- The total area of the new tiger reserve is 2,829.387 sq km, making it the third largest tiger reserve in India.
- It is spread across four districts, Manendragarh-Chirmiri-Bharatpur (MCB), Korea, Surajpur, and Balrampur in the northern tribal Sarguja region of Chhattisgarh.
- The Guru Ghasidas-Tamor Pingla falls between two other important tiger reserves located in Bandhavgarh, Madhya Pradesh and Palamau, Jharkhand.
- It is adjacent to Sanjay Dubri Tiger Reserve, also in MP.
- The reserve comprises a wide range of wildlife species (apart from tigers) such as elephants, sloth bears, vultures, peacocks, wolves, leopards, otters, chitals, jackals, nilgai, bison, hyenas, langurs, cobras etc.
- The Guru Ghasidas-Tamor Pingla is also rich in flora — comprising sal, saja, dhavda, kusum etc — different types of vegetation. It consists of hills, plateaus, valleys, and a river system which create a diverse habitat for its rich wildlife.

13. Paris Agreement

Context: Argentina's far-right President Javier Milei is considering withdrawing his country from the Paris Agreement, which aims to curb global greenhouse gas (GHG) emissions, according to several Western media reports. The speculation surfaced after Milei's government asked its negotiators to leave the ongoing COP29 climate summit last week.

What is the Paris Agreement?

- The Paris Agreement is an international accord that was adopted by nearly every country in 2015 to address climate change and its adverse effects.
- Its primary goal is to substantially reduce GHG emissions in a bid to limit global warming in this century to “well below” 2 degrees Celsius above pre-industrial levels, while pursuing the means to curb warming to 1.5 degrees.

How does a country withdraw from the Paris Agreement?

- Article 28 of the Paris Agreement lays out the procedure and timeline for a country's withdrawal from the treaty.
- It says, “at any time after three years from the date on which this Agreement has entered into force (this happened in 2016) for a Party, that Party may withdraw from this Agreement by giving written notification to the Depositary”.
- The Article also states, “any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.”
- If a member state wants to withdraw from the treaty, it has to submit the notification of a withdrawal to the Office of Legal Affairs of the UN, based at UN Headquarters in New York.
- Once the withdrawal notification has been received, it only becomes effective after one year (or later if the member state so says in the notification).
- Until the withdrawal comes into force, the member state remains in the Paris Agreement and has to fully participate in all activities under it, according to the UNFCCC website.



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14. Partnership for Carbon Accounting Financials

Context: Punjab National Bank (PNB), the nation's leading public sector bank, has taken a significant step in advancing its sustainability agenda by becoming a signatory to the globally recognised Partnership for Carbon Accounting Financials (PCAF). This move reinforces PNB's commitment to transparency and proactive climate action by adopting internationally benchmarked standards for measuring and disclosing greenhouse gas (GHG) emissions associated with its lending and investment activities.

All About the Partnership for Carbon Accounting Financials (PCAF)

- The Partnership for Carbon Accounting Financials (PCAF) is a global initiative that helps financial institutions measure and disclose the greenhouse gas (GHG) emissions of their loans and investments. This framework is critical in aligning financial activities with global climate goals, such as those set by the Paris Agreement.

1. What is PCAF?

- **Founded:** 2015 in the Netherlands.
- **Global Expansion:** Became an international initiative in 2019.
- **Objective:** To provide a standardized methodology for financial institutions to measure and disclose the carbon footprint of their financial portfolios.
- **Vision:** Enable transparency and accountability in the financial sector, empowering institutions to align with net-zero goals.

PCAF operates as a collaboration of banks, asset managers, and other financial institutions that are committed to assessing and reducing the climate impact of their financial activities.

2. Key Principles of PCAF

PCAF operates based on the following principles:

- **Harmonized Approach:** Ensures that all members use the same methods for calculating financed emissions.
- **Materiality:** Focuses on sectors and activities that contribute significantly to emissions.

- **Granularity:** Provides detailed methodologies for specific asset classes, such as loans, mortgages, and equity investments.
- **Transparency:** Promotes full disclosure of assumptions, methods, and data sources.

3. How Does PCAF Work?

PCAF provides a **Global GHG Accounting and Reporting Standard for the Financial Industry**, which outlines how financial institutions can:

1. Measure emissions associated with their loans and investments.
2. Attribute these emissions to their financial activities.
3. Report emissions in line with global standards, such as the Greenhouse Gas Protocol.

PCAF covers a wide range of **asset classes**, including:

- Listed equity and corporate bonds.
- Business loans and unlisted equity.
- Project finance.
- Mortgages.
- Motor vehicle loans.

The methodology helps financial institutions calculate Scope 1, Scope 2, and Scope 3 emissions where applicable.

4. Global Participation

As of 2024, PCAF has over 400 members, including banks, asset managers, and pension funds, from across the globe. Notable members include:

- ABN AMRO
- Morgan Stanley
- Citi
- ING Group

These institutions collectively represent trillions of dollars in assets under management (AUM), demonstrating the widespread adoption of PCAF standards.

5. Relationship with Global Climate Frameworks

PCAF aligns with and supports other international climate initiatives, including:

- **Task Force on Climate-related Financial Disclosures (TCFD):** Provides disclosures on climate risks.
- **Science Based Targets initiative (SBTi):** Guides institutions in setting emission reduction targets.
- **United Nations Principles for Responsible Banking (UN PRB):** Encourages responsible banking practices.

15. Like-Minded Developing Countries

Context: The 29th edition of the Conference of Parties (COP), arguably the most important of the UN's climate conferences, was scheduled to end on November 22, after 11 days of negotiations, and take a collective step forward in addressing rising carbon emissions. However, deliberations are expected to carry on beyond the deadline with several sticking points outstanding.

Like-Minded Developing Countries (LMDC)

The Like-Minded Developing Countries (LMDC) is a coalition of developing nations that actively participates in international climate negotiations, particularly within the framework of the United Nations Framework Convention on Climate Change (UNFCCC). The LMDC group focuses on ensuring that climate policies and actions reflect the developmental and economic needs of developing countries while emphasizing equity and fairness in global efforts to combat climate change.

Key Features of LMDC

1. Formation and Membership:

- The LMDC group consists of countries from Asia, Africa, and Latin America, including major developing economies such as **India, China, Venezuela, Malaysia, and Saudi Arabia.**
- It was established to represent the shared interests of developing nations in global climate discussions.

2. Core Principles:

- **Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC):**
 - Advocates that developed nations, due to their historical emissions and advanced economies, should take the lead in reducing greenhouse gas emissions.

- Developing nations should be allowed to prioritize poverty alleviation and development while also contributing to climate action within their capacities.

○ **Equity:**

- Ensures fair distribution of responsibilities and access to resources in addressing climate change.

3. Role in Climate Negotiations:

- The LMDC group plays a significant role in the Conference of Parties (COP) meetings under the UNFCCC.
- It consistently pushes for:
 - Greater financial and technological support for developing nations.
 - Fair implementation of the Paris Agreement.
 - Opposition to measures that impose disproportionate burdens on developing countries.

4. Key Objectives:

- Protect the developmental rights of poorer nations.
- Demand financial aid and technology transfer from developed nations to support adaptation and mitigation efforts.
- Ensure that climate policies do not compromise the socio-economic growth of developing countries.

5. Notable Contributions:

- The LMDC group has been instrumental in negotiating fair terms for climate agreements like the **Kyoto Protocol** and the **Paris Agreement**.
- It advocates for a robust and transparent financial mechanism, with developed countries fulfilling their pledge of mobilizing \$100 billion annually for climate finance.

16. Study on habitats and animal size

Context: A study of the correlation between environmental variables such as latitude and body size in paper wasps concludes that the nearer the habitat of a species to the equator, the larger its body size.

More about the study:

- A study of the correlation between environmental variables such as latitude and body size in paper wasps concludes that the nearer the habitat of a species to the equator, the larger its body size.
- The findings refute for these insects a 19th-century theory that predicts larger body size at higher latitudes or in colder regions of the planet.
- It found that species living in warmer, less seasonal habitats closer to the equator tend to be larger than species living at higher latitudes, where temperatures are lower.

17. Exported Emission

Context: Fossil fuel exports have been a hot topic at the United Nations climate conference in Baku this year, with activists and delegates from some climate-vulnerable countries arguing nations should be held accountable for the pollution they send overseas — often to poor developing nations — in the form of oil, gas and coal. Some are seeking to get the question of how to do this onto the agenda at future climate summits.

Exported Emission:

- In the context of climate change agreements and deals, “exported emissions” refer to the greenhouse gas (GHG) emissions that are indirectly caused by one country but occur in another due to international trade. This typically happens when country imports goods that were produced in another country, with the production process generating emissions.

Key Aspects of Exported Emissions:**1. Production vs. Consumption Emissions:**

- **Production-based accounting** measures emissions that occur within a country's borders.
- **Consumption-based accounting** includes emissions embedded in goods and services consumed by a country, regardless of where they are produced.
- Exported emissions are part of the production emissions of the exporting country but are attributed to the importing country under consumption-based accounting.

2. Example:

- A developed country imports steel from a developing country. The emissions from steel production are counted in the developing country (exporting emissions), even though the steel is consumed elsewhere.
- **Exported emissions are greenhouse gas emissions associated with the production of goods in one country (Country Y) that are consumed in another (Country X). Option d reflects this concept most directly, as the emissions occur in the exporting country (Y) due to production for consumption elsewhere.**



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SCIENCE & TECHNOLOGY

1. New email policy

Context: The Union government on Wednesday (October 30, 2024) notified the Email Policy of Government of India, 2024, outlining which government departments and bodies must use the National Informatics Centre (NIC)'s NICeMail service.

The new email policy

- The policy requires that email addresses be specific to government employees' individual service. For instance, an IPS officer would have an email address ending with @ips.gov.in, as opposed to simply @gov.in.
- The **policy replaces previous 2015 rules on government email addresses.**
- The policy provides for generic job-derived email addresses for officers who hold certain positions, as well as a generic name-based email address that would stay with them throughout their service in government.
- It also provides for redirecting of emails to transferred officials, and archiving of designation-based inboxes after an officer completes their tenure at a certain role.
- **The NICeMail service is used by much of the Union bureaucracy and by States.**
- The policy also allows NIC's email services to be leased by private players in exchange for a fee. For government organisations, NICeMail will remain free of charge.
- The policy also moves to clearly **distinguish private contractors and consultants who work with the government on a non-permanent basis -external contractors** as well as consultants will need to have "-contractor" appended to the domain names on their email addresses. For instance, a consultant in the IT Ministry would have an email address that reads "name@meity-external.gov.in".

2. Anti-counterfeiting ink

Context: Anti-counterfeiting ink developed using luminescent nanomaterials can curb document duplication.

How the security ink will be helpful?

- A novel ink with enhanced security features developed with luminescent nanomaterials can help stop counterfeiting in currency, certificates, branded goods and medicines.
- Counterfeiting is a growing problem worldwide and researchers are trying to find unique ways to prevent it.

How INST scientists created this security ink?

- Luminescent properties of **rare earth ions and the characteristic emissions of bismuth** have long been known.
- **Scientists at the Institute of Nano Science and Technology (INST), an autonomous institute of Department of Science and Technology,** have used this property of rare earth materials, to synthesis a first of its kind security ink based on luminescent nanomaterials with rare earth doping, enabling excitation dependent luminescence (Under both UV and NIR light it gives Visible emission).
- **The ink can overcome the limitations of current covert tags, which are security features usually visible only under UV light and can be easily duplicated.**

What are the enhanced security features?

- The new ink offers enhanced security features through its ability to display different colours under various light wavelengths.
- Specifically, the ink appears vibrant blue under 365 nm light, pink under 395 nm light, and orange-red under 980 nm near-infrared (NIR) light and remains effective under a range of light, temperature, and humidity conditions.

Application of the material

- The luminescent ink made from these nanomaterials has significant potential to combat counterfeiting.

- It can be applied to **fake-proof various items, including currency, certificates, medicines, and branded products.**
- This allows both consumers and manufacturers to easily verify the authenticity of their items, providing a simple yet powerful tool to detect counterfeits.

3. LiDAR

Context: Scientists have detected a lost Mayan city, hidden for centuries by the dense Mexican jungle, using LiDAR.

What is LiDAR?

- LiDAR (Light Detection and Ranging) is a remote sensing technique that employs laser pulses to measure distances between a sensor (often mounted on an aircraft) and Earth's surface.
- This technology enables the creation of detailed 3D models of ground elevation with a precision of up to 10 centimeters, as reported by the US Geological Survey.

How does LiDAR work?

- LiDAR instrumentation comprises a laser, a scanner, and a GPS receiver.
- The rapidly firing laser travels to the ground where it hits vegetation, building, and various topographic features.
- This light is reflected or scattered, and recorded by the LiDAR sensor.
- The system calculates the light pulses' two-way travel time to arrive at the distance between the terrain and the sensor.
- It processes this information with Global Positioning System (GPS) and Inertial Measurement System (IMS) data, to create an elevation map of Earth.

Why is LiDAR very useful for archaeologists?

