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Message



An officer with a right mindset is an officer that a nation aspires for. A right mindset doesn't necessarily comprise unlimited jargon of knowledge rather a right amount of knowledge and its appropriate execution. Especially, when it comes to UPSC and State PSCs

preparation, the crux is not to accumulate the knowledge but its effective implementation and utilization in tackling any situation. The situation here can be anything from UPSC CSE Prelims to the major issues that need to be addressed. The journey is hard but it is worth.

Perfect 7 has been part of many UPSC and State PSCs aspirants in their journey of becoming well reputed officers serving nationally and internationally. The magazine itself had gone through constant ebb and flows of change and improvements. Now, that the magazine is in its monthly era, I hope it becomes your perfect preparation partner and guides you through this ever learning endeavor of Civil Services Preparation.

With Best wishes.

Vinay Singh
Founder
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National

Upholding Indian Society & Democracy: Assertive Role of the Supreme Court

Supreme Court has been actively pursuing strict reforms in the country's federal governance system while taking action against those who infringe on the rights of citizens. Whether addressing misleading advertisements or ruling against the constitutionality of electoral bonds, the Court has demonstrated its activism and its commitment to ensuring accountability and justice.

Supreme Court is set to address whether succession laws apply to Muslims who do not adhere to Islam and whether Muslim women are entitled to one-third share in property according to Sharia laws. These crucial decisions reflect the Court's ongoing efforts to steer society, family, and the economy in the right direction. The Court's proactive role is evident in its recent decisions, which are pivotal in shaping legal and societal norms. In essence, the Supreme Court appears to be embracing judicial activism, particularly in its focus on addressing the harm inflicted on ordinary citizens by the ineffective functioning of various government organs and administrative systems. This is also evident through its recent decisions.

Supreme Court's decision on Patanjali misleading publicity case:

- ❖ The freedom to advertise falls under the fundamental right of freedom of thought and expression. However, when it comes to public health, misleading advertising of products cannot be tolerated. To balance these rights, reasonable restrictions have been imposed under Article 19, recognizing the need to protect public health from potentially harmful misinformation.
- ❖ During the hearing of the misleading advertisement case involving Patanjali, the Supreme Court has scrutinized the role of the Uttarakhand Licensing Authority. The Court has expressed concern over the authority's apparent inaction against misleading advertisements. Despite the Uttarakhand State Licensing Authority's

statement that 14 manufacturing licenses of Patanjali and its unit Divya Pharmacy were canceled on April 15, the Supreme Court remains dissatisfied with the delay in taking action.

Supreme Court's decision on Hindu marriage system:

- ❖ In a recent judgment, the Supreme Court made a significant decision regarding the Indian marital system, emphasizing that Hindu marriage is a sacrament and not merely a social event characterized by "song-dance" or "wining-dining." The Court clarified that a Hindu marriage is considered void if the necessary ceremonies have not been conducted, and registration alone does not validate such a marriage.
- ❖ The Supreme Court clarified the legal requirements and sanctity of Hindu marriage under the Hindu Marriage Act, 1955. The Court emphasized that a Hindu marriage must adhere to proper rites and ceremonies, including the Saptapadi (seven steps of circumambulation around the sacred fire), and proof of these ceremonies is necessary in case of disputes. This ruling highlights the significance of traditional rituals in validating Hindu marriages under the law.
- ❖ Justice B. Nagarathna emphasized that Hindu marriage is a sacrament and should be regarded as an institution of great value in Indian society. The judges of the Supreme Court have therefore urged young men and women to carefully contemplate the significance

of marriage and recognize its sacred nature in Indian societal norms before committing to it.

Supreme Court's interpretation of Article 39(b):

- ❖ Article 39(b) has recently been debated in the Supreme Court regarding the question of right to private property. A nine-judge Constitution bench of the Supreme Court is hearing a petition challenging Chapter VIII-A of the Maharashtra Housing and Area Development Act, 1976 (MHADA), which was added through an amendment in 1986. The Maharashtra government had made this law to take control of dilapidated buildings. For this, Article 39(B) of the Constitution was cited.
- ❖ Article 39(b) has recently been debated in the Supreme Court regarding the question of right to private property. A nine-judge Constitution bench is hearing a petition challenging Chapter VIII-A of the Maharashtra Housing and Area Development Act, 1976, added through a 1986 amendment. This law allows the Maharashtra government to take control of dilapidated buildings, citing Article 39(b) of the Constitution. In 1991, this amendment was challenged in the Bombay High Court. The High Court upheld the amendment saying that laws made under Article 39(b) are protected by Article 31C.
- ❖ The High Court's decision was challenged in the Supreme Court in 1992 after which it went through a lengthy legal journey. Initially heard by a three-judge bench, the matter was later escalated to benches of five, seven, and eventually nine judges. Commencing in April 2022, after almost 22 years the current bench of nine judges is tasked with determining whether private properties can be classified as 'physical resources of society' under Article 39(b) of the Constitution.
- ❖ Recently on this subject, the Constitution Bench of the Supreme Court has said that there are two different views on this issue: first - no private property is the physical resource of the community; And second – every private property is the material resource of the community. The court said that keeping in mind the national interest and privatization, there is a need for a contemporary interpretation of Article 39 (B).
- ❖ According to Article 39(b), 'The ownership and control of the material resources of the community shall be so distributed as to best serve the general interest. The Supreme Court has clearly stated that there cannot be a strict dichotomy between private and public property.
- ❖ The Supreme Court has stated that Article 39 of the Constitution should not be interpreted in the

context of today's times. It emphasized that the ideals of socialism and communism, which are reflected in Article 39, do not override the protection of private property and the right to conduct business. The Court stressed that these principles are not exclusive to any particular government's agenda but are integral to the national agenda. Since 1990, the policy has aimed to promote private sector investment to boost production. Therefore, encouraging private investment remains crucial for economic growth.

- ❖ The Constitution Bench noted that in the 1950s, it was unimaginable that private companies would play a significant role in electricity distribution or infrastructure development, such as building roads but today it is the reality of the present. Hence, our interpretation of the Constitution also must evolve to reflect India's current reality and future direction.

Case of side effects of Covishield:

- ❖ Global pharmaceutical AstraZeneca has acknowledged that the Covid-19 vaccine developed with Oxford University could lead to side effects, including the formation of blood clots, as stated in their admission to the British High Court. This revelation has sparked concern, particularly since the same vaccine, known as Covishield, has been administered in India. In response, an application has been filed in the Supreme Court, urging for instructions to be issued in the interest of public health and safety.
- ❖ A petition has been filed in the Supreme Court seeking the formation of a committee, led by a retired Supreme Court judge, to investigate the side effects of the Covishield vaccine. The petition suggests including the director of AIIMS, Delhi, and other experts in the committee. It also requests the central government to investigate the vaccine's side effects, assess the damage, and arrange for compensation for affected citizens. Additionally, the petition calls for instructions to provide compensation to the dependents of those who have suffered serious disabilities or death due to the vaccine's side effects. The Supreme Court must now decide on the appropriate course of action regarding these demands.
- ❖ Covishield, manufactured by the Pune-based Serum Institute of India, has been widely administered with 175 crore doses administered. AstraZeneca has acknowledged in a UK court the side effects of thrombocytopenia syndrome (TTS) and thrombosis associated with the vaccine. The vaccine is facing accusations of causing serious harm and death, with a

case ongoing in the High Court of Britain.

Supreme Court and EVM issue:

- ❖ Amidst the Lok Sabha elections, the Supreme Court has given a provision to instill confidence in the voters and political parties that the EVMs will remain safe for 45 days and if a complaint is made within 7 days after the results, then an investigation will be conducted. This means that if the candidates feel that something has gone wrong, the EVMs can be checked.
- ❖ While it is expected that the opposition will be satisfied with the Supreme Court's decision, it is also anticipated that the losing party in the upcoming Lok

Sabha elections may raise doubts about the Electronic Voting Machines (EVMs). Historically, losing parties have often expressed concerns about EVM tampering after elections.

- ❖ The Supreme Court has given 3 directions on this matter: First, the Election Commission should examine the feasibility of placing a bar code on the VVPAT so that all the slips are counted in a computerized manner. Second: After the election the symbol loading unit should be sealed and kept available for 45 days and Third: The losing candidate can get the 'burn memory' of any 5 EVMs checked at his own expense.

Short Issues

Supreme Court on Hindu Marriage

Why in News:

The Supreme Court has observed that customary rituals and ceremonies prescribed under the Hindu Marriage Act must be assiduously, strictly and religiously followed, failing which the marriage will be invalid.

Observations made by the Court:

- The court said Section 7 of the Act lists 'ceremonies of a Hindu marriage', which have to be complied with, for validity of the marriage and if it is not done, then the marriage is not deemed valid in the eye of the law.
 - » According Section 7 of Hindu Marriage Act, a Hindu marriage may be solemnized in accordance with the customary rites and ceremonies of either party thereto.
- A bench of Justices B V Nagarathna and Augustine George Masih said a Hindu marriage is a 'samskara' and a sacrament which has to be accorded its status as an institution of great value in Indian society.

About the Hindu Marriage Act, 1955:

- The Act codifies the law relating to marriage among Hindus. A Hindu by birth or by conversion is the subject of the HMA Act. The definition of Hindu under the HMA Act also includes Buddhist, Jain, and Sikh.

- **Marriageable age:** Under the HMA, the minimum age for marriage is set at 21 for the bridegroom and 18 for the bride. Marrying minors is punishable by imprisonment for up to three years and/or a fine of up to Rs 1 lakh.
- **Bigamy:** Section 5 of the Act specifies that it is illegal to have two living wives (bigamy) at once. If one spouse is alive and the person remarries, such marriage is not only void, but the person is also punishable under Sections 494 and 495 of the Indian Penal Code, 1860.
- **Divorce Provisions:** HMA not only provides for the ceremonies and registration for Hindu marriage but also lays down rules regarding Divorce.
- Divorce under the Hindu Marriage Act can be obtained through mutual consent or judicial separation. Special circumstances may warrant divorce even before completing one year of marriage. The Act specifies various grounds for divorce, including provisions that allow wives to seek divorce from their husbands.

Conclusion:

The Supreme Court recognized the practice of 'samskara' as a sacrament through this judgment. The court said that this sacrament must be observed in a Hindu marriage. It said that the Hindu marriage is not an event for 'song and dance', 'wining and dining' or a commercial transaction and it cannot be recognized as a valid ceremony under the absence of such ceremonies.

Eggshell Skull Principle

Why in News:

Supreme Court has overturned the decisions of the state and central consumer courts, which had applied the "eggshell skull" principle to reduce the compensation awarded to the plaintiff. The Supreme Court restored the original compensation of Rs 5 lakhs awarded by the district consumer forum, which had found the defendant guilty of medical negligence and held that "eggshell skull" principle is not applied.

Observation by Supreme Court:

- Court held that the "eggshell skull" rule did not apply in this case because there was no evidence of a pre-existing vulnerability or medical condition that would have made plaintiff more susceptible to unusual damage.

What was the case?

- In 2005, one Jyoti Devi went in to have her appendix removed in a hospital in Himachal Pradesh's Mandi district. Though the surgery was as planned, her abdominal pain would not subside. Ultimately, doctors at the Post Graduate Institute of Medical Science, Chandigarh, found that "a 2.5 cm foreign body (needle)" was left behind in her abdomen, which needed to be surgically removed.
- When Jyoti moved to the district consumer forum for compensation, she was awarded Rs 5 lakhs for medical negligence by the hospital in Mandi. However, when the hospital appealed against the order, the state consumer forum reduced the compensation to Rs 1 lakh and the National Consumer Disputes Redressal Commission (NCDRC) enhanced it to Rs 2 lakh.

What is Eggshell skull principle?

- The "eggshell skull" rule, also known as the "thin skull" rule, is a legal principle that holds a defendant liable for the full extent of damages suffered by a plaintiff, even if the plaintiff had a pre-existing vulnerability or condition that made them more susceptible to injury. This rule is often applied in personal injury cases, particularly in cases involving negligence or tort law.
- To apply the "eggshell skull" rule, the following conditions must be met:
 - » The plaintiff had a pre-existing vulnerability or condition.
 - » The defendant's actions caused an injury that exacerbated the pre-existing condition.
 - » The plaintiff's damages were foreseeable, even if the extent of the damages was not.

Conclusion:

- This decision sends a strong message to healthcare providers that they will be held accountable for their actions, and that medical negligence will not be tolerated. By setting a precedent for future cases, this decision:
 - » Encourages healthcare providers to prioritize patient care and safety.
 - » Strengthens the rights of patients to seek compensation for medical negligence.
 - » Promotes transparency and accountability in the healthcare system.
 - » Deters healthcare providers from being negligent or reckless in their treatment of patients.
 - » Supports the principle of justice and fairness for victims of medical negligence.

Article 361: Provides Immunity

Why in News:

Complaint alleging sexual harassment has been filed in Kolkata against West Bengal Governor C V Ananda Bose but Constitutional immunity bars the police from naming the Governor as an accused or even investigating the case.

What is constitutional immunity?

- The constitutional immunity of a Governor in India refers to the protection granted to them under Article 361 of the Indian Constitution

About article 361:

- Article 361 of the Indian Constitution provides immunity to the President and Governors of states from being answerable to any court for the exercise and performance of their powers and duties.

Legal interpretation:

- **Immunity from legal proceedings:** The President and Governors are protected from legal proceedings, including civil suits, criminal prosecutions, and court inquiries.
- **No court can entertain legal proceedings:** No court, including the Supreme Court, can entertain legal proceedings against the President or Governors during their term in office.
- **Immunity only for official actions:** The immunity only applies to actions performed in their official capacity and not to their personal actions. After giving two months' notice, civil proceedings can be instituted against him during his term of office in respect of his personal acts.

- However, this immunity is limited to the Governor's official actions and decisions taken in good faith. It does not protect them from criminal investigations or prosecutions for personal actions or illegal activities unrelated to their official duties.
- In the case of the sexual harassment complaint against West Bengal Governor C V Ananda Bose, the police may not be able to name him as an accused or investigate the case directly due to Constitutional immunity. However, there are other options available, such as:
 - » Seeking sanction from the Union Home Ministry or the President to investigate and prosecute the Governor.
 - » Conducting an internal inquiry or administrative investigation into the allegations.
 - » Seeking legal advice and exploring other legal options to address the complaint.

Conclusion:

Immunity provided to governor aims to ensure the independence and dignity of these high offices, allowing them to perform their duties without fear of legal harassment or intimidation. However, it's important to note that this immunity is not absolute and has been subject to judicial scrutiny and interpretation.

33% Reservation for women in Bar Association Committee

Why in News:

Supreme Court has reserved one-third of the seats in the executive committee of the Supreme Court Bar Association (SCBA) for women.

Key points:

- The SCBA has to establish reservations and guidelines for its Executive Committee elections.
- One-third of seats in various committee positions, including the Treasurer, are to be reserved for women members.
- Eligible women members can contest for all positions.
- The criteria for reservation are as follows:
 - » Minimum of 1/3rd seats in the Executive Committee i.e., 3 out of 9.
 - » Minimum 1/3rd out of the Senior Executive Members i.e., 2 out of 6.
 - » At least one post of the Office Bearer shall be reserved for women candidate exclusively by turn

and on rotation basis.

- In the ensuing election for 2024-2025, the post of Treasurer of the Executive Committee is reserved for women.

Importance of the decision:

- **Gender Representation:** This decision ensures that women have a fair and equal representation in the decision-making process of the SCBA, which was previously dominated by men.
- **Empowerment:** It empowers women lawyers to take on leadership roles and participate in shaping the legal profession's future.
- **Diversity:** The reservation promotes diversity and inclusivity, bringing different perspectives and ideas to the committee.
- **Encourages Participation:** It encourages more women to participate in the legal profession and take on leadership roles.
- **Role Models:** Women in leadership positions serve as role models, inspiring younger women lawyers to pursue their careers with confidence.
- **Balanced Decision-Making:** The reservation ensures that decisions are made with a balanced perspective, considering the views and experiences of both men and women.
- **Compliance with International Standards:** This decision aligns with international standards and best practices promoting gender equality and women's empowerment.
- **Impact on Society:** This decision sets a positive precedent, promoting gender equality and challenging gender-based discrimination in other professions and spheres of society.

About the committee:

- The Bar Association Committee, also known as the Supreme Court Bar Association (SCBA), is a professional organization of lawyers who practice in the Supreme Court of India. The committee plays a crucial role in:
 - » Representing the interests of lawyers and the legal profession.
 - » Regulating the conduct and ethics of lawyers.
 - » Providing a platform for lawyers to discuss legal issues and developments.
 - » Organizing seminars, conferences, and workshops for continuing legal education.
 - » Engaging with the judiciary and government on law reform and policy matters.

- » Supporting the administration of justice and the rule of law.
- » Promoting access to justice and human rights.

Conclusion:

By reserving 33% seats for women, the SCBA has taken a significant step towards creating a more inclusive and diverse legal community, ultimately contributing to a more just and equitable society.

Citizenship Certificates Under CAA

Why in News:

The ministry of home affairs has issued the first 14 citizenship certificates under the Citizenship (Amendment) Act.

Who is eligible?

- The CAA 2019 applies to those who were forced or compelled to seek shelter in India due to persecution on the ground of religion.
- It aims to protect such people from proceedings of illegal migration.
- The cut-off date for citizenship is December 31, 2014, which means the applicant should have entered India on or before that date.
- The act will not apply to areas covered by the Constitution's sixth schedule, which deals with autonomous tribal-dominated regions in Assam, Meghalaya, Tripura, and Mizoram.
- Additionally, the act will not apply to states that have an inner-line permit regime (Arunachal Pradesh, Nagaland and Mizoram).

Process:

- Applicants will have to submit their applications through citizenship portal.
- The portal requires applicants to declare the country of origin, and also submit at least one document tracing their roots to Bangladesh, Pakistan or Afghanistan.
- Upon submission, applications will be scrutinised and finalized.
- After fulfilling all the criteria mentioned in the CAA rules, certificates will be sent by post to beneficiaries in other parts of the country.

Rules for the CAA:

- On March 11, the MHA notified the Citizenship Amendment Rules, 2024 that enabled the implementation of the CAA.

- The rules specified the evidence needed for applicants to prove their credentials and eligibility for citizenship under the new law.

About the act:

- The Act seeks to amend the definition of illegal immigrant for Hindu, Sikh, Parsi, Buddhist, Jains and Christian immigrants from Pakistan, Afghanistan and Bangladesh, who have lived in India without documentation.
- It reduced the period to qualify for citizenship from the existing requirement of continuous stay of 11 years to continuous stay of five years.
- The Act (which amends the Citizenship Act 1955) also provides for cancellation of Overseas Citizen of India (OCI) registration where the OCI card-holder has violated any provision of the Citizenship Act or any other law in force.

Way Forward:

The government should consider making citizenship laws more inclusive, and provide a pathway to citizenship for all persecuted minorities, regardless of their religion. At the same time, government should address the concerns and fears of marginalized groups, and ensure that their rights and interests are protected.

SC Tightens Juvenile Justice Act

Why in News:

Supreme Court of India has taken a significant step in strengthening the Juvenile Justice Act by introducing two key amendments.

The amendments:

- **30-day timeline for appeals:** The SC has set a strict 30-day deadline for filing appeals against orders passed by Juvenile Justice Boards or Children's Courts. This aims to expedite the judicial process and prevent delays in delivering justice.
- **Detailed orders mandatory:** The SC has also directed that all orders passed by Juvenile Justice Boards or Children's Courts must be accompanied by detailed reasons and explanations. This ensures transparency and accountability in the decision-making process.

Background:

- The case in question revolved around an appeal against the Children's Court's decision to treat the appellant as an adult rather than a "child in conflict with law" a

term used when a minor is accused of an offence.

About juvenile justice act:

- The Juvenile Justice (Care and Protection of Children) Act, 2015, is an Indian law aimed at providing care, protection, and rehabilitation to children in conflict with the law and children in need of care and protection. The Act replaced the Juvenile Justice (Care and Protection of Children) Act, 2000, and was amended in 2021 to further strengthen the provisions.

Key Features

- **Definition of Child:** A child means a person below the age of 18 years.
- **Juvenile Justice Board (JJB):** A board comprising a Metropolitan Magistrate or a Judicial Magistrate, a social worker, and a psychologist to deal with cases of children in conflict with the law.
- **Children in Conflict with Law (CCL):** Children alleged to have committed an offense. In this case, offences committed by children minor in nature and for punishment, rehabilitative approach is adopted.
- **Treating adult:** A child above 16 years of age who commits a heinous offense can be tried as an adult. Heinous offenses are defined as offenses punishable with imprisonment for seven years or more.
- **Child Welfare Committee (CWC):** A committee responsible for the care and protection of children.
- **Rehabilitation:** The Act emphasizes rehabilitation over punishment, focusing on the child's reforms and reintegration into society.
- **Age Determination:** The Act presumes a person to be a child unless proven otherwise.
- **Bail:** Children are entitled to bail, and the JJB may grant bail if the child is not likely to commit any offense.
- **Counselling:** Children are provided counselling and guidance to reform and rehabilitate.
- **Institutional Care:** Children may be sent to observation homes, special homes, or fit institutions for care and protection.
- **Adoption:** The Act streamlines the adoption process, prioritizing the child's best interests.
- **Penalties:** Violations of the Act, such as child labor, child marriage, or cruelty to children, attract penalties.

Conclusion

The Juvenile Justice Act, 2015, is a significant step towards ensuring the rights and dignity of children in India. While the Act has several strengths, its effective implementation and monitoring are crucial to achieving its objectives.

Addressing the challenges and concerns will help ensure the Act's success in providing care, protection and rehabilitation to children in need.

Supreme Court Ruling on Consumer Protection Act

Why in News:

Supreme Court has ruled that advocates cannot be held liable for deficiency of service under the Consumer Protection Act and opined that the top court's 1995 ruling which held that doctors and other medical professionals can be held liable under the Consumer Protection Act, 1986 should be revisited.

Issues:

- Whether advocates can be held liable for deficiency in services under the Consumer Protection Act?
- Whether the services provided by advocates fall within the scope of service contained in Section 2(42) of the Consumer Protection Act 2019?

Judgment:

- The Supreme Court held that advocates cannot be held liable for deficiency in services under the Consumer Protection Act, 2019.
- The Court observed that advocates are not providing services under a contractual obligation, but rather are discharging their professional duties as officers of the court.
- The Court held that the services provided by advocates do not fall within the scope of "service" under the Consumer Protection Act, as they are not providing services for consideration or under a contractual agreement.

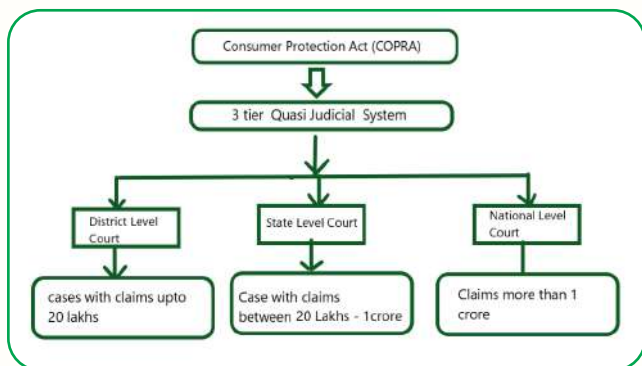
Impact:

- The judgment has significant implications for the legal profession, as it clarifies that advocates cannot be held liable for deficiency in services under the Consumer Protection Act.
- The judgment protects advocates from frivolous complaints and potential liability for actions taken in the course of their professional duties.

About Consumer Protection Act of 2019:

- The Consumer Protection Act of 2019 is a modified piece of law that provides customers with a wide range of advantages and rights to protect them against unfair commercial practises, false or misleading ads, and other

forms of deception.



Key Highlights:

- The act widens the scope of the definition of a consumer to include both online and offline transactions through electronic means, teleshopping, direct selling, or multi-level marketing.
- E-commerce has been specifically mentioned and is defined as buying and selling of goods/services/digital products, online.
- The Central government is empowered to take appropriate measures (framing of rules, regulations, guidelines, etc.,) to prevent unfair trade practices in e-commerce and direct selling.

Conclusion:

This ruling has significant implications for the legal profession, as it clarifies the scope of the Consumer Protection Act and the liability of advocates in relation to their services. It's an important development in the field of consumer law and legal ethics.

SC Gives Permission to review the decision on 'Shamlat Deh' Land Rights

Why in News:

Recently the Supreme Court allowed review of its 2022 judgment on land rights that allowed gram panchayats to acquire "shamlat deh" land.

Key Points:

- A bench of Justices BR Gavai and Sandeep Mehta allowed review of a 2022 judgment in which a two-judge bench (Justice Hemant Gupta and Justice V Ramasubramaniam) had overturned the relevant judgment in the case of a larger five-judge bench (Bhagat

Ram vs. State of Punjab, 1967) was disregarded.

- Shamlat Deh is basically village common land, created by several landowners giving equal shares of their individual land to serve the "common purpose" of the village people.
- The apex court in 2022 had upheld the 1992 amendment to the Punjab Village Common Lands (Regulation) Act, 1961 (hereinafter Punjab Act), which empowers gram panchayats to designate Shamlat Deh land as "land reserved for village common purposes".
- The review is based on a petition, filed by a group of village landowners who argued that the 2022 decision violates their rights over their "Shamlat Deh" land.

Why review of the 2022 decision was allowed?

- In the case of Bhagat Ram vs. State of Punjab (1967), a five-judge bench ruled that if the villagers have marked out any land for community use, then the unused portion of that land will be divided between its original owners.
- On April 7, 2022, the bench of Justice Gupta and Justice Ramasubramaniam had given a verdict completely opposite to the 1967 decision and had said that no piece of land can be redistributed among its owners.

Bhagat Ram vs. State of Punjab (1967):

- In 1967, a five-judge bench was deciding on the validity of the land consolidation scheme for Dolike Sundarpur village, which proposed to reserve land "for general purposes" and give the income from these lands to the Panchayat.
- Landowners challenged the scheme, arguing that it violates the second provision of Article 31A, which prohibits the government from acquiring land from a person who exceeds the "ceiling limit" (which is determined by the state and applicable law). The State is required to pay compensation "equal to the market value" for the land in case the land is acquired.
- The State of Punjab argued that reserving land for the income of the Panchayat did not qualify as land acquisition because the income would be used to benefit the village community. However, the court ruled in favour of the landowners.

Conclusion:

The Court's purpose of granting review of the decision is to ensure that "Shamlat Deh" land is used for the development of rural areas, but that the rights of landowners are not infringed upon.

Supreme Court limits ED's Power to Arrest PMLA Accused

Why in News:

Supreme Court ruled that the Enforcement Directorate (ED) cannot arrest someone under Section 19 of the Prevention of Money Laundering Act (PMLA). Section 19 of the Prevention of Money Laundering Act (PMLA), 2002, empowers the Enforcement Directorate to arrest a person suspected of committing the offence of money laundering.