- LiDAR is used to generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.
- This is obviously very useful information for geographers, policy makers, conservationists, and engineers.
- In recent years, however, LiDAR has also shown potential as a tool of archaeological discovery.

4. Onion Bomb

Context: In Eluru, Andhra Pradesh, a firecracker accident killed one and injured six, two critically, when a two-wheeler hit a pothole, causing an explosion of 'onion bombs'.

Understanding the 'Onion Bomb'

- An 'onion bomb' is a firecracker shaped in round or bulbous form resembling an onion.
- When ignited, it produces a **powerful bang, emitting a sudden flash** and sometimes smoke, much like a small **dynamite blast.**
- 'Onion bombs' are a type of powerful firecracker shaped like an onion, known for their explosive capability, **comparable to that of an improvised explosive device (IED).**
- In some countries, such as the **UK**, these firecrackers are restricted to professional displays and are **not available for public sale.**

5. Black hole triple

Context: A new study says scientists have discovered a "black hole triple" in space for the first time.

About the discovery:

- The system **comprises a black hole at its centre, currently in the process of consuming a small star spiralling very close to it.** There is also a second star, which appears to be circling the black hole but is actually far away.
- The discovery of the system, **located about 8,000 light years away from Earth** (one light year is the distance light travels in a year, 9.5 trillion kilometre), has raised questions about how black holes are formed.

What is "Black hole triple" system?

- Many black holes discovered until now have been part of binary systems, consisting of a black hole and a secondary object (such as a star or another black hole).
- **But the black hole triple not only has one star which orbits the black hole about every 6.5 days, but also a more far-off star which orbits it every 70,000 years.**

- Situated in the constellation of **Cygnus**, the system features one of the oldest known black holes, the V404 Cygni, which is nine times as big as the Sun in our solar system.

6. First Analog space mission

Context: The Indian Space Research Organisation (ISRO) launched the country's first analog space mission in Leh, Ladakh, on November 1.

About the mission:

- The mission was developed by a partnership of the **Human Spaceflight Centre, ISRO, AAKA Space Studio, the University of Ladakh, and IIT Delhi.**
- It is also supported by the **Ladakh Autonomous Hill Development Council.**
- The mission aims to **simulate conditions similar to those on Mars and the Moon** while considering Ladakh's extreme climate and geographical terrain.
- The mission tries to replicate the challenges that astronauts would face in extreme conditions of celestial bodies.

What Ladakh was ideal location for the mission?

- Ladakh is a cold desert and the **climate is a mix of desert and arctic regions.**
- The temperature in the region may range from 3 to 35 °C in summers and -20 to -35 °C in winters. The region experiences heavy snowfall during winter.

What are Analog missions?

- According to NASA, analog missions are field tests **in locations that are similar to extreme space environments.**
- As per NASA, its engineers and scientists work with government agencies, academia, and industry to gather requirements for testing in harsh environments before they are used in space.
- The mission aims to **save time, money and manpower** by mimicking a similar environment on Earth before investing in space, it added.
- These field tests include new technologies, robotic equipment, vehicles, habitats, communications, power generation, mobility, infrastructure, and storage.

- **Behavioural effects such as isolation and confinement, team dynamics, menu fatigue, and others, are also observed.**

7. Oral Rehydration Therapy

Context: Richard Cash, physician and global health scholar, died on October 22 at the age of 83 in his home in Cambridge, US. Although American by citizenship, Richard's heart belonged in South Asia, particularly in Bangladesh and India, where he lived for extended periods and where his work contributed to saving tens of millions of lives.

About Oral Rehydration Therapy (ORT):

- Oral Rehydration Therapy (ORT) is a simple, effective treatment for dehydration, **particularly dehydration caused by diarrhoea and vomiting.**
- ORT works by replenishing fluids and essential electrolytes (like sodium and potassium) lost during these illnesses, which is vital for restoring the body's normal hydration levels.
- **The solution typically contains a precise mix of glucose and salts that facilitates rapid water absorption in the intestines.**
- The principle behind ORT relies on the sodium-glucose cotransport mechanism in the gut.
- This means that glucose helps pull sodium (and therefore water) into the body more effectively, as these two compounds are absorbed together in the intestines.
- This approach allows for hydration without needing intravenous (IV) fluids, making ORT a life-saving, accessible solution in many low-resource or emergency settings.
- **ORT is specifically designed to be taken orally.** Its effectiveness comes from the way it uses the sodium-glucose cotransport mechanism in the intestinal lining, which does not apply when solutions are given intravenously.
- Intravenous rehydration involves direct fluid replacement in the bloodstream, which bypasses this mechanism.
- **The World Health Organization (WHO) and UNICEF recommend ORT as a primary intervention for children and adults** experiencing acute diarrhoea, especially in areas where medical facilities are scarce.

8. World's first wooden satellite

Context: The world's first wooden satellite, built by Japanese researchers, was launched into space on Tuesday, in an early test of using timber in lunar and Mars exploration.

About:

- Developed by Kyoto University and Japan Aerospace Exploration Agency (JAXA), the satellite aims to test the viability of using wood as a sustainable alternative to metals in satellite construction.
- Its primary mission is to evaluate the durability of magnolia wood in the extreme conditions of space, with the goal of reducing space debris.*
- This pioneering project could revolutionise satellite manufacturing and contribute to a cleaner, more sustainable approach to space exploration.

Why did Japan choose wood for this satellite?

- LignoSat's panels are made from magnolia wood, a material known for its strength and resilience, and often used in traditional Japanese crafts.
- The wood is processed using an ancient Japanese technique that avoids the use of screws or glue, making it lightweight yet sturdy.
- The choice of wood is significant because it ensures that the satellite will burn up upon re-entry, leaving no remnants in the atmosphere, which is a key step in preventing space junk from accumulating in orbit.

What makes LignoSat's design unique?

- LignoSat's design is distinct due to its use of lightweight magnolia wood, which gives the satellite a small size (just 10 cm) and a weight of only 900 grams.
- Its construction does not involve screws or glue, which is unconventional for satellite design.
- This method not only ensures the satellite remains robust but also contributes to reducing the environmental footprint of satellite manufacturing.
- The mission serves as an experiment in testing sustainable materials for future spacecraft.

9. Walking Pneumonia

Context: 'Walking Pneumonia' Is Surging Ahead of Cold and Flu Season

About Walking Pneumonia:

- Walking pneumonia, also known as atypical pneumonia, is typically caused by *Mycoplasma pneumoniae* bacteria.
- It's called "walking pneumonia" because the symptoms are usually mild enough that people can continue their daily activities while infected, unlike more severe forms of pneumonia.
- However, rest is still recommended for recovery.
- The condition generally develops gradually over a period of two weeks and may persist for up to four weeks.

10. Proba-3 Space Satellite

Context: Union Minister Dr Jitendra Singh announced here today that India is set to launch the European Union's Proba-3 Space Satellite by in the first week of December, marking another milestone in its burgeoning role as a global space leader disclosing this while speaking at the 3rd Indian Space Conclave, Dr Jitendra Singh said, this underscores the deepening partnership between India and the EU in space research and exploration.

About Proba-3 Space Satellite:

- Its objective is to perform Solar observation, specifically focusing on the dynamics of the Sun's corona.
- It will be collaborative mission i.e., Joint mission by the European Union and India, highlighting international cooperation in scientific research.
- The Launch Date is Scheduled for early December 2024 from Sriharikota, India.
- Proba-3 marks the third Proba satellite launch by ISRO for the EU, building on past successful launches of Proba-1 and Proba-2.
- The satellite is equipped to provide high-resolution images and data on solar corona behavior, advancing space weather research.

11. Millimeter Wave Transceiver for 5G Rural Connectivity

Context: Centre for Development of Telematics (C-DOT), the premier Telecom R&D centre of the Department of Telecommunications (DoT), Government of India has **signed an agreement with the Indian Institute of Technology Roorkee (IIT Roorkee) for the development of "Millimeter Wave Transceiver for 5G Rural Connectivity".**

More about the agreement:

- **The agreement is signed under the Telecom Technology Development Fund (TTDF) scheme of the Department of Telecommunications, Government of India.**
- The project focuses on the development of millimeter wave backhaul technology in which only a small number of SBSs (Small cell - Based Stations) is connected to the gateway through fibre.
- Innovative mixed optical and millimetre wave approach proposed in the transceiver development will be a promising method to achieve the desired output of reduced overall size and decreased cost.
- It will also encourage small and medium scale industries to setup their manufacturing units in India which will create job opportunities to our own engineering graduates, due to the use of polymer-based structure in conjunction with metals.
- This will also reduce our over dependence on semiconductor fabrication industries.
- The proposed cost for the development of technology is extremely small as against the opportunities it would create.
- Additionally, the **project also aims to contribute to generate Intellectual Property Rights (IPRs) and develop a skilled workforce to support the emerging millimetre wave/Sub-THz technology for 5G/6G.**

Millimeter Wave (mmWave) Transceiver:

A **Millimeter Wave (mmWave) Transceiver** is a device that facilitates wireless communication by transmitting and receiving signals in the millimeter wave frequency spectrum, typically between **30 GHz and 300 GHz**. These high-frequency waves have unique properties that make them suitable for specific applications, but they also pose technical challenges.

Key Features of mmWave Transceivers:

1. **High-Frequency Operation:** Operates in the millimeter wave spectrum (30-300 GHz), allowing for high data transmission rates and bandwidth.
2. **Short Wavelengths:** Wavelengths range from 1 mm to 10 mm, enabling the use of smaller antennas and compact device designs.
3. **Line-of-Sight (LoS) Communication:** Requires direct line-of-sight for optimal performance because mmWave signals have limited ability to penetrate walls or obstacles.
4. **High Data Rate:** Can support gigabit-level speeds, making it ideal for applications demanding high-speed communication.
5. **Beamforming Capability:** Uses directional beams to enhance signal strength and mitigate interference, improving performance over long distances.

12. RNA editing

Context: On October 16, a **biotechnology company in Massachusetts in the U.S. named Wave Life Sciences made headlines for becoming the first company to treat a genetic condition by editing RNA at the clinical level.**

What is RNA editing?

- Cells synthesise messenger RNA (mRNA) using instructions in DNA and then 'read' instructions from the mRNA to make functional proteins.
- During this process of transcription, the cell may make mistakes in the mRNA's sequence and based on it produce faulty proteins.
- Many of these proteins have been known to cause debilitating disorders.
- **RNA editing allows scientists to fix mistakes in the mRNA after the cell has synthesised it but before the cell reads it to make the proteins.**

RNA v. DNA editing

- RNA editing has some advantages over DNA editing, especially on safety and flexibility.

- DNA editing makes permanent changes to a person's genome and sometimes this can lead to irreversible errors.
- On the other hand, RNA editing makes temporary changes, allowing the effects of the edits to fade over time. In a clinic, this means a doctor can stop the therapy if a problem arises and mitigate long-term risk.
- CRISPR-Cas9 and other DNA editing tools require proteins acquired from certain bacteria to perform the cutting function, but these proteins can elicit undesirable immune reactions in some cases.
- RNA editing relies on ADAR enzymes, which already occur in the human body and thus present a lower risk of allergic reactions. This is useful for people who require repeated treatment and/or who have immune sensitivities.

Challenges in RNA editing

- A big challenge in RNA editing is its specificity. ADARs can perform adenosine-inosine changes in both targeted and non-targeted parts of mRNA, or skip the targeted parts altogether.
- Another challenge is the transient nature of RNA editing: this is also its strength, but individuals will need to be treated repeatedly to sustain the therapy's effects.
- Third, current methods to deliver the gRNA-ADAR complex use lipid nanoparticles. Researchers used them to great success to make mRNA vaccines to treat COVID-19 and the adeno-associated virus (AAV) vectors used in gene editing. But both these methods have a limited carrying capacity, meaning they can't transport large molecules very well.



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13. Semaglutide

Context: While the injectable forms of semaglutide have taken the world by storm, the oral form, available in India, is helping doctors see results in diabetes control, with the added benefit of weight loss, even though the cost remains a deterrent.

About Semaglutide

- Ozempic, known generically as semaglutide, is an injectable prescription drug.
- It was approved in 2017 by the United States Food and Drug Administration (FDA) for use in adults with type 2 diabetes.
- In 2021, the FDA approved of another injectable semaglutide, Wegovy, for chronic weight management in adults with obesity/overweight and with at least one weight-related condition (such as high blood pressure, type 2 diabetes, or high cholesterol).
- Ozempic and Wegovy are manufactured by Danish drugmaker Novo Nordisk.

what is semaglutide and who uses it in India?

- Semaglutide belongs to the class of drugs called Glucagon-like peptide-1 (GLP-1) receptor agonists.
- This drug mimics the actions of the hormone GLP-1 made by the small intestine, which the gut releases after eating.
- What this does is slow down digestion and reduce the appetite, while triggering the pancreas to release more insulin.
- The use of the drug therefore, leads to weight loss, and some benefits to the heart and kidney have also been noted,
- Semaglutide is available in oral (Rybelsus) and injectable (Ozempic/Wegovy) forms.
- The injectables result in weight losses of about 10 to 15% in patients

14. Malware attacks in India

Context: A crucial defence unit was affected by a ransomware attack in 2023, according to the 2023-24 annual report of the Department of Personnel Training (DoPT). In such an attack, access to a computer is blocked through malware until a ransom is paid.

About the report:

- The report, published last week, mentions that in 2023, the Central Bureau of Investigation (CBI) investigated complex cyber-crimes with national security implications.
- These included “a ransomware attack on a crucial defence unit, a data breach impacting millions of Indian users, a malware attack in a Ministry, and a massive DDOS attack on critical infrastructure and airports in India”.
- DDOS stands for distributed denial-of-service, a malicious attempt to disrupt internet traffic.

Recent malware attacks in India:

- In October 2023, American cyber security and intelligence agency Resecurity had issued an alert that the Indian Council of Medical Research (ICMR) had suffered a data leak of Aadhaar and passport information of 81 crore Indians, along with names, phone numbers, and addresses.
- According to the 2023 report of the Indian Computer Emergency Response Team (CERT-In), as many as 15,92,917 security incidents were reported last year, a massive jump from 53,117 incidents reported in 2017.
- These incidents included website intrusion and malware propagation, malicious codes, phishing, DDOS attacks, website defacements, unauthorised network scanning activities, ransomware attacks, and data breaches.

Most effective for a Distributed Denial-of-Service (DDoS) malware attack to remain undetected:

- A multi-vector attack leverages various attack types simultaneously to overwhelm different aspects of the target system:
- Volumetric attacks flood the network bandwidth with massive amounts of traffic, such as UDP floods or DNS amplification.

- Application-layer attacks target specific applications, like web servers, to consume their resources (e.g., HTTP floods).
- Protocol-based attacks exploit weaknesses in protocols, such as TCP SYN floods, to exhaust server resources at a lower level.
- A multi-vector approach makes mitigation more difficult because it targets multiple layers of the system at once, requiring comprehensive defences to detect and block the attack.
- This strategy also increases the chances of success while reducing the risk of early detection.

15. Chemical Cordycepin

Context: New research into a chemical produced by a caterpillar fungus that has shown promise as a possible cancer treatment has revealed how it interacts with genes to interrupt cell growth signals.

Primary mechanism:

- The chemical Cordycepin, interrupts the cell growth signals that are overactive in cancer, an approach that could be less damaging to healthy tissues than most currently available treatments.
- Cordycepin is converted to cordycepin triphosphate, and this molecule was found to directly affect cancer cells.

16. Advances in AI techniques

Context: AI tools are being used to extract money by impersonating friends, family, and colleagues.

- Advances in AI techniques, such as few-shot learning, allow high-quality voice cloning with much less data—sometimes as little as a few seconds to a few minutes of target voice audio. Thirty minutes may be required for older or more traditional models.
- WaveNet is a generative model designed to produce raw audio waveforms, focusing on phoneme generation and overall sound quality. While it captures prosody, this is not its primary focus.

- Autoencoder-based systems often aim for fast adaptation with minimal data. However, reduced emotional expressiveness is a common limitation of such approaches.
- Modern real-time voice cloning systems often rely on non-parallel data and unsupervised learning techniques, as collecting parallel data (where both speakers say the same things) can be challenging.

Key Techniques in AI Voice Cloning

1. Text-to-Speech (TTS) Synthesis:

- Converts written text into speech.
- Modern TTS systems use neural networks (e.g., Tacotron, Tacotron 2) to produce natural-sounding voices.
- Can incorporate a target speaker's voice using a small dataset for fine-tuning.

2. Voice Conversion (VC):

- Transforms one speaker's voice into another while preserving the linguistic content.
- Often used with autoencoders or GANs (Generative Adversarial Networks).
- Can require as little as 5-10 seconds of target speaker audio but with limitations like reduced emotional expressiveness.

3. Autoencoder-Based Cloning:

- Uses an encoder-decoder architecture to extract and reconstruct voice features.
- Low data requirement (few seconds of target voice), but emotional and prosodic details may be less accurate.

4. Real-Time Voice Cloning:

- Achieved using models like Speaker Verification, Synthesis, and Conversion (SV2TTS).
- Combines speaker embeddings, text-to-speech synthesis, and voice conversion.
- Works with minimal voice samples for rapid cloning.

5. WaveNet and Neural Vocoder:

- WaveNet, developed by DeepMind, generates raw waveforms to create natural, expressive speech.
- Vocoder convert synthesized features into high-quality audio.

17. Pinaka Multi-Barrel Rocket Launcher

Context: France is considering India's Pinaka Multi-Barrel Rocket Launch (MBRL) system for its requirements and is soon going to carry out a detailed evaluation of the system, according to a senior French Army officer.

Pinaka Multi-Barrel Rocket Launcher (MBRL):

- It is designed by the Armament Research and Development Establishment (ARDE), a laboratory of the DRDO.
- It delivers lethal and responsive fire against a variety of area targets, such as exposed enemy troops, armoured and soft-skin vehicles, communication centres, air terminal complexes, and fuel and ammunition dumps.

Features:

- It consists of a multi-tube launcher vehicle, a replenishment-cum-loader vehicle, a replenishment vehicle, and a command post vehicle.
- The rocket launcher has two pods containing six rockets each and can neutralise an area of 700 × 500 square metres within 48 seconds.
- The 214mm Pinaka rocket features a payload of 100 kilograms (220 pounds), with the option of a range of warheads such as anti-tank mines and blast-cum-pre-fragmented high explosives.
- The launcher system is supported on four hydraulically actuated outriggers at the time of firing.
- The system is mounted on a Tatra truck for mobility.

- India already has several versions of the Pinaka rocket launcher system.
- The range of the Pinaka Mk-1 is 48 kilometers, the Pinaka Mk-I Enhanced has a range of 60 kilometres and the Pinaka Mk-II has a range of 90 kilometer.

	Name of weapons	Types of weapons
1	Pinaka	Multi-barrel rocket launcher
2	Dhanush	Short-range ballistic missile
3	Trishul	Surface-to-air missile
4	Nirbhay	Subsonic cruise missile

18. Digital currency

Context: The European Central Bank (ECB) has been working on a digital currency for some time now; its “preparation phase” commenced in November 2023.

- Countries that have launched their sovereign digital currencies nationwide
 - The Bahamas
 - Jamaica
 - Nigeria
- Countries that have launched their sovereign digital currencies on pilot basis
 - India
 - China
 - European Union
 - Brazil
 - Russia
- Approximately 44 in total by April 2024, as per Atlantic Council Digital currency tracker.

European Union digital currency

- This currency is meant to be the government's alternative to existing cashless options such as credit cards, apps, cryptocurrencies, and bank transfers.
- People can use the digital euro to pay directly from a digital wallet, on a smartphone or computer, without involving a bank or payment gateway.
- Depending on the end device, the money can be transferred via Bluetooth, a browser extension or a smartphone contact.

- The digital euro differs from other types of digital payment options because the ECB issues it directly.
- Indeed, this central bank digital currency is expected to be an infrastructure that the ECB manages, making it possible to process national and international payments between citizens and companies quickly and cost-effectively.
- It will also be used for micro payments, which are currently disproportionately expensive thanks to banks' and payment-service providers' conventional cost structures.
- The cost-neutral digital euro effectively allows for new business models.
- The ECB has thus presented this as a new, better alternative for citizens: free, anonymous, reliable. But this is not the truth about the purpose of digital currency.

19. Voyage- Global circumnavigation expedition

Context: After a 39-day voyage at sea, two women officers undertaking a global circumnavigation expedition in Indian Naval Sailing Vessel *Tarini*, arrived at its first port of call in Australia on Saturday after covering a distance of 4,900 nautical miles from Goa. The historic expedition was flagged off from Goa by Navy chief Admiral Dinesh K. Tripathi on October 2.

About the Voyage:

- The voyage will cover around 23,000 nautical miles in around 240 days, across four continents through three oceans and three challenging Capes unfolding in five legs with stopovers at four ports for replenishment and maintenance.
- The five legs are Goa to Fremantle, Australia; Fremantle to Lyttleton; New Zealand; Lyttleton to Port Stanley; Falkland; Port Stanley to Cape Town, South Africa and from Cape Town back to Goa.
- The second leg of Navika Sagar Parikrama-II is expected to commence around November 24.

INSV Tarini

- INSV Tarini, a 56-foot sailing vessel built by Aquarius Shipyard Ltd, was inducted in the Indian Navy on February 18, 2017.
- The vessel has clocked more than 66,000 nautical miles (1,22,223 km) and participated in the first edition of Navika Sagar Parikrama in 2017, trans-oceanic expedition from Goa to Rio, Goa to Port Louis and other significant expeditions.

20. Adaptive Defence Strategy

Context: The government is creating an 'Adaptive Defence' in the country to counter emerging challenges posed by the fast-changing world in today's times, Defence Minister Rajnath Singh said on Tuesday (November 12, 2024) calling it not merely a strategic choice, but a necessity in today's fast-paced world. If our threats are transnational so should be our solutions, he stated.

What is Adaptive Defence Strategy:

- 'Adaptive Defence' is a strategic approach where a nation's military and defence mechanisms continuously evolve to counter emerging threats effectively.
- 'Adaptive Defence' is not merely responding to what has happened but anticipating what could happen, and preparing for it proactively.
- In essence, it involves cultivating a mindset and capability to adapt, innovate and thrive, even in the face of unpredictable and evolving circumstances.
- Situational awareness, flexibility at strategic and tactical levels, resilience, agility, and integration with the futuristic technologies are the keys to understand and create adaptive defence.



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21. Bacteria That Compute

Context: In a groundbreaking experiment, Saha Institute scientists have built bacterial computers that behave like artificial neural networks.

The Bacteria That Compute

Breakthrough Achievement:

- The team at Saha institute has engineered bacteria capable of determining whether a given number is prime and if an alphabet is a vowel. Previously, such tasks could only be completed by humans or computers.
- This accomplishment raises new questions about the definition of intelligence, as genetically engineered bacteria now perform these tasks.

Genetic Circuit Introduction:

- The team introduced 'genetic circuits' in bacteria that activate through specific combinations of chemical inducers.
- By combining bacteria with different genetic circuits in a solution, they created bacterial "computers" that act like artificial neural networks (ANNs).
- In this setup, each engineered bacterium acted as a "bactoneuron". Collectively, the bactoneurons mimicked a multicellular organism capable of abstract mathematical operations.
- It is a synthetic biological system engineered to mimic electronic circuits, using genes and proteins to perform mathematical operations.

Potential Applications:

- These bacterial computers could lead to advancements in the pharmaceutical industry, medical sciences, and biomanufacturing, leveraging the bacteria's capability for mathematical problem-solving.

22. Hypersonic weapon

Context: India on November 18, announced the successful flight test of its maiden long-range hypersonic missile with a range of 1,500 km. The Defence Research and Development Organisation (DRDO) conducted the flight test late on Saturday from Dr. A.P.J. Abdul Kalam Island, off Odisha coast, the latest in a series of missile tests in the past two months.

How do hypersonic missiles operate?

- Hypersonic missiles generally launch warheads at speeds of at least Mach 5 while traveling at fairly low altitudes.
- Newly developed hypersonic weapons fly higher than less speedy missiles, but lower than intercontinental ballistic missiles.
- Hypersonic weapons are more difficult to identify and shoot down.

23. Missiles & Types

Context: Russian President Vladimir Putin said on Thursday that the country's forces had hit Ukraine with a new mid-range ballistic missile. Mr. Putin said in a televised address that Russia carried out "testing in combat conditions of one of the newest Russian mid-range missile systems... Our engineers named it Oreshnik," which means hazel tree in Russian.

	Name of the missiles	Types
1	Tomahawk	Subsonic Cruise missile
2	Iskander-M	Tactical ballistic missile
3	K-15	Submarine-launched ballistic missile
4	Javelin	Anti-tank missile

24. Critical minerals

Context: The government must include coking coal in the list of critical minerals and provide special dispensation to enhance the domestic production of the key raw material for steel production, according to a Niti Aayog report.

Critical minerals

- These are minerals that are essential for economic development and national security, and the lack of availability of these minerals or the concentration of extraction or processing in a few geographical locations could potentially lead to "supply chain vulnerabilities and even disruption of supplies".
- This is true for minerals such as lithium, graphite, cobalt, titanium, and rare earth elements, which are essential for the advancement of many sectors, including hightech electronics, telecommunications, transport, and defence.

- Government has released a list of 30 critical minerals for India.
- These minerals are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.

25. History on WiFi bands

Context: Earlier in November, the PlayStation 5 Pro console was released in key markets around the world, but no announcement was made regarding India. On November 8, Sony said, "PS5 Pro will not be available in some countries (which presently includes India) where 6GHz wireless band used in IEEE 802.11be (Wi-Fi 7) has not yet been allowed."

What's the history on WiFi bands?

- In India and throughout the world, WiFi has mainly used two key bands of frequency -2.4GHz and 5GHz.
- Home broadband users may recognise these frequencies as separate transmissions from the same router -2.4GHz has limited data bandwidth, but can blanket a larger area with coverage.
- 5GHz is significantly faster, but covers a shorter distance.
- The frequencies for the spectrum used by these WiFi bands was de-licensed for indoor and outdoor use separately in India starting in 2002.
- This state of WiFi technology remained the same well into the introduction of WiFi-6 in 2020.
- That technology uses both 2.4GHz and 5GHz frequencies simultaneously, with greater efficiency, resulting in better speeds.
- But in 2021, WiFi 6E was introduced, splitting the world into two regions: those who allowed the use of 6GHz spectrum, and those that didn't.