Highlights of the judgement:

- **Limits the Power of Arrest:** The ED would have to separately apply for the custody of a person once he appears in court. The central agency would have to show specific grounds that necessitated custodial interrogation.
- **Right to Personal Liberty:** A person summoned by a designated special court under the PMLA is presumed to be not in custody and need not apply for bail under the draconian conditions posed by the anti-money laundering law.
- **Accused can be Directed to Furnish Bonds:** The special court can direct the accused to furnish bonds under Section 88 of the Code of Criminal Procedure. A bond furnished in terms of Section 88 CrPC is only an undertaking. An order accepting bond under Section 88 does not amount to grant of bail and hence the twin conditions of Section 45 of the PMLA are not applicable to it.
- **Further Relief to the Accused:** An accused who appears in a special court pursuant to its summons could be exempted from personal appearance in the future. If an accused does not appear after a summons is served, the special court could issue aailable warrant followed by a non-ailable one.
- **ED may Arrest a Person not Shown as an Accused:** When ED wants to conduct further investigation concerning the same offence, it may arrest a person not shown as an accused in the complaint already filed, provided the requirements of Section 19 are fulfilled.

About Prevention of Money Laundering Act:

- The Prevention of Money Laundering Act (PMLA), 2002, is a legislative act in India aimed at preventing and controlling money laundering.

Objective:

- To prevent and control money laundering, and to confiscate the proceeds of crime.

Definitions:

- **Money laundering:** The process of converting illegally obtained funds into legitimate money or assets.
- **Proceeds of crime:** Any property or assets derived from or obtained through criminal activity.

Key Provisions:

- **Offence of money laundering (Section 3):** Whoever directly or indirectly attempts to indulge in money laundering shall be punished with rigorous imprisonment and fine.
- **Punishment for money laundering (Section 4):** Imprisonment for a term not less than three years but may extend to seven years and fine.
- **Attachment and confiscation of property (Sections 5 and 8):** Empowers the authorities to attach and confiscate the proceeds of crime.
- **Investigation and search (Sections 11 and 17):** Authorizes the Enforcement Directorate (ED) to investigate and conduct searches.
- **Arrest and custody (Section 19):** Empowers the ED to arrest and detain a person suspected of money laundering.

Enforcement:

- **Enforcement Directorate (ED):** Responsible for investigating and prosecuting money laundering cases.
- **Special Courts:** Designated courts for trying PMLA cases.

Conclusion:

The ruling ensures that individuals summoned by the special court are not subject to arbitrary arrest and detention, safeguarding their personal liberty. This landmark decision strikes a balance between the need to combat money laundering and the protection of individual rights and liberties.

Personality/Publicity Rights

Why in News:

The Delhi High Court has passed an ad-interim injunction in favor of bollywood actor Jackie Shroff, restraining various entities from infringing his personality/publicity rights.

The Delhi High Court's decision includes:

- Restraining various entities from infringing his personality/publicity rights.
- Restraining e-commerce platforms, AI chatbots, and social media accounts from using the actor's name, voice, or image for any commercial purpose without his consent.

- Restraining entities from infringing upon Jackie Shroff's personality rights until the next hearing.
- Ordering the removal of all links and websites that violate his personality rights.

About personality right:

- Personality rights, also known as publicity rights, are a type of intellectual property right that protects a person's identity, including their name, image, voice, signature, and likeness.
- These rights are based on the idea that a person's identity has economic value and should be protected from unauthorized use.

What does Indian law say about personality rights?



Article-21 of the Indian Constitution gives the right to privacy, • It also includes personality rights.

The Intellectual Property Law has also constitutionally provided the right to intellectual rights of personality.



Similarly, under the Copyright Act 1957, writers, actors, singers and dancers have similar rights.

Legal provisions

- **Right to Privacy (Article 21 of the Constitution):** This fundamental right includes the right to control one's personal information and identity.
- **Passing Off (Section 27 of the Trademarks Act, 1999):** This provision protects against unauthorized use of a person's name, reputation, or image, which could deceive the public into believing there is an association or endorsement.
- **Defamation (Sections 499-502 of the Indian Penal Code, 1860):** This provision protects against damage to a person's reputation through false statements or

representations.

- **Copyright Law (Section 55 of the Copyright Act, 1957):** This provision grants authors and performers exclusive rights over their works, including control over their use and adaptation.
- **Contract Law (Indian Contract Act, 1872):** This provision enables individuals to enter into contracts that protect their personality rights, such as endorsement agreements or licensing contracts.
- **Tort Law (Common Law):** This provision allows individuals to seek remedies for unauthorized use of their personality rights, including damages and injunctions.
- **Information Technology Act (Section 43A, 2000):** This provision protects sensitive personal data or information, including a person's identity.

Conclusion:

The court's decision recognizes that Jackie Shroff's identity has significant commercial value and that he has a right to control how his identity is used for commercial purposes. This decision sets a precedent for the protection of personality rights in India, emphasizing the importance of individual identity and reputation in the commercial sphere.

State To Not Acquire Private Property Without Proper Procedure

Why in News:

The Supreme Court in a recent judgement declared that State cannot acquire property without proper procedure. The Bench of Justices P.S. Narasimha and Aravind Kumar said that Right to private property is a constitutional right as well as a human right says. It specifies the duties of the government before takeover of property.

About the Judgement:

- **Bench:** Justices P.S. Narasimha and Justice Aravind Kumar.
- The 44th Constitutional Amendment Act omitted the right to property as a fundamental right but insertion of Article 300A into the Constitution, provided that "no person shall be deprived of his property, save by authority of law".
- The apex court took a remarkable step to protect private property from arbitrary state takeover for "public purposes".

- It held that compulsory acquisition, breaching the mandatory procedures, to be followed by to grant compensation to the owners will not make it constitutional.
- For a valid acquisition grant of a reasonable and fair compensation is the most important step.
- Compulsory accession is unconstitutional if proper procedure is not established which shall deprive a person of his/her right to property.

Need for the new law:

- This judgment upheld a Calcutta High Court order rejecting an appeal filed by the Kolkata Municipal Corporation defending its acquisition of a private land.
- The court ordered the corporation to pay Rs. 5 lakh as costs within 60 days.

About Article 300A:

- Article 300A declares that “no person shall be deprived of his property save by authority of law” and has been characterized both as a constitutional and also a human right. Non-compliance of these will amount to violation of the right, being without the authority of law.
- The court pointed out that Article 300A must be in line with the overarching principles of rule of law, and must be just, fair, and reasonable.

Constitutional tests for land acquisition:

Supreme Court laid down 7 Constitutional Tests for Land Acquisition which are as follows-

- **Right to Notice:** The duty of the State intends to deprive the person of the right to property. It is an extended version of the right to know in Article 19(1) (a).
- **Right to be heard:** The duty of state to hear the objections of acquisition.
- **Right of the citizen to a reasoned decision:** The duty of the state to inform the person of its decision to acquire property.
- **The Duty to acquire only for public purpose:** The duty of the state to inform that acquisition is exclusively for public purpose.
- **Right of restitution or fair compensation:** The right to fair compensation to the citizen.
- **Right to an efficient and expeditious process:** The duty of the state to conduct the process of acquisition efficiently and within time.
- **Right of conclusion:** The conclusion of the proceedings or complete the process of acquisition.

Conclusion:

This judgement reaffirms the principle of Rule of Law and underlines the importance of respecting property rights in a democratic setup. It sets a precedent for ensuring that state's actions should adhere to constitutional principles and protect individual's rights against the arbitrary encroachment of the government.

It is Important to follow proper and Due Process: SC

Why in News:

Supreme Court ordered the release of NewsClick founder-editor Prabir Purkayastha, invalidating his arrest in a terror case. The judgment by the bench led by Justice BR Gavai emphasizes that proper and due process is a safeguard against arbitrary action even in terror cases.

Key points:

- NewsClick founder Purkayastha was arrested by the Special Cell of Delhi Police on 3 October 2023 under the Unlawful Activities (Prevention) Act, in which the Delhi Police alleged that NewsClick had received money for pro-China propaganda.
- The FIR includes sections 13 (unlawful activities), 16 (terrorist acts), 17 (raising funds for terrorist acts), 18 (conspiracy), and 22 (C) (offenses by companies, trusts) of the Unlawful Activities Prevention Act (UAPA).) and serious crimes like sections 153A (promoting enmity between different groups) and 120B (criminal conspiracy) of the Indian Penal Code (IPC) were mentioned.

Question on the validity of the arrest?

- According to the NewsClick founder his arrest was illegal as it did not follow due process.
- Article 22(1) of the Constitution, which deals with protection against arrest and detention, provides that no person arrested shall be detained in custody without being informed as soon as possible of the grounds for such arrest and He cannot be detained nor deprived of his right to consult his legal counsel and to defend himself.
- The Supreme Court in Pankaj Bansal vs. Union of India had held that to give true meaning to the constitutional and statutory mandates it is necessary that a copy of such written grounds of arrest should be provided to the arrested person without any exception.

Area Of Difference	Procedure Established By Law	Due Process Of Law
Scope	It is narrower in scope since it does not question the concerning law if it is contrary to equity and justice principles.	This doctrine gives a wider scope to the Supreme Court for granting protection to the rights of the citizen.
Origination	This doctrine has been originated from the British Constitution.	This doctrine has been originated from the Constitution of the United States.
Purpose	The law duly enacted by the legislature or body in concern is valid if the procedure of establishing it has been correctly followed.	It checks if any law in question is not arbitrary and unjust.
Constitution	Has been mentioned in Article 21 of the Constitution of India.	Has not been explicitly mentioned in the Constitution of India.

Importance of Supreme Court's decision:

- This decision is a strong affirmation of the rights of freedom of expression and journalists in India.
- This judgment also emphasizes the importance of due process in serious terrorism cases and sends a strong message against arbitrary arrest and detention.

Conclusion:

It is important to note that the charges against the Newslick founder are still pending, but the Supreme Court's decision ensures that he gets the right to a fair trial and is treated fairly under due process.

CBI and Role of the Union Government

Why in News:

The Supreme Court has recently refused to accept at face value the Centre's claim that it has no control over the

Central Bureau of Investigation (CBI), asking who else can send the premier investigating agency to States to investigate cases.



SC Rejects Centre's Claim It Has No Role in Functioning of CBI

The top court reserved its verdict on the maintainability of the suit filed by West Bengal against the Union government, accusing it of 'interfering' in cases which fall in the state's jurisdiction by unilaterally authorising the CBI to probe them.

More about the News:

- The State of West Bengal filed an original suit under Article 131 of the Constitution, accusing the Union government of interfering in cases within the state's jurisdiction by authorizing the CBI to probe them.
- West Bengal had withdrawn its general consent to CBI investigations within its territory under Section 6 of the DSPE Act, 1946, in November 2018. The CBI has registered over 15 cases in West Bengal.
- The Solicitor General had argued that the suit was not maintainable and should be dismissed at the outset. West Bengal had wrongly made the Union the defendant in the suit. The petitioners were wrong to term the CBI as the "police force of the Union". The Centre had no role in where and how the CBI conducted its investigation.
- The court questioned this claim by drawing the Solicitor General's attention to Section 5(1) of the DSPE Act, which governs the CBI. This section authorizes the Central government to extend the powers and jurisdiction of the CBI to any area in a State, not being a Union Territory, for the investigation of offences.
- He argued that the suit could not be amended to make the CBI a defendant, as it was not a 'state' under Article

131. Mehta submitted that original suits under Article 131 could only be filed for disputes involving the Centre and States.

- The powers and jurisdiction of the CBI for investigations depend on the consent of the State Government, which restricts the extent of its investigations.

About Central Bureau of Investigation:

- CBI is a non-statutory body under ministry of Personnel, established in 1963 by the resolution of Ministry of Home affairs.
- It was established on recommendations of Santhanam committee, deriving its power from Delhi Special Police establishment Act, 1946.

Challenges faced by CBI:

- The CBI has been accused of mismanagement in cases involving prominent politicians and mishandling sensitive matters like the Bofors scandal, Hawala scandal, Sant Singh Chatwal case, Bhopal gas tragedy, and the 2008 Noida double murder case (Aarushi Talwar).
- The Supreme Court of India has also earlier criticized the CBI, labeling it a "caged parrot speaking in its master's voice".
- The agency has been used by governments to conceal wrongdoing, maintain coalition harmony, and keep political opponents in check.
- Further, CBI has limited access which is a hindrance, as prior approval from the Central Government is required to inquire or investigate employees of the Central Government at the level of Joint Secretary and above, posing a significant obstacle in combating corruption in higher levels of bureaucracy.

Way forward:

The twenty-fourth report of the Department-related Parliamentary Standing Committee on Personnel, Public Grievances, Law, and Justice on the working of the CBI recommended several key measures. These include:

- Strengthening human resources by increasing the agency's strength.
- Making better investments in infrastructural facilities.
- Providing increased financial resources and administrative empowerment with accountability.
- Granting more powers related to the Union, State, and Concurrent lists of the 7th schedule of the Indian Constitution to the CBI.
- The report suggested enacting a separate legislation titled "Central Bureau of Intelligence and Investigation Act" to replace the DSPE Act.
- **L P Singh committee:** In 1978, the committee recommended enactment of a "comprehensive central legislation to remove the deficiency of not having a central investigative agency with a self-sufficient statutory charter of duties and functions".
- The Second Administrative Reforms Commission (2007) also suggested that "a new law should be enacted to govern the working of the CBI".

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Political & Power Equation in Iran after the Demise of President & Foreign Minister

Recently, Iran faced a significant political upheaval when President Ebrahim Raisi and Foreign Minister Abdullahiyani were killed in a helicopter crash in the North-west area of Iran. Following this tragedy, Vice President Mohammad Mokhbar, who also serves as Iran's special envoy to India, was appointed as acting President for the next 50 days, as the Iranian Constitution mandates the election of a new President within the next 50 days.

An investigation has commenced to determine whether the helicopter crash that killed President Ebrahim Raisi and Foreign Minister Abdullahiyani was part of a conspiracy. In the wake of President Raisi's death, there is now intense evaluation of Iran's future role in global and Middle Eastern politics. Will this affect Iran's governance system and will Iran's influence decrease? Such questions are being raised since President Raisi was known for his radical and aggressive stance, prioritizing Iran's interests through a politics of revenge rather than conciliation. During a recent visit to Pakistan, Raisi warned that any Israeli attack on Iranian soil would face serious consequences, describing Israel's retaliation against Iran as a harsh action against its Zionist regime.

In recent times, the way Iran challenged Saudi Arabia by supporting Yemen's Houthis and opened a front against Israel by supporting Hamas, Iran's intentions became clear. Houthi rebels got support from Iran. Iran is also being accused of providing weapons to the Houthi rebels. Much of Yemen's population remains under the control of the Houthi rebels. This organization collects taxes in the northern part of the country and also prints its own currency. The US and Saudi Arabia say Iran equipped the Houthi rebels with ballistic missiles, which were used in a 2017 attack on the Saudi capital Riyadh. These missiles were shot down in the air itself. Saudi Arabia has also

accused Iran of supplying cruise missiles and drones to the Houthi rebels, which were used to attack Saudi Arabia's oil factories in 2019. Houthi rebels have fired thousands of short-range missiles at Saudi Arabia and have also targeted the UAE. Supplying such weapons means violating the arms embargo imposed by the United Nations, but Iran rejects all these allegations.

Impact on Iran's political equation:

❖ Even though Ebrahim Raisi was the President of Iran, the country's foreign and regional policies were largely directed by Ayatollah Khamenei. Along with this, the Islamic Revolutionary Guard Corps (IRGC) also played a crucial role in supporting these policies. Its branches, such as the Revolutionary Guard and the Quds Force, have succeeded in creating a front of armed fighters across the Middle East, which Iran calls the 'axis of resistance'. With the help of these organizations, Iran is successful in keeping itself away from any incident to a great extent. This includes Houthi in Yemen, Hezbollah in Lebanon, Hamas in Palestine, and many other smaller organizations in Iraq, Syria and other countries. The change in power caused by Raisi's death may not have a significant or direct impact on Iran's geo-strategic plans. The Ayatollahs play the most important role in the decision-making process, with

support from the Islamic Revolutionary Guard Corps in most, if not all, cases.

- ❖ Since its establishment in 1979, due to its defined role, the IRGC has not only strengthened itself as a military organization, but has also become quite powerful politically and economically. It is also important to understand the division of military responsibilities within Iran. The responsibility of the Iranian military is to protect the sovereignty of the country, while the responsibility of the IRGC is to protect the integrity and strength of the Islamic Republic as well as the Ayatollahs. For Instance, The Indian companies on which the US imposed sanctions last month learned that the parts they were selling to Iran were being used in the IRGC's extensive drone program, which is wreaking havoc not only throughout the Middle East but also in Ukraine.



What will be the geopolitical strategic policy of Iran?

- ❖ Analysts of international issues believe that after Raisi's death, there will be no long-term change in Iran's policy. It is true that Raisi's departure has temporarily removed the conservative and tough face of Iran in front of the West, which had become a symbol of opposition to America and Israel. After winning a disputed and controlled election in 2021, Raisi was in the news for taking a tough stance on nuclear talks. The year he won the election was the year with the historically lowest turnout in Iran. Raisi became one of the hardline and powerful figures in Iranian domestic

politics, consistently surrounded by controversy. His image was that of a very radical leader. Just a year after his election, he sparked a movement with his strict implementation of the Hijab law, which aimed to impose restrictions on women's dress and behavior. The death of Kurdish Iranian woman Masha Amini in the custody of the Moral Police led to nationwide protests. These protests were brutally suppressed, and the agitators were hanged.

- ❖ Iran shows no signs of deviation from its long-standing foreign policy which it has been following for decades, whether it be uranium enrichment or pursuing de-dollarization through entry into BRICS and the Shanghai Cooperation Organization. Iran's support for Russia in the matter of its attack in Ukraine and its focus on safeguarding its own interests will persist even after the restoration of diplomatic relations with Saudi Arabia. Amidst the ongoing tension in the Middle East, Raisi's death will not have much impact on Iran's governance system because all major decisions of Iran are taken by the Islamic country's religious leader, Supreme Leader Ayatollah Ali Khamenei.

Role of Iran's Supreme Leader Ayatollah Khamenei:

- ❖ Supreme Leader of Iran Ayatollah Khamenei is the supreme religious leader of the country who gives the final decision on all matters related to the country. The Supreme Leader of Iran is the head of state and also the 'Commander in Chief'. The Supreme Leader is the most powerful person in Iran. Khamenei, 85, became Iran's supreme leader in 1989 after the death of his father and founder of the Islamic Republic of Iran, Ayatollah Ruhollah Khamenei. Since then, Khamenei has maintained a strong grip on Iran's politics and military and has sometimes resorted to violence to crush challenges to his regime.
- ❖ Ayatollah Khamenei, a strategic figure, guides the President of Iran, making him a key player in shaping Iran's strategy to safeguard its interests through the new President. The method of protesting against US sanctions on Iran will remain unchanged. IAEA observers will continue to encounter the same challenges as before in conducting inspections of Iran's nuclear sites.

India Iran Relations:

- ❖ India has signed an agreement with Iran to operate the Shahid Behesti port in Chabahar. Even though India's relations with the United States of America have deepened significantly, India's relations with Iran still

remain at the same level. Raisi took over as President in 2021 and there was no bilateral visit between the two leaders during this period but Modi and Raisi met during the BRICS and SCO summits and discussed trade, connectivity, counter-terrorism and people-to-people contacts. The commitment to increase cooperation in such areas was confirmed.

- ❖ Iran is important for India's interests in the Middle East. Despite maintaining good relations with Gulf countries, India is able to maintain normal relations

with Iran, this is a diplomatic achievement of India. At the same time, both the countries are increasing cooperation to ensure that China does not come in the way in India-Iran relations. Despite India-US relations and the effects of the US CATSA Act, relations between India and Iran are normal and have actually been found to be strategically strong. Iran, which supports Hamas and Houthi rebels due to its regional interests, has time and again assured India of counter-terrorism cooperation.

Short Issues

Vietnam's Status of Non-Market Economy

Why in News:

Vietnam has been insisting the United States to change its "non-market economy" classification to "market economy". The country seeks to avoid high taxes imposed by the US on the goods imported from the Southeastern country.

About non-market economies:

The US designates a country as a non-market economy based on several factors. These include:

- If the country's currency is convertible.
- If wage rates are determined by free bargaining between labor and management.
- If joint ventures or other foreign investment are allowed.
- Whether the means of production are owned by the state.
- If the state controls the allocation of resources and price and output decisions.
- Other factors like human rights are also considered.

How status of economy impacts trade with US:

- The non-market economy label allows the US to impose "anti-dumping" duties on goods imported from designated countries. Anti-dumping duties essentially compensate for the difference between the imported good's export price and their normal value.
- In international trade, dumping is when a country's export prices are considered to be intentionally set below domestic prices, thereby inflicting harm to industries in the importing country.
- The level of anti-dumping duties is determined by

relying on a third country, for instance, Bangladesh, which is a market economy.

- The US assesses the value of a product to be imported from a non-market economy, like Vietnam, based on what it is worth in Bangladesh and then assumes that this is the supposed production cost to a Vietnamese company as well. The company's own data about the costs are not considered.

Conclusion:

- Vietnam's journey towards attaining the market economy label faces significant obstacles. Key players in the United States like, the US steelmakers and the American Shrimp Processors Association have been urging the Biden administration against altering Vietnam's status. Citing concerns over Vietnam's land ownership restrictions, weak labor laws and reduced shrimp duties that could adversely affect their interests, the association presents a compelling argument.
- Moreover, there is resistance in the U.S Congress as well, where a notable group of 8 US senators and 31 House representatives express fears that such a change would benefit Chinese state firms heavily invested in Vietnam. They argue that this alteration could potentially enable these firms to bypass US tariffs more easily, amplifying the complexity of the situation.

World Migration Report

Why in News:

The International Organisation for Migration (IOM) released its World Migration Report 2024, which revealed that India's remittances surged to \$111 billion last year,

surpassing all other nations.

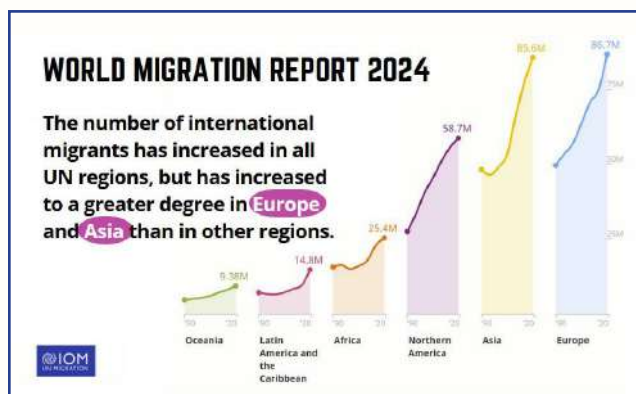
Highlights of the report:

- According to the report, due to “very large” number of migrant workers from the Southern Asia, it receives “some of the largest inflows of remittances globally”.
- In the top destination countries, Gulf countries including the United Arab Emirates, Saudi Arabia and Kuwait have a far greater share of male than female immigrants.
- Malaysia is the only non-Gulf country where the proportion of male migrants is significantly higher than that of females.
- Pakistan and Bangladesh ranked sixth and eighth. They were among the largest recipients of international remittances, receiving around \$30 billion and \$21.5 billion respectively. A considerable proportion of their populations live abroad as migrant workers, with a significant presence in the Gulf Cooperation Council (GCC) states.
- According to the report, International remittances, which experienced a downturn in 2020 due to the COVID-19 pandemic, have since rebounded. In 2022, migrants globally sent an estimated \$831 billion in remittances, marking a 5% increase from 2021's \$791 billion and a substantial 16% rise from 2020's \$717 billion.
- Further there is 8% increase in remittance receipts to low- and middle-income countries, climbing from \$599 billion in 2021 to \$647 billion in 2022.
- This surge underscores the growing significance of remittances, which have outpaced official development assistance levels and even surpassed foreign direct investment since the mid-1990s.

Status in India:

- India was the highest recipient of remittances from abroad at \$111 billion in 2022. Its remittance receipts were way ahead of its closely ranked peers Mexico (\$61.1 billion), China (\$51 billion), Philippines (\$38.05 billion) and France (\$30.04 billion).
- India is also the origin of the largest number of international migrants in the world (nearly 18 million), with large diasporas living in countries such the United Arab Emirates (UAE), US and Saudi Arabia.
- According to the report, India's receipts from 2010 till 2022 have more than doubled. In 2010, the country received \$53.48 billion, \$68.91 billion in 2015 and \$83.15 billion in 2020, as per the report.
- India had a slightly larger proportion of female immigrants compared to males. Meanwhile, countries

such as India, Bangladesh, and Pakistan have a notably high percentage of male emigrants.



Conclusion:

Although remittances serve as a crucial lifeline for many in South Asia, migrant workers from this region encounter numerous risks. These include financial exploitation, burdensome debt from migration expenses, xenophobia, and workplace abuses. Despite the vital role remittances play, the challenges faced by migrant workers persist, highlighting the need for better protections and support systems.

India-Indonesia Defense Relations

Why in News:

Defense Secretary of India and Secretary General, Ministry of Defense of Indonesia chaired the 7th India-Indonesia Joint Defense Cooperation Committee (JDCC) meeting in New Delhi.

Highlights of the meeting:

- Both sides expressed satisfaction at the growing scope of defense cooperation between the two countries.
- The progress made on various bilateral defense cooperation initiatives discussed in the meetings of the Working Groups on Defense Cooperation and Defense Industries was reviewed by the Co-Chairs.
- Both sides identified means to enhance existing areas of cooperation, particularly in the areas of defense industry relations, maritime security and multilateral cooperation.
- The representative of Indonesia also held discussions with other Indian defense industry partners such as Bharat Forge, Mahindra Defense and Mazagon Dock

Shipbuilders Limited and discussed ways to enhance defense industrial capabilities through collaboration in research and joint production.

India-Indonesia Defense Relations:

- Regular talks are held at the operational level between the armies of both countries, discussing matters of mutual interest related to regional security.
- Additionally, a joint military exercise named 'Garuda Shakti' is organized between India and Indonesia.

Other relations:

- Indonesia has emerged as India's second largest trading partner in the ASEAN region. India is the second largest buyer of coal and crude oil from Indonesia.
- Stories from the great epics Ramayana and Mahabharata inspire Indonesian folk art and drama.

About Indonesia:

- Indonesia is situated in Southeast Asia along the equator. It shares borders with several countries, including Singapore, Malaysia, Brunei Darussalam, the Philippines, Papua New Guinea, Timor Leste, and Australia.
- The country consists of many islands, with the largest being Sumatra, Kalimantan, Sulawesi, Java, and Papua.
- Although Java is the smallest of these major islands, it is the most densely populated, housing about two-thirds of Indonesia's population.

Conclusion:

India and Indonesia have a comprehensive strategic partnership and share a common vision of the Indo-Pacific. This partnership is characterized by close cooperation in both bilateral and multilateral arenas, including frequent high-level interactions. Indonesia is an important partner in India's Act East Policy and the Indo-Pacific region.

India-Nigeria Relations

Why in News:

A seven-member delegation from India led by Additional Secretary, Department of Commerce, visited Nigeria and held a Joint Trade Committee (JTC) meeting with their Nigerian counterparts in Abuja. During the meeting India and Nigeria have identified areas to increase cooperation for boosting economic ties.

Joint Trade Committee (JTC):

- India and Nigeria had agreed in 2017 to establish a Joint Trade Committee (JTC) at the level of Commerce Secretary from the Indian side and Permanent Secretary

(Trade) from the Nigerian side to review the ongoing bilateral trade and commercial relations.

Key points of the meeting:

- Both sides identified several areas of focus for enhancing bilateral trade as well as mutually beneficial investments.
- These include resolving market access issues of both sides and cooperation in key sectors such as crude oil and natural gas, pharmaceuticals, UPI, local currency settlement system, power sector and renewable energy, agri and food Processing, education, transport, railway, aviation, MSMEs.
- Both sides also agreed to early conclusion of Local Currency Settlement System Agreement to further strengthen bilateral economic ties.
- Nigeria is the second largest trading partner of India in Africa region.
- Bilateral trade between India and Nigeria declined to \$7.89 billion in 2023-24 from \$11.8 billion in 2022-23.
- With a total investment of \$27 billion, about 135 Indian companies are actively engaged in Nigeria. These investments traverse diverse sectors, encompassing infrastructure, manufacturing, consumer goods and services.

About India-Nigeria Relations:

- India and Nigeria have a long-standing relationship that dates back to the pre-colonial period. India established its Diplomatic House in Lagos in November 1958, two years before Nigeria became independent on October 1, 1960.
- Trade agreement: A Trade Agreement was signed between the Government of India and the Government of Nigeria in 1983.
- **South-South Cooperation:** Both countries play an important role in South-South Cooperation, particularly in multilateral organizations like the United Nations, G77, and NAM.
- Democracy: Both countries are large developing and democratic countries with multi-religious, multi-ethnic and multi-lingual societies.
- Regional influence: Nigeria has the fastest-growing economy in Africa and the highest GNP on the continent, making it an important partner for India in the region.
- Peacekeeping: Nigeria plays an important role in United Nations peacekeeping, and India has also contributed troops to UN missions in Africa, including Nigeria.

Way forward:

- Both countries should strengthen economic relations.
- Both countries should expand oil trade.
- Both countries should improve trade relations.
- People to people relations should be increased.

New Nepal Map In Rs.100 Banknote

Why in News:

Nepal has decided to put a new map on the new Rs 100 note. On which the controversial areas of Lipulekh, Limpiyadhura and Kalapani are shown. After which tension arose between New Delhi and Kathmandu.



Controversial Developments in Recent Times:

- In last week's cabinet meeting, it was decided to give permission to Nepal Rastra Bank to print Rs 100 notes with the new map of the country.
- Lipulekh, Kalapani and Limpiyadhura were earlier included by India in its map of November 2019.
- The Parliament of Nepal approved the new political map of the country in June 2020 by passing a constitutional amendment bill. In the new political map of Nepal, Limpiyadhura, Kalapani and Lipulekh are shown within the borders of Nepal.

Genesis of India Nepal Border Issue:

- Nepal has asserted its claim based on the Sugauli Treaty of 1816. According to the treaty all territories east of the Kali (Mahakali) river, including Limpiyadhura, Kalapani, and Lipulekh, belong to Nepal.
- India, however, has stated that the 1950 Treaty of Peace and Friendship between India and Nepal annulled the Sugauli Treaty.

- Following the war between India and China in 1962, India approached King of Nepal asking for permission to use Kalapani, which was strategically located close to the trijunction, as a base for the Indian Army.
- During this year 1997-1998 Prime Minister I K Gujral promised to give up these areas if Nepal was able to produce evidence for its claim.
- In July 2000, Prime Minister Atal Bihari Vajpayee assured Nepal that India had no interest in Nepali territory. However, the mechanism led by the two nations did not make progress.

Way Forward:

Border disputes between India and its neighbours reflect the political ambitions of British colonialism. This is still a cause of border disputes. However, the "Give and Take Policy" should be implemented to resolve border disputes. As India resolved the border dispute with Bangladesh in 2015.

Maldivian Foreign Minister's India Visit

Why in News:

The visit by the Maldivian foreign Minister is the first official visit to India by a senior official of President Dr. Mohamed Muizzu's government.

Tense Relations Between the Two Countries in Recent Times:

- Mohammed Muizzu gave the slogan of India Out during his election campaign. This created tension in the relations between the two countries.
- Zameer is visiting India at a time when Muizzu's government in Maldives is being criticised for its close connection with China.
- The announcement was made by Maldives President Muizzu for the complete withdrawal of Indian military personnel from the island nation who were part of the deployment of 89 personnel deployed in the Maldives.

Maldives Foreign Minister's India visit Agenda:

- By the end of 2023, Maldives will owe India about \$400.9 million. He urged New Delhi to provide debt relief to Maldives.
- In a goodwill gesture, India has decided to extend vital budgetary support to the Maldives with the rollover of a \$50 million Treasury Bill for another year at the Maldivian government's special request, it was announced on these visit.
- India and the Maldives have agreed on a set of mutually

workable solutions to enable the continued operation of Indian aviation platforms that provide humanitarian and medical evacuation services to the people of the Maldives. Maldives urged Indians to contribute to the archipelago's economy, which is heavily dependent on tourism.

India's Interests in Maldives:

- As far as India is concerned, these are expressed in the context of India's Neighbourhood First Policy and SAGAR Vision.
- This meeting will enable us to strengthen our approaches in various areas. So that China's presence in the Indian Ocean region can be countered and a rule-based system in the entire region can operate.

Way Forward:

India's relations with Maldives rest on the twin important pillars of mutual interests and reciprocal sensitivity said External Affairs Minister S. Jaishankar. He also asserted close partnerships with neighbours are of great value which are in our common interest.

Unrest in New Caledonia

Why in News:

France has declared a state of emergency in its Pacific Islands territory of New Caledonia. Violence engulfed New Caledonia as the French National Assembly passed a constitutional amendment that will undermine the political representation of the Pacific territory's Indigenous Kanak people.

The New French Bill:

- The Bill will allow French residents, who have lived for more than 10 years in New Caledonia, to cast votes in the provincial elections.
- Many pro-independence Kanaks see this as a possible marginalisation of their votes' significance.

Background of France and New Caledonia:

- In the 270,000-strong island, with 41% Melanesian Kanaks and 24% people of European origin (mostly French), views on politics are greatly dictated by ethnicity. The Kanaks generally favour independence, while European-origin groups and other immigrants want French rule to continue.
- In 1998, the Nouméa Accord was signed between France and New Caledonia for granting limited autonomy to the island.
- Further, three referendums have been held – in 2018, 2020 and 2021 – on the question of independence. In

all three cases, the majority voted against independence.

Importance of New Caledonia for France:

- New Caledonia is one of the five island territories in the Indo-Pacific region, which are controlled by France. These islands are at the centre of French President Emmanuel Macron's plan to increase France's influence in the Pacific region.
- Paris sees the benefit for French companies in maintaining a strong presence in the region, as well as access to important shipping lanes.
- New Caledonia, the world's third largest producer of nickel, is located in a very complex maritime region of the Pacific Ocean in terms of geopolitics. There is already a competition for power and influence between China and USA in terms of security and business.



Tension between France and Azerbaijan:

- It has also reignited diplomatic tensions between France and Azerbaijan, which escalated after the latter occupied the region of Nagorno-Karabakh, in which France supported Armenia.
- Azerbaijani leaders have been accused of involvement in the campaign, although the Azerbaijani government has rejected the claims.

Way Forward:

President Emmanuel Macron called for peace and face-to-face dialogue. He has vowed not to force through voting change in the Pacific territory of New Caledoni.

India-Australia Joint Committee Meeting

Why in News:

The Joint Committee Meeting between India and Australia

has held its first meeting in Canberra, Australia. The delegation from both countries discussed ways to deepen the existing economic Relations between the two countries.

More about the News:

- This is a first-of-its-kind initiative for FTAs. The meeting was attended by the Commerce Secretary of India, Sunil Barthwal, and the Deputy Secretary of Foreign Affairs and Trade of Australia, George Mina.
- The meeting discussed the implementation of the India-Australia Economic Co-operation and Trade Agreement (Ind-Aus ECTA) and the steps taken to address the market access issues faced by businesses in both the countries. The meeting explored ways to promote investment and facilitate cooperation in new areas.
- Under the Ind-Aus ECTA, both sides discussed implementation issues, including MRAs on organic products and market access for okra, pomegranate, grapes, cottage cheese, macadamia nuts, lentils, and avocado.
- The meeting also adopted the Rules of Procedure for the Joint Committee and established an institutional mechanism, first of its kind for FTAs, for regular exchange of preferential import data on monthly basis.
- It also addressed certain critical services issues, including the consideration of India's request for facilitation of cross border e-payments and mutual recognition agreements in professions like nursing and dentistry.
- Furthermore, the commitment to remove the ENT/LMT requirement in line with the UK-Australia Free Trade Agreement was reiterated, alongside discussions focusing on facilitating the mobility of healthcare workers between the two nations, promoting tele-medicines.

India- Australia Relations:

- Australia is an important trading partner of India in Oceania region with merchandise trade between India and Australia reaching around 24 billion USD in 2023-24.
- India's total exports to Australia in FY24 stood close to \$8 billion, 15% higher compared to the previous financial year.
- The two countries are currently in negotiations for a comprehensive trade deal.
- The Economic Cooperation and Trade Agreement (ECTA), a mini trade deal, was signed in 2022.
- The deal saw the elimination of duties on 96 per cent of value of Indian exports to Australia that included exports from a range of labor-intensive sectors. This

deal however is in juxtaposition with the recent report of Australian Parliamentary committee raising concerns over Child Labor in India.

Conclusion:

The JCM reaffirmed India's and Australia's commitment to a robust and mutually beneficial economic relationship, paving the way for enhanced cooperation and prosperity. It explored deeper economic integration beyond traditional FTAs. The meetings highlighted the eagerness of businesses and governments to elevate the strategic partnership, significantly benefiting both nations' businesses and citizens.

Peace Agreement Between Armenia and Azerbaijan

Why in News:

Armenia and Azerbaijan reached an agreement on a section of the border, under which Armenia will hand over four villages in Tavush province to Azerbaijan.

Current Situation:

- Armenia and Azerbaijan have marked the first border after a bitter conflict over the Nagorno-Karabakh region.
- Experts from both the countries are working on demarcating their borders as part of the peace process.
- The two countries are working toward a peace treaty after Azerbaijan regained full control over the Nagorno-Karabakh region, which has been under the control of Armenian forces since the 1990s.

Armenia returns four border villages to Azerbaijan

The four villages seized in the 1990s were returned on May 24



Background:

- Nagorno-Karabakh is a region of Azerbaijan. This area

has been a point of contention between Armenia and Azerbaijan since the fall of the Soviet Union.

- The region is predominantly populated by Armenians, and it declared independence from Azerbaijan in 1991, resulting in a war that lasted until 1994.
- A ceasefire was signed in 1994, but sporadic clashes continued for years.
- In 2020, Azerbaijan recaptured the territory as a result of a six-week war.

-: Prelims Insights :-

Azerbaijan:

- Azerbaijan is a country in Asia bordered by Russia, Georgia, Armenia and Iran.
- The Caspian Sea is located on the eastern border of the country.
- Much of the north and west is covered by the Caucasus Mountains.
- Capital city: Baku.

Armenia

- It is bordered by Türkiye to the west, Georgia to the north and Azerbaijan to the east.
- Capital: Yerevan.

Reasons for conflict:

- Historical context: The Nagorno-Karabakh region has a long history of ethnic and territorial disputes between Armenians and Azerbaijanis dating back to the early 20th century. During the Soviet era, Nagorno-Karabakh was an autonomous region within the Azerbaijan Soviet Socialist Republic, despite its Armenian majority population.
- Ethnic conflict: The region is ethnically Armenian but lies within the borders of Azerbaijan. As a result, both Armenians and Azerbaijanis have laid claim to the region, leading to tensions and periodic violence.

What is India's stand?

- Diplomacy – Following the 2020 conflict, India believes that any lasting resolution to the conflict can only be achieved peacefully through diplomatic dialogue.
- Peaceful resolution – India supports the continued efforts of the OECD Minsk Group for a peaceful resolution of the conflict between Armenia and Azerbaijan.

Conclusion:

The peace agreement between Armenia and Azerbaijan has given hope to the region. However, without successful mediation efforts, ceasefire violations and new tensions risk re-igniting a full-scale conflict. Such a conflict could destabilize the South Caucasus region and reduce oil and gas exports from Azerbaijan, negatively impacting the world.

India-Ghana Joint Trade Committee Meeting

Why in News:

A seven-member delegation from India held a 4th session of Joint Trade Committee (JTC) meeting with their Ghanaian counterparts in Accra on 2nd & 3rd May, 2024.

Highlights of the meeting:

- **Bilateral Trade and Investment Ties:** Both sides undertook a detailed review of recent developments in bilateral trade and investment ties, recognizing the vast untapped potential of further expansion.
- **Unified Payment Interface Implementation:** Agreement was reached to promptly operationalize the Unified Payment Interface (UPI) of the National Payments Corporation of India (NPCI) on Ghana's Ghana Interbank Payment and Settlement Systems (GHIPSS) within six months.
- **MoUs and African Continental Free Trade Agreement:** Discussions included the possibility of a Memorandum of Understanding (MoU) on Digital Transformation Solutions and Local Currency Settlement System. Opportunities presented by the African Continental Free Trade Agreement (AfCFTA) were also discussed.
- **Areas for Enhanced Cooperation:** Both sides identified key areas for enhancing bilateral trade and mutually beneficial investments. These areas include pharmaceuticals, healthcare, information and communication technology, agriculture and food processing, renewable energy, power sector, digital economy and digital infrastructure, critical minerals, textiles, and garments.

About Ghana:

- Ghana is an African country situated on the coast of the Gulf of Guinea in West Africa, north of the Equator.
- It shares borders with:
 - » Burkina Faso (North)

- » Gulf of Guinea and Atlantic Ocean (South)
- » Togo (East)
- » Ivory Coast (West)
- South-west and south-central Ghana comprises of a forested plateau region, which includes the Ashanti uplands and the Kwahu Plateau.
- Important rivers include White Volta and Black Volta, which flow south to form Lake Volta, which is the world's third-largest reservoir by volume.
- The Greenwich Meridian, also crosses the eastern region of Ghana near Tema.

India- Ghana Relations:

- India and Ghana became diplomatic partners soon after Ghana gained independence in 1957. Leaders like Kwame Nkrumah and Jawaharlal Nehru had a strong personal connection, which helped build the foundation for cooperation between the two nations.
- Ghana is an important trading partner of India in Africa region and home to significant part of Indian community. Bilateral trade between India and Ghana is at USD 2.87 billion in 2022-23.
- India is the third-largest investor in Ghana. These investments traverse diverse sectors, encompassing pharmaceuticals, construction, manufacturing, trade services, agriculture, tourism, and more.

Conclusion:

The 4th Session of the India-Ghana Joint Technical Committee (JTC) was characterized by cordial and forward-looking deliberations, reflecting the amicable and special relations between the two countries. Both sides showed enthusiasm for greater cooperation in addressing pending issues, boosting trade and investment, and enhancing people-to-people contacts.

India-Mongolia Joint Working Group Meeting

Why in News:

The 12th Joint Working Group (JWG) meeting between the Defence Ministries of India and Mongolia took place in Ulaanbaatar on May 16-17, 2024.

Highlights of the meeting:

- The meeting was co-chaired by the Joint Secretary of the Ministry of Defence, India and the State Secretary of the Ministry of Defence, Mongolia.
- During the Joint Working Group (JWG) meeting, both sides expressed satisfaction with the ongoing

defense cooperation between India and Mongolia.

- They reviewed the progress of various bilateral defense cooperation initiatives and identified means to further enhance cooperation in these areas, outlining steps in this direction. Additionally, both sides exchanged views on the current geopolitical situation.

India-Mongolia Relations:

Diplomacy:

- India established diplomatic relations with Mongolia in December 1955, and in January 1956, the first Mongolian Ambassador arrived in New Delhi. India was the first country outside the Soviet bloc to establish diplomatic relations with Mongolia.
- India's role in security as a UN member is acknowledged by the Mongolian people, who also appreciate India's support for its admission to the Non-Aligned Movement (NAM) as a full member in 1991.
- The Indian resident mission in Ulaanbaatar, the capital of Mongolia, was opened in February 1971. In 1994, both nations signed the Treaty of Friendly Relations and Cooperation, further solidifying their relationship.
- In 2015, the ties were upgraded to a strategic partnership, with defense being an essential element of bilateral engagement.

Energy cooperation:

- India is funding a Greenfield oil refinery project in Mongolia's South Gobi desert to reduce the country's reliance on Russian oil imports. These refineries are termed "greenfield" as they are constructed from scratch on previously undeveloped land.
- The project, funded by India's Exim Bank, is expected to be operational by 2026.
- Central Electronics Ltd. of India carried out Mongolia's first solar energy electrification project, formally opened in April 2006 in Dadal Soum.

Defence cooperation:

- India and Mongolia conduct the 'Nomadic Elephant' military exercise annually, starting from 2004.
- Indian Armed Forces Observers regularly participate in Mongolia's annual multilateral peacekeeping exercise 'Khan Quest.'

Conclusion:

India and Mongolia share age-old historical, cultural, and civilizational ties. Both nations consider each other as 'Spiritual Neighbours.' In modern times, values like democracy, freedom and market economy are holding the two nations closer.



Outcomes of UNFF Meeting and Environmental Protection Actions in India

India has recently informed the United Nations Forum on Forests of its remarkable achievements in forest cover expansion and forest management over the past 15 years. Between 2010 and 2020, India ranked third worldwide in net gain in average forest area. The Indian government attributes this success to its effective forest conservation and management policies.

India highlighted its forest management policies while participating in the 19th session of the UNFF held at the UN Headquarters in New York from May 6 to May 10. UNFF-19 concluded with a declaration to take immediate and rapid action to stop deforestation, forest degradation and land erosion. These include the implementation of the United Nations Strategic Plan for Forests and the achievement of global forest targets.

In the meeting, India emphasized its special attention on biodiversity and wildlife conservation, noting their positive impact on forest conservation efforts. In this session, representatives from India's Environment Ministry also highlighted recent milestones, including the celebration of 50 years of Project Tiger and the assessment of elephant conservation status to mark 30 years of Project Elephant. To protect the natural habitats of tigers and elephants, the Environment Ministry of the Government of India has also given instructions to the state governments that fragmentation of natural habitats should not be done under any circumstances as it increases the possibility of human-animal conflict.

During the 19th session of the UNFF, India informed the global community about its ongoing efforts to protect the environment which included:

❖ **Green Credit Programme:** The Indian delegation, led by the Special Secretary and Director General of Forests from the Ministry of Environment, Forest and

Climate Change, informed the UNFF about the launch of the Green Credit Program. This is a market-based mechanism under which individuals, communities or the private sector are rewarded for voluntary environmental actions taken by them. Under this, people are given green credit for their environmental protection efforts, which can also be sold. According to the notification issued by the ministry, through the Green Credit Program, private sector industries and companies as well as others can be encouraged to undertake activities that control carbon emissions. The program aims to incentivize activities that mitigate carbon emissions, encouraging greater environmental stewardship.

❖ **International Big Cat Alliance:** At the 19th meeting of the UNFF, representatives of the Government of India informed the UN that the Union Cabinet chaired by the Prime Minister of India has approved the establishment of the International Big Cat Alliance for better conservation of all species of the cat family in India. The Alliance will be headquartered in India and will receive a one-time budgetary support of Rs 150 crore for a period of five years from 2023-24 to 2027-28.

❖ **Launch of National Forest Certification Scheme:** The Ministry of Environment, Forest and Climate Change, Government of India, hosted the United

Nations Forum on Forests (UNFF) at the Forest Research Institute (FRI), Dehradun, from 26 to 28 October 2023. The event drew over 80 delegates from 40 countries and 20 international organizations, including the Food and Agriculture Organization and the International Forest Research Organization, with participants joining both in person and online.

- ❖ Speaking virtually at the United Nations Forum on Forests (UNFF) event organized at Dehradun-based Forest Research Institute (FRI), the Environment Minister of India stressed that forest fires not only cause irreparable damage to flora and fauna, but also destroy the forests. It also impacts the livelihood of the communities living around the area.
- ❖ Forest certification is an important tool for promoting forest sustainability; however, it presents many challenges such as market's failure to reward certified products with higher prices, particularly for small-scale producers in developing countries. Other challenges include excessive costs of certification, audit and compliance issues, inaccessibility to forest owners in remote regions, and lack of capacity due to complexity of various certification standards. The deliberations vis-à-vis forest certification will enrich the policy landscape in the developing countries with regards to this issue area.
- ❖ The Union Environment Minister said in the meeting that India has launched its National Forest Certification Scheme to deal with these challenges. The programme focuses on two thematic areas: forest fires and best practices for their prevention and restoration in fire-affected areas, as well as forest certification and sustainable forest management.
- ❖ India's global dialogue partnership on environmental issues: During the 19th UNFF meeting, the Ministry of Environment, Government of India, also hosted a side event on 'Principles and Strategies for Landscape Integrated Fire Management through Collaborative Governance' in partnership with the Agency for Integrated Rural Fire Management, Portugal, the Korea Forest Service, and the International Tropical Timber Organization (ITTO) at the UNFF 19 at New York.
- ❖ **World Wildlife Day 2024 and Awareness Campaign:** The theme of World Wildlife Day 2024 is 'Connecting People and Planet: Exploring Digital Innovation in Wildlife Conservation'. This theme highlights the important role that digital innovation plays in wildlife

conservation efforts. This highlights the importance of leveraging technology to increase our understanding of wildlife, monitor their populations, and develop innovative solutions to protect endangered species and their habitats. The Environment Ministry, Government of India has also organized important programs to promote literacy and awareness related to wildlife conservation on such global days. In this, awareness is being raised on wildlife crimes, wildlife trafficking, forest fire management, diseases caused by wild animals, role of technology and especially Artificial Intelligence in forest conservation and management etc.

Case study: Potential role of biodegradable straws in saving coral reefs in India

- ❖ In many parts of the world, predatory fish consume baby corals, harming marine species and threatening the marine ecosystem. This issue has also raised concerns in India, where there is growing pressure to address it. India can learn from American scientists' new technology, which helps protect corals in the sea.
- ❖ Researchers in South Florida are using biodegradable straws to prevent predatory fish from eating lab-grown corals. Scientists have been working for years to reverse the decline in coral reef populations. Last summer, rescue groups in South Florida and the Florida Keys aimed to save coral from rising ocean temperatures. Researchers are growing new corals in laboratories and then releasing them into the ocean. A small cage made from biodegradable straws increases the survival rate of transplanted coral by more than 90%. These cages, made from limestone disks and eight Fed brand straws by Atlanta-based Wincup Inc., protect coral for about two months before dissolving.
- ❖ Experts emphasize that corals, which occupy less than 1% of the world's oceans, provide food and shelter to about 25% of marine life and protect coastlines from storm surges during hurricanes. Protecting the underwater ecosystem that sustains this biodiversity is challenging, especially ensuring lab-grown corals do not become food for larger fish. To preserve the tourism and marine biodiversity of areas like the Andaman and Nicobar Islands and Lakshadweep, similar research is crucial, as invasive species increasingly threaten the coral reefs in these regions.

- ❖ In recent years, the world has witnessed an alarming increase in the scale and duration of wildfires, leading to profound impacts on biodiversity, ecosystem services, human well-being, livelihoods, and national economies. Forested areas have been particularly affected, with approximately 100 million hectares, equivalent to 3% of the world's forest area, affected by fires every year. The severity of these fires has been exemplified by numerous high-profile incidents, resulting in unhealthy air quality and significant loss of human lives, wildlife, ecosystem services, and property, including wildfire disasters in the northern hemisphere this summer.
- ❖ The situation is no different in India, where changing climate conditions have made forest fires a regular phenomenon. There has been a sudden spike in forest fire incidents reported from southern India, while various regions of Uttarakhand are experiencing similar incidents. To address this, it is crucial to implement and enforce strict laws against illegal logging, land conversion, and other activities that lead to deforestation and forest degradation. Adopting best practices in forest management that balance ecological, economic and social objectives is also essential.
- ❖ Involving local communities in forest management and decision-making processes ensures that conservation efforts are socially inclusive and sustainable. Developing mechanisms that allow local communities to benefit economically from forest conservation through eco-tourism, sustainable harvesting, and other income-generating activities can further support these efforts.
- ❖ Advanced technologies, such as remote sensing, geographic information systems (GIS), and drones, should be used to monitor forest cover and illegal activities. Additionally, gathering financial support from global donors, public agencies, and private industry is necessary to back projects and initiatives aimed at preserving forests.

Short Issues

Bathymetry of Indian Ocean Floor

Why in News:

A study named 'Impact of bathymetry on Indian Ocean circulation in a nested regional ocean model' was published in the Scientific Reports journal. The bathymetry study, undertaken by scientists of Indian National Centre for Ocean Information Services (INCOIS), showed that the previously studied and used ocean modelling systems had underestimated the observed coastal currents around India.

Highlights of the study:

- The study revealed significant improvements in upper ocean salinity, temperature and currents, especially near the coast.
- It estimated a more realistic flow of the East India Coastal Current (EICC) at depths of 1,000 and 2,000 meters, opposite to the surface flow.
- A boundary current was identified along the coast of

the Andaman and Nicobar Islands at a depth of 2,000 meters.

- The presence of the Maldives Islands is responsible for the westward extent of Equatorial Under Current (EUC).
- In the fall, the EUC is better-defined in the eastern Equatorial Indian Ocean, lying at depths between 50 and 100 meters, whereas in spring, its core is slightly deeper, between 100 and 150 meters.

What is bathymetry?

- Bathymetry is a technique which is dedicated to mapping the depth of the water bodies like rivers, seas and oceans. It also identifies underwater reliefs and helps in creating three dimensional maps of the sea floor.
- Bathymetric maps look a lot like topographic maps, which use lines to show the shape and elevation of land features.
- Bathymetric data is typically collected using sonar, lidar or other remote sensing technologies and is

often displayed as bathymetric maps or 3D models. These visualizations provide valuable insights into the complex and dynamic nature of the ocean floor.

-: Prelims Insights :-

About INCOIS:

- *Indian National Center for Ocean Information Service (INCOIS) was established as an autonomous body under ministry of Earth Sciences.*
- *It is unit of earth system science organization and founding member of Indian Ocean Global Ocean Observing System (IOGOOS) and the Partnership for Observing the Oceans (POGO).*
- *It is permanent member of International Oceanographic Commission (IOC) of UNESCO.*

Conclusion:

Oceans are pivotal in weather, climate prediction, and the maritime industry. Accurate forecasts of oceanographic parameters like currents, temperature, and salinity, at both surface and subsurface levels and across various time scales, are crucial due to their immense economic benefits. There is need for more enhanced observations and improved models are essential for more precise predictions.

Earth's Rotation Slowed Down

Why in News:

A research paper published in the Nature Journal has reported that the Earth's rotational speed has decreased as a consequence of human activities.

Reasons behind such slowdown:

- Historically, the Earth's rotation speed has gradually decreased over millions of years due to the Moon's gravitational pull. Sediment analysis indicates that 1.4 billion years ago, a day lasted only 19 hours, compared to 24 hours today. Even 370 million years ago, a day was only 22 hours long.
- Research suggests that the Earth's rotation speed has decreased due to human activities, likely influenced by

the melting of polar ice and water movement towards the equator as a result of global warming.

Impact:

- **Earth's Shape and Moment of Inertia:** The movement of water from the poles to the equator has made the Earth less spherical and more flat, increasing its moment of inertia, which measures the dispersion of mass in a body.
- **Leap Seconds and Earth's Rotation Speed:** A leap second is periodically added to universal time to adjust for changes in Earth's rotation speed. The last leap second was added on December 31, 2016. Initially expected in 2025 or 2026 due to Earth's increasing rotation speed since the 1970s, human-induced slowing will postpone the next leap second to 2028 or 2029.
- While the addition or subtraction of a leap second could pose challenges for telecommunications and computing, it does not significantly impact daily life.