What is 6GHz spectrum and what does it have to do with WiFi?

- By 2021, several regulatory authorities around the world, including Japan, Mexico, South Korea, Taiwan, United Arab Emirates, the U.K., and the U.S. began de-licensing a third band of spectrum for WiFi.
- The WiFi 6E standard was introduced that year, allowing the creation of routers that broadcast on this frequency, bringing up theoretical maximum speeds to 9.6Gbps.
- This relied on the band of spectrum between 5,925MHz and 7,125MHz, known as 6GHz spectrum.
- But in several countries, that is not yet the case.
- **India and China have not allowed the use of 6GHz spectrum for WiFi yet.**
- While the International Telecommunications Union (ITU) generally tries to keep wireless frequencies for telecom, WiFi, satellite and other use cases uniform around the world, several countries have not yet agreed on a standard division of the 6GHz band.

Who has the 6GHz band in India, and who wants it?

- **The 6GHz band is currently with the Indian Space Research Organisation (ISRO) for satellite use cases.**
- However, satellite communications over 6GHz are unlikely to interfere meaningfully with WiFi-like use cases; at any rate, at the World Radiocommunications Conference last year, India and some other countries were able to get an extension till 2027 on what to do with some or all of the spectrum.
- Around the world, and certainly in India, telecom operators have expressed intense interest in getting 6GHz spectrum for 5G and 6G, a demand that India may be poised to entertain.
- Tech companies, such as those represented by the Broadband India Forum — Google, Meta, Amazon, and others — have argued for a U.S.-like allocation for this spectrum to WiFi.
- Both camps seem to be pushing for the entire 6GHz band to be used for either telecom or WiFi.
- The government may follow the lead of countries like Australia, which have de-licensed half the spectrum, while considering what to do with the other half.

26. One Nation One Subscription

Context: The Union Cabinet, chaired by Prime Minister Shri Narendra Modi, has approved One Nation One Subscription, a new Central Sector Scheme for providing country-wide access to scholarly research articles and journal publication.

More about the scheme:

- The scheme will be administered through a simple, user friendly and fully digital process.
- This will be a “One Nation One Subscription” facility for the government higher education institutions and R&D laboratories of the central government.
- **A total of about Rs.6,000 crore has been allocated for One Nation One Subscription for 3 calendar years, 2025, 2026 and 2027 as a new Central Sector Scheme.**
- **One Nation One Subscription will build on and further enhance the scope and reach of the range of initiatives undertaken by the Government of India over the past decade in the domains of education, for maximizing access to quality higher education for the youth of India.**

Benefits of One Nation One Subscription:

- This will supplement the ANRF initiative to promote research and development and foster a culture of research and innovation throughout government universities, colleges, research institutions, and R&D laboratories.
- **The benefits of One Nation One Subscription scheme will be provided to all Higher Educational Institutions under the management of the Central or State Government and Research & Development Institutions of the Central Government, through a national subscription coordinated by a central agency, namely the Information and Library Network (INFLIBNET), an autonomous inter-university centre of the University Grants Commission (UGC).**
- This list **covers more than 6,300 institutions, translating into nearly 1.8 crore students, faculty and researchers, who will be able to potentially avail benefits of One Nation One Subscription.**

27. Proba-3

Context: The Indian Space Research Organisation (ISRO) will launch the European Space Agency's Proba-3 mission on its PSLV rocket to study the solar corona, the outermost and hottest part of the Sun's atmosphere, from Sriharikota on December 4.

More on news:

- The mission will attempt the first-ever "precision formation flying", where two satellites will fly together and maintain a fixed configuration in space.
- This is the latest solar mission in ESA's Proba suite of missions.
- Its predecessors Proba-1 (also launched by ISRO) and Proba-2 were launched in 2001 and 2009, respectively.
- Teams of scientists from Spain, Belgium, Poland, Italy and Switzerland have worked on Proba-3.

What is Proba-3?

- Developed at an estimated cost of 200 million euros, Proba-3 has an expected mission life of two years. It will be launched into a highly elliptical orbit measuring around 600 x 60,530 km and have an orbital period of 19.7 hours.
- The mission is designed with two satellites that will be launched together, separate from each other and then fly in tandem.
- They will then form a solar coronagraph, an instrument that helps block out the bright light emitted by the Sun to reveal the objects and atmosphere around it.

What will Proba-3 study?

- Due to the corona's temperature, going up to 2 million degrees Fahrenheit, it is difficult for any instrument to observe it closely.
- However, it is important for scientific study, as all space weather and its associated turbulences — solar storms, solar winds, etc. — originate from the corona.

	Space Mission	Associated Space Agencies	Special Features
1	Proba-3	European Space Agency (ESA)	To study the solar corona
2	Hera Mission	European Space Agency (ESA)	Study of Didymos-Dimorphos asteroid system
3	VIPER Mission	National Aeronautics and Space Administration (NASA)	To explore the moon's south pole

28. Sabal-20 drones

Context: The Army has received Sabal-20 logistics drones procured from EndureAir Systems for deployment in the eastern sector, the company announced on November 27.

About Sabal-20 drones:

- Sabal-20 is an electric unmanned helicopter based on variable pitch technology, and capable of carrying payloads of up to 20 kg, according to EndureAir, which was incubated at the IIT-K in 2018. The tender was issued around 2023-end and the deliveries have just begun.
- Sabal-20 is engineered to meet rigorous operational demands, supporting missions such as long-range deliveries, high-altitude operations, and precision logistics, the company said in a statement.
- "Its advanced Vertical Take-Off and Landing (VTOL) technology enables seamless operations in confined and rugged terrains, while its low RPM design minimises noise with a low aural signature, enhancing stealth in sensitive missions."

	Name of drones	Types/Application
1	Tapas	Medium-Altitude Long-Endurance (MALE) UAV
2	Nishant	Tactical UAV
3	Lakshya	High-speed target Drone
4	Sabal-20	Logistic Drone

29. Anālākṣhya MSCS

Context: The Indian Institute of Technology Kanpur (IITK) announced a pioneering advancement in stealth technology with the launch of the Metamaterial Surface Cloaking System (Anālākṣhya MSCS). Developed by a team of leading researchers, this innovative system sets a new benchmark in multispectral stealth capabilities, offering transformative applications in defense, national security, and specialized industries.

More about the system:

- Speaking on the occasion, Prof. Manindra Agrawal, Director of IIT Kanpur, Congratulated Prof. Ramakrishna and his team for developing this remarkable material with exceptional stealth properties, which are extremely advanced and unique.
- The Anālākṣhya MSCS is designed to revolutionize stealth technology for defense and security applications. By offering near-perfect wave absorption across a broad spectrum, it significantly enhances the ability to counter Synthetic Aperture Radar (SAR) imaging, and will also give effective protection from missiles that use radar guidance.
- Tailored for modern warfare, this cutting-edge innovation strengthens operational capabilities, providing India's armed forces with advanced tools to maintain strategic superiority and ensure national security.
- Its advanced design is tailored for operational imperatives, making it a crucial asset in modern warfare and surveillance. The technology underwent extensive laboratory and field testing between 2019 and 2024, proving its efficacy across diverse conditions.

- The Anālākṣhya MSCS is a testament to India's capability to innovate and excel in defense technology, with over 90% of the material being sourced indigenously.
- In a significant move towards industrial production, the technology has been licensed to Meta Tattva Systems Pvt. Ltd. which will oversee its manufacturing and deployment.
- The system is currently under acquisition by the Indian Armed Forces, signaling its strategic importance to national security.

30. Moiré pattern-semiconductor

Context: Scientists have found that moiré materials made from semiconductor materials can also be superconducting, a property once considered to be exclusive to graphene; exploring why semiconductor moiré materials behave differently is key to advancing understanding of quantum materials.

The moiré pattern

- The researchers explored superconductivity in twisted bilayer tungsten diselenide (tWSe₂), a moiré material created by stacking two layers of tungsten diselenide, a semiconductor, and rotating one layer by a small angle.
- Even though the two layers of a moiré material have the same arrangement of atoms, the misalignment caused by the small twist produces a completely different pattern when seen from the top (see image above). This is called the moiré pattern.
- In moiré materials, the moiré pattern gives rise to new behaviours that are not present in the individual 2D materials alone. This is because the twist leads to the formation of flat bands in the electronic structure of the material.

Flat bands to superconductivity

- The electronic structure of a material describes how electrons in the material behave. The energy bands are a way to visualise the energy the electrons possess and how fast they move within the material.

- Imagine the energy bands to be a ladder: each step (or band) represents the range of energies an electron can have. As you go up the ladder, the electron possesses more and more energy and momentum, meaning it will move faster.
- A flat band means that the energy values of the electrons across the ladder are nearly constant, creating a flat region within the band. In this scenario, all the electrons have the same energy, unlike in typical materials where the energy levels are spread out over a range.**
- Also in typical materials, electrons gain or lose kinetic energy when they move across different energy levels, which affects their speed and momentum. But in moiré materials, because the bands are flat, the electrons experience very little variation in energy.
- As a result, the electrons move slowly and are said to be heavy. **These slower-moving electrons are more likely to interact with each other, creating strong electron-electron interactions that aren't seen in typical materials.**
- These interactions can lead to the formation of Cooper pairs, **where two electrons pair up across a short distance and move around as a single unit. This pairing is central to the phenomenon of superconductivity. (Leon Cooper, for whom the pairs are named, passed away on October 23.)**
- Their coordinated movement helps them avoid scattering, a process where electrons collide with atoms or impurities in the material and deviate from their path, causing electrical resistance. On the other hand, Cooper pairs can travel through the material without scattering, leading to zero resistance and energy loss, and thus superconductivity.



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31. Asteroid 2024 PT5

Context: Earth is bidding farewell to asteroid 2024 PT5, which has been orbiting as a "mini-moon" for about two months. The small, harmless space rock is set to leave Earth's vicinity on Monday, drawn away by the stronger gravitational pull of the sun. However, it is expected to make a brief return in January.

More about the news:

- For an asteroid to become a "mini-moon," it must approach Earth within approximately 2.8 million miles (4.5 million kilometres) and at a relatively slow speed of about 2,200 miles per hour (3,540 kilometres per hour).**
- NASA then plans to use a radar antenna to study the 33-foot (10-metre) asteroid during its close approach. This observation could provide valuable insights into the object's nature, designated 2024 PT5, which might be a lunar boulder ejected by an asteroid impact that created a crater on the moon.

32. WOH G64 Star

Context: For the first time, scientists have succeeded in taking a zoomed-in picture of a star in another galaxy. The star, known as WOH G64, seems to be cloaked in an egg-shaped cocoon and is located 160,000 light years away in the Large Magellanic Cloud, one of the small galaxies that orbit the Milky Way.

More about news:

- The scientists have described their observations in the paper, **'Imaging the innermost circumstellar environment of the red supergiant WOH G64 in the Large Magellanic Cloud'**, published by the journal Astronomy and Astrophysics last week.

How was the picture taken?

- Until now, researchers have been able to take pictures of stars in other galaxies **that show them as little more than points of light.**
- However, with the help of the **European Southern Observatory's Very Large Telescope Interferometer (VLTI)**, they have now revealed a detailed image of WOH G64.

- **VLTI comprises four 8-metre diameter** telescopes situated in Cerro Paranal, Chile.
- It also has an interferometer called GRAVITY that combines the light from the telescopes to achieve the resolution of a much larger telescope, according to a report by The New York Times.

What do we know about WOH G64?

- **WOH G64 is believed to be the largest galaxy in the Large Magellanic Cloud. The star is around 2,000 times the diameter of the Sun.**
- **The new photo has revealed that WOH G64 is entering the last stages of its life.**
- In recent years, the star has blown off its outer layer, and it is now surrounded by wreaths and arcs of gas and dust.
- When big stars like WOH G64 exhaust their nuclear fuel which keeps them burning, their cores collapse.
- Some massive stars collapse directly to form a black hole — a region in space where gravity is so strong that nothing can escape, including light and matter.
- Others collapse and lead to an explosion called supernova, which produces many elements such as zinc, silver, tin, gold, mercury, lead, and uranium.



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INTERNATIONAL RELATIONS

1. United Nations Human Rights Council

Context: The head of a ***U.N.-backed fact-finding team looking into human rights violations and abuses in Sudan*** said- it found the paramilitary Rapid Support Forces responsible for large-scale sexual violence in areas that it controls. The fact-finding team will present its report to United Nations Human Rights Council (UNHRC).