-: Prelims Insights :-

About Earth's rotation:

The Earth rotates on its axis from west to east, creating day and night in a phenomenon known as rotation or the Earth's rotation. This rotational speed, also referred to as daily speed, governs the duration of a day and night cycle.

Conclusion:

A significant concern arises from the impact of human activities on Earth's motion. A study by Seoul National University indicates that extracting water from aquifers and redistributing it into the oceans has contributed to a slowdown in the Earth's rotation. This highlights the profound and far-reaching effects that human actions can have on our planet.

Iberian Lynx

Why in News:

According to the government of Spain, number of endangered Iberian lynx in the wild in Spain and Portugal has nearly doubled since 2020 and has surpassed 2000 last year.

About Iberian Lynx:

- Iberian Lynx is one of two carnivore species endemic to Europe (the other being European mink, *Mustela lutreola*).
- This species, like other cat species, is sexually dimorphic (systematic difference in form between individuals of different sex in the same species), with males being heavier and longer than females.
- This lynx is generally nocturnal and its activity patterns are closely synchronized with those of their major prey, the rabbit.
- The species, known for its pointy ears, long legs and leopard-like spotted fur, was on the brink of extinction just two decades ago. This was due to poaching, road accidents, and a dramatic decline in wild rabbit numbers, the lynx's main prey, caused by disease.
- When the first census of the spotted nocturnal cat was carried out in 2002, there were fewer than 100 specimens in the Iberian Peninsula.

Conservation status

- IUCN Red list: Endangered
- CITES: Appendix II

About Iberian Peninsula:

- The Iberian Peninsula also known as Iberia is a peninsula in South-western Europe, defining the westernmost edge of Eurasia. It is the second-largest European peninsula by area, after the Scandinavian Peninsula.
- Its name derives from its ancient inhabitants whom the Greeks called Iberians, probably for the Ebro (Iberus), the peninsula's second longest river (after the Tagus).

Conclusion:

The Iberian lynx faces multiple threats that jeopardize its survival, including habitat destruction and alteration due to agricultural and industrial development. Additionally, the conversion of native Mediterranean forests to plantations without undergrowth, direct persecution and mortality caused by automobiles are some of the other reasons further enhance the threat. IUCN has although downgraded the threat level to "endangered" from "critically endangered, however, concerted conservation efforts are essential to protect this critically endangered species and restore its natural habitat.

**Lack of Big Trees in Indian
Agricultural Land: A serious
concern**

Why in News:

According to a recent paper published in the journal *Nature Sustainability*, millions of large trees have disappeared from Indian farms over the past decade, raising concerns about the impact on the environment and agricultural practices.

Important points of the research:

- The researchers combined satellite imagery from two repositories, RapidEye and PlanetScope for their analysis, to estimate changes in tree numbers from 2010 to 2022. The satellite resolutions of three to five meters mean they can identify large trees, three to five meters apart, as individual trees.
- The Researchers found that India may have lost close to 5.8 million full-grown trees larger than 67 square meters in size in agricultural lands from 2019 to 2022.
- The analysis revealed that 11% of trees detected via satellite during 2010-2011 were no longer visible from 2018 to 2022, leading to the conclusion that these trees had "disappeared."
- However, this does not necessarily imply that India's overall tree cover or trees outside forests are declining, as the analysis was specific to large trees above a certain size.
- This research describes the forest condition of Central India, especially Maharashtra and Telangana. Between 2011 and 2018, approximately 2.5 million trees were destroyed in these areas.
- About 56% of India is covered by farmland and 22% by forest. With the largest agricultural area in the world, changes in tree cover in India are critical yet have been largely "overlooked."

Reasons behind such decline:

- According to researchers, the mortality rate of trees due to forest fires, fungus, insects and drought is expected to be 5-10 percent.
- Anthropogenic climate change and human mismanagement are also increasing the loss of trees.
- Study found that farmers removed trees primarily due to the perception of low benefits from trees and for the purpose of increasing crop yields.
- Farmers removed trees to install borewells to extract groundwater for additional water supply and to expand paddy fields to increase yields.

Importance of Agroforestry:

- Agro-forests play an important role in providing socio-ecological benefits and are a potential climate solution as carbon sinks.
- Researchers said that agro-forests in India provide shade, fertilize the soil and provide other benefits to

the land.

- Trees like mahua, coconut, sangri, neem, acacia, shisham, jamun, hummingbird, karo and jackfruit provide fruits, fuel, juice, medicine, mulch, fibre, fodder and wood for animal and human use in agricultural land.
- Trees also play an important role in supporting the livelihood of farmers.

Conclusion:

The research highlights the serious concern posed by the extinction of trees on large agricultural lands in India between 2010 and 2022. To address this issue, it is crucial to implement conservation and reforestation practices to maintain a balance between agriculture and the environment.

Indians Worried About Climate Change

Why in News:

The third nationally representative survey conducted by CVoter has revealed a clear picture of the country's growing concern about climate change.

Important points of the report:

- According to a nationally representative survey conducted in September-October 2023, 91 percent of respondents believe that the effects of global warming are real.
- 59 percent of those surveyed chose "very concerned" about the issue.
- Several people in India (52 percent) believe that if global warming occurs, it will be mainly caused by human activities, while 38 percent believe that it will be caused mainly by natural environmental changes.
- 53 percent of Indians believe that they are already being affected by global warming. Nearly a third of Indians (34 percent) have already relocated or are considering doing so due to weather-related disasters such as extreme heat, drought, sea-level rise, floods or others.
- 71 percent of respondents said climate change has impacted local weather and 76 percent said it has impacted the monsoon in India "very much" or "somewhat."
- According to 78 percent Indians, the Indian government should do more to tackle global warming.

Climate Change and its impact:

- Climate change refers to permanent changes in temperature and weather conditions over a long period of time.

Impacts of climate change:

- **Change in rainfall pattern:** In the last few decades, irregularities in floods, droughts and rains etc. have increased significantly. All this is happening as a result of climate change. In some places there is a lot of rainfall, while in some places there is a possibility of drought due to lack of water.
- **Sea level rise:** On a global scale, during global warming, glaciers melt and sea levels rise, which also increases the risk of submergence of islands around the sea. People living in small island countries like Maldives are already looking for alternative destinations.

Measures to prevent Climate Change:

- Use of fossil fuels should be reduced as much as possible.
- Natural sources of energy should be adopted, like solar energy, wind energy etc.
- Forests and trees should be saved from cutting and more and more trees should be planted.
- Materials such as plastic which are difficult or impossible to decompose should not be used.
- Natural and renewable sources of energy should be adopted in maximum number and quantity like solar energy, wind energy etc.

Efforts by India:

- **Panchamrit:** India has presented the following five nectar elements (Panchamrit) for the climate of India:
 - » Reach 500GW Non-fossil energy capacity by 2030.
 - » 50 per cent of its energy requirements from renewable energy by 2030.
 - » Reduction of total projected carbon emissions by one billion tonnes from now to 2030.
 - » Reduction of the carbon intensity of the economy by 45 per cent by 2030, over 2005 levels.
 - » Achieving the target of net zero emissions by 2070.
- International Solar Alliance.
- Implementation of Paris Agreement.

Conclusion:

Climate change has reached our doorstep with its adverse effects. It is the time for urgent action for humans to act wisely, facing the changes and taking precautions to avoid future disasters and save the environment.

World Wildlife Crime Report

Why in News:

The UN Office on Drugs and Crime (UNODC) has recently released the 3rd edition of a report titled the World Wildlife Crime Report 2024. It provided a comprehensive analysis recent trends in the illicit trafficking of protected species of wild fauna and flora and provides a broad assessment of current knowledge about the causes and implications of associated crime at a global level trade from 2015 to 2021.

Highlights of the Report:

- The report identifies the rhino as the most affected animal species and cedar (along with other Sapindales species) as the most affected plant species. Rhino horn accounted for 29% of the observed illegal wildlife trade, while cedars and other Sapindales comprised 47% of the plant trade.
- In terms of volume, pangolin scales (28%) and elephant ivory (15%) follow rhino horn among animal species. For plants, rosewoods (35%) and agarwood (13%) are significant markets after cedars.
- Seizures of biodiversity products during the period were diverse, with corals comprising 16% of all seizures, followed by crocodilians (9%), and elephants (6%).
- Coral pieces constituted the largest portion of seizures (16%), followed by live specimens (15%), and animal product medicines (10%).

Challenges:

- **Illegal trade flow:** Global seizure data analysis may offer insights into declining illegal trade flows if they are triangulated with price and market observations. Demonstration of a reduction in illegal harvests is more challenging because relevant data are not collected for the vast majority of species subject to wildlife trafficking.
- **Monitoring Wildlife Population Levels:** Changes in wildlife population levels are not systematically monitored for most affected species, making it difficult to assess the impact of conservation efforts.
- **Risk of Trafficker Response:** Even if positive trends are observed, there's a risk that traffickers may shift to dealing in other wildlife commodities under less enforcement and market pressure.
- Case studies in the current report illustrate the establishment of linkages between illegal trade chains of ivory and pangolins, highlighting examples of traffickers shifting attention between different species and source countries.

Implications:

- Remedial approaches from previous editions of the World Wildlife Crime Report are still relevant, including increased community engagement, investigative follow-up to seizures, addressing corruption, prosecutorial support, consumer demand reduction, inter-agency coordination, and international cooperation.
- Progress in reducing poaching and illegal trade in elephant ivory and rhinoceros horn over the past decade suggests that multifaceted interventions can be effective.
- Lessons from successful interventions highlight the need for coordinated action, including multilateral investigations, prosecuting key traffickers, harmonizing legal prohibitions, and investing in tracking impact indicators.
- Efforts to reduce wildlife trafficking have increased, but structured coordination between government, multilateral agencies, civil society, academics and the private sector is needed to maximize impact.

Conclusion:

The report concludes that wildlife trafficking remains a global issue despite two decades of efforts. Progress has been seen in reducing impacts for elephants and rhinoceros due to combined efforts from both demand and supply sides. However, overall, there is no confidence that wildlife trafficking is substantially decreasing.

Venezuela Lost its Last Glacier

Why in News:

Venezuela has likely become the first country to lose all its glaciers, with its last Humboldt glacier melting faster than anticipated. Once a proud symbol of Venezuela's natural beauty, the glacier's disappearance has far-reaching implications for the environment, culture, and economy.

Causes of Glacier Loss:

- **Global Warming:** Venezuela's last glacier, Humboldt, was melting at a faster rate than expected due to global warming.
- **Rise in Temperature:** The Andes mountain range has seen a rise in temperature of at least 0.10 degrees Celsius over the past seven decades, contributing to the melting of the Humboldt glacier.
- **El Niño:** El Niño, a natural climate phenomenon, accelerated the melting of the Humboldt glacier by causing abnormal warming of surface waters.
- **Greenhouse Gases:** The burning of fossil fuels has

released large amounts of greenhouse gases like carbon dioxide and methane into the atmosphere, contributing to global warming.

- **Heat Trapping:** Greenhouse gases trap heat in the atmosphere, leading to a rise in global temperatures.
- **Consequences of Temperature Rise:** The temperature rise has resulted in more frequent and intense heatwaves, floods, droughts, and a rise in sea levels.
- **Accelerated Melting:** Glaciers, like ice cubes exposed to heat, are melting at accelerated rates due to the warmer temperatures caused by global warming.

Impact of Glacier Loss:

- **Freshwater Source:** Glaciers are crucial sources of freshwater, especially during hot and dry periods, providing water for local communities, plants, and animals.
- **Temperature Regulation:** Glacial runoff helps regulate downstream water temperatures, particularly keeping them cooler.
- **Ecosystem Impact:** Glacier loss directly affects aquatic species, disrupting the food web and potentially leading to declines in biodiversity.
- **Contribution to Sea Level Rise:** Melting glaciers contribute to rising sea levels.
- **Cultural Impact:** The loss of glaciers has significant cultural implications, particularly for communities where glaciers are part of their cultural identity. Activities such as mountaineering and tourism, which rely on glaciers, would be affected.



Conclusion:

Venezuela's last glacier, Humboldt, is losing very fast, leaving behind a legacy of environmental degradation and cultural loss. The world must take action to address climate change and protect our planet's natural resources before it's

too late.

Africa Fertilizer and Soil Health Summit

Why in News:

African presidents have endorsed the Nairobi Declaration on fertilizer and soil health, committing to prioritize domestic fertilizer production and triple it in the next 10 years to boost agricultural production. The Africa Fertilizer and Soil Health Summit (AFSH) were held in Nairobi, Kenya from the 7th -9th May 2024, under the theme "Listen to the Land". It sought to review the progress made since previous commitments by African leaders to boost fertilizer use for agricultural growth in Africa.

Highlights of the summit:

- The summit is convened at a time when millions of Africans across the continent are facing severe food and nutrition deficiencies.
- Thus providing an opportunity for policy makers, scientists, farmers, the private-sector, development agencies, civil society organizations, non-governmental organizations and scholars to reflect on long-term and sustainable strategies of innovative avenues to feed the growing African population.
- The discussions by various stakeholders have emphasised the urgency of paying attention to the needs of the land in terms of soil nutrients, soil moisture, essential minerals, soil organisms, impact of climate change; and adopting regenerative practices, policies and approaches that will improve the long-term value of land as a critical asset for farmers.
- The stakeholders evaluated the existing policies, programs and institutional structures for effective soil management system to improve and maintain soil fertility on the continent.

About Nairobi Declaration:

- The Nairobi Declaration adopted at the Eighth Africa Regional Platform for Disaster Risk Reduction in Nairobi, Kenya.
- It includes action plans under the PoA to implement the Sendai Framework for Disaster Risk Reduction (SFDRR), 2015-2030.

Initiatives by India to manage Soil Health:

- **Soil Health Card Portal:** It provides real-time data on soil sample collection, lab testing, and Soil Health Card generation. It includes a registry of soil labs with

real-time status and geo-coordinates mapping.

- **School Soil Health Programme:** The Department of Agriculture & Farmers' Welfare (DA&FW) in collaboration with the Department of School Education and Literacy, initiated a pilot project. This project involved the establishment of 20 soil laboratories in rural Kendriya and Navodaya Vidyalaya schools.
- **Krishi Sakhi Convergence Programme (KSCP):** A MoU between the Ministry of Agriculture & Farmer Welfare and the Ministry of Rural Development initiated the KSCP, which aims to transform rural India through the empowerment of Krishi Sakhi. The programme includes a Krishi Sakhis Training Programme to certify 70,000 Krishi Sakhis as "Para-Extension Workers."
- Krishi Sakhis are practicing farmers and trained para-extension professionals. They serve as farmers' friends, guiding Natural Farming and Soil Health Management.

Conclusion:

Though fertilizers are estimated to contribute more than 30% of the crop yield, we have witnessed in our country that fertilizer alone cannot sustain increased agricultural productivity and production. In recognition of the need for integrated soil management, the Government in collaboration with other stakeholders has developed the National Soil Management Policy. This policy contains critical directions on sustainable agricultural soil and water management, the environment, technology development, its dissemination and utilization, fertilizer development and investments.

Sea Anemone Bleaching

Why in News:

Scientists at the ICAR-National Bureau of Fish Genetic Resources (NBFGR) working on sea anemones of the Lakshadweep group of islands have discovered mass anemone bleaching off the Agatti Island.

Major highlights of the event:

- NBFGR scientists have been working on sea anemones for the past few years with the objective of their propagation under captive conditions as the species has great demand in the aquarium trade.
- This research is part of an ongoing project for livelihood promotion of island women funded by the Centre for Marine Living Resources and Ecology, Ministry of Earth Sciences.
- **Bleaching Concerns and Ecological Impact:** Sea

anemone bleaching has been observed for the first time in the group of islands, raising concerns for the health of the local ecological system. This bleaching phenomenon makes sea anemones more susceptible to diseases and increased mortality. The loss of symbiotic algae deprives sea anemones of their primary energy source, compromising their long-term survival.

- **Challenges in Reproduction:** Despite efforts, sexual reproduction has not been observed in captivity among sea anemones, even among healthy animals maintained for more than two-and-a-half years in indigenous recirculatory aquaculture systems.
- Propagation is being done using the bifurcation method, which has been standardized in captive conditions. This method ensures that sea anemones, along with clownfish seeds, are distributed to beneficiaries for further rearing in community aquaculture units.
- **Need for effective Addressal:** Addressing the issue of sea anemone bleaching necessitates both global and local action to safeguard the ecological integrity of marine habitats. Rising sea surface temperatures disrupt the delicate balance between sea anemones and their symbiotic algae, triggering the expulsion of algae and resulting in the whitening of the animals.

-: Prelims Insights :-

About Sea Anemones:

- Sea anemones are soft-bodied marine animals that resemble flowers. They belong to the invertebrate order Actiniaria within the phylum Cnidaria and are primarily sedentary.
- They can be found from the tidal zone of all oceans to depths exceeding 10,000 meters (about 33,000 feet). Some species inhabit brackish water environments.
- Generally, sea anemones are largest, most numerous, and most colorful in warmer seas, with the vibrant Tealia species commonly found in temperate regions.

Conclusion:

The group of scientists from NBFGR emphasizes the pressing need for comprehensive conservation efforts in the Lakshadweep in light of the current condition of sea anemones. They stress the importance of mitigating climate change through global emissions reductions, as rising sea temperatures have reached 33°C in Agatti Island, where

mass bleaching of anemones has been observed.

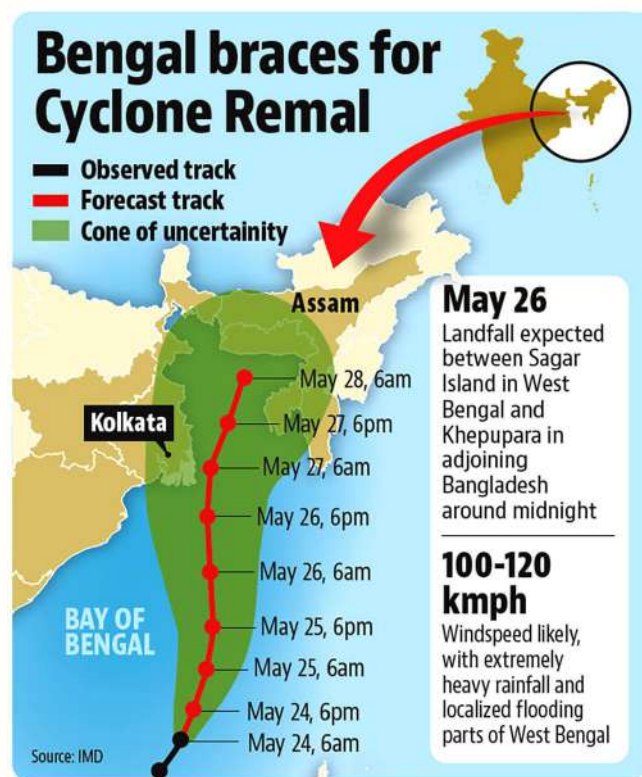
Cyclone Remal

Why in News:

Recently, Cyclone Remal made landfall at the coast of West Bengal on May 26, 2024, bringing heavy rains that flooded the region. At least 84 people have been killed by the cyclone, including 65 in India and 19 in Bangladesh. Cyclone Remal also caused significant disruptions in air, rail and road transportation in Kolkata and other parts of southern Bengal. It is considered as a severe cyclonic storm by IMD.

Previous Cyclones:

- The cyclone scare comes close to the anniversaries of previous devastating cyclones, such as Yaas (2021), Amphan (2020), Cyclone Fani (2019), and Aila (2009) which caused massive damage in the Sundarbans and other parts of West Bengal.



Conditions Favourable for Tropical Cyclone Formation:

- Large sea surface with temperature higher than 27° C.
- Presence of the Coriolis force enough to create a

cyclonic vortex.

- Small variations in the vertical wind speed.
- A pre-existing weak low-pressure area or low-level-cyclonic circulation.
- Upper divergence above the sea level system.

How was Cyclone Remal named?

- Cyclone Remal was named by Oman as per the standard convention of naming tropical cyclones in the region. In Arabic, Remal means sand.
- Tropical cyclones are named by six Regional Specialised Meteorological Centres (RSMCs) and five Tropical Cyclone Warning Centres (TCWCs), with the Indian Meteorological Department (IMD) being one of the RSMCs.
- The decision to name tropical cyclones in the Bay Of Bengal and Arabian Sea was made in 2000, by the twenty-seventh session of the WMO/ESCAP Panel on Tropical Cyclones (PTC).
- The panel has 13 member nations including India, Bangladesh, Iran, Myanmar, Pakistan, Saudi Arabia, Thailand, Yemen, Sri Lanka, Maldives, United Arab Emirates (UAE), Oman and Qatar.
- Later, the IMD issued a new list of cyclone names after WMO/ESCAP PTC finalised and adopted them. The list contained 169 names where 13 names each were suggested by the 13 member nations on the panel.

Background:

- The World Meteorological Organisation (WMO) is a 185-member strong United Nations agency.
- Realising the importance of an effective cyclone warning and disaster mitigation in the North Indian Ocean region (comprising both the Arabian Sea and the Bay of Bengal), WMO came together in 1972 to establish the Panel on Tropical Cyclones (PTC).

Way Forward:

- **Relief and Rehabilitation:** Continue providing aid, shelter, food, and medical care to affected communities by the cyclone.
- **Damage Assessment:** Conduct thorough assessments to estimate losses and identify areas for reconstruction.
- **Infrastructure Repair:** Restore damaged infrastructure, including roads, bridges, and utilities.
- **Disaster Risk Reduction:** Implement measures to mitigate future cyclone impacts, such as sea walls, flood-resistant construction, and early warning systems.



Science & Technology

Ministry of Earth Sciences Strengthening India's Antarctic Expedition Efforts

Recently, the 46th Antarctic Treaty Consultative Meeting and the 26th meeting of the Committee for Environmental Protection (CEP) were hosted from 20 to 30 May 2024 in Kochi, Kerala by the Ministry of Earth Sciences of the Government of India and the National Center for Polar and Ocean Research. The Committee for Environmental Protection (CEP) was established in 1991 under the Protocol on Environmental Protection of the Antarctic Treaty (Madrid Protocol).

The CEP advises the Antarctic Treaty Consultative Meeting, often referred to as the Antarctic Parliament, on environmental protection in Antarctica. A total of 56 member countries participate in this meeting to discuss challenges related to the Antarctic Island and their solutions. Antarctica, an island dedicated to science and research, benefits greatly from discussions in forums like the Antarctic Treaty Consultative Meeting, which give these efforts a more meaningful form.

- ❖ During this meeting, concerns were raised over the rate of glacier melting, emphasizing the need for countries to collaborate on glacier conservation. A blueprint was discussed to address the challenges faced by Antarctic biodiversity. The discussions highlighted the importance of taking action to conserve polar bears, penguins, krill, walruses, and other polar animals. The 26th CEP (Committee for Environmental Protection) agenda also focused on Antarctic environmental assessment, impact assessment, management and reporting, vigilance against climate change, area conservation including marine endemic conservation, management plans, and conservation of Antarctic biodiversity.
- ❖ These meetings are in line with India's desire to facilitate constructive global dialogue on environmental management, scientific collaboration and cooperation in Antarctica. Hosting the 46th ATCM and 26th CEP meeting reflects India's growing role as a responsible global stakeholder in efforts to preserve Antarctica for

future generations. India is committed to upholding the principles of the Antarctic Treaty through open dialogue, collaboration and consensus building and contributing to the sustainable management of one of the last pristine wild areas on Earth.

- ❖ It is noteworthy that the Antarctic Treaty Secretariat (ATS) serves as the administrative center for the Antarctic Treaty System. Established in 2004, the ATS coordinates ATCM and CEP meetings, reproduces and disseminates information and facilitates diplomatic communications, exchanges and negotiations related to Antarctic governance and management. It also monitors compliance with Antarctic Treaty provisions and agreements and provides assistance and guidance to Antarctic Treaty members on treaty implementation and enforcement matters.

About the Antarctic Treaty, 1959:

- ❖ Signed in 1959 and implemented in 1961, the Antarctic Treaty established Antarctica as a region dedicated to peaceful purposes, scientific cooperation and environmental protection. Over the years, the treaty has received widespread support and currently 56 countries are a part of it. Between 1957-58, twelve countries came together and agreed not to let their differences lead to the destruction of Antarctica.
- ❖ They also decided to continue conducting research there collectively. In December 1959, these countries signed

the Antarctic Treaty. The signatories included Australia, Chile, Japan, Norway, USSR, United States, United Kingdom, South Africa, New Zealand, France, Belgium and Argentina. In the early 1980s, more countries joined it, including India. It is worth mentioning that out of the 56 countries involved in the Antarctic Treaty, 29 have the right of Consultative Party, that is, they work to take decisions. Although India signed the treaty in the eighties, it also has this right.

Key points of the Antarctic Treaty:

- ❖ There are 14 main articles in the Antarctica Treaty, which focus on different parts.
- ❖ Any kind of military practice or base is prohibited here.
- ❖ Nuclear waste cannot be disposed of on this continent, nor can nuclear tests be conducted.
- ❖ The scientific discoveries or research being done here will be shared among themselves, and mutual help should be given if needed.

India's activism regarding Antarctica:

- ❖ India has been a consultative member of the Antarctic Treaty since 1983. To date, it participates in the decision-making process along with the other 28 consultative members of the Antarctic Treaty. India's first Antarctic research station, Dakshin Gangotri, was established in 1983. Currently, India operates two research stations Maitri (1989) and Bharati (2012). Permanent research stations facilitate Indian scientific expeditions to Antarctica, which have been running annually since 1981. In the year 2022, India enacted the Antarctic Act, reaffirming its commitment to the Antarctic Treaty.
- ❖ As a signatory to the Antarctic Treaty, India is dedicated to environmental protection, scientific cooperation and peaceful conduct of operations in Antarctica. Dr. M. Ravichandran, Secretary, Ministry of Earth Sciences, highlighted the significance of India hosting the ATCM and CEP meetings in 2024. He said, "As a country we look forward to fostering meaningful exchange of knowledge and expertise to advance the shared goals of environmental conservation and scientific research in the Antarctic region."
- ❖ India's scientific and strategic endeavours in the polar regions (the Arctic and Antarctic), the Himalayas, and the Southern Ocean are under the National Centre for Polar and Ocean Research (NCPOR) in Goa. NCPOR is an esteemed autonomous institution under MoES, Government of India. MoES has set up a Host Country Secretariat with Dr Vijay Kumar, Scientist G & Adviser, as Head at MoES HQ to successfully coordinate and organise the event. India has proposed the name of Ambassador Pankaj Saran, a distinguished former

Deputy National Security Advisor, to chair the 46th ATCM.

- ❖ Participation in the ATCM and CEP meetings is restricted to delegates nominated by its members, observers and invited experts. This year over 350 delegates from over 60 countries are expected to participate in the 46th ATCM and 26th CEP. It will be hosted by NCPOR, MoES at Lulu Bolgatty International Convention Centre (LBICC), Kochi, India.

Indian Antarctic Expedition:

- ❖ The Indian Antarctic Expedition began in 1981, with the first team led by Dr. S.Z. Qasim, comprising 21 scientists and support staff. The Indian Antarctic Programme has since established three permanent research base stations in Antarctica: Dakshin Gangotri, Maitri, and Bharati. Currently, India has two operational research stations, Maitri and Bharati. The entire Indian Antarctic Programme is managed by the National Centre for Polar and Ocean Research (NCPOR) in Goa.
- ❖ In November 2019, the 39th Indian Scientific Expedition to Antarctica was launched, undertaking 27 scientific projects focused on climatic processes and their relation to climate change, crustal evolution, environmental processes and conservation, land and near-shore ecosystems, observational research, and polar technology. Additionally, two collaborative projects were initiated with the National Institute of Polar Research, Japan.

Challenges related to Antarctica:

- ❖ For the first time in the Antarctic meeting, tourism was discussed due to its rapid growth on the continent. Scientists are concerned that tourism, combined with the effects of global warming, could have a detrimental impact on Antarctica. Along with other issues, it is also important to talk about its regulation. Statistics show that within a year from the year 2019, more than 74 thousand tourists have visited Antarctica. A research published in the Nature Communications Journal revealed that more than 83 tons of ice melts for every tourist visiting Antarctica, based on over 100 studies. Considering this impact, the prospect of tens of thousands of tourists visiting Antarctica raises serious concerns about the environmental consequences.
- ❖ New concerns are arising regarding the South Polar Ocean, also known as the Antarctic Ocean. While it has been previously noted that the ice is melting rapidly due to global warming, the current warning is particularly alarming. The accelerated melting is causing conditions of slowdown within the ocean, weakening its flow. This phenomenon is expected to result in a decrease in

oxygen levels in water sources worldwide.

- ❖ Researchers from the University of New South Wales explained in the study how the melting of ice in Antarctica will affect the deep ocean currents. For this, they took the help of data in which 35 million computing hours were spent, and Antarctica was monitored in many ways. Research indicates that the ice in Antarctica, abundant in salt and oxygen, is melting daily and continuously. The

resulting water current extends to the Pacific, Indian, and Atlantic Oceans, carrying additional nutrients from the surface and dividing the flow. As the ice continues to melt, the water in Antarctica will become thinner and less salty, leading to a slowdown in the flow within the deep ocean.

Short Issues

Thrombosis Thrombocytopenia Syndrome

Why in News:

AstraZeneca, the developer and manufacturer of the Covishield Covid vaccine, has acknowledged that the vaccine may lead to Thrombosis Thrombocytopenia Syndrome (TTS), a condition associated with blood clots and low platelet count, as a potential side effect in certain individuals.

What is Thrombosis Thrombocytopenia Syndrome?

- Thrombosis Thrombocytopenia Syndrome is characterized by blood clots (thrombosis) combined with low levels of platelets (thrombocytopenia), which are necessary for blood clotting.
- It often involves unusual blood clot locations, such as in the brain (cerebral venous sinus thrombosis) or abdomen.
- It's a rare occurrence following specific types of vaccines and other causes. According to WHO, adenovirus vector vaccines, in particular, have been rarely associated with this condition.
- As per yalemedicine.org report, 2023, a blood clot is a gel-like mass of blood that naturally forms to stop bleeding when you injure your skin.
- When these clots develop inside blood vessels, they can cause thrombosis, blocking blood flow and leading to a condition responsible for up to 100,000 deaths annually in the United States.
- Such clots commonly occur in people who are immobilized, hospitalized, or have medical conditions involving inflammation, infection, or cancer.

Symptoms of TTS:

- Severe or persistent headaches
- Blurred vision
- Shortness of breath
- Chest pain
- Leg swelling
- Persistent abdominal pain
- Easy bruising or tiny blood spots under the skin beyond the injection site
- Though TTS is rare, it is important for individuals who have received vaccines to be aware of the symptoms and seek medical attention if they experience any of them within a few weeks of vaccination. Early recognition and treatment are crucial for managing TTS effectively.

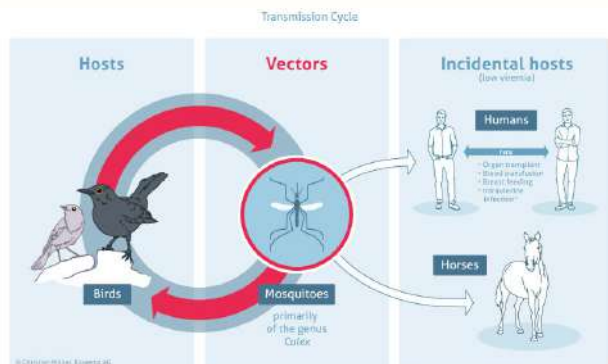
Conclusion:

Following AstraZeneca's admission in U.K. court that its COVID-19 vaccine has the potential to cause Thrombosis with Thrombocytopenia Syndrome (TTS), has caused stir in the Public. However, doctors in India have stated that this information is not new. They emphasized that they are "well aware of the warning," which has been available as an insert with the vaccine since its introduction to the general public in India. Furthermore, it has been emphasized that any adverse events associated with the vaccine would have occurred within 21 days to a month of the first dose.

West Nile Virus Disease

Why in News:

The Kerala government has said that cases of West Nile fever have been reported from three districts of Thrissur, Malappuram and Kozhikode. One person has died of the viral disease while six other cases have been reported in recent days.



What is Nile Virus Disease?

- The West Nile Virus (WNV) is a mosquito-borne, single-stranded RNA virus. It is a flavivirus and is related to the viruses that cause Japanese encephalitis and yellow fever.
- Culex species of mosquitoes act as the principal vectors for transmission. Infected mosquitoes spread the disease among humans and animals, including birds, which are the reservoir host of the virus.
- Mosquitoes become infected by feeding on birds carrying the virus in their bloodstream. After a few days, the virus reaches the mosquito's salivary glands. When the mosquito feeds on blood again, it can inject the virus into humans and animals, potentially causing illness as it multiplies in their bodies.
- WNV can also spread through blood transfusion, from an infected mother to her child, or through exposure to the virus in laboratories. It is not known to spread by contact with infected humans or animals. It does not spread "through eating infected animals, including birds.

Reasons for the name Nile Virus:

- The virus was first isolated in a woman in the West Nile district of Uganda in 1937. It was identified in birds (crows and columbiformes like doves and pigeons) in the Nile delta region in 1953.
- Before 1997, WNV was not considered pathogenic for birds, but then, a more virulent strain caused deaths of different bird species in Israel, presenting signs of encephalitis and paralysis.

The virus in India:

- In India, antibodies against WNV were first detected in humans in Mumbai in 1952 and virus activity has since been reported in southern, central, and western India.
- WNV has been isolated in India from Culex vishnui mosquitoes in Andhra Pradesh and Tamil Nadu, from Culex quinquefasciatus mosquitoes in Maharashtra, and from humans in Karnataka.

Conclusions:

Currently, there is no treatment or vaccine for West Nile Virus. Supportive care is the only option for patients with neuroinvasive WNV. It is crucial to establish an active animal health surveillance system to detect new cases in birds and horses. Since WNV outbreaks in animals often occur before human cases, this system can provide early warning for both veterinary and human public health authorities.

Indian Space Situational Assessment Report 2023

Why in News:

ISRO Chairman S. Somnath released the Indian Space Situational Assessment Report (ISSAR) Report 2023. The report is compiled by ISRO System for Safe and Sustainable Space Operations Management (IS4OM).

Highlights of the Report:

Global Scenario:

- According to the report, in 2023, the trend of growth in space object population has continued, reflecting increased accessibility to space and the expanding applications of space technology in daily life.
- The year saw a rise in the number of space objects placed in orbit compared to 2022, with a total of 3143 objects originating from 212 launches and on-orbit break-up events. This marked an increase from the 2533 objects launched in 2022 through 179 launches.
- Despite advancements, there were five major on-orbit break-up events in 2023. While some fragments decayed within the year, there was a net addition of 69 fragmented objects to the space debris population by the end of 2023.

Indian Scenario:

- A total of 127 Indian satellites, including those from private operators/academic institutions, have been launched till 31st December 2023.
- As of December 31, 2023, the Government of India owned 22 operational satellites in Low Earth Orbit (LEO) and 29 in Geo-synchronous Earth Orbit (GEO).
- Three Indian deep space missions were also active by the end of 2023 which include Chandrayaan-2 Orbiter, Aditya-L1, and the Propulsion Module of Chandrayaan-3. By the end of 2023, 21 Indian satellites had re-entered the atmosphere, with 8 satellites re-entering in 2023 alone.
- Indian launches have placed 82 rocket bodies in orbit by 2023. The accidental break-up of the upper stage of

PSLV-C3 in 2001 generated 371 debris fragments, with 52 still in orbit by the end of 2023.

- Among the intact Indian upper stages, 35 rocket bodies re-entered the Earth's atmosphere till 2023 end, and 5 such re-entries took place in 2023.

Space Situational Assessment 2023:

- ISRO's SSA activities include close approach assessment of satellites and launch vehicles, prediction of atmospheric re-entry, the study of the evolution of space object population to safeguard national space assets, and also promoting responsible behavior while conducting operations in outer space.

Initiatives to mitigate Space Debris by India:

- **NETRA Project:** Network for space Object Tracking and analysis.
- **SOPA:** Space Object Proximity Analysis for predicting close approaches through ISTRAC.
- **COLA:** Collision Avoidance Analysis for launch Vehicles.

Conclusion:

There is an increasing trend in Collision Avoidance Maneuvers (CAMs) to safeguard operational assets in case any Space Object approaches. India itself has conducted 23 CAMs to protect its space assets which highlight the importance of addressing the issue of Space Debris. India's plan to send astronauts through GAGANYAAN could be threatened by space debris issues, highlighting the importance of SSA efforts in ensuring the safety of such missions.

CRISPR: BRILLIANCE Study to Treat Inherited Blindness

Why in News:

Scientists at Harvard medical School have used a human gene editing tool, CRISPR-Cas9, to restore vision in people with a rare form of inherited or congenital blindness. The findings were published in The New England Journal of Medicine.

About CRISPR:

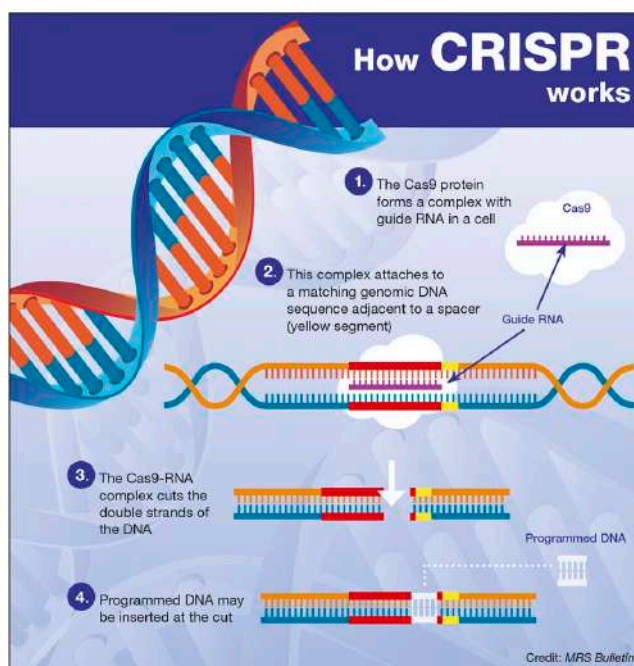
- CRISPR-Cas9 is a precise way of altering DNA. It cuts out specific strands of DNA and replaces them with new strands.
- In 2020, Emmanuelle Charpentier and Jennifer A. Doudna were awarded.

Highlights of the study:

- **BRILLIANCE:** The trial was called "BRILLIANCE". 14 individuals who had a rare form of inherited

blindness, known as Leber congenital amaurosis (LCA), participated in it. These participants included 12 adults and two children.

- The study was the first to use gene therapy to treat children who had been born with a form of blindness. Participants in the study received a single dose of a CRISPR gene therapy called EDIT-101.
- The study tested how well participants could see colored lights, navigate a small maze in varying amounts of light, and read from a chart after receiving the treatment.



About EDIT-101:

- In EDIT-101, the treatment cuts out the mutation in CEP290 and inserts a healthy strand of DNA back into the gene. This restores normal function of the protein CEP290, allowing the retina to detect light.
- This caused no serious adverse side effects in participants. Although some patients reported mild adverse effects however these issues were resolved quickly.
- As per the researchers, 11 out of the 14 people in a clinical trial experienced improved vision, without serious adverse side effects.

About Leber congenital amaurosis (LCA):

- Leber congenital amaurosis (LCA) is a family of congenital retinal dystrophies that results in severe vision loss at an early age. It affects about one in 40,000 people.
- This blindness is caused by a gene mutation that prevents a protein called CEP290 from functioning

properly. This protein is critical for sight.

Conclusion:

Over 200 individuals have received experimental CRISPR treatments. Yet only one CRISPR treatment, Casgevy-for sickle-cell disease, has gained clinical approval, which is available in the US, UK, and EU since December 2023. Ongoing trials are exploring CRISPR's potential in HIV/AIDS, diabetes, cancer, cardiovascular diseases, and antibiotic resistance. Scientists assert a new era in genome editing, aiming not just to treat but safely cure various diseases.

Oxytocin Usage in Dairies

Why in News:

There was a submission in the Delhi High Court that flagged the “rampant use of Oxytocin” in dairy colonies in Delhi. The High Court has now called for action against the spurious use of oxytocin in dairy colonies and observed that its administration amounts to “animal cruelty”.

More about the News:

- The drug was banned by the Central government in April 2018, stating that it was being misused on milch cattle to increase yield, which not only affects the health of the cattle but also humans who consumed the milk.
- The Centre had decided that only one public sector undertaking, the Karnataka Antibiotics and Pharmaceuticals Limited (KAPL), would be permitted to produce Oxytocin to meet the needs of the entire country.
- Oxytocin is administered to cattle to “force milk let-down and increase the production of milk.”

Court's observations:

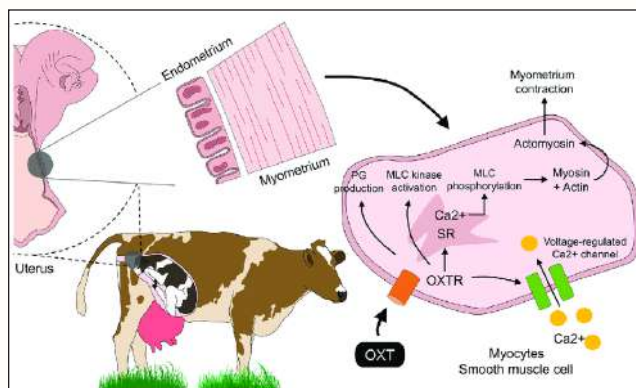
- The bench observed that since administering of Oxytocin amounts to animal cruelty, and is a cognizable offence under Section 12 of the prevention of Cruelty to Animal Act, 1960.
- It directed the Department of Drugs Control, GNCTD, to conduct weekly inspections and ensure that all cases of Spurious Oxytocin usage or possession are registered under Section 12 of the Prevention of cruelty to Animals Act, 1960 and Section 18(a) of the Drugs and Cosmetics Act, 1940.
- The court further observed that these offences will be investigated by jurisdictional police stations wherein the dairy colonies are situated.

About location of the cattles:

- The court was of the view that dairies should be “relocated” in areas having proper sewage, drainage, biogas plant, ample open space for the cattle to move

around, and enough grazing area.

- Cattle in dairies situated next to landfill sites would feed on hazardous waste and their milk if consumed by humans, particularly children, (directly or indirectly) could have serious consequences.
- Keeping in view the apprehension that dairies next to landfill sites can cause illness and public health hazards, the court had directed that the dairies need to be relocated forthwith.



What is Oxytocin?

- Oxytocin is secreted by the pituitary glands of mammals during sex, childbirth, lactation or social bonding. This hormone is also called love hormone.
- However, it could be chemically manufactured and sold by Pharma companies for use during childbirth. It is administered either as an injection or a nasal solution.

Conclusion:

To curb oxytocin abuse, restrictions on its sale for human and veterinary use could be imposed, similar to narcotic and psychotropic drugs or antibiotics. Implementing multiple layers of documentation and surveillance, including raids on illegal importers and unlicensed producers, could help combat its misuse effectively.

WHO Report on Neglected Tropical Disease

Why in News:

The World Health Organization (WHO) has recently released its Global report on neglected tropical diseases 2024.

Highlights of the Report:

Global Burden of Neglected tropical Disease:

- As per the Report, 1.62 billion people required interventions against neglected tropical diseases (NTDs) in 2022. Although this reflects a 26% decrease

from 2010, it does not provide the required trajectory to attain the road map's global target of a 90% reduction by 2030.

- In 2023, five countries were acknowledged by WHO for eliminating one NTD, and one country for eliminating two NTDs. As of December 2023, a total of 50 countries have successfully eliminated at least one NTD, marking the halfway point towards the 2030 target of 100 countries.
- In 2022, approximately 848 million people received treatment for at least one NTD through preventive chemotherapy interventions, 49 million fewer than in 2021 but 50 million more than in 2020.
- By the end of 2022, the number of reported deaths from vector-borne NTDs has increased by 22% (as compared with 2016).
- In 2023, noma (cancrum oris, gangrenous stomatitis) was added to the list of NTDs.

Progress in NTD strategies:

- There is a gradual scale-up of the adoption and implementation of integrated skin-NTD strategies (11 countries) and the development of guidance for management of NTD-related disabilities (19 countries).
- NTDs have been integrated in national health plans of 28 countries and NTD interventions have been included in packages of essential services of 6 countries.
- 32 countries undertook data reporting on all NTDs while 17 countries are collecting and reporting gender-disaggregated data.
- Access to water supply, sanitation and hygiene is overall 85.8% in NTD-endemic countries and 63% among the population requiring interventions against NTDs.
- The share of the population at risk protected against catastrophic out-of-pocket health expenditure due to NTDs is 87.4%.

Financial Assistance:

- NTD medicine donation programs achieved significant milestones in 2023, delivering 2.1 billion tablets and vials, 200 million more than in 2022. Of them, 994 million were managed by WHO and made available to 112 Member States free of charge.
- In 2023, the offer of normative guidance, capacity strengthening tools and data collection mechanisms was broadened, with the aim of providing Member States and partners with the necessary support to implement, monitor and evaluate NTD programs.
- Key advocacy events carried out in 2023 included the Global NTD Program Partners' Meeting and the Reaching the Last Mile Forum, which raised the visibility of NTDs in the global health agenda and

increased resource mobilization.

Conclusion:

The report, released ahead of the 77th session of the World Health Assembly (WHA77) in Geneva from 27 May to 1 June 2024, offers Member States and global partners an update on progress in 2023 towards implementing the Roadmap for Neglected Tropical Diseases 2021–2030. It provides a comprehensive account of advancements and challenges in combating neglected tropical diseases (NTDs) worldwide.

Artificial General Intelligence

Why in News:

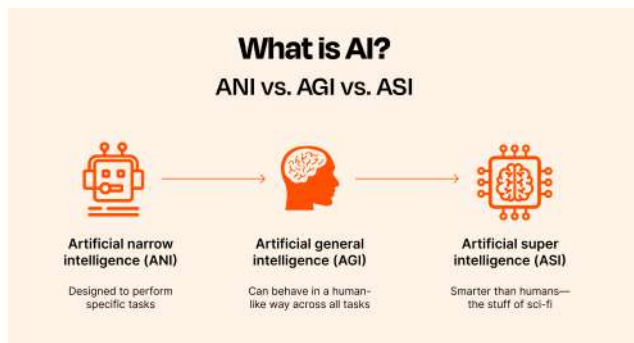
Recently, OpenAI CEO Sam Altman committed to invest billions of dollars in the development of Artificial General Intelligence (AGI).

Introduction to Artificial General Intelligence:

- Artificial Intelligence (AI) is a system with software possessing cognitive abilities similar to those of humans. It can understand and make decisions in response to its environment, reason, and adapt to new environments and data types.
- Unlike traditional systems that rely on predetermined rules, AI adopts a problem-solving and learning approach akin to human behavior.

Difference between Artificial Intelligence and Artificial General Intelligence:

- Artificial intelligence, also called narrow AI, is capable of performing a specific task that it is designed to perform.
- On the other hand, artificial general intelligence is capable of learning, thinking and adapting and performing a variety of tasks like humans.



Benefit:

- **Military sector:** Specific uses of AGI will be in enhancing surveillance, military engagement, real-time

strategies and combat systems.

- **Business:** With AGI, various businesses can be automated with high technology and decision making can be accelerated.
- **Education:** AGI automates grading, personalizes learning, and can provide additional support to students.
- AI tools can help teachers create course content and engage students in new ways.

Issues:

- **Increase in unemployment:** This may increase the number of unemployed in the society. Technology based economy is not suitable for a country like India with high availability of labour.
- **Reduction in creative skills:** Imagination based technology can reduce the creative skills of humans. It can do better and creative work in less time than humans.

Conclusion:

AGI is still a long way off, but rapid progress in the AI field has brought the technology closer to achieving AGI. Some predictions even say that computers will reach the level of human intelligence as early as 2029. The realization of AGI will mean that AI can act on abstract thinking, general knowledge, background knowledge, transfer learning and cause and effect. This will open up possibilities for many industries.

NISAR to Monitor Tectonic Movements

Why in News:

The Indian Space Research Organization (ISRO) is set to launch the NISAR satellite, a collaborative project with NASA, which promises to transform our understanding of tectonic plate movements.

About NISAR:

- NASA-ISRO Synthetic Aperture Radar (NISAR) is a satellite jointly developed by NASA and ISRO for Low Earth Orbit to track subtle change in the earth's surface. The satellite is tentatively set to launch in October 2024.
- It is a dual frequency satellite (L-band and S-band) (NASA contributed the L-band radar, GPS, solid-state recorder and payload data subsystem, while ISRO supplied the S-band radar, GSLV launch system and spacecraft.)
- **Antenna reflector:** Another crucial part of the satellite is its large 39-foot fixed antenna reflector which can fully cover the earth in approximately 14 to 15 days.

- It will be used to focus 'the radar signals emitted and received by the upward-facing feed on the instrument structure.
- NISAR's capabilities include monitoring tectonic movements with centimeter accuracy, accurately measuring water bodies, and assessing water stress on Earth's surface where there is a deficiency of water. It can also ground-penetrates to a certain depth and monitor vegetation cover and snow cover.

-: Prelims Insights :-

Spadex:

- Spadex will test India's ability to perform autonomous maneuvers for docking two satellites in space, similar to the docking of SpaceX's Dragon capsule with the ISS.
- Space docking is a technology that allows transferring humans from one spacecraft to another, it is a precursor for building a space station.

Synthetic Aperture Radar:

- Synthetic Aperture Radar (SAR) is a satellite imaging technique that uses radar waves to map the Earth's surface. Unlike optical imagery, which captures light reflected from the Earth's surface like a photograph, SAR works by transmitting electromagnetic waves from the sensor to the surface.
- These waves then bounce back (backscatter) to the sensor, providing information about the surface characteristics and distance between the sensor and the object.
- SAR is an active data collection method, as the sensor generates its own energy for transmission.

Conclusion:

The NISAR mission will provide detailed observations of Earth's surface, tracking changes in ice sheets, land deformation and ecosystems. This data will enhance our understanding of Earth's processes and help address environmental challenges. It will offer vital data for managing natural disasters like earthquakes, tsunamis and volcanic eruptions, improving response time and risk assessments. NISAR will also aid in monitoring and understanding the impacts of climate change on Earth's land surface, including glacier melting, sea-level rise, and changes in carbon storage.

Bacterial Pathogens Priority List

Why in News:

The World Health Organization (WHO) has updated Bacterial Priority Pathogens Lists (BPPL) with regard to fight against Antimicrobial Resistance (AMR).

What is Bacterial Priority Pathogen Lists?

- The 2024 WHO Bacterial Priority Pathogens List (BPPL) is a crucial tool in the global fight against antibiotic resistance. It updates and improves the prioritization of antibiotic-resistant bacterial pathogens from the 2017 edition to tackle the evolving challenges of antibiotic resistance.
- The list categorizes these pathogens into critical, high, and medium priority groups to inform R&D and public health interventions. Critical priority pathogens present major global threats due to their high burden, and ability to resist treatment and spread resistance to other bacteria.
- The updated list categorizes 15 families of antibiotic-resistant bacteria into three priority groups:
 - » **Critical Priority group:** It includes Gram-negative bacteria like *Acinetobacter baumannii*, which can easily develop and spread resistance, and *Mycobacterium tuberculosis* resistant to rifampicin, a concern for tuberculosis treatment.
 - » **High Priority group:** It includes pathogens like vancomycin-resistant *Enterococcus faecium*, a hospital-acquired infection, and Methicillin-resistant *Staphylococcus aureus* (MRSA), a common antibiotic-resistant infection.
 - » **Medium Priority group:** It includes pathogens causing a high disease burden, particularly in vulnerable populations. New additions to the 2024 list include Group A and B *Streptococci*.

Preventive measures to combat AMR:

- **Antibiotic Stewardship:** Individuals should only take antibiotics when prescribed by a doctor and complete the entire course, even if they start to feel better. They should never pressure their doctor for antibiotics for viral illnesses like the common cold.
- **Hygiene Practices:** People should wash hands often, especially before eating or preparing food, and after using the restroom. They should cook meat thoroughly, avoid cross-contamination, and keep their homes and healthcare settings clean.
- **Vaccination:** Vaccines can prevent certain bacterial infections, such as those caused by pneumococcus.
- **Awareness and Advocacy:** People should educate themselves and others about antimicrobial resistance

(AMR). Advocating for policies that promote infection prevention and responsible antibiotic use in healthcare settings is also crucial.

Conclusion:

The 2024 WHO Bacterial Priority Pathogens List (BPPL) is crucial for understanding the global burden of drug-resistant bacteria and their impact on public health. It guides investment and helps address the antibiotics pipeline and access crisis. Since the first list in 2017, the threat of antimicrobial resistance has grown, reducing the effectiveness of many antibiotics and jeopardizing the progress of modern medicine.

3D Printed Rocket Engine

Why in News:

Indian Space Research Organization performed a successful hot-fire test of a liquid-fueled rocket engine that was built using additive manufacturing (also known as 3D printing) technology.

About the 3D Printed Engine:

- The PS4 engine, used in the fourth stage of the Polar Satellite Launch Vehicle (PSLV), was redesigned by ISRO and fired for duration of 665 seconds, marking a major milestone.
- It is liquid engine rocket that uses bipropellant combination of hypergolic mix of nitrogen tetroxide and monomethyl hydrazine as fuel.
- The 145-foot-tall (44 meters) PSLV is one of India's workhorse launchers, along with the LVM-3. The rocket can deliver up to 3,860 pounds (1,750 kg) of payload to sun-synchronous polar orbits 370 miles (600 km) high.

What is Additive Manufacturing?

- Additive Manufacturing is a process that utilizes computer-generated designs to create three-dimensional objects layer by layer. This additive method involves building up layers of materials such as plastic, composites, or bio-materials to form objects of varying shapes, sizes, rigidity, and colors.
- ISRO redesigned the conventionally manufactured PS4 engine to make it compatible with additive manufacturing techniques, a process known as Design for Additive Manufacturing (DfAM).
- The new laser powder bed fusion technique used to make the engine has brought down the number of engine parts from 14 to a single piece .
- The new process uses 30.2 pounds (13.7 kilograms) of metal powder, compared to the 1,245 pounds (565 kg) of forgings and sheets needed with the conventional

technique. The new process also reduces the overall production time by 60%, according to ISRO.