About United Nations Human Rights Council (UNHRC):

- It is an inter-governmental body within the United Nations system, which is responsible for strengthening the promotion and protection of human rights around the world.
- ***Establishment: It was founded in 2006. It replaced the former United Nations Commission on Human Rights (UNCHR).***

Functions:

- It investigates allegations of breaches of human rights in UN member states.
- It addresses important human rights issues such as freedom of expression, women's rights, LGBT rights, and the rights of racial and ethnic minorities.
- The UNHRC ***works closely with the Office of the High Commissioner for Human Rights (OHCHR).***

Membership:

- The Council is made up of ***47 Member States, which are elected by UN General Assembly through direct and secret ballot (including the P5 nations of UNSC).***
- The Council's Membership is based on equitable geographical distribution. African and Asia-Pacific states have 13 seats each, Latin American and Caribbean states have 8 seats, Western European and other states have 7 seats, and Eastern European states have 6 seats.
- Members of the Council serve for a period of ***three years and are not eligible for immediate re-election after serving two consecutive terms.***

2. United Nations Relief and Works Agency for Palestine Refugees in the Near East

Context: Israel has officially notified the United Nations of its decision to cut ties with its agency for Palestinian refugees (UNRWA) as another UN agency warns of an impending famine in Gaza.

About United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA):

- United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), subsidiary agency created by the United Nations (UN) General Assembly in 1949 to provide relief, health, and education services for Palestinians who lost both their homes and their means of livelihood during the Arab-Israeli wars following the establishment of the State of Israel in 1948.
- ***Beginning operations in 1950, UNRWA was originally headquartered in Beirut but was moved to Vienna in 1978.***
- Following the conclusion of the Oslo Accords in the early 1990s, the General Assembly moved the agency to the Gaza Strip in 1996 to demonstrate the General Assembly's commitment to the Arab-Israeli peace process.
- UNRWA's member states are Australia, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, India, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Spain, Sweden, Switzerland, Turkey (Türkiye), the United Kingdom, ***the United States***, and several Arab states; the Palestinian Authority (PA) has observer status.

Who are eligible for relief?

- ***Approximately 500,000 Palestinians originally qualified for relief, but by the early 2020s there were almost six million registered Palestinian refugees, including the descendants of the original refugees.***

- As the largest UN operation in the Middle East and one of the biggest employers in the region—with service operations in Jordan, Lebanon, Syria, the West Bank, and the Gaza Strip—UNRWA provides camps, food, clothing, schools, vocational training, and health clinics, often working in cooperation with the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

How UNRWA functions?

- UNRWA is financed by voluntary contributions of member governments.
- Like its predecessor organization, the UN Relief for Palestine Refugees in the Near East, UNRWA was originally designed as a temporary agency, though its mandate has been continuously renewed every three years by the General Assembly.
- Its chief officer, the commissioner-general—the only leader of a UN agency to report directly to the General Assembly—is appointed by the UN secretary-general with the approval of an Advisory Commission.**

3. Balfour Declaration

Context: The Balfour Declaration was made on November 2, 1917. A century later, its violent ripples are still being **felt in the Israel-Palestine conflict.**

- Balfour Declaration**
- The Balfour Declaration was a pivotal statement in modern history, **issued by the British government on November 2, 1917, during World War I.**
- It took the form of a letter from **Arthur James Balfour, the British Foreign Secretary,** to Lord Walter Rothschild, a prominent leader of the British Jewish community.
- The declaration expressed Britain's support for the establishment of a **"national home for the Jewish people" in Palestine, then part of the Ottoman Empire.**

Key Aspects:

- Support for a Jewish Homeland:** It marked the first time a major world power officially endorsed the idea of a Jewish homeland.

- Conditions for Non-Jewish Communities:** The declaration included a clause to protect the "civil and religious rights" of non-Jewish communities in Palestine, who formed the majority population at the time.
- Strategic Context:** Britain issued the declaration during WWI to garner Jewish support, particularly in the United States and Russia, and to secure influence in the Middle East after the war.

Significance:

- Zionist Movement:** The declaration boosted the Zionist movement, which advocated for the re-establishment of a Jewish homeland in Palestine.
- Mandate for Palestine:** After the war, Britain was given control of Palestine under a League of Nations mandate, incorporating the terms of the Balfour Declaration.
- Middle East Tensions:** It sowed seeds of conflict between Jews and Arabs in Palestine, leading to decades of unrest and the eventual creation of the state of Israel in 1948.

Controversy:

The Balfour Declaration remains controversial:

- Jewish Perspective:** For many Jews, **it was a milestone in their quest for a homeland after centuries of persecution.**
- Arab Perspective:** **Arabs saw it as a betrayal,** as the same region had also been promised to them through other agreements, such as the Hussein-McMahon Correspondence.



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4. CARICOM (Caribbean Community and Common Market)

Context: The second meeting of the India-CARICOM (Caribbean Community and Common Market) Joint Commission was held in virtual mode on November 7, a statement by the Ministry of External Affairs said.

About CARICOM (Caribbean Community and Common Market):

- It was established in 1973 by the Treaty of Chaguaramas.
- Aim:
 - To Promote integration and cooperation among member states.
 - To Ensure fair sharing of the benefits of integration.
 - To Develop a unified approach to foreign relations.
- **15 full members:** Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago.
- **Associate members:** Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Turks and Caicos Islands.
- The Secretariat is located in Georgetown, Guyana.
- The Chairmanship rotates every six months among the Heads of Member States.

5. Famine Review Committee

Context: Famine is looming in the northern Gaza Strip amid increased hostilities and a near-halt in food aid, an UN-backed assessment said on November 9. The alert from the Famine Review Committee warned of “an imminent and substantial likelihood of famine occurring, due to the rapidly deteriorating situation in the Gaza Strip.”

Famine Review Committee (FRC)

The **Famine Review Committee (FRC)** is an independent advisory body established under the **Integrated Food Security Phase Classification (IPC)** framework, which is used to classify and analyze the severity of food insecurity

and famine. It plays a critical role in ensuring that famine declarations are evidence-based, impartial, and accurate. The FRC functions as part of global efforts to assess, monitor, and address famine conditions in collaboration with international organizations, governments, and other stakeholders.

Purpose and Role of the Famine Review Committee

1. Validation of Famine Declarations:

- The FRC is responsible for reviewing and validating famine declarations proposed by analysts and organizations based on IPC guidelines.
- A famine declaration is a serious step with significant implications for mobilizing international aid, requiring robust evidence and consensus.

2. Technical Review of Data:

- The committee evaluates data related to food insecurity, malnutrition, and mortality in affected areas.
- It ensures the methodology aligns with IPC standards to maintain credibility and transparency.

3. Impartiality and Independence:

- The FRC operates independently to prevent political or external influence on famine declarations.
- Its members are experts in food security, nutrition, and related fields.

4. Recommendations for Action:

- The FRC provides recommendations to governments, humanitarian agencies, and donors on appropriate interventions.
- It aims to expedite and optimize famine response efforts.

When is the Famine Review Committee Involved?

- **Triggered by IPC Phase 5 (Famine) Analysis:**
 - The FRC is activated when preliminary IPC analyses suggest famine conditions (Phase 5), characterized by:
 - At least 20% of households experiencing extreme food shortages.
 - Acute malnutrition levels exceeding 30%.
 - Mortality rates surpassing two deaths per 10,000 people per day.

- **Review and Validation Process:**

- Upon activation, the FRC rigorously examines evidence, including field data, surveys, and other relevant reports.
- If the evidence meets IPC criteria, the FRC endorses the famine declaration.

6. China-plus-one strategy

Context: As reported in Indian Express, *Subrahmanyam has said that India is missing out on the "China plus one" opportunity and that it should consider joining agreements such as the RCEP and the Comprehensive and Progressive Agreement for Trans Pacific Partnership.*

China-plus-one strategy

- The *"China-plus-one strategy" is a business and supply chain strategy adopted by many companies to reduce their over-reliance on China for manufacturing and production.*
- The strategy involves companies maintaining their operations in China, but also establishing additional manufacturing or sourcing operations in one other country.
- This second country acts as a hedge or alternative to China, helping to mitigate risks associated with economic disruptions, trade tensions, geopolitical concerns, or rising costs in China.

Goals of China-plus-one strategy

The primary goals of the China-plus-one strategy are:

- **Diversification of Risk:** Relying solely on China for manufacturing can be risky due to factors like tariffs, trade wars, and local regulatory changes. By investing in another country, companies can spread their risks and avoid supply chain disruptions.
- **Cost Management:** China's labour costs have been rising in recent years, which makes other countries like India, Vietnam, Indonesia, and others increasingly attractive for companies looking to reduce manufacturing costs.
- **Geopolitical Strategy:** With growing geopolitical tensions between China and countries like the U.S., companies may seek to mitigate risks related to political instability or changing trade policies by diversifying their supply chains.

- **Access to New Markets:** In addition to risk management, the China-plus-one strategy can also give companies access to emerging markets, potentially opening up new business opportunities.

7. Canada has discontinued SDS

Context: Canada has discontinued SDS ending the faster visa processing for international students from specific countries, which also includes India.

SDS Explained:

- As per the official website of the Canadian Immigration Law Firm Canadim, the Student Direct Stream, introduced in 2018, helps fast-track the processing of study permits for certain international students, with a processing time of 20 days in most cases. The 14 countries covered by SDS include:

1. Antigua and Barbuda
2. Brazil
3. China
4. Colombia
5. Costa Rica
6. India
7. Morocco
8. Pakistan
9. Peru
10. Philippines
11. Senegal
12. Saint Vincent and the Grenadines
13. Trinidad and Tobago
14. Vietnam

- **Why was it discontinued?**

The Canadian government explained that the decision aims to *"strengthen program integrity, address student vulnerability, and ensure equal access for all applicants."*

- With the country facing a housing crisis and limited resources, this move seeks to regulate the number of incoming students more effectively.

What happens now?

- *Applications received before 2 pm ET on November 8, 2024, will still be processed under the SDS stream.*

- Applications received after this date will follow the regular study permit process, which may have longer processing times and lower approval rates.

Impact on Indian Students

- India, which has been a major contributor to international student numbers in Canada, will feel the impact of the change.
- Indian students, who frequently benefited from the faster SDS processing, will now face the regular study permit route, potentially facing delays.

Canada's Shift in Immigration Policy

- In addition to discontinuing the SDS program, Canada is also planning to reduce the number of immigrants it admits in the coming years.
- This marks a significant policy shift, likely driven by domestic challenges like overcrowded cities and limited resources.

8. Extradition Treaty Between Canada and India

Context: India said on Thursday that it will renew a request made to Canada in 2023 for the extradition of Khalistani radical and designated terrorist Arsh Singh Gill alias Arsh Dalla following reports of his arrest in that country.

More on news:

- Dalla is among more than two dozen criminals and terrorists for whom India has submitted extradition requests to Canada.
- External affairs ministry spokesperson Randhir Jaiswal noted there have been media reports since 10 November about the arrest in Canada of Dalla, a proclaimed offender or fugitive and the de-facto chief of the Khalistan Tiger Force (KTF).

Extradition Treaty Between Canada and India: Key Points

- **Purpose:** To facilitate reciprocal extradition of offenders between Canada and India, enhancing cooperation in crime suppression and combating terrorism.
- **Duty to Extradite:**
 - Both countries agree to extradite individuals accused or convicted of extradition offences committed in each other's territory, subject to conditions.

- Extradition is not required if the offence is politically motivated or if the person faces imprisonment of 6 months or less.

• Extradition Offences:

- Extradition offences are those punishable by over one year of imprisonment in both countries.
- Includes offences like terrorism, serious bodily harm, and crimes involving firearms or explosives.

• Exceptions:

- Extradition may be refused for political offences, military offences, or if the person has already been tried or acquitted.
- Extradition is also refused if the offence carries a death penalty in the requesting state, but assurances are required that the death penalty will not be executed.

• Procedures:

- Extradition requests must go through diplomatic channels, supported by relevant documentation (e.g., warrants, evidence).
- Provisional arrest is allowed in urgent cases.

• Surrender and Property:

- Upon extradition, the requested state may also surrender property used in or obtained from the commission of the offence.
- The principle of specialty ensures the individual will not be tried for other offences after extradition, except under specific conditions.

• Mutual Legal Assistance:

- The requested state may assist in gathering evidence for the requesting state related to the offence.

• Expenses:

- The requested state covers its own legal costs, while the requesting state bears the transport expenses of the extradited person.

- **Ratification and Termination:**

- *The treaty comes into force upon ratification and may be terminated by either party with six months' notice.*

9. BASIC countries

Context: BASIC countries, including India, have asked developed countries to honour their commitments to provide climate finance rather than "diluting obligations" and rejected attempts by the rich nations to shift their financial responsibilities during negotiations at the ongoing COP29 here.

More on news:

- The developed countries have emphasised the importance of increasing global climate ambition and have called for all nations, including emerging economies, to enhance their net-zero targets and implementation efforts.
- However, these rich nations are facing criticism for not fully delivering on their own commitments, particularly regarding climate finance and support for developing countries.
- In response, India, along with Brazil, South Africa and China as part of BASIC bloc, reiterated the need for full and effective implementation of the Paris Agreement.

About BASIC countries:

- The BASIC countries (Brazil, South Africa, India, and China) primarily focus on influencing global climate negotiations, particularly regarding the reduction of carbon emissions and addressing the challenges of climate change.
- They work together to advocate for the interests of developing nations in the context of international environmental policies, especially in negotiations like those under the United Nations Framework Convention on Climate Change (UNFCCC).



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10. UN arms embargo

Context: Armoured vehicles manufactured by the United Arab Emirates and equipped with French defence systems have been captured by the Sudanese army during the civil war in Sudan, Amnesty International says.

More on news:

- The rights group said in a report on Thursday (November 14, 2024) it had identified the UAE-made armoured personnel carriers (APCs) in various parts of Sudan, including the Darfur region, where they were used by the paramilitary Rapid Support Forces (RSF) in its fight with the Sudanese Armed Forces (SAF).
- It added that the presence of the military vehicles on the battlefield "likely constitutes a violation" of a United Nations arms embargo that prohibits the transfer of weapons to Sudan.

About UN arms embargo

A **United Nations arms embargo** is a restrictive measure that prohibits the transfer of arms, military equipment, and related services to a specific country, group, or region. This measure is implemented by the UN Security Council under Chapter VII of the UN Charter, which allows it to take action to maintain or restore international peace and security. Here's a breakdown of the main aspects of UN arms embargoes:

1. Purpose of UN Arms Embargoes

- **Conflict Prevention and Management:** Arms embargoes aim to prevent the flow of weapons into regions where there is ongoing conflict or a risk of conflict, which can help reduce violence.
- **Sanctions Tool:** They are part of broader UN sanctions imposed to influence the behavior of countries or groups violating international laws.
- **Human Rights Protection:** In cases where human rights abuses are prevalent, arms embargoes can prevent perpetrators from obtaining the means to carry out further abuses.

2. How Arms Embargoes are Imposed

- **UN Security Council (UNSC):** The UNSC imposes arms embargoes through resolutions passed by a majority vote, with no veto from any permanent members (China, France, Russia, the UK, and the US).
- **Scope of Embargoes:** These resolutions specify the embargo's details, including the types of arms, the entities affected, and the time frame. They often target specific countries, groups, or individuals.
- **Monitoring and Enforcement:** Specialized UN bodies or sanctions committees oversee compliance, although enforcement largely depends on individual member states.

3. Scope and Types of Restrictions

- **Comprehensive Embargo:** Covers all military goods, including small arms, heavy weaponry, ammunition, and sometimes "dual-use" items (goods that have both civilian and military applications).
- **Partial Embargo:** Limits specific types of military goods or only restricts exports to certain groups within a country.
- **Dual-use Items:** Some embargoes also restrict equipment or technology that could have military applications, such as satellite communications equipment.

4. Lifting or Modifying Embargoes

- The UNSC can modify or lift arms embargoes based on the situation's evolution, such as improved security, peace agreements, or compliance with international norms.
- For example, embargoes may be lifted as part of a peace process, with arms flows allowed for government forces or peacekeeping operations.

5. UN Arms Embargoes and International Law

- **Legal Binding:** As UNSC resolutions, arms embargoes are legally binding on all UN member states, though enforcement varies based on national laws.
- **Alignment with Other Sanctions:** Often, arms embargoes are part of broader sanctions that include asset freezes, travel bans, or trade restrictions to exert greater pressure on target states.

11. UNICORN system

Context: India and Japan signed a Memorandum of Implementation (MoI) for the "co-development" of UNICORN (Unified Complex Radio Antenna) mast, a conical structure that houses antennas atop warships increasing their stealth characteristics, for fitment on Indian naval warships under the framework of the India-Japan Defence Technology Cooperation.

About UNICORN system:

The **UNICORN** system is a technological innovation in naval engineering, primarily aimed at enhancing the stealth capabilities of naval platforms.

Key Features:

1. Integrated Communications:

- UNICORN stands for a unified communication mast that integrates multiple systems like radar, sonar, electronic warfare, and communication antennas into a single, streamlined structure.
- This reduces the number of protrusions and equipment on a vessel, lowering the radar cross-section.

2. Stealth Enhancement:

- By consolidating various systems into a single mast, the design minimizes electromagnetic emissions and reduces the ship's overall detectability.

3. Versatility:

- Can be adapted for various types of naval vessels, from frigates and destroyers to submarines.
- Designed for modern warfare environments where stealth is a critical component of operations.

4. Reduced Maintenance:

- The integration simplifies the maintenance process by consolidating system access into a single unit.

5. Enhanced Durability:

- Built to withstand harsh maritime conditions and operational stress.

Strategic Importance:

- **Tactical Superiority:** Stealth is vital for naval dominance, and systems like UNICORN ensure vessels can approach and operate in contested areas with reduced detection risk.
- **Cost-Effectiveness:** Combining systems into a unified mast reduces material and operational costs while improving performance.

12. APEC

Context: Chinese President Xi Jinping on Saturday called for Asia-Pacific economies to “unite and cooperate” in the face of mounting “protectionism,” at a summit in Peru. Speaking to Asia-Pacific Economic Cooperation (APEC) leaders hours before he is due to hold talks with U.S. counterpart Joe Biden, Mr. Xi pointed to “challenges such as geopolitics, unilateralism and rising protectionism.”

Members of APEC: The Asia-Pacific Economic Cooperation (APEC) is a significant economic forum consisting of 21 member economies spanning the Pacific Rim. Members of the group include the United States, Canada, and Mexico, Chile, Peru, Australia, New, Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Papua New, Japan and South Korea, Russia, People's Republic of China. The organization also includes Hong Kong (as a special administrative region of China) and Chinese Taipei (Taiwan) as distinct economic entities.

While, Cambodia, Myanmar, and Timor-Leste are not the members of APEC.



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13. International Organization for Migration

Context: More than 20,000 people have been displaced across Haiti's capital Port-au-Prince in four days, a UN agency said on November 16, as residents flee gang violence that has crippled the troubled Caribbean nation.

More on news:

- The International Organization for Migration (IOM) said that around 17,000 of the roughly 20,000 people recently forced to relocate were already in temporary housing, with many having been displaced multiple times.
- Haiti saw Prime Minister Alix Didier Fils-Aime sworn in on Monday, replacing outgoing premier Garry Conille, who was appointed in May but became embroiled in a power struggle with the country's unelected transitional council.
- Violent crime in Port-au-Prince remains high, with well-armed gangs that control some 80% of the city routinely targeting civilians, even though a Kenyan-led international force has been deployed to help the outgunned Haitian police restore order.
- Gang-related violence has caused nearly 4,000 deaths this year, the UN human rights office said.
- Haiti lost major links to the rest of the world this past week when the U.S. banned all civilian flights to the country for a month, after three jetliners approaching or departing Port-au-Prince were hit by gunfire.

Haiti's neighbours:

Haiti shares a land border with only one country: the Dominican Republic. It also shares maritime borders with the Dominican Republic, Cuba, and Jamaica.



14. MERCOSUR

Context: Farmers throughout France organized large-scale protests on Monday against the proposed trade accord between the European Union and the Mercosur block of South American nations. The farmers argue that the deal threatens their livelihoods by allowing a surge of cheap South American agricultural imports produced under less stringent environmental standards.

About MERCOSUR:

- Mercosur (MERCOSUR for its Spanish initials) or the Southern Common Market is an economic and political bloc of Latin America.
- Members: It originally comprised Argentina, Brazil, Paraguay, and Uruguay as its members. Bolivia and Venezuela joined it later. (Venezuela has been suspended since December 1, 2016).
- Associate Countries: Chile, Colombia, Ecuador, Guyana, Peru, and Suriname.
- It was created in 1991 by signing the **Treaty of Asunción**, an accord calling for the “free movement of goods, services, and factors of production between countries.”
- The aim of MERCOSUR is to promote economic integration, free trade, and the movement of goods, services, and people among member countries.
- The bloc’s highest decision-making body, the Common Market Council, provides a high-level forum for coordinating foreign and economic policy.
- Its official working languages are Spanish and Portuguese.
- India and MERCOSUR signed the Preferential Trade Agreement (PTA) in 2004, which allowed New Delhi to forge closer economic ties with one of the world’s largest trade blocs.
- Headquarter: Montevideo, Uruguay.

15. Arms Treaties

Context: The United States will soon provide Ukraine with anti-personnel land mines to shore up its defences against Russian forces, a U.S. official said late on November 19. The decision comes as President Joe Biden works to boost Ukraine’s war effort in the final two months of his administration, before Ukraine aid critic Donald Trump takes power in January.

	Arms Treaties	Arms/Weapons
1	Ottawa Treaty	Anti-personnel landmines
2	Arms Trade Treaty	Weapons used for Human Rights abuse
3	Oslo Treaty	Cluster bombs
4	Intermediate-Range Nuclear Forces Treaty	ground-launched cruise missiles (GLCMs) (1000-5500 kms range)

16. CARICOM

Context: Prime Minister Narendra Modi on Wednesday proposed seven key pillars to strengthen ties between India and ‘CARICOM’ as he held talks with the Caribbean partner countries focusing on areas such as trade, technology and tourism among others.

CARICOM:

- CARICOM, which stands for **Caribbean Community**, is the oldest surviving integration movement in the developing world.
- It is an organization of Caribbean countries and dependencies originally established as the Caribbean Community and Commons Market in 1973 by the Treaty of Chaguaramas.
- **Main Purposes:**
 - Promote **economic integration** and cooperation among its members;
 - To ensure that the benefits of integration are equitably shared;
 - To coordinate foreign policy;
- **Members:**
 - It has 15 members; Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

- Anquilla, Bermuda, the British Virgin Islands, the Cayman Islands, and the Turks and Caicos Islands have associate member status, and Aruba, Colombia, the Dominican Republic, Mexico, Puerto Rico, and Venezuela maintain observer status.
- The Chairmanship of the Community is **rotated every six months** among the member countries' Heads.
- **Secretariat: The CARICOM Secretariat in Georgetown, Guyana, is the principal administrative organ of the Community and is headed by a Secretary General who is the Chief Executive Officer of the Community.**

17. UN Women

Context: UNITED NATIONS: The deadliest place for women is at home and 140 women and girls on average were killed by an intimate partner or family member per day last year, two U.N. agencies reported November 25.

More on report:

- Globally, an intimate partner or family member was responsible for the deaths of approximately 51,100 women and girls during 2023, an increase from an estimated 48,800 victims in 2022, UN Women and the U.N. Office of Drugs and Crime said.
- **The report released on the International Day for the Elimination of Violence Against Women said the increase was largely the result of more data being available from countries and not more killings.**

About UN Women

- It is the **United Nations (UN)** entity dedicated to **gender equality** and the **empowerment of women**.
- **In July 2010, the UN General Assembly created UN Women.**
- The creation of UN Women came about as **part of the UN reform agenda**, bringing together resources and mandates for greater impact.
- A **global champion for women and girls**, UN Women was established to accelerate progress on meeting their needs worldwide.

- The main roles of UN Women are:
 - **To support inter-governmental bodies, such as the Commission on the Status of Women, in their formulation of policies, global standards, and norms.**
 - To **help member states implement these standards**, standing ready to provide suitable **technical and financial support** to those **countries that request it**, and to forge effective partnerships with civil society.
 - To lead and **coordinate the UN system's work on gender equality** as well as promote accountability, including through **regular monitoring** of system-wide progress.
- It works globally to make the vision of the Sustainable Development Goals (SDG's) a reality for women and girls and stands behind women's equal participation in all aspects of life.
- Within countries that request its assistance, UN Women works **with government and non-governmental partners** to help them put in place the policies, laws, services, and resources that women require to move towards equality.
- **Grant-making Funds: UN Women provides grants to fuel innovative, high-impact programmes by government agencies and civil society groups through two funds—the Fund for Gender Equality and the UN Trust Fund to End Violence against Women.**
- **Commission on the Status of Women (CSW):** A global policy-making body, the CSW is a **functional commission** of the United Nations Economic and Social Council (ECOSOC), dedicated exclusively to gender equality and the advancement of women.
- Aside from the CSW, UN Women **offers regular information on women's rights issues** to the **General Assembly**, the **ECOSOC**, and the **Security Council**.
- **It maintains the UN Secretary-General's database on violence against women, which tracks measures to end violence taken by UN Member States and UN organizations.**



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ART AND CULTURE

1. Shahjahanpur in the 1857 Rebellion

Context: In Shahjahanpur, Uttar Pradesh, a remarkable cache of weapons believed to be from the 1857 Indian Rebellion was unearthed by a farmer.

Shahjahanpur in the 1857 Rebellion:

- Shahjahanpur district, formed in 1813-14 under British administration, became a key site of the 1857 uprising due to local grievances and revolutionary fervour.
- The 28th Indian Infantry, stationed in Shahjahanpur, was central to the rebellion, angered by rumours of greased cartridges and adulterated flour.
- On May 31, 1857, sepoys attacked the European gathering at the Roman Catholic Church, seized the treasury, and released prisoners from the jail.
- Revolutionary leaders Qadir Ali Khan and Ghulam Husain Khan were appointed joint governors, declaring British rule overthrown in the district.
- Freedom fighters confined British troops in a fortified jail for 10 days during the British counterattack in 1858. Betrayal by locals and reinforcements eventually allowed the British to regain control.
- After recapturing Shahjahanpur, the British brutally suppressed the self-rule movement, quelling the revolutionary fervour in the region.