-: Prelims Insights :-

- **Selective Laser Sintering (SLS):** A polymer powder print technology, pre-heated to its melting point, it is selectively melted with a CO2 laser, fusing the particles together to create a solid part.
- **Fused Deposition Modeling (FDM):** This technology extrudes a thermoplastic filament to create the layer-by-layer model.
- **Stereolithography (SLA):** A photosensitive liquid resin is solidified under an ultraviolet laser.
- **PolyJet:** In this parts are built by depositing the ultrafine droplets of liquid photopolymers on a build platform through the print head(s).

Conclusion:

The successful hot testing of the 3D-printed PS4 engine marks a significant step in leveraging additive manufacturing technology for future rocket engines. This milestone will help boost India's launch rate and support its grand plans in human spaceflight, including landing an astronaut on the moon and establishing a lunar base by 2047. This achievement paves the way for the induction of the additively manufactured PS4 engine into the regular PSLV program, ushering in a new era of advanced manufacturing techniques for India's space endeavors.

TAK-003

Why in News:

TAK-003 has become the second dengue vaccine to be prequalified by WHO. It has been developed by Takeda Pharmaceuticals.

Key facts about the vaccine:

- It is a live-attenuated vaccine containing weakened versions of the four serotypes of the virus that cause dengue.
- **Administration:** WHO recommends the use of TAK-003 in children aged 6–16 years in settings with high dengue burden and transmission intensity. The vaccine should be administered in a 2-dose schedule with a 3-month interval between doses.

- **Prevention:** TAK-003 can help prevent dengue disease, which is a mosquito-borne disease that is life-threatening in many cases.

About live-attenuated vaccine:

- A live-attenuated vaccine is a type of vaccine that uses a weakened form of a live pathogen, such as a virus or bacteria, to stimulate an immune response.
- The pathogen is altered to reduce its virulence and ability to cause disease, but still retains enough characteristics to trigger an immune response.

Advantages of Live-attenuated vaccines:

- **Strong immune response:** They can stimulate both B cells and T cells, providing long-term immunity.
- **Mimics natural infection:** They mimic the natural infection process, allowing the immune system to respond as it would to a real infection.
- **Single dose:** Often, only a single dose is needed to provide long-term immunity.
- **Cost-effective:** They can be less expensive to produce than other types of vaccines.

About dengue:

- Dengue is a viral disease caused by any of the four related viruses: dengue virus 1, 2, 3, and 4.
- It is a mosquito-borne tropical disease caused by dengue virus, frequently asymptomatic; if symptoms appear they typically begin 3 to 14 days after infection.

Symptoms of Dengue:

The most common dengue symptom is fever with:

- Aches and pains (eye pain, typically behind the eyes, muscle, joint, or bone pain).
- Nausea, vomiting.
- Rash.
- Any warning sign.

How Dengue Spreads:

- Dengue viruses are mainly spread to people by the bite of an infected Aedes mosquito.

Treatment:

- There is no specific medicine to treat dengue.
- Rest as much as possible.
- Take acetaminophen to control fever and relieve pain.

Conclusion:

Dengue cases are likely to increase and expand geographically due to climate change and urbanization. It is estimated that there are over 100–400 million cases of dengue worldwide each year and 3.8 billion people living in dengue endemic countries, most of which are in Asia, Africa, and the Americas. This vaccine has potential to reduce the dengue cases in all over the world.

Geomagnetic Reversal

Why in News:

A BBC science focus report has recently stated that the North Pole has shifted at a rate of roughly “15 km per year.” However, since the 1990s, this pace has accelerated, reaching about “55 km per year” towards Siberia.

The Dynamo Mechanism:

- The dynamo theory, proposed by physicists Walter M. Elsasser and Edward Bullard in the mid-1900s, is the prevailing explanation for Earth's geomagnetic field. This field is generated by the complex flow of molten metallic material in the planet's outer core, influenced by Earth's rotation and the presence of a solid iron core. The resulting dipolar magnetic field roughly aligns with Earth's rotational axis.
- In this dynamo mechanism, the fluid motion in the outer core moves conducting material (liquid iron) across an existing weak magnetic field, generating an electric current. Heat from radioactive decay in the core induces this convective motion. The electric current then produces a magnetic field that interacts with the fluid motion to create a secondary magnetic field, both of which are stronger than the original.

About Earth's Magnetic field:

- Earth's magnetic field is predominantly a geo-axial dipole, with the north and south magnetic poles located near the geographic poles, acting like a dipole magnet.
- The magnetic field itself reaches up to 3,200 km, repelling solar wind and protecting Earth from solar flares and harmful gamma rays. The magnetosphere, where magnetic effects are felt, extends up to about 60,000 km above Earth's surface.

What is Geomagnetic Reversal?

- A geomagnetic reversal is a change in Earth's magnetic field where magnetic north and south are interchanged. Palaeomagnetism, the study of magnetism in rocks formed by Earth's magnetic field, shows that over the last 20 million years, these reversals have occurred roughly every 200,000 to 300,000 years.
- Unlike the sun's periodic 11-year reversals, Earth's reversals are irregular, ranging from as short as 10,000 years to as long as 25 million years, and can take a few hundred to a few thousand years to complete.
- The North and South Magnetic Poles wander due to changes in Earth's magnetic field (Polar Shift Theory). The North Magnetic Pole (86° N, 172° W), currently north of Ellesmere Island in Canada, is rapidly drifting towards Siberia.

- The South Magnetic Pole is off the coast of Antarctica, outside the Antarctic Circle. Since Earth's magnetic field is not symmetrical, the North and South Magnetic Poles are not antipodal; a straight line between them does not pass through Earth's center.

Reason and Impact of such reversal:

- Satellite observations have detected 'blobs' of intense magnetic fields deep inside Earth, contributing to current changes. The North Pole's movement has accelerated from 15 kilometers per year in the 1990s to 55 kilometers per year towards Siberia, possibly indicating an upcoming magnetic reversal, though the timing and consequences are uncertain.
- These reversal can be caused due to many reasons including the Sun, a huge magnet, which can affect Earth's magnetic shield during high sunspot activity if Earth's magnetism is waning.
- A meteoric or comet impact could also reverse Earth's polarity; such collisions disrupt magnetism, and when it reorganizes, the magnetic poles can reverse.
- During a pole reversal, Earth's magnetic field weakens, potentially vanishing before re-establishing itself with reversed poles. This weakened state could leave the planet more exposed to solar radiation, affecting both the environment and the health of living organisms.
- **Impact on Technology:** A weakened magnetic field could have significant implications for our technology-dependent society. Power grids and satellite communications could be disrupted, causing widespread technological issues.
- **Health Risks:** Increased radiation on Earth due to a weakened magnetic field could affect living cells, leading to higher cancer rates in animals.
- **Disruption of Animal Navigation:** Animals such as birds and sea turtles rely on the magnetic field for navigation. A pole reversal could disrupt their migratory patterns, affecting their survival and ecological balance.

Conclusion:

While the idea of pole reversal may sound alarming, it is a natural process that unfolds over thousands of years. The current rate of movement does not suggest an immediate reversal. Although this phenomenon merits attention and study. The process is gradual and part of Earth's natural cycle. Scientists continue to monitor the magnetic field and its changes to better understand the implications for our planet and its inhabitants.



Economy

Improving Condition of Tourism in India and the World

Despite various challenges such as the COVID-19 pandemic, the Russia-Ukraine conflict, the Israel-Palestine issue, and continuous heat waves, global tourism continues to increase. The World Economic Forum confirms this trend in its recent report, which includes data on the state of tourism in countries worldwide, including India. People have extensively used their purchasing power for tourism, resulting in significant revenue for countries and states. National governments have also invested in developing tourist spots and ensuring amenities for tourists.

In this context, India has moved 15 places to 39th position in the Global Travel and Tourism Development Index 2024, released by the World Economic Forum, up from the earlier 54th position in 2021. India is also at the forefront in South Asia and low-middle income economies at the same time. The index, which was prepared in collaboration with the University of Surrey shows that India is ranked 18th in the world in terms of extreme price competitiveness. It ranks 26th in competitive air transport. The report said that India's strong natural (ranked 6), cultural (ranked 9) and non-leisure (ranked 9) resources help bring foreign travelers here. According to the report, global tourism activities have returned to pre-pandemic levels.

The US ranks first in the index, Spain second, Japan third, France fourth and Australia fifth. At the same time, Germany is sixth, the United Kingdom seventh, China eighth and Italy ninth. Switzerland is ranked 10th. The WEF said, these results underline the fact that high-income economies have created more favorable conditions for travel and tourism development. This is helped by favorable business environment, dynamic labor market, open travel policies, strong transport and tourism infrastructure and well-developed natural and cultural places.

For the listing of countries in the Global Travel and Tourism Development Index-2024, factors and policies are taken into account that promote sustainable development

in the travel and tourism sector, which in turn contributes to the development of the country. This index includes 119 countries for the year 2024 and states that the top 10 countries are attracting the most tourists from all over the world.

Development of Tourist Destinations in India:

- ❖ The Ministry of Tourism has provided financial assistance to State Governments/Union Territories/Central Agencies for development of tourism infrastructure in the country under the schemes 'Swadesh Darshan', 'National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive' (PRASAD) and 'Assistance to Central Agencies for Tourism Infrastructure Development'.
- ❖ 76 projects worth Rs. 5294.11 crore have been approved under Swadesh Darshan Scheme. 46 projects worth Rs. 1629.17 crore have been approved under PRASAD Scheme. 54 projects worth Rs. 780.92 crore have been approved under Assistance to Central Agencies Scheme during the period 2014-15 to 2023-24 (till date).

Challenges related to tourism:

- ❖ **Environmental and social issues:** Factors like environmental degradation, overcrowding, eviction of local people, socially unacceptable activities, hostility of local people, foreign control and use of local resources, etc., that impact tourism. Additionally, garbage and

inadequate waste management at tourist places are also significant challenges, especially in India during mountain tourism.

- ❖ **Inadequate infrastructure:** India's infrastructure in the form of airports, highways and public transport has been inadequate and weak. Although this situation is now slowly improving, there are many tourist destinations which lack basic facilities like clean drinking water, sanitation, health services, etc.
 - » Furthermore, the lack of tourist-friendly infrastructure, such as well-placed signboards and tourist information centers, creates challenges for tourists visiting and exploring destinations in India.
- ❖ **Lack of skilled manpower:** Another major challenge facing the tourism sector in India is the lack of skilled manpower. This industry requires skilled professionals in various dimensions including tour guiding, hospitality and travel management.
 - » The acute shortage of trained professionals in this sector also affects the quality of services provided to tourists. India's tourism industry has immense potential but it faces many challenges which are hindering its growth. The challenges related to this industry are multi-dimensional and a comprehensive approach is required to overcome them.
- ❖ **Lack of law and order:** The lack of better law and order situation in many areas affects tourism; there have been incidents of misbehavior and rape of foreign female tourists.
 - » Ministry of Tourism has revamped its Swadesh Darshan Scheme as Swadesh Darshan 2.0 (SD 2.0) with the objective of developing sustainable and responsible destinations by adopting a tourist and destination-centric approach. So far, 55 destinations have been identified in 32 States/UTs for development under Swadesh Darshan 2.0 Scheme in consultation with State Governments/UT Administrations.

Initiatives by the Ministry of Tourism: Niche Tourism Products

- ❖ Ministry of Tourism has identified the following niche tourism products to overcome tourism seasonality constraints and promote the country as a 365 days tourist destination, these include: Cruise, Adventure, Medical & Wellness, Golf, Polo, Meetings, Incentives, Conferences & Exhibitions (MICE), Eco-tourism, Film Tourism, Sustainable Tourism, Rural Tourism
- etc. Identification and promotion of niche tourism products helps in attracting tourists with special interests and ensuring repeat visits to unique products where India has an advantage over its competitors.
- ❖ The Ministry of Tourism has formulated a National Strategy for Sustainable Tourism to establish India as a preferred global destination for sustainable and responsible tourism. In addition, the Ministry of Tourism has launched the Travel for Life campaign which aims to promote sustainable tourism in the country in sync with the National Strategy for Sustainable Tourism through careful and considered action by tourists and tourism businesses in the consumption of tourism resources.
- ❖ Additionally, the Ministry of Tourism promotes India as a holistic destination in tourism generating markets to promote various Indian products and tourist destinations in the country to increase India's share in the global tourism market.
- ❖ The above objectives are accomplished through an integrated marketing and promotional strategy and a coordinated campaign in collaboration with the travel trade, State Governments and Indian Missions. The Government is constantly interacting with industry experts and other relevant stakeholders to seek their suggestions and feedback to promote various tourism products of the country. To boost tourist arrivals, the Ministry of Tourism has declared "Incredible India! Visit India Year 2023".
- ❖ At the request of the Ministry of Tourism, the Ministry of External Affairs has designated Tourism Officers in 20 Indian Missions abroad to promote India as a tourist destination in these important markets.

'Travel for Life Programme' in India:

- ❖ On the occasion of World Tourism Day on 27th September 2023, the Ministry of Tourism, Government of India had launched the global 'Travel for Life' programme for the tourism sector under Mission LiFE, which aims to create awareness about sustainable tourism and inspire tourists and tourism businesses to adopt sustainable practices that are in harmony with the nature.
- ❖ The programme aims to encourage large-scale behavioural change and mainstream sustainability in the tourism sector, in order to develop a sustainable, responsible and resilient tourism sector. It calls for a transition from a "use-and-dispose" economy to a circular economy characterised by thoughtful and deliberate use of resources instead of mindless

and destructive consumption, in order to preserve environmental resources.

Efforts for Development of Tourism Sector in India:

- ❖ The Ministry of Tourism has revamped its Swadesh Darshan Scheme as Swadesh Darshan 2.0. Its mission is to create a strong framework for the integrated development of tourist destinations in partnership with States/UTs and local governments, promoting sustainable and responsible tourism. The scheme has identified 55 destinations in 32 States/UTs for development. The scheme will implement sustainable and responsible tourism practices in various projects and initiatives and encourage adoption of principles of sustainable tourism including environmental sustainability, socio-cultural sustainability and economic sustainability.
- ❖ In addition, the Ministry of Tourism has also issued guidelines for 'Challenge Based Destination Development', a sub-scheme under Swadesh Darshan 2.0. Under SD 1.0, the Ministry has sanctioned Rs. 5294.11 crore to undertake 76 projects.
- ❖ MoEFCC is implementing the 'Nature-tourism' component of the 'Amrit Dharohar' initiative jointly with the MoT with an aim to enhance livelihood opportunities for local communities through harnessing the nature-tourism potential of the Ramsar Sites across the country.
- ❖ The objective is to train facilitators/guides/other tourism service providers to strengthen nature tourism at Ramsar sites. Ramsar sites are wetlands of international importance, designated under the Ramsar Convention on Wetlands.
- ❖ These sites are critical for sustaining human life by conserving global biological diversity and maintaining their ecosystem components, processes, and services. The Ministry of Environment, Forest and Climate Change has sought support from the Ministry of Tourism for soft interventions related to skilling, up skilling, and knowledge management of human resources at the local level.

Short Issues

Guidelines by RBI for SFBs

Why in News:

The Reserve Bank of India (RBI) has come out with guidelines for the voluntary conversion of Small Finance Banks (SFBs) into Universal Banks.

Conversion Requirements for SFBs to Universal Banks:

- **Stock Exchange Listing:** SFBs seeking to become universal banks must be listed on a recognized stock exchange, except for North East Small Finance Bank.
- **Minimum Net Worth:** They should have a minimum net worth of Rs 1,000 crore as audited at the end of the previous quarter.
- **CRAR Requirements:** SFBs must meet the prescribed Capital to Risk-weighted Assets Ratio (CRAR) requirements of 15%.
- **Scheduled Status and Track Record:** They should have scheduled status with a satisfactory track record

of performance for at least five years.

- **Shareholding Pattern:** While there is no mandatory requirement for an identified promoter, existing promoters must continue as promoters during the transition. Addition or change of promoters is not allowed during the transition.
- **Promoter Lock-in:** There will be no new mandatory lock-in requirement for existing promoters in the transitioned universal bank. The existing five-year lock-in period for promoters, as per the licensing guidelines for SFBs, will not apply.
- **Transition Rationale:** SFBs must provide a detailed rationale for transitioning to a universal bank.
- **Compliance Norms:** Upon transition, the bank will be subject to all norms, including the non-operative financial holding company structure, as applicable.

About Small Finance Banks:

- Small Finance Banks were announced in the Union Budget 2014-15, licensed and governed under Banking

Regulation Act, 1949 and have no restrictions on the place of operation.

- These banks are registered as a Public Limited Company under the Companies Act, 2013.
- They are required to have capital investment of Rs 200 crore (exception for some SFBs) and extend 75% of their ANBC (Adjusted Net Bank Credit) to the Priority Sector.

Universal Banks:

- Universal banks are banks that offer a wide range of financial services, beyond commercial banking and investing banking.

Conclusion:

As small finance banks grow, some may be able to become universal banks, but they might choose to stay as SFBs because they're already well-known in their areas. Just becoming a universal bank doesn't mean they'll automatically attract more deposits or be able to lend to better borrowers. SFBs will likely only think about becoming universal banks once they've grown enough to serve a wider range of customers.

Participatory-Notes

Why in News:

The International Financial Services Centre Authority (IFSCA), which regulates financial services at GIFT City in Gujarat State, has recently stated that foreign funds registered with India's markets regulator and with operations at GIFT City can issue participatory notes.

Current status of P-Notes investment in India:

- Based on the data from the Securities and Exchange Board of India, the worth of P-note investments in the Indian markets was Rs 1,49,517 crore by February's end, up from Rs 1,43,011 crore at the end of January, 2024.
- Of the total Rs 1.5 lakh crore invested through this route, Rs 1.27 lakh crore was invested in equities, Rs 21,303 crore in debt, and Rs 541 crore in hybrid securities.
- Alongside the rise in P-note investments, the assets under custody of Foreign Portfolio Investors (FPIs) also saw an increase, growing to Rs 68.55 lakh crore by end of February from Rs 66.96 lakh crore in the January, 2024.

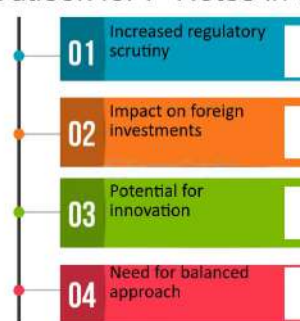
Contributing Factors:

- The significant increase in P-note investments can be credited to various factors including the performance

of the Indian economy, the appealing investment opportunities it offers, and the country's strong regulatory framework.

- The growing confidence of foreign investors in the Indian markets has been instrumental in fueling this trend.
- As India's capital markets continue to draw global interest, the surge in P-note investments underscores the nation's economic strength and promising growth potential. This further cements India's status as a compelling investment hub.

Future Outlook for P-Notes in India



What are P-notes?

- Participatory notes (P-notes) are issued by registered foreign portfolio investors to overseas investors who wish to be part of the Indian stock market without registering themselves directly. They, however, need to go through a due diligence process.
- The growth in P-notes generally aligns with the trend in FPI flows. When there is a global risk to the environment, investment through this route increases, and vice-versa.
- Owing to their opaque nature, P-Notes have long faced heightened scrutiny and stricter compliances from India, forcing these structures to be issued from overseas jurisdictions.

Conclusion:

In the last decade, the bulk of the P-note market has moved offshore amid regulatory crackdown in India. Tax is a major risk for P-note subscribers as the tax department has in the past declined treaty benefits to beneficiaries. To avail of tax benefits under double tax avoidance agreements (DTAAs), the non-resident needs to meet several criteria set by the tax department. But such instruments are vital for the country to attract a wider pool of foreign investors.

India Becomes World's Services Factory

Why in News:

Goldman Sachs, a global investment bank, has released a report titled 'India's rise as the emerging services factory of the world.' The report highlights India's recent success in providing global services and predicts its growth prospects and risks in the medium term.

Key points of the Report:

- **Services Exports Growth:** India's services exports have seen significant growth over the last 18 years, with professional consulting growing the fastest, travel services the slowest, and financial services potentially benefiting from initiatives like the GIFT City.
- **Global Comparison:** While global services exports tripled over 18 years, India's intangible exports grew at twice that rate, reaching nearly \$340 billion last year. India's export growth since 2005 has been the third fastest globally, behind Singapore and Ireland.
- **Share in Global Services:** India's share in global services outflows has increased from under 2% in 2005 to 4.6% in 2023, showing a significant rise. In comparison, its share in goods exports increased from 1% to 1.8% during the same period.
- **Impact on External Balances:** The services trade boom has helped cushion India's external account balances against shocks like expensive oil imports. It is expected that this trend will continue, with services exports projected to rise to \$800 billion by 2030.
- **Government Target vs. Projection:** The projected services exports of \$800 billion by 2030 fall slightly below the government's target of \$1 trillion for both services and merchandise exports. The report suggests that the growth in high-value services could lead to increased top-end discretionary consumption and drive demand in the real estate sector.

Other observations:

- **Immediate Outlook:** The outlook for India's services exports in the short term is uncertain. Top firms in IT services, have reduced their workforce over the past year. Growth guidance for this year is also conservative.
- **Concerns and Constraints:** Analysts highlight the need to address constraints to India's services growth. These include the challenge of training graduates to be job-ready and the stress on natural resources in regions where growth is concentrated, such as the water crisis in Bengaluru.

- **External Risks:** There are external risks to India's services exports, including a rise in protectionism in destination countries. Additionally, domestic policy interventions that could negatively impact exports, such as attempts to manage IT hardware imports, are a concern.

Conclusion:

India needs to carefully plan its strategy to maintain its success in services. This should involve a strong push for global market access and opportunities in professional services. It should also include a regulatory approach that encourages innovation in areas like artificial intelligence, manufacturing-linked services, and block chain applications.

China: The Largest Trading Partner of India

Why in News:

According to data released by the Global Trade Research Initiative, (GTRI) India's trade with China crossed \$100 billion in FY24, making China India's largest trading partner after two years, surpassing the United State of America.

India-China Bilateral Trade:

- According to data from the Indian commerce ministry, goods trade between India and China stood at \$118.41 billion in 2023-24.
- India's export to China declined marginally by 0.6%, from \$16.75 billion to \$16.66 billion, while imports from China surged by 44.7%, from \$70.32 billion to \$101.75 billion.
- This growth in imports led to an expanding trade deficit, rising from \$53.57 billion in FY2019 to \$85.09 billion in FY2024, highlighting concerns over stagnant exports amidst rising imports.
- According of the Federation of Indian Export Organisations, there has been a 15% rise in electronics equipment as well as a 30% increase in iron and steel imports from China. "Imports of electronics equipment, mobile parts, laptops and lithium batteries have gone up. Machinery has seen a little increase.

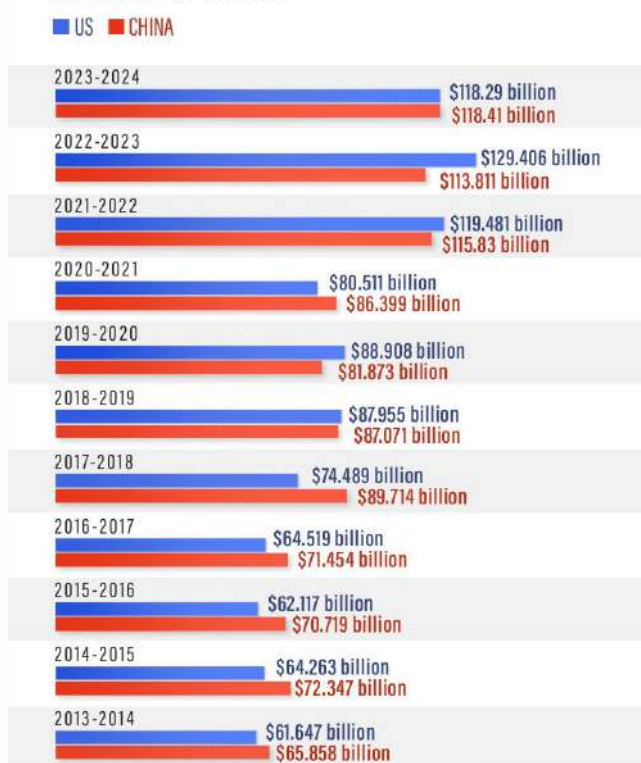
India's Trade Dynamics:

- As per the Global Trade Research Initiative, India's trade dynamics with its top 15 trading partners underwent significant transformations from FY 2019 to FY 2024. This impacted both the imports and exports along with the status of trade surplus or deficit

across various sectors.

- According to the commerce ministry data, China was India's top trading partner from 2013-14 till 2017-18 and also in 2020-21. Before China, the UAE was the country's largest trading partner. The US was the largest partner in 2021-22 and 2022-23.
- In 2023-24, the UAE with \$83.6 billion, was the third largest trading partner of India. It was followed by Russia (\$65.7 billion), Saudi Arabia (\$43.4 billion), and Singapore (\$35.6 billion).

INDIA'S TRADE WITH CHINA & US IN LAST 11 YEARS



Way Forward:

India implements PLI schemes, anti-dumping duties, and quality control orders to decrease reliance on Chinese imports. Thus the trade deficit can be balanced.

Indian E-commerce Market

Why in News:

According to Invest India, The Indian e-commerce market is estimated to grow to a whopping \$325 billion. India has the second-largest Internet user base in the world. By 2030,

it is expected to rise to the third position in the online retail industry.

Dynamics of key Features of Indian E-commerce Market:

- At present, the e-commerce market in India is valued at \$70 billion, which accounts for around 7% of the nation's overall retail market.
- The internet penetration has witnessed significant growth, with 52% of the Indian population, approximately 759 million people, accessing the internet in 2022.
- Around 87% of Indian households are expected to have an internet connection by the year 2025. However, internet access through mobile has seen a growth of 21% in the period as compared to 2019.
- The number of online shoppers in India is projected to increase with a compound annual growth rate of 22% to 88 million in rural India and at 15% to 263 million across urban India between 2019 and 2026.

Government Initiatives Driving the India E-commerce Market:

- The Department for Promotion of Industry and Internal Trade is planning to use the Open Network for Digital Commerce (ONDC) to streamline the onboarding process of retailers.
- Government e-Marketplace (GeM), the online platform for public procurement in India, achieved its highest ever gross merchandise value of USD 2011 billion in the financial year 2022-23.
- National Retail Policy focuses on ease of doing business, rationalisation of licensing processes, digitisation of retail sector, reforms.
- The Government has launched many initiatives such as Umang, Start-up India Portal, Bharat Interface for Money (BHIM) etc to boost digitalization under the Digital India initiatives.
- The Indian Government has hiked the limit of FDI in E-commerce marketplace model to up to 100% (in B2B models) to increase the participation of foreign players in E-commerce.

Conclusion:

Ultimately, the Invest India report presents a compelling vision of India's transformation into a global e-commerce powerhouse by 2030. The confluence of a growing internet user base, affordable data access, and supporting digital infrastructure paves the way for this exciting future.

Front-Running and Insider Trading in SEBI

Why in News:

The Securities and Exchange Board of India (Sebi) has taken a strong stance against front-running and insider trading in mutual funds. These actions have come after SEBI uncovered instances of front-running in Axis AMC and LIC.

What Is Insider Trading and Front Running?