Significance:

- Shahjahanpur played a key role in the 1857 Rebellion, housing revolutionaries like Maulvi Ahmadullah Shah and Nana Sahib.
- It showcased widespread discontent and the symbolic destruction of British authority.



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2. Haka by Maoris

Context: New Zealand's parliament was briefly suspended on Thursday (November 14) following a protest by the Indigenous Māori group's legislators, who staged a "haka" or ceremonial dance against a contentious Bill.

What is the haka?

- The haka is of deep cultural significance to Māori identity and is traditionally performed by warriors on the battlefield or to welcome another tribe.
- According to New Zealand Tourism's website, haka "was a show of physical prowess but also an embodiment of cultural pride, strength, and unity."
- It is usually performed in a group and involves chanting, dramatic facial gestures, hand movements and stamping the feet.

	Ceremonial/Sacred dances	Countries
1	Haka	New Zealand
2	Hula Kahiko	US (Hawaii)
3	Corroboree	Australia
4	Kecak	Indonesia (Bali Island)

3. Raja Raja Chola I and Song Dynasty of China

Context: The birth anniversary of the legendary Chola emperor Raja Raja Chola I is celebrated with unparalleled fervour and devotion every year during the Sadhaya Vizha in Thanjavur of Tamil Nadu.

Raja Raja Chola I and Song Dynasty of China:

Raja Raja Chola I (reigned 985–1014 CE) was one of the greatest rulers of the Chola dynasty, renowned for his administrative reforms, military conquests, and promotion of maritime trade. His reign marked a period of increased interaction with the outside world, especially through trade and diplomacy. One such notable interaction involved the Chinese Song dynasty (960–1279 CE), which was a flourishing empire known for its maritime trade networks.

- While Raja Raja Chola fostered maritime trade with distant lands, there is no record of him sending formal emissaries to the Song court in Hangzhou or establishing a treaty of trade and cultural exchange. **The primary interaction between the Chola Empire and the Song dynasty was through merchants rather than through state-sponsored diplomacy. Unlike later periods when Tamil embassies were sent to China, no such evidence exists for Raja Raja Chola's reign.**
- Raja Raja Chola indeed launched military expeditions to Southeast Asia, especially against the Srivijaya Empire, to dominate key trade routes in the region. These expeditions, **however, were primarily aimed at securing Chola influence over Southeast Asia and its maritime trade routes, which indirectly benefited the Chola economy and Tamil merchants trading with China. There is no evidence to suggest that these military campaigns had a direct impact on Chinese merchants or that they were undertaken with the intention of aiding Chinese trade.**
- The Chola Empire was a major center of maritime trade in the Indian Ocean during Raja Raja Chola's reign. Tamil merchants actively traded goods such as:
 - Spices (especially pepper, a highly valued commodity in China),
 - Textiles (including fine cotton and silk fabrics),
 - Jewelry and pearls, and
 - Other luxury goods.
 - Chinese merchants, in turn, provided goods such as silk, ceramics, and other luxury items. **These exchanges were facilitated by the well-established ports in the Chola Empire, such as Nagapattinam, which served as a hub for trade with Southeast Asia and China. Archaeological evidence, such as Chinese pottery and coins found in Tamil Nadu, highlights the robust commercial relationship between the two regions.**
- The Song dynasty did not send tribute missions to Raja Raja Chola. Tribute missions were generally sent to powers they considered politically or militarily superior, such as the Khitans or the Tanguts. **While the Chola Empire was highly influential in the Indian Ocean, the relationship with the Song dynasty was one of mutual benefit through trade rather than a tributary system.**

4. World Craft City

Context: Artisans from Kashmir witnessed a rare reunion with master craftspeople from Central Asia after a gap of about 500 years at the Sher-i-Kashmir International Convention Centre in Srinagar at an event held against the backdrop of the 'World Craft City' tag being awarded to the J&K capital earlier this year.

About World Craft City:

- **It is a groundbreaking initiative launched in 2014 by the World Crafts Council AISBL (WCC-International) in recognition of the pivotal role local authorities, craftspeople, and communities play in cultural, economic, and social development worldwide.**
- It establishes a dynamic network of craft cities across the globe, aligning with the principles of the creative economy.
- **Under the World Craft City Programme, Jaipur (Rajasthan), Mammalapuram (Tamil Nadu) and Mysore (Karnataka) Srinagar (UT of Jammu and Kashmir) have been added as craft cities from India.**



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MISCELLANEOUS

1. Separatist Movements

Context: Ethiopia's cabinet has declared a nationwide state of emergency effective immediately and authorities in Addis Ababa told citizens to prepare to defend the capital, as fighters from the northern region of Tigray threatened to march towards the city.

	<i>Separatist movements</i>	<i>From Countries</i>
1	Flanders	Belgium
2	West Papua	Indonesia
3	Tigray	Ethiopia
4	Quebec	Canada

2. Sendai Framework for Disaster Risk Reduction

Context: India is committed to the Sendai Framework for disaster risk reduction, Prime Minister Narendra Modi's

Principal Secretary, P.K. Mishra said on Friday (November 1, 2024), while calling for increased international collaboration on technology transfer, knowledge sharing, and sustainable development to enhance disaster resilience.

About Sendai Framework for Disaster Risk Reduction (2015-2030):

The Sendai Framework for Disaster Risk Reduction (2015-2030) is a global, voluntary, non-binding agreement that aims to reduce the risk and impact of disasters on lives, livelihoods, health, and infrastructure. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in March 2015 in Sendai, Japan, and it succeeded the Hyogo Framework for Action (2005–2015).

Key Goals and Principles

The primary goal of the Sendai Framework is to achieve a substantial reduction in disaster risk and losses in four areas:

- Lives
- Livelihoods and health
- Economic assets
- Environmental assets

The framework emphasizes not only preparedness and response but also prevention and reduction of disaster risks, making it a proactive rather than reactive approach.

Priorities for Action

The framework is organized around four priorities for action:

1. **Understanding Disaster Risk:** This involves gathering data and research to understand risk factors and enhance education about potential hazards.
2. **Strengthening Disaster Risk Governance:** Governments and local authorities are encouraged to create and enforce policies that manage and reduce disaster risks effectively.
3. **Investing in Disaster Risk Reduction for Resilience:** This includes economic investments to enhance infrastructure and systems that can withstand potential disasters, as well as sustainable development practices.
4. **Enhancing Disaster Preparedness for Effective Response:** Building capacities for emergency response, and "Build Back Better" approaches to recovery, rehabilitation, and reconstruction are part of this priority.

Targets

The Sendai Framework set seven global targets to be achieved by 2030, which include:

1. Substantially reduce global disaster mortality.
2. Substantially reduce the number of affected people globally.
3. Reduce direct disaster economic loss in relation to global GDP.
4. Substantially reduce disaster damage to critical infrastructure and disruption of basic services.
5. Substantially increase the number of countries with national and local disaster risk reduction strategies.
6. Substantially enhance international cooperation to developing countries.
7. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people.

Approach

- The framework is distinctive for promoting a multi-hazard approach, addressing natural and human-made hazards and risks.
- It encourages collaboration among governments, international organizations, NGOs, communities, and private sectors, highlighting the role of local communities in building resilience.
- The Sendai Framework underscores that disaster risk management is everyone's responsibility and advocates for sustainable practices that mitigate risk, enhance resilience, and prioritize human health and safety.

3. Refugee camps

Context: The Tumaini Festival, an annual event held since 2014 at Malawi's Dzaleka Refugee Camp, celebrates the resilience and culture of refugees through music, art, and crafts.

	Refugee camps	Located in	Hosts refugees from
1	Dzaleka Refugee Camp	Malawi	Democratic Republic of Congo, Burundi, Rwanda, Somalia
2	Za'atari Refugee Camp	Jordan	Syria
3	Dadaab Refugee Complex	Kenya	Somalia
4	Cox's Bazar Refugee Camps	Bangladesh	Myanmar

Dzaleka Refugee Camp

Dzaleka Refugee Camp is a major refugee camp located in Malawi, near the capital city of Lilongwe. It was established in 1994 to accommodate refugees from various African countries, primarily the Democratic Republic of Congo (DRC), Burundi, and Rwanda.

Key points about Dzaleka Refugee Camp:

- **Overcrowding:** The camp was originally designed to hold 10,000-12,000 people, but it currently houses over 50,000 refugees, leading to significant overcrowding and strain on resources.
- **Challenges:** Refugees in Dzaleka face numerous challenges, including limited access to healthcare, education, and employment opportunities.
- **Humanitarian Aid:** Organizations like the UNHCR provide humanitarian aid to the camp, but the needs of the refugee population often exceed available resources.
- **Hope and Resilience:** Despite the hardships, many refugees in Dzaleka have shown remarkable resilience and have built communities within the camp.

4. Kalka-Shimla narrow gauge railway

Context: Himachal CM Sukhvinder Sukhu, while presenting the budget in 2023-2024 had announced that the state government will take effective steps to develop Himachal Pradesh as "Green Energy State" by March 31, 2026.

Kalka-Shimla narrow gauge railway

- The 121-year-old Kalka-Shimla narrow gauge railway, has been a UNESCO world heritage site since 2008, recognising its historical and engineering significance.
- The track was initially constructed to connect the summer capital of British India, Shimla, with the plains, during the British colonial era in India and was opened to the public in 1903.
- The narrow-gauge track and small-sized locomotives have come to be dubbed as a "toy train" that chugs the 96.6-km track, passing through 18 stations, 102 tunnels and 988 bridges.
- Earlier this train was operating on steam but now it is operating on diesel.

- While the railway was used for transporting both people and goods, it was primarily built for **tourism and military transport** rather than specifically for goods transportation.

5. PM Vidyalaxmi Scheme

Context: A mission mode mechanism will facilitate and drive the extension of education loans to meritorious students who get admission in the top 860 quality higher educational institutions of the nation, translating to covering more than 22 lakh students every year.

About PM Vidyalaxmi Scheme:

- Objective of the scheme:** To provide financial assistance to meritorious students, eliminating financial constraints in accessing quality higher education.
- Eligibility for application:** Available to students admitted to top 860 HEIs in India, as per NIRF rankings, covering over 22 lakh students annually.
- Loan features:** Offers collateral-free, guarantor-free education loans with a user-friendly, digital application process.
- Credit guaranteed by the government:** Government provides a 75% credit guarantee on loans up to ₹7.5 lakhs, supporting banks in loan expansion.
- Interest subvention applicable:** For families with an annual income up to ₹8 lakhs, a 3% interest subvention is provided on loans up to ₹10 lakhs. Full interest subvention is available to students with family incomes up to ₹4.5 lakhs under the PM-USP scheme.
- Unified portal:** The scheme will be accessible through the "PM-Vidyalaxmi" portal, enabling easy loan applications and interest subvention processing via e-vouchers and CBDC wallets.
- Complementary schemes:** Supplements existing schemes like CSIS and CGFSEL under PM-USP, offering comprehensive support for technical and professional courses in approved HEIs.

6. Darranga Check Post

Context: The Immigration Check Post (ICP) at Land Port Darranga in Assam's Tamulpur district, located just 700 meters from the Indo-Bhutan border, is set to be inaugurated.

About Darranga Check Post:

- It is located near the Indo-Bhutan border, only 700 meters from Bhutan, in Assam's Tamulpur district.
- It spans 14.5 acres with advanced infrastructure for efficient cross-border travel and trade.
- It will be benefited from proximity to National Highway 27 and Bhutan's enhanced customs facilities.
- It is expected to catalyze trade expansion, benefiting India's development goals and Bhutan's industrial output.
- It acts as both a commercial hub and an immigration checkpoint, fostering economic and cultural ties between India and Bhutan.

	Integrated Check posts (ICPs)	Location (Indian states)	Bordering Countries
1	Petrapole	West Bengal	Bangladesh
2	Sutarkandi	Assam	Bangladesh
3	Jogbani	Bihar	Nepal

7. Project Shaurya Gatha

Context: Chief of Defence Staff (CDS) General Anil Chauhan launched Project 'Shaurya Gatha' during the second edition of the Indian Military Heritage Festival.

About Project Shaurya Gatha:

- 'Project Shaurya Gatha' is an initiative of the Department of Military Affairs (DMA).
- It has been started in collaboration with the Center for Military History and Conflict Studies under the United Services Institute (USI).
- Apart from the Department of Military Affairs, the USI, Tourism, Culture, Education, Home and External Affairs Ministries are also involved in this project.

Objective of Project Shaurya Gatha:

- To preserve heritage and promote military tourism in border areas.
- To identify and restore major military landmarks
 - These include forts, battlefields, monuments and museums etc. which will promote military tourism in border areas.
- To develop a comprehensive National Military Heritage Conservation Policy
 - Through this, historical heritage, such as ancient battlefields, war memorials and museums can be preserved.
- To publish various sources containing information about major war fields, military museums, monuments and ancient military history of India
 - For this, a website and app will be created so that military history can also be made available to international viewers and listeners.
- To ensure economic development by developing the border area holistically through military tourism.
 - This will improve the infrastructure here and will also provide new employment opportunities.

8. 2024 State of Food and Agriculture Report

Context: India's total hidden costs of agrifood systems were around \$1.3 trillion annually, largely driven by unhealthy dietary patterns and dietary risks associated with non-communicable diseases, found the State of Food and Agriculture 2024 report by Food and Agriculture Organization (FAO) of the United Nations.