- **Insider trading:** Also known as insider dealing, is the malpractice of selling or buying securities such as equity and bonds by the insiders of a company, which includes the employees, directors, executives and promoters.
- **Front-Running:** This occurs when someone uses privileged information about upcoming trades to make personal trades before clients, profiting unfairly.

Putting in Place Strong Institutional Mechanism by SEBI:

- **Enhanced Surveillance Mechanism:** Using technology and data analysis to monitor trading activity for suspicious patterns.
- **Internal Controls Mechanism:** Developing stricter internal procedures to prevent employees, dealers, and connected entities from engaging in misconduct.
- **Escalation Processes Mechanism:** Establishing clear protocols for reporting and investigating suspected violations.
- **Increased Accountability:** SEBI emphasizes that AMC management will be held directly responsible for ensuring the effectiveness of the institutional mechanism.
- **Whistleblower Mechanism:** SEBI requires AMCs to implement a system allowing employees to anonymously report suspected misconduct within the company.

Recent Developments:

- In the Axis AMC case, broker-dealers, certain employees and connected entities were found to have front-run the trades of the AMC.
- In the case of LIC, an employee of a listed insurance company was observed to be front-running the trades of the company.

Amendments in the Rules by SEBI:

- The Board has approved amendments to the SEBI (Mutual Funds) Regulations, 1996 to enhance the

existing regulatory framework.

- Sebi has revised prudential norms for passive schemes (funds that track a specific index).

Way Forward:

Mutual funds cannot invest more than 25% of their assets in companies belonging to the same group as the fund manager. SEBI has now allowed investments in passive funds, with an overall limit of 35%. This allows for a more accurate replication of the index.

Public Investment Key Driver of Indian Economy: IMF

Why in News:

International Monetary Fund (IMF) has released its economic outlook for Asia and the Pacific region, which states that public investment is an important factor in driving India's economy forward.

Highlights of the report:

- According to the Report, many economies in Asia and the Pacific may see a further decline in headline inflation due to lower energy prices.
- The report forecasted has raised India's growth for fiscal year 2024-25 to 6.8% from 6.5%.
- It further said that global conflict increases business risk, which impacts the profits of all stakeholders and that policy makers should reduce trade related disputes.
- The growth rate of China, the world's second largest economy, is estimated to decline from 5.2 percent in 2023 to 4.6 percent this year and 4.1 percent in 2025.
- The report designated Public investment as a major driver of the Indian economy.
- Asian central banks should continue to focus strongly on domestic price stability and "avoid making policy decisions overly dependent" on anticipated interest rate moves by the US Federal Reserve.

Public investment in the economy:

- Public investment is investment made by the central or state government for public welfare. It is made in certain specific sectors by the revenue received from taxes. Public investment in India is mainly done in sectors like agriculture, infrastructure, health, education etc.
- Public investment has the potential to improve the infrastructure of a nation and thus attract more foreign direct investment (FDI).
- Public investment plays an important role in reducing unemployment and creating new jobs.

- Public investment in the industrial sector increases India's production capacity and thus increases India's GDP.
- Public investment is very important for people living in rural areas. Investment in this sector helps in reducing poverty, promoting agri-business and increasing the country's annual agricultural output.

Conclusion:

This report emphasizes the critical role of public investment in the Indian economy. It urges policymakers to boost the economy by diversifying investments and focusing on the development of new jobs, infrastructure, and human capital.

Economic Value Earth Observation Data

Why in News:

A report by the World Economic Forum has indicated that Earth observation (EO) data has the potential to drive over \$3 trillion in cumulative economic benefits globally by 2030. The report highlights the dual economic and environmental value of Earth observation data.

Key points of the report:

- **Six key areas:** The report identifies six key areas that are key to achieving 94% of the estimated economic value of Earth observation data, including:
 - » Agriculture
 - » Mining, Oil and Gas
 - » Government
 - » Electricity
 - » Supply chain and transportation
 - » Insurance and financial services
- **Economic potential:** With a cumulative \$3.8 trillion contribution to global GDP between 2023 and 2030, the global value of EO data could grow from \$266 billion to more than \$700 billion in six years.
- **Environmental benefits:** Earth observation (EO) data has the potential to eliminate 2 gigatons of greenhouse gas emissions each year, equivalent to the estimated combined annual emissions of 476 million gasoline-powered cars.
- **Regional growth:** The Asia Pacific region is set to capture the largest share of the value of Earth observations (EO) by 2030, reaching a potential value of \$315 billion, while Africa and South America are set to realize the largest percentage growth. Are ready for.
- **Promoting good governance:** The report suggests that

the adoption of Earth Observation (EO) data can spur innovation, increase efficiency and help better manage risks.

Economic value of Earth Observation data is driven by its ability to:

- **Improved decision making:** Earth observation data provides accurate and timely information, enabling better decisions across various industries.
- **Increased efficiency:** Earth observation data helps optimize resource allocation, reduce costs, and improve productivity.
- **Enhanced sustainability:** This data promotes environmental monitoring, conservation and sustainable development.
- **Supports innovation:** EO data enables the development of new products and services, promoting innovation and economic growth.

About the World Economic Forum (WEF)

- WEF is an independent international organization committed to improving the situation by engaging business, political, academic and other society stakeholders to shape the global, regional and industry agenda.
- Established as a non-profit foundation in 1971, and headquartered in Geneva, Switzerland. This forum is not associated with any political, partisan or national interests.

Major reports by WEF:

WEF publishes various reports, including:

- **Global Risks Report:** Explores the grave risks facing the next decade.
- **Travel and Tourism Development Index (TTDI):** A major index that has been in production since 2007.
- **Future of Jobs Report:** Looks at how jobs and skills will evolve over the next five years.

Conclusion:

The growing demand for Earth observation data is driven by advances in satellite technology, which enhance data quality and availability. This increased access is crucial for sustainable development and environmental management, providing essential insights for addressing challenges, natural resource management, and urbanization challenges.

Sachetization of F&O trade

Why in News:

The Chief Economic Advisor V. Anantha Nageswaran emphasized the need to reconsider sachetization of F&O

trade to protect household savings due to the financial literacy required for trading in F&O being different from trading in stocks.

Reason behind Sachetization of F&O trade:

- **Household savings risk:** Many people engaged in the market do not understand F&O trade, and unchecked retail trading in F&O poses a risk to household savings, potentially diverting them from productive investments.
- **Decline in household savings:** Net financial household savings dropped to a five-year low in FY23, falling by Rs 9 lakh crore in three years.
- **Investment shifts:** Despite a tripling of mutual fund investments and doubling of household investments in shares and debentures from 2020-21 to 2022-23, concerns remain about the stability and security of these investments.

About Sachetization of F&O:

- Sachetization of F&O (Futures and Options) trade refers to the practice of breaking down complex financial products into smaller, more manageable packets, making them more accessible and affordable for individual investors. This approach aims to increase participation in the F&O market, especially among retail investors.

In the context of F&O trade, Sachetization typically involves:

- **Smaller contract sizes:** Reducing the minimum contract size to make it more affordable for individual investors.
- **Lower margin requirements:** Reducing the initial margin required to trade F&O contracts, making it easier for individuals to enter the market.
- **Simplified products:** Offering simpler F&O products, such as weekly or monthly expiries, to reduce complexity and make them more appealing to retail investors.

Concerns about Sachetization:

- **Over-leveraging:** Investors may take on excessive risk due to the ease of trading with smaller contract sizes and lower margin requirements.
- **Lack of financial literacy:** Retail investors may not fully understand the complexities and risks associated with F&O trading, potentially leading to significant losses.
- **Market volatility:** Increased participation from retail investors can contribute to market volatility, potentially impacting overall market stability.

Conclusion:

There is a need for robust compliances and regulatory standards to safeguard investors' interests. At the same time, Financial literacy is crucial for trading in F&O, and investors need to be aware of the risks involved.

Remittances in India

Why in News:

Recently, IOM in its annual report said that India is the first country to surpass \$100 billion in annual remittances, with a total of \$111 billion received in 2022.

Main aspects:

- **International Migrants:** India is the origin of the largest number of international migrants, with nearly 18 million Indians living outside the country, and a slightly higher share of female immigrants than males.
- **GCC Destinations:** Countries in the Gulf Cooperation Council (GCC), especially the UAE, the US, and Saudi Arabia, remain significant destinations for migrant workers from India, employed in sectors like construction, hospitality, security, domestic work, and retail.
- **Remittance Trends:** India was the top country receiving remittances in 2010 (\$53.48 billion), 2015 (\$68.91 billion), and 2020 (\$83.15 billion), and it reached \$111.22 billion in 2022.
- **Global Rankings:** Mexico maintained its position as the second-largest recipient of remittances in 2022, surpassing China. G7 countries France and Germany remained in the top 10 countries for receiving remittances globally in 2022.
- **Southern Asia Remittances:** Three countries in Southern Asia India, Pakistan, and Bangladesh, rank among the top ten recipients of international remittances in the world.



What is remittance?

- Remittances refer to the money sent by individuals or companies from one country to another, often by migrant workers or expatriates to their families, friends, or businesses back in their home country.

Benefits of remittances:

- **Boost foreign exchange earnings:** Remittances can contribute to a country's foreign exchange earnings, helping to stabilize the currency and support international trade.
- **Support economic development:** Remittances can be used to fund development projects, such as infrastructure, education, and healthcare, which can contribute to a country's economic growth.
- **Reduce poverty:** Remittances can provide a vital source of income for low-income households, helping to reduce poverty and improve living standards.
- **Increase consumption:** Remittances can be used to purchase goods and services, which can boost consumption and support economic growth.
- **Support entrepreneurship:** Remittances can be used to fund entrepreneurial ventures, creating jobs and stimulating economic growth.
- **Stabilize currency:** Remittances can help stabilize a country's currency, reducing the risk of currency fluctuations and supporting international trade.
- **Support education and healthcare:** Remittances can be used to fund education and healthcare, supporting human development and improving living standards.
- **Increase savings:** Remittances can be used to increase savings, supporting financial stability and reducing dependence on debt.

Conclusion:

Remittances play a vital role in supporting the livelihoods of millions of people worldwide, and are an important source of foreign exchange earnings for many countries. Overall, remittances are an important aspect of global financial flows, and play a significant role in supporting economic development and poverty reduction in many countries.

Report on Unemployment in Urban Areas

Why in News:

National Sample Survey Office (NSSO) has released a report on unemployment in urban areas of the country. According to this report, there was a decline in the unemployment rate among people aged 15 years and above living in the city.

This rate was 6.7% for the January-March quarter of 2024.

Key findings of the report:

- The urban unemployment rate in India decreased from 6.8% in the same quarter last year to 6.7% in the January-March quarter of 2024.
- The unemployment rate among females aged 15 years and above in urban areas declined to 8.5% in January-March 2024 from 9.2% in the same quarter a year ago.
- The labour force participation rate in Current Weekly Status in urban areas for people aged 15 years and above increased to 50.2% in the January-March 2024, from 48.5% in the same period a year ago.
- 12 of 22 states had a higher unemployment rate than the national average. Jammu and Kashmir had the highest unemployment rate at 11%, followed by Kerala at 10.7% and Rajasthan at 9.6%.
- Delhi had the lowest unemployment rate at 1.8%, followed by Karnataka at 4.1%.
- The improvement in unemployment rate is attributed to an increase in the labour force participation rate, which means more people are working or seeking work.
- However, concerns remain over the quality of jobs, as the share of unpaid employment increased, with 6.7% of workers in the December quarter being unpaid helpers in household enterprises.
- Regular wage or salaried employment increased marginally, but remains lower than pre-pandemic levels.

About labor force:

The labour force, also known as the workforce, refers to the total number of people in a country or region who are:

- **Employed:** Working for pay, either full-time or part-time.
- **Unemployed:** Able and willing to work, but currently without a job.
- **Underemployed:** Working part-time or in low-skilled jobs, but seeking full-time or better employment.

The labour force includes:

- People aged 15-64 years old (working age population).
- Those who are actively seeking work or currently working.
- Self-employed individuals, such as entrepreneurs, freelancers, or small business owners.
- Paid employees, including full-time, part-time, and temporary workers.



Indian Government's Decisive Campaign against Naxalism

Recently, before voting process commence in Chhattisgarh, security forces took major action against naxalites. During this operation, security forces killed seven naxalites on the border of Narayanpur-Bijapur and Dantewada districts. The forces had received information about the presence of naxalites from Number 16 and the Indravati Area Committee, leading to the launch of Operation Surya Shakti.

The operation became necessary due to the high level of Naxalite activities in Chhattisgarh, keeping naxalism alive in India. Recently this year, naxalites launched a major attack on a CRPF camp in Tekalgudem village, in the border area of Sukma-Bijapur district, resulting in the martyrdom of three soldiers. Following this incident, a security camp was established in January in the Jagargunda area of Sukma to control naxal activities and assist the local population. Subsequently, CRPF's Cobra soldiers conducted a search operation in the Jonaguda-Aliguda area, during which they came under fire from Maoists. The Union Home Ministry released data on the action taken against naxalites in Chhattisgarh, revealing that at least 80 naxalites have been killed, over 125 arrested, and 150 have surrendered so far this year. Notably, after a detailed security situation review in naxal-affected states last year, Union Home Minister Amit Shah directed security forces to actively conduct operations against Maoists. In line with this directive, a High Power Committee was formed.

The Government of India views the eradication of naxalism in Chhattisgarh as a crucial step towards ending left wing extremism. A recent encounter in Kanker district resulted in the deaths of 29 naxalites, including a top commander. Taking inspiration from the success of Operation All Out in Kashmir, where the Indian Army significantly reduced terrorist activities, a similar approach is being implemented against naxalites in Chhattisgarh.

Various categories of security personnel, including CRPF's Cobra Battalion, Black Panther Force, Koya Commandos, and Bastaria Battalion, are actively engaged in maintaining peace and security in the region. The current focus is on dismantling the grassroots network of naxalites to ensure long-term peace and stability in the affected districts.

Situation of Naxal and Maoism affected areas in India:

- ❖ According to the latest update of the Central Government, from April 1, 2024, 38 districts of 10 states of India are Left Wing Extremism affected districts, out of which 12 districts are now included in the list of most affected districts.
- ❖ According to the data of the Ministry of Home Affairs, Left Wing Extremism (LWE) related violence has declined by 52 percent and the number of deaths by 69 percent from 6035 to 1868 in the decade 2014-23 compared to 2004-14. Similarly, the incidents of leftist extremism have reduced from 14,862 to 7,128.
- ❖ The number of deaths of security forces due to Left Wing Extremism has declined by 72 per cent from 1750 in 2004-14 to 485 during 2014-23 and the number of civilian deaths has declined by 68 per cent from 4285 to 1383.
- ❖ Similarly, the number of districts with violence was 96 in 2010, which declined by 53 percent to 45 in 2022. Along with this, the number of police stations

reporting violence decreased from 465 in 2010 to 176 in 2022.

- ❖ In the past five years, over 5,000 post offices have been established in 90 districts where Maoist presence exists or had been observed in the past. The Central Government's Home Ministry reports that Jharkhand, Bihar, Odisha, Telangana, Andhra Pradesh, Maharashtra, and Madhya Pradesh are now entirely free from Naxalites. However, Chhattisgarh continues to face Naxalism, with some areas still affected by Naxalite activity.

Naxalism: A threat to India's internal security:

- ❖ Naxalite and maoist violent activities, influenced by leftist extremist ideology, are a major threat to India's internal security. Naxalites and maoists, who view the governance system, capitalists and industrialists with suspicion, believe in running their own parallel government against the democratically elected government.
- ❖ In the Left Wing Extremism affected states and districts, extremism has spread due to lack of basic facilities, lack of equitable distribution of benefits of development, poverty and unemployment etc. The tribal community is experiencing high mortality rates due to anemia and other diseases, compounded by a lack of livelihood opportunities, expropriation of minor forest produce, and displacement arising from land ownership and acquisition disputes, along with socio-economic exclusion. These challenges raise questions about the credibility of the current situation.

Possible solutions:

- ❖ To address Left Wing Extremism (LWE), the Government of India has implemented a strategy centered on inclusive development in affected areas. A key aspect of this strategy is enhancing financial inclusion. In the initial phase, the Department of Posts has sanctioned 1788 branch post offices for financial inclusion, including 142 in Maharashtra, targeting 32 LWE-affected districts. Of these, 1484 branch post offices are already operational. All the approved offices in Maharashtra have also become operational. Additionally, the Department of Financial Services has established 604 new bank branches and 987 ATMs in the 30 most Left Wing Extremism affected districts from 2015 to the end of 2018 to boost financial services and facilities in these areas.
- ❖ Apart from this, it has also been recommended to ensure the use of RuPay Debit Card and availability of Bank Mitras in these areas. NABARD has also

proposed to help scheduled banks of India to open bank branches in such areas and provide solar powered VSAT connectivity. In 2013, the government launched the Roshni scheme to promote social inclusion and livelihood generation in LWE-affected areas. Additionally, in 2017, the Home Ministry introduced the Samadhan strategy, which focuses on efficient leadership, an aggressive approach, training and motivation, an effective intelligence system, and action plans with specific standards and technologies. This strategy also includes plans to counter Naxal financing.

Government of India's approach to dealing with Left Wing Extremism:

- ❖ The Government of India's approach to addressing Left Wing Extremism is holistic, encompassing security, development, ensuring the rights and entitlements of local communities, governance reforms, and people-centered management in affected areas.
- ❖ To deal with this decades-old problem, after various high-level discussions and interactions with the concerned State Governments, it has been considered appropriate that an integrated approach to the comparatively more impactful sectors will yield results. Keeping this in mind, a detailed analysis of the extent and trends in relation to Left Wing Extremist violence has been carried out and 90 most affected districts in eleven states have been taken up for special attention in terms of planning, implementation of various measures and their monitoring.
- ❖ Since 'police' and 'public order' are state subjects, the responsibility for maintaining law and order primarily lies with the state governments. However, the central government plays a crucial role by closely monitoring the situation and supporting and coordinating efforts with the states in various ways. To enhance the capacity of state governments to address the Maoist threat, the central government provides various forms of assistance and coordination. This includes deploying Central Armed Police Forces, approving India Reserve Battalions, establishing counter-insurgency and counter-terrorism schools, and modernizing and upgrading state police forces and their information systems. Additionally, the central government reimburses security-related expenditure under the Security Related Expenditure Scheme and provides helicopters for anti-naxal operations. Assistance is also provided for training State Police through the Ministry of Defence, Central Police Organizations, and the Bureau of Police Research and Development.

Furthermore, there is an emphasis on exchanging information, facilitating inter-State coordination, supporting community policing, and promoting civic action programs. These efforts aim to strengthen the capabilities of state governments to effectively combat the Maoist threat.

- ❖ The Government has adopted a comprehensive approach to deal with the naxal problem, under which on one hand it is helping naxal affected states in their efforts and on the other hand it has also prepared a

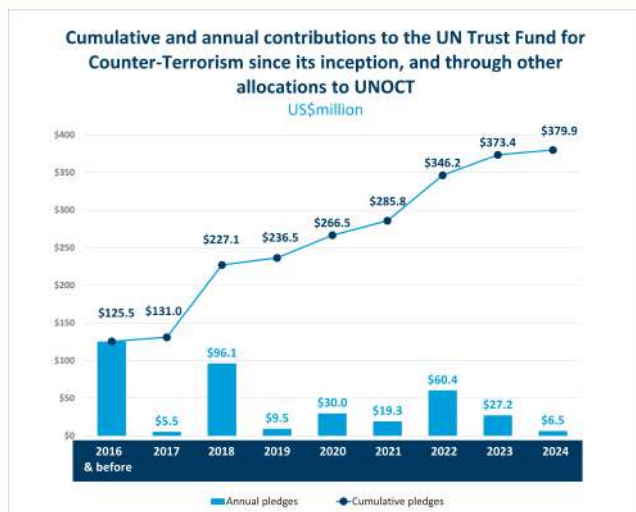
policy and action plan at the national level. This plan includes security related measures as well as programs related to the protection of the rights of the local people and their development. Development schemes in Naxal-affected areas encompass road construction, mobile tower installation, skill development, banking and postal service enhancement, and education and healthcare facility improvements. These initiatives have bolstered local confidence in the government, leading to a distancing from the naxalites.

Short Issues

India's Contribution in Counter Terrorism Trust Fund

Why in News:

Ambassador Ruchira Kamboj, Permanent Representative of India to the United Nations in New York, has handed over India's voluntary financial contribution of half a million dollars to Mr. Valdimir Voronkov, Under-Secretary-General of the United Nations Office of Counter-Terrorism (UNOCT), towards the Counter Terrorism Trust Fund (CTTF).



Background:

- In October 2022, Foreign Minister Jaishankar addressed the United Nations Security Council's Anti-Terrorism Committee, highlighting the increasing

global threat of terrorism. He emphasized terrorism as the biggest threat to humanity and pledged India's contribution of \$500,000 to the United Nations Trust Fund for Counter-Terrorism to combat this menace.

- Objective behind such contribution: India will help in UNOCT's global programs primarily Countering the Financing of Terrorism (CFT) and Countering Terrorist Travel Programme (CTTP).
- The aim is to enhance the capacity of Member States in Eastern and Southern Africa to combat terrorism financing, address critical issues, and prevent the movement and travel of terrorists.
- Current fund status of India: With the contribution of \$500 thousand, India's financial support to the Trust Fund now stands at \$25.5 lakh.

:- Prelims Insight :-

United Nations Security Council

- The United Nations Security Council (UNSC) is one of the five principal organs of the United Nations, tasked with maintaining international peace and security as well as adding new members and approving any amendments to the United Nations Charter.
 - » Headquarters: New York
 - » Established: 1945
 - » First session: 17 January 1947, London
 - » Total Members: 15 (5 permanent and 10 temporary)
 - » Permanent members: China, France, Russian Federation, United Kingdom and United States.

Conclusion:

To effectively combat terrorism, it is crucial to halt the

financing of terrorism. India places great importance on the work and mandate of the United Nations Counter-Terrorism Office in enhancing the capacity of Member States to address the terrorism threat. This latest contribution reaffirms India's steadfast commitment to supporting UN-led multilateral efforts in the global fight against terrorism.

MANPADS: Igla-S

Why in News:

Indian Army has received the first batch of 24 Russian Igla-S Man-Portable Air Defense System (MANPADS) missiles the rest of these systems will be made in India through Transfer of Technology (ToT) from Russia by an Indian company..

Development:

- The system is being assembled in India by Adani Defense Systems and Technologies Limited (ADSTL), using technology transferred from Russia's Rosoboronexport.
- Under the agreement the missiles will be imported, with components such as sites, launchers and batteries being assembled or manufactured locally by Adani Defence.

What is Igla-S Air Defense System?

- It is known as a highly efficient 'Man-Portable Air Defense System' (MANPADS) which is manufactured by Russia.
- It intercepts low-flying aircraft and also detects and counters aerial threats such as cruise missiles and drones.
- The Igla-S system, consisting of the 9M342 missile, 9P522 launching mechanism, 9V866-2 mobile test station and 9F719-2 test set, provides a versatile and comprehensive air defense solution.
- Its range spans from 500 meters to 6 kilometers, and it can attack targets up to a height of 3.5 kilometers. The missile travels at a speed of 400 meters per second and has a deployment time of 13 seconds.
- It is a hand-operated defense system that can be operated by a single person or crew.
- MANPADS like the Igla-S are crucial in modern warfare, enabling infantry units to independently defend against air threats.

Very Short Range Air Defense System or VSHORADS:

- It is a fourth-generation man-portable air-defense system (MANPADS) developed by Research Center

Imarat (RCI), a research laboratory under the Defense Research and Development Organization (DRDO), located in Hyderabad.

- It incorporates many novel technologies including miniaturized Reaction Control System (RCS) and integrated avionics which have been successfully proven during the tests.
- It is designed for anti-aircraft warfare and low-altitude air threats at short ranges.
- SHORAD is the last line of defense for troops against enemy fighter aircraft, helicopters and UAVs, in a multi-layered air defense network.

Igla-S portable anti-aircraft missile system

Designed to engage all types of aircraft and helicopters, as well as small airborne targets such as cruise missiles, at any time of day in visible conditions on collision and pursuit courses against background and artificial thermal interference.



500 to 6,000 m
Firing range

10 to 3,500 m
target altitude

no more than 12 s.
mobile-to-combat position
transition time

no more than 5 s.
ready to start time
from activation

Target speed:

up to 400 m/s
on collision courses

up to 320 m/s
on catch-up courses

Homing head type:

● tracking ● passive ● thermal ● bispectral

Conclusion:

Igla Sis will become part of a broader initiative to increase India's self-reliance in defense production. Its portability, counter insurgency resistance and all-weather capabilities make it a vital asset in modern military operations.

ICMR's New Guideline to Improve Eating Habits

Why in News:

The Indian Council of Medical Research (ICMR) has issued important guidelines and suggestions to promote changing lifestyle, eating habits and healthy and sustainable food in India.

Important Observations:

- New estimates show that 56.4 percent of total diseases in the country are due to unhealthy diet.
- Food systems are also responsible for one-third of greenhouse gas emissions.

Major guidelines given by ICMR:

The Indian Council of Medical Research and National Institute of Nutrition (ICMR-NIN) have issued 17 dietary guidelines. These include the following recommendations:

- Macronutrients and micronutrients should be obtained from at least eight food groups.
- Make half of the daily diet from vegetables, fruits, roots and tubers.
- The remaining portion should comprise grains, millets, pulses, meat, eggs, nuts, oilseeds, milk or curd.
- Vegetarians should include foods like flaxseed, chia seeds.
- **Sugar intake:** Limit sugar intake to 30 grams per day, especially for children under two years of age. Sugar substitutes can also cause obesity and other diseases.
- **Protein intake:** Do not consume too much protein supplement powder as it can lead to kidney damage, dehydration and nutrient imbalance.
- **Sustainable eating:** Consume foods in a way that is economically, socially, and environmentally responsible. This means minimizing harm to the environment at every stage: food origin, production, distribution, and consumption. Sustainable food is essential not only for our health but also for the health of our planet.

Conclusion:

In the changing food landscape of India, the need for a healthy and sustainable diet has become more important than ever. The ICMR-NIN guidelines promote healthy lifestyles and help prevent non-communicable diseases. Sustainable food habits not only improve health but also ensure environmental sustainability. By adopting a healthy and sustainable diet, individuals can take important steps towards a healthy and stable future.

Highest Internet Shutdowns in India

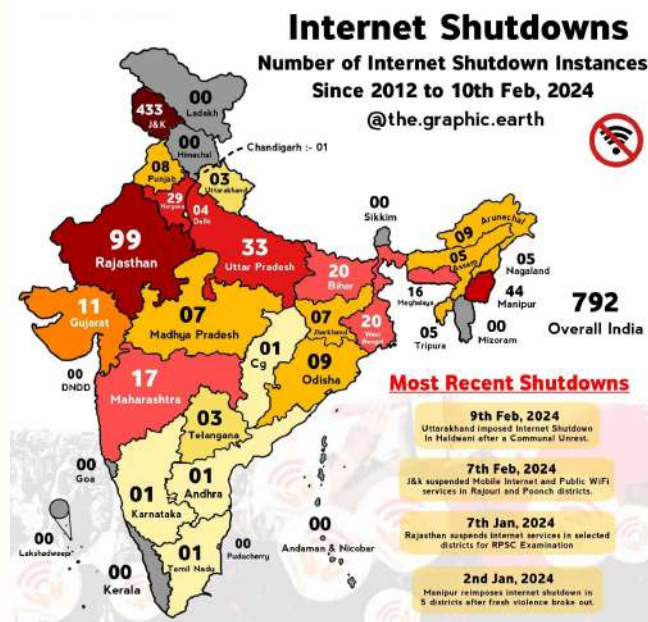
Why in News:

According to a recent report by the Keep It On coalition (a grouping of civil society bodies that advocates against Internet blockades), India witnessed the highest number of Internet shutdowns in the world in 2023, a record it has

held for the sixth straight year.

Current situation in India:

- According to the report, Internet was snapped 116 times in India last year. Some of the major reasons to impose Internet shutdown orders were communal tension, violence, exams, and other reasons.
- India collectively had more than 500 instances of Internet shutdowns. A total of 13 States and Union Territories imposed shutdowns in 2023, where seven of them disrupted Internet services for five or more times. Shutdowns spanning over five days or more shot up from 15% of all shutdowns in 2022 to more than 41% in 2023.
- The report indicates a shift towards regional rather than local application of shutdown orders, with 64 shutdowns affecting more than one district within the same state, province, or region. It can be seen by the 47 shutdowns in Manipur and the statewide shutdown in Punjab in March.
- The publication of Internet shutdown orders as required by guidelines laid down by the Supreme Court was not followed properly.
- With 37 orders, Myanmar, where the military seized power in a coup in 2021, recorded the second-highest number of Internet shutdowns, followed by Iran (34), Palestine (16), and Ukraine (8).



Anuradha Bhasin vs Union of India Case:

- The Anuradha Bhasin judgment, in January 2020 by

the Supreme Court of India, declared that access to the Internet is a fundamental right under the Indian Constitution. The Court ruled that any government restriction on internet access must be temporary, lawful, necessary, and proportionate.

- **Amendment to Temporary Suspension of Telecom Services Rules, 2017:** Following the Supreme Court's judgment, the Indian Parliament amended the Temporary Suspension of Telecom Services (Public emergency or Public Safety) Rules, 2017. This amendment limited Internet suspension orders to a maximum of 15 days.
- However, the amendment did not mandate the publication of suspension orders, nor did it include the Supreme Court's direction for periodic review of these orders.
- The government has not given statutory recognition to the Supreme Court's directives in the Anuradha Bhasin judgment, leading to a lack of awareness and compliance among officials.

Issue with internet suspensions

- **Violation of Supreme Court Ruling:** Despite the landmark Anuradha Bhasin judgment declaring internet access a fundamental right, India frequently imposes internet shutdowns.
- **Lack of Transparency in Suspension Orders:** The government's failure to publish reasons for internet shutdowns undermines legal processes and public trust. Without publicly available suspension orders, citizens find it challenging to challenge shutdowns in court.
- **Non-Compliance across India:** Nationwide Compliance with the Anuradha Bhasin judgment is low. Not just Jammu and Kashmir, in Manipur, footage documenting atrocities committed during the ethnic violence have gone viral several weeks after the incidents actually took place.
- The Internet was also shut down across Punjab during the manhunt for pro-Khalistani preacher Amritpal Singh, and multiple times across Manipur during the ongoing ethnic violence in the State.

Impacts of internet suspensions:

- **Disruption in Daily Life:** In today's digital era, Internet suspensions effectively halt overall economic activity, hindering access to crucial information, healthcare, education and job opportunities. Internet shutdowns also lead to psychological stress and disrupt social and journalistic activities.
- **Increases Inequality Gap:** According to a TRAI report, out of 936.16 million internet subscribers,

38.57 million use wired connections, while 897.59 million use wireless connections. The corporate world and gig economy heavily rely on digital accessibility.

- **Impact on Democracy:** Internet shutdowns are frequently employed to suppress democratic activities like protests, limiting freedom of expression and access to information.

Conclusion:

Internet is both a boon and a bane, depending on the right kind of regulation. Effective regulation can reduce economic losses and shed India's tag as the "internet shutdown capital" of the world, fulfilling the potential of Digital India. More faithful compliance with the Supreme Court's guidelines by the executive government is essential for maintaining transparency in issuing and publishing suspension orders, which is crucial for upholding fundamental rights.

Phishing Attacks in India

Why in News:

According to Verizon Business, a New Jersey-based provider of cyber security solutions and products has recently reported that India is one of the major countries affected by phishing attacks.

Highlights of the Report:

- The Report said India is one of the key countries affected by phishing attacks, where employees often click on malicious links or attachments that appear to be from legitimate sources, often leading to severe financial losses.
- The report, was prepared after analyzing 30,458 security incidents and 10,626 confirmed breaches in 2023 (two-fold increase over 2022) in the APAC region.
- The report points out that espionage attacks dominate APAC's cyber security landscape, including that of India. Some 25% of APAC cyberattacks are motivated by espionage, significantly greater Europe and North America, respectively, and the region experienced a 180% growth in vulnerability exploitation.
- System intrusion, social engineering, and basic web application attacks represent 95% of breaches in APAC. The most common types of data compromised are credentials (69%), internal (37%), and secrets (24%), according to the study.
- The study also found that the most common types of data compromised are credentials (69%), internal (37%), and secrets (24%).

- However, Verizon Business said, there was a silver lining as far as India was concerned as reporting practices have improved, with 20% of users now identifying and reporting phishing during simulation tests.

What is Phishing?

- Phishing is a type of cybercrime where individuals are contacted via email, phone, or text by someone pretending to be a legitimate institution. The goal is to deceive them into providing sensitive information such as personally identifiable information, banking details, and passwords.
- In a phishing attack, the sender impersonates someone trustworthy to the recipient, like a family member, their company's CEO, or a well-known figure offering giveaways. The message creates a sense of urgency, directing the recipient to a fake website resembling a legitimate one.
- They are then prompted to enter their login credentials, which the attacker steals for identity theft, financial fraud, or selling personal information. The phishing email's destination URL closely mimics the legitimate one.

-: Prelims Insight :-

- **Spear Phishing:** Spear phishing targets specific individuals rather than a group. Attackers either possess or seek information about the target to achieve their goals.
- **Whaling:** Sub-type of Spear Phishing but typically even more targeted. Whaling targets specific individuals, like business executives, celebrities, and high-net-worth individuals.
- **Smishing:** Deployed via SMS message.
- **Vishing:** Carried out via phone call, the attackers call the victim, usually with a pre-recorded message or a script.

Conclusion:

While cyber awareness is a crucial first step, enterprises can further reduce human error in cybersecurity by adopting a multi-pronged approach. This includes implementing robust security measures, conducting regular training and simulations and fostering a culture of cybersecurity throughout the organization. By taking these steps, businesses can better protect themselves against phishing

attacks and other cyber threats.

World Press Freedom Index

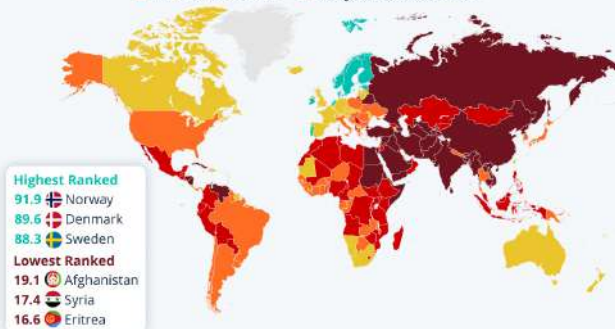
Why in News:

The 21st edition of World Press Freedom Index was published on occasion of World Press Freedom Day (3rd May). The report is compiled annually by Reporters Without Borders and it evaluates the environment of Journalism in 180 countries.

The State of World Press Freedom

Countries ranked by level of press freedom in 2024

■ Good situation
 ■ Satisfactory situation
 ■ Noticeable problems
■ Difficult situation
 ■ Very serious situation



Source: World Press Freedom Index | Reporters Without Borders

Major highlights of the Report:

- The press freedom questionnaire covers five categories: political context, legal framework, economic context, sociocultural context and security.
- As per the index, the situation regarding environment of journalism is “very serious” in 31 countries, “difficult” in 42, “problematic” in 55, and “good” or “satisfactory” in 52 countries. Norway and Denmark topped the RSF table while Eritrea was at the bottom, with Syria just ahead of it.
- The position of the United States (45th) has fallen three places in the index. In Asia, changes in governments have improved the environment for the media and accounted for respective significant rises in the Index as Australia’s (up 12 at 27th) and Malaysia’s (up 40 at 73rd).
- According to the Index, the situation has gone from “problematic” to “very bad” in three countries: Tajikistan (down 1 at 153rd), India (down 11 at 161st)

and Turkey (down 16 at 165th), while some of the 2023 Index's biggest falls have been observed in Africa.

Situation in India:

- India's rank improved from 161 in 2023 to 159 in 2024, but this was because other countries had slipped in their rankings.
- The Index points out that the media takeovers by 'oligarchs close to Prime Minister' have jeopardized pluralism in India. Indian journalists who are very critical of the government are subjected to harassment campaigns by BJP-backed trolls.
- The Indian government, however, has in the past dismissed international rankings of freedoms in India as propaganda.

Conclusion:

The Index highlights the rapid impact of the digital ecosystem's fake content industry on press freedom. The disinformation industry spreads manipulative content on a massive scale, and AI now regurgitates content in unreliable syntheses, blurring the lines between true and false, real and artificial. This jeopardizes the right to information, undermines quality journalism, and weakens the media world already affected by Web 2.0. Additionally, platforms like Twitter push an arbitrary, payment-based approach to information, revealing how these platforms can be detrimental to journalism.

Meitei Sagol

Why in News:

A joint meeting of the Manipur Horse Riding and Polo Association, Manipur Equestrian Association, Manipuri Pony Society, and state veterinary and animal husbandry officials was held in Imphal on May 16. The meeting took resolutions to save the Manipuri Pony, or Meitei Sagol, from extinction.

Highlights of the meeting:

The decisions of the joint meeting include:

- Immediate response to herd the ponies and surveying grazing grounds and permanent habitats of ponies.
- Demarcation of an area to temporarily accommodate the animals and ownership of ponies, thereafter responsibilities, maintenance and care.
- Major decisions were taken regarding holding of consultations, constitution of a task force and preparation of a budget for pony management.

- Finalization of stud books for pony registration and formalization of census of ponies through stakeholders.

About Meitei Sagol:

- The Manipuri Pony is a small breed of 11 to 13 Hands. They are known for their stamina, agility, intelligence, speed, maneuverability and great adaptability to harsh geoclimatic conditions.
- It is one of the seven recognised horse and pony breeds of India. The others include the Marwari Horse, the Kathiawari Horse, the Zanskari Pony, the Spiti Pony, the Bhutia Pony and the Kachhi-Sindhi Horse.
- The breed is regarded as the original polo pony as modern polo is derived from the traditional Sagol Kangjei sport of Manipur.
- **Equine breeds:** Equine, one of the mammal families of Equidae (order Perissodactyla) that includes the modern horses, zebras and asses, as well as more than 60 species known only from fossils.
- Sagol Kangjei is the traditional name for polo played in Manipur. "Sagol" refers to the pony or horse, "Kang" to the ball, and "Jei" to the stick used for hitting. The game is played by seven players on each side, all mounted on ponies. It has no goalposts.

Reasons for decline in population:

- Shrinkage of wetlands, the natural habitat of the Manipuri Pony due to rapid urbanization and encroachment.
- Lack of polo grounds/polo playing areas in rural Manipur; restriction of pony usage except in the game of polo; uncontrolled diseases.
- The exodus of ponies to neighboring states and countries are some factors for the decline of the pony in the state.

The Numbers:

- The population of the Manipuri Pony has been rapidly declining, from 1,898 animals in the 17th Quinquennial Livestock Census in 2003 to 1,101 in the 19th Census in 2012. The latest livestock census in 2019 recorded a further drop to 1,089 ponies.

Conclusion:

The Manipuri Pony holds a significant place in Manipuri culture. They are used in traditional events like Lai Haraoba, as well as in sports such as polo and horseracing. Historically, they served as mounts for the cavalry of the Manipur Kingdom, which was feared in upper Burma during the 17th century. To address the decline in population, the Manipuri Pony Conservation and Development Policy (MPCDP) was established in 2016.

National Human Rights Commission

Why in News:

The Global Alliance of National Human Rights Institutions (GANHRI), a leading international human rights body, has deferred the accreditation of India's National Human Rights Commission (NHRC) for the second consecutive year.

About National Human Rights Commission:

- Founded in accordance with the Paris Principles, adopted for the promotion and protection of human rights.
- Established on 12th October 1993, under the Protection of Human Rights Act (PHRA), 1993.
- Amended by the Protection of Human Rights (Amendment) Act, 2006, and the Human Rights (Amendment) Act, 2019.

Role and Functions:

- It has the power to regulate its own procedure and while doing so, it has all the power of a civil court. Its proceedings are judicial in character and it can call for information or report from Central or state government or any other authority.
- It is empowered to utilize the services of central or state government officers or investigation agencies for investigating human rights violations.
- Its functions are primarily recommendatory in nature.

-: Prelims Insight :-

- **Global Alliance of National Human Rights Institutions (GANHRI):** Established in 1993 as the International Coordinating Committee for the Promotion and Protection of Human Rights, it has been known as the Global Alliance of National Human Rights Institutions (GANHRI) since 2016.
- GANHRI is a member-based network that unites NHRIs from around the world. It is recognized and a trusted partner, of the United Nations.
- It is composed of 120 members .
- India also is a member of GANHRI.

What are the current limitations of NHRC?

- **Limited Investigation Mechanisms:** NHRC lacks a dedicated mechanism for investigations and depends on Central and State Governments for such mechanisms. It does not entertain complaints registered more than a year after the incident, leading to many grievances going unaddressed.
- **Lack of enforcement power:** NHRC can only make recommendations and lacks enforcement power. There are concerns about NHRC being seen as a post-retirement destination for politically affiliated judges and bureaucrats, and inadequate funding hampers its effectiveness.
- **Dependence on government:** The NHRC's composition depends on government appointments, making it challenging to ensure full independence from political influence, which impacts its credibility.
- State human rights commissions lack authority to request information from the national government, limiting their ability to investigate human rights violations by armed forces under national control.
- **Limited Jurisdiction:** The NHRC's jurisdiction over human rights violations by armed forces is limited. Cases involving military personnel frequently fall outside its scope, obstructing comprehensive accountability.

Conclusion:

To effectively address emerging human rights challenges like AI, Deep Fakes and Climate Change, the NHRC's mandate should be broadened. Empowering the NHRC with punitive powers would enhance accountability and compliance. Increasing diversity by appointing members from civil society, activists, and experts would provide a holistic perspective.

UNESCO's Memory of the World Asia-Pacific Regional Register

Why in News:

The Ramcharitmanas, Panchatantra, and Sah day loka- Locana have been included in UNESCO's Memory of the World Asia-Pacific Regional Register. The decision was made during the 10th General Meeting of the Memory of the World Committee for Asia and the Pacific (MOWCAP) on May 7-8 in Ulaanbaatar, Mongolia.

About Memory of the World Asia-Pacific Regional Register:

- The Register is a listing of those "documentary heritage of influence" in the Asia/Pacific region approved for inclusion by MOWCAP. It is part of an international

initiative called 'Memory of the World Programme (MoW) launched by UNESCO in 1992 to safeguard the documentary heritage of humanity.

- Memory of the World Committee for Asia and the Pacific (MOWCAP) was established in 1998 and currently covers 43 countries, representing one of UNESCO's five regional programs.
- It aims to recognize significant documentary heritage in a similar fashion to the way UNESCO's World Heritage Convention and World Heritage List recognizes significant natural and cultural sites.

About:

- The 'Ramcharitmanas', 'Panchatantra', and 'Sah dayaloka-Locana' are such timeless works that have deeply influenced Indian literature and culture, shaping the nation's moral fabric and artistic expressions.

Ramcharitmanas:

- Authored by 16th-century Indian poet Goswami Tulsidas, 'Ramcharitmanas' is an epic poem narrating the life of Lord Rama. Based on the Sanskrit epic Ramayana, it is written in the Awadhi dialect of Hindi.
- This choice reflects the Bhakti movement's emphasis on devotion and making religious texts accessible to a wider audience.
- The poem, also called Tulsikrit Ramayan (The Ramayan of Tulsidas), is divided into seven chapters, or Kandas, that tell the story of Lord Rama from his birth to becoming the King of Ayodhya.

'Panchatantra:

- The Panchatantra, believed to have been written in Sanskrit by Vishnu Sharma over 2,500 years ago, is a collection of folktales and fables.
- It is a book of Niti, or wise conduct, presented as a chain of simple stories, each with a moral and philosophical theme. The tales aim to guide readers in attaining success in life by understanding human nature.

Sah dayaloka-Locana:

- It is a Sanskrit treatise authored by Acharya Anandvardhan. It is a Sanskrit commentary on the Dhvanyaloka.

Conclusion:

This inclusion is a proud moment for India, affirming its rich literary heritage and cultural legacy. By honoring these literary masterpieces, society not only pays homage to the creative genius of their creators but also ensures their profound wisdom and timeless teachings continue to inspire future generations.

Market based incentives for Environmental Conservation

Why in news:

The report compiled by the International Union of Forest Research Organizations (IUFRO), has stated that market based approaches for forest conservation has failed to protect the trees and alleviate poverty.

What is market based incentives for environmental protection:

- Market-based instruments for environmental management are policy interventions that provide incentives for producers and consumers to change behavior, more efficiently use resources, and reduce their negative environmental impacts.
- A widely used method involves carbon credits, where organizations or governments fund projects that decrease carbon emissions, such as reforestation or forest conservation, essentially converting carbon storage into a tradable commodity.

Advantages:

- **Approachability:** Depending too much on direct regulation is not ideal for some sectors because firms cannot take advantage of cost-effective technological and management opportunities to reduce pollution. This approach makes it easier to achieve environmental goals.
- **Flexible:** They promote flexibility in finding solutions to improve resource use and environmental quality as well as create incentives to minimize the costs of achieving environmental goals.
- **Space for innovation:** They also cultivate innovation, creating dynamic pressures that make implementing improvements for environmental sustainability cheaper over time.
- **Feasibility:** If designed and implemented well, these approaches can reduce pollution at the lowest cost to society and potentially achieve even greater emissions reductions than command-and-control regulations.
- **Revenue generation for government:** Market-based instruments, such as environmental taxes and tradable permit markets, create opportunities to raise government revenues. They can also improve decision-making by disclosing information about markets and raising people's awareness of the environmental impacts of their actions.

Highlights of the report:

- The global study found that trade and finance-driven

initiatives have made limited progress in halting deforestation and, in some cases, worsened economic inequality. The authors called for a radical rethink of market-based approaches, which are often touted as effective in saving forests, curbing global warming, and raising living standards in developing nations.

- **Complexity of Market-Based Schemes:** Since the last assessment of IUFRO in 2010, there has been a rise in complex and overlapping market-based schemes, with financial actors and shareholders more interested in short-term profits than long-term sustainable forest governance.
 - » For example, a US\$120 million project in the Democratic Republic of Congo restricted local access to forests without addressing logging by powerful extractive businesses, reinforcing entrenched interests.
- **Impact on Indigenous Groups:** In Malaysia, indigenous groups promised better livelihoods from a foreign-backed plantation venture on their customary land but received no benefit. In Ghana, deforestation rates have increased despite sustainable cocoa standards, corporate pledges, and carbon offset projects, while farmers earn less today than decades ago.

-: Prelims Insight :-

Green Credit Program (GCP): Incentivizing Environmental Actions

- Green Credit Program (GCP) notified on 13th October, 2023 is an innovative market-based mechanism designed to incentivize voluntary environmental actions across diverse sectors, by various stakeholders like individuals, communities, private sector industries, and companies.
 - Draft methodologies for awarding Green Credits have been developed which set benchmarks for each activity/process, to ensure environmental impact and fungibility across sectors.
 - The GCP focuses on two key activities: water conservation and afforestation.
- **Limitations of Green Trade Policies:** Green trade policies imposed by wealthy countries, like the EU's ban on imports linked to deforestation, may seem beneficial from Brussels but do not always consider the knock-on effects.

- **Growth of Carbon Markets:** Despite recent turmoil, carbon markets are expected to grow into a multi-billion-dollar industry as corporations use credits to meet their net-zero climate targets. These credits are purchased from projects, often in developing nations that reduce or avoid the release of planet-heating emissions, such as protecting CO₂-absorbing rainforests or peat swamps.
- **Concerns about Revenue Distribution:** Kenya's President William Ruto has called Africa's carbon sinks an unparalleled economic goldmine that could generate billions of dollars annually. However, there are concerns about how much of that revenue poor communities will actually receive, with some actors accused of exploitation.
- **Need for Comprehensive Solutions:** The study's authors warn that while market-based approaches may be appealing to policymakers, they cannot be a standalone solution and must be accompanied by broader economic and governance reforms around forest management.

Conclusion:

India emphasizes the principle of CBDR (Common But Differentiated Responsibility), highlighting the importance of equity in sharing responsibilities for environmental conservation globally. However, there is a concern that poorer countries often bear the brunt of environmental challenges, becoming dumping grounds, while more developed economies assert stricter environmental standards, widening the development gap.

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BRAIN BOOSTERS

World Craft City

Why in Broadcast

The World Crafts Council International (WCCI) has picked Srinagar for mapping its craft clusters before its final nomination as the World Craft City (WCC) from India this year. A three-member team of the WCCI, was in Srinagar to inspect craft clusters, processes involved and the status of artisans.

4. Objectives of World Craft Cities

- ❖ **Global Recognition:** Showcase the reputation and assets of creative cities/regions specializing in specific craft disciplines, raw materials, articles, or a variety of crafts on a global platform.
- ❖ **Government Advocacy:** Encourage governmental support and future commitments for the development of crafts in designated cities/regions.
- ❖ **Local Innovation:** Strengthen local potential for innovation and foster the development of creative tourism.
- ❖ **Knowledge Exchange:** Promote the exchange of know-how, experiences, and best practices in various craft fields at the national, regional, and international levels.
- ❖ **Collaborative Opportunities:** Create new opportunities for cooperation and partnerships between designated craft cities.

1. About World Crafts Council

- ❖ The World Crafts Council AISBL was founded by Ms. Aileen Osborn Vanderbilt Webb, Ms. Margaret M. Patch and Smt Kamaladevi Chattopadhyay.
- ❖ In November 2012, the organization World Crafts Council AISBL was formally constituted as an International Association.
- ❖ The current headquarters for the term 2021-2024, is located in the State of Kuwait.

2. Objective of the World Crafts Council

- ❖ **Preservation & Promotion:** Foster the preservation, promotion and advancement of traditional crafts globally by providing resources, support and platforms for artisans.
- ❖ **Empowerment of Artisans:** Empower artisans through encouragement, assistance and guidance, enhancing their skills, livelihoods and overall well-being.
- ❖ **Cultural Exchange:** Facilitate cultural exchange through conferences, international visits, research studies, lectures, workshops, exhibitions and other collaborative activities that promote cross-cultural understanding and appreciation.
- ❖ **Recognition & Knowledge:** Work towards broader recognition and knowledge of craftspeople's work, acknowledging the diverse cultural and national backgrounds and traditions of our members.
- ❖ **Consultation & Collaboration:** Actively engage with governments, national and international institutions, societies and individuals to strengthen the status of crafts in cultural and economic life.
- ❖ **Sustainable Development:** Contribute to sustainable development by integrating traditional crafts into contemporary contexts, fostering economic growth while respecting cultural heritage.
- ❖ **Headquarters Rotation:** Adhere to the organizational bylaws, ensuring the smooth rotation of the Presidency every four years, thereby promoting diversity and inclusivity in leadership.

3. Indian Cities under WCC

- ❖ Mamallapuram, India
- ❖ Jaipur, India
- ❖ Mysore, India

BRAIN BOOSTERS

Expanded Programme on Immunization

Why in Broadcast

World is celebrating 50th year of launch of Expanded Programme on Immunization (EPI) which was launched by WHO. It aimed to provide universal access to life-saving vaccines for children worldwide, building on the momentum of smallpox eradication.

7. Vaccines provided under UIP

- ❖ UIP provides immunization free of cost against 12 vaccine-preventable diseases: Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, Hepatitis B, and Meningitis & Pneumonia which is caused by Hemophilus Influenza type B.
- ❖ Sub-nationally, it provides immunization against Rotavirus diarrhoea, Pneumococcal Pneumonia, and Japanese Encephalitis.

6. Key features of UIP

- ❖ UIP aimed to reduce mortality and morbidity from six Vaccine-Preventable Diseases.
- ❖ It included improvements to local vaccine production capacity, the establishment of cold chains, monitoring and evaluation systems, and other initiatives.
- ❖ UIP has been an integral part of India's National Rural Health Mission since its inception in 2005.
- ❖ UIP is one of the largest public health programs targeting close to 2.67 crore newborns and 2.9 crore pregnant women annually.

1. History of EPI

- ❖ The Expanded Programme on Immunization was launched in 1974 by the World Health Organization (WHO).

2. Impact of EPI

- ❖ Saved an estimated 154 million lives over the past 50 years.
- ❖ Reduced infant deaths by more than 40%.
- ❖ Protected millions from disability.
- ❖ Prevented millions of unnecessary deaths, especially in children under 5 years of age.
- ❖ Strengthened healthcare systems and prevented illness, providing economic benefits.

3. Key Milestones

- ❖ Eradication of smallpox in 1980.
- ❖ Global expansion of childhood vaccination programs.
- ❖ Establishment of a robust vaccine supply chain.
- ❖ Reduction of polio by more than 99%.
- ❖ Introduction of new vaccines, including Hib, Pneumococcal, rotavirus, HPV, meningitis A, Japanese encephalitis, and malaria vaccines.

4. Current Status

- ❖ Every country has a national immunization program.
- ❖ Vaccines are recognized as one of the safest, most cost-effective, and successful public health interventions.
- ❖ WHO recommends 13 vaccines across the life course for national EPI programs.

5. EPI & India

- ❖ The Expanded Programme on Immunization (EPI) was introduced by the World Health Organization (WHO) in 1974 and was introduced in India in 1978.
- ❖ **UIP:** The Universal Immunization Programme (UIP) was introduced in 1985, which was an extension of the EPI.

BRAIN BOOSTERS

Indian Spice Industry

Why in Broadcast

Indian spices have been found to contain high levels of ethylene oxide (ETO), a toxic chemical used as a food stabilizer. This has led to investigations and bans in several countries, including Singapore, Hong Kong and the US. The presence of ETO has raised concerns about contamination in Indian spices (MDH, Everest), which could lead to cancer and other health problems.

6. Challenges

- ❖ Fluctuating raw material prices
- ❖ Quality control issues
- ❖ Intense competition
- ❖ Adulteration and contamination
- ❖ Regulatory challenges

5. Trends and Drivers

- ❖ Increasing demand for organic and natural products.
- ❖ Growing popularity of online shopping.
- ❖ Rising awareness about health benefits of spices.
- ❖ Increasing demand from the food processing industry.

1. What is Ethylene Oxide?

- ❖ It is a cancer-causing pesticide which is used as a food stabilizer and a sterilizing agent.

2. Actions taken

- ❖ The Union commerce ministry has directed the Indian embassies in Singapore and Hong Kong to send the technical details, analytical reports and the details of the exporters whose consignments have been rejected.
- ❖ The Spices Board of India, which is the nodal