Key Findings from the 2024 State of Food and Agriculture Report

- **Hidden Costs of Unhealthy Diets:** Over 73% of India's hidden agrifood system costs stem from dietary risks linked to excessive processed food consumption and insufficient whole food intake.
- **Alarming Health Implications:** These dietary patterns contribute significantly to non-communicable diseases like heart disease, stroke, and diabetes.

- **Economic Burden:** India's hidden costs from unhealthy diets rank third globally, amounting to \$128 billion annually.
- **Global Impact:** Globally, unhealthy diets constitute the primary driver of hidden costs in agrifood systems, totalling \$8.1 trillion annually.
- **Call for Transformation:** The report advocates for a systemic transformation of agrifood systems to prioritize sustainability, resilience, inclusivity, and efficiency.

Key Recommendations:

- Incentivizing sustainable practices and limiting power imbalances.
- Promoting healthier diets through policy interventions.
- Reducing greenhouse gas and nitrogen emissions.
- Empowering consumers with information on food impacts.

9. 4B movement

Context: As Donald Trump returns to the White House, social media in the US is seeing the rise of the '4B' movement, where women swear off sex and marriage with men to protest patriarchal and often misogynist institutions and practices.

The 4B movement:

- The 4B movement is a feminist initiative that originated in South Korea around 2019 and has recently gained attention in the United States, especially following the 2024 presidential election.
- The term "4B" represents four Korean words beginning with "bi," meaning "no" in English:
 - Bihon: No to heterosexual marriage.
 - Bichulsan: No to childbirth.
 - Biyeonae: No to dating.
 - Bisekseu: No to heterosexual sexual relationships.

- This movement emerged as a response to perceived patriarchal structures and societal pressures on women in South Korea.
- Advocates of the 4B movement choose to abstain from traditional relationships and roles, emphasizing personal autonomy and challenging conventional gender norms.

4B in USA

- In the United States, interest in the 4B movement has surged following the 2024 presidential election, where Donald Trump secured a second term.
- Many women, concerned about potential implications for women's rights and reproductive freedoms, have turned to the 4B movement as a form of protest and empowerment.
- Social media platforms like TikTok and Instagram have seen increased discussions and endorsements of the movement, with women expressing their decision to swear off men and traditional relationships.
- While the 4B movement's principles may seem radical to some, it reflects a broader global trend of individuals re-evaluating traditional relationship structures and societal expectations.
- The movement underscores a growing emphasis on personal choice, autonomy, and the redefinition of gender roles in contemporary society

10. Railway Accident Report

Context: Holding station staff to officials at divisional and zonal railway levels responsible, the Commissioner of Railway Safety (CRS) said that the Kanchanjunga Express-goods train collision in West Bengal this June was an "accident-in-waiting" due to "lapses at multiple levels" in managing train operations in the event of "automatic signal failures", and could have been avoided.

Findings of report:

- In its final report, the CRS said that issuance of flawed authority letter to pass the defective automatic signals, non-issuance of caution order, non-availability of critical safety equipment (walkie-talkie), and inadequate counselling of loco pilots and station masters were the major factors behind the accident.

- CRS classified the accident under the category of "Error in train working".
- The CRS held that the station master and station superintendent of Rangapani railway station, and chief loco inspector, and traffic inspector of New Jalpaiguri were primarily responsible for the accident.
- The report states that the authority letter, which was issued for passing the defective automatic signals, was flawed as it did not have any mention of the maximum permissible speed to be followed by the loco pilot.

Commission of Railway Safety (CRS)

- The Commission of Railway Safety (CRS) is responsible for ensuring the safety of rail travel and operations in India, as per the Railways Act, 1989.
- It also performs other statutory functions such as inspection, investigation, and advisory.
- One of its primary duties is to probe serious train accidents and determine their causes and consequences.
- The CRS is not under the control of the Ministry of Railways or the Railway Board, to avoid any conflict of interest or undue influence from the railway establishment.
- The CRS reports to the Ministry of Civil Aviation, which has no direct involvement in railway matters. This arrangement dates back to the colonial era when the CRS was established as an independent authority to oversee railway safety.
- Its head office is in the North-East Railway Compound in Lucknow.

Structure of the commission:

- The Commission is headed by a Chief Commissioner of Railway Safety (CCRS), who also acts as Principal Technical Advisor to the Central Government in all matters pertaining to railway safety.
- There are 9 Commissioners of Railway Safety (CRS), each one exercising jurisdiction over one or more of the 19 Zonal Railways.

- In addition, Metro Railway (Kolkata), DMRC (Delhi), MRTS (Chennai) and Konkan Railway also fall under their jurisdiction.

11. Central Industrial Security Force

Context: The Union Ministry of Home Affairs (MHA) on Tuesday (November 12, 2024) approved the first all-women battalion of the Central Industrial Security Force (CISF).

Presently, there are 7% women personnel in the CISF, which has a total strength of 1.77 lakh personnel. A battalion comprises around 1,000 personnel.

Founding and Evolution

- Establishment:** CISF was established on March 10, 1969, under an Act of Parliament, to protect India's industrial sector. Initially, it was formed to provide security to Public Sector Undertakings (PSUs).
- Expansion of Role:** Over time, CISF's role expanded significantly to cover airports, seaports, atomic and space installations, and even the Delhi Metro.
- Amendments:** In 1983, the CISF Act was amended to allow the CISF to function as an armed force with jurisdiction beyond just public sector undertakings, marking its broader role in national security.

Structure and Organization

- Director General (DG):** The CISF is headed by a Director General who oversees all operational, administrative, and strategic decisions.
- Ranks:** The CISF follows a rank structure similar to other paramilitary forces in India, with roles ranging from Constable to Director General.
- Regional Structure:** It is divided into various zones and sectors, each led by a high-ranking CISF officer. Major locations have CISF units strategically positioned for quick deployment.

Motto and Values

- The CISF's motto is "Protection and Security," embodying its commitment to safeguarding national assets and contributing to India's internal security.

Functions and Responsibilities

- Industrial Security:** CISF provides security to various industries and sensitive installations in the public and private sectors.
- Aviation Security:** CISF is the primary security agency responsible for safeguarding airports and airline operations across India, securing 64+ airports.
- Metro and Port Security:** It provides security at metro stations (notably the Delhi Metro) and protects India's major seaports.
- Disaster Management:** The force plays a role in disaster management, offering specialized units for disaster response and recovery.
- VIP Security:** CISF provides security cover to various VIPs in India, based on specific assignments.

12. Insurgent groups

Context: The Union Ministry of Home Affairs (MHA) on Thursday (November 14, 2024) declared Hynniewtre National Liberation Council (HNLC), a Meghalaya-based insurgent group, an "unlawful association" for another five years for its involvement in violent incidents and carrying out activities prejudicial to India's sovereignty and integrity.

	Insurgent groups	States
1	United National Liberation Front (UNLF)	Manipur
2	Kangleipak Communist Party (KCP)	Manipur
3	Hynniewtre National Liberation Council (HNLC)	Meghalaya
4	Kanglei Yawol Kanna Lup (KYKL)	Manipur

13. Indigenous people groups & Countries

Context: A policy of “Norwegianization” silenced the languages of Indigenous people and forced their children into boarding schools. The long-awaited apology avoided the issue of land rights.

More on news:

This week, the country’s Parliament issued a formal apology to the Sami, Kven and Forest Finn peoples, and outlined 17 resolutions to address the discrimination they still face, including protecting minority languages and ensuring that children are taught those languages.

	Indigenous people groups	From Countries
1	Nahua	Mexico, El Salvador
2	Quechua	Peru, and other S. American countries
3	Igorot	Philippines
4	Kven	Norway, Sweden, Finland and parts of Russia

14. Top 5 most populous countries of Africa

Context: India accords high priority to its strategic partnership with Nigeria and it will work towards boosting ties in a range of areas, including defence, energy and trade, Prime Minister Narendra Modi said during talks with Nigerian President Bola Ahmed Tinubu here on November 17.

Top 5 most populous countries of Africa:

1. **Nigeria:** Approximately 228 million
2. **Ethiopia:** Approximately 110 million
3. **Egypt:** Approximately 107 million
4. **Democratic Republic of the Congo:** Approximately 115 million
5. **Tanzania:** Approximately 65 million



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15. Best Tourism village upgrade programme

Context: A small village in Chhattisgarh’s Bastar district, Dhudmaras has been selected by the United Nations World Tourism Organisation (UNWTO) for its Best Tourism Village Upgrade programme, highlighting its potential for sustainable tourism development.

More on news:

What is Best Tourism village upgrade programme?

- This year, 55 villages across the world received the recognition of Best Tourism Village under the UNWTO initiative.
- Another 20 villages, including Dhudmaras, were chosen for the Best Tourism Village Upgrade programme, under which they will receive support to enhance tourism infrastructure, promote cultural heritage, and improve the quality of life for residents.

About Dhudmaras village:

- Dhudmaras is situated in the heart of Kanger Valley National Park.
- Nestled in dense forests with the Kanger River flowing through it, Dhudmaras offers an idyllic setting for eco-tourism. It is known for its natural beauty, biodiversity, traditional lifestyle, and local cuisine.

United Nations World Tourism Organization (UNWTO)

Overview

- The United Nations World Tourism Organization (UNWTO) is a specialized agency of the United Nations responsible for promoting responsible, sustainable, and universally accessible tourism. It serves as a global forum for tourism policy issues and a practical source of tourism knowledge and information.

Key Details

- **Establishment:** It was founded in 1975. It is preceded by the International Union of Official Travel Organizations (IUOTO), established in 1925.
- **Headquarters:** Madrid, Spain.

- **Membership:** Comprises 160 Member States, 6 Associate Members, and over 500 Affiliate Members from private, public, and academic sectors.
- **Official languages:** English, French, Spanish, Russian, Arabic, and Chinese.
- **Leadership:** Secretary-General: Elected for a four-year term by the General Assembly.

Flagship Initiatives

- **UNWTO Global Code of Ethics for Tourism:** Provides a framework for sustainable and responsible tourism practices.
- **Sustainable Development Goals (SDGs):** Advocates tourism as a tool to address poverty, promote gender equality, and combat climate change (e.g., Goals 8, 12, and 14).
- **Tourism Recovery After COVID-19:** Led global recovery efforts post-pandemic by advocating for vaccine equality, restoring traveler confidence, and encouraging safe travel practices.
- **Annual World Tourism Day (WTD):** Celebrated on 27th September to foster global awareness about the role of tourism in social, cultural, and economic development.

Key Reports and Publications

- **UNWTO Tourism Barometer:** Tracks global tourism performance and trends.
- **UNWTO World Tourism Report:** Comprehensive insights on international tourism development.
- **Global Guidelines to Restart Tourism:** A roadmap for the post-COVID recovery of tourism.
- **Tourism and the SDGs:** Analysis of how tourism contributes to achieving the UN's development goals.

16. Five Star Movement

Context: Italy's 5-Star Movement severed ties on Sunday with its co-founder, the comedian Beppe Grillo, a further step in turning what was once a radical protest movement into a more mainstream left-leaning force.

The Five Star Movement

- **The Five Star Movement (Movimento 5 Stelle, or M5S) is an Italian political party founded in 2009 by comedian Beppe Grillo and web strategist Gianroberto Casaleggio.**
- Initially, it emerged as a populist movement focused on anti-establishment and anti-austerity policies, advocating for direct democracy and environmental sustainability.
- The party has been characterized by its fluctuating political stance, often seen as syncretic, incorporating elements from both left and right-wing ideologies.
- M5S achieved significant success in the 2018 Italian elections, becoming the largest single party. However, it has been plagued by internal divisions, particularly over policy decisions and leadership struggles
- In 2024, the M5S continues to play an important role in Italian politics, particularly with its involvement in regional elections and the ongoing challenge of rebuilding following several splits and setbacks

17. Dark tourism

Context: Ukraine is seeing a new rise in the influx of western tourism to venture into 'Dark tourism'. Before the war, Ukraine already hosted tens of thousands of tourists every year in Chernobyl, which saw the world's worst nuclear disaster in 1986.

What is dark tourism?

- **Dark Tourism refers to the practice of visiting locations associated with death, tragedy, and suffering, often for educational, reflective, or historical purposes.**
- **Examples include former concentration camps like Auschwitz, sites of nuclear disasters like Chernobyl, or battlegrounds from historic wars.**
- It provides insight into human history's darker chapters, fostering remembrance and awareness, though it often raises ethical considerations about commercialization and respect for the victims.

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19. Important Bridges in India

Context: *Top railway officials have said the Railway Board has formed a five-member technical committee to probe the findings of the report of the Commissioner of Railway Safety (CRS), Southern Circle, which flagged "glaring lapses" in the construction of the new Pamban rail bridge connecting the town of Rameswaram to mainland India.*

	Bridges	Special features
1	Pamban Bridge	Vertical lift railway bridge
2	Howrah Bridge	Cantilever bridge
3	Bogibeel Bridge	Rail-cum-road bridge
4	Chenab Rail Bridge	Arch bridge

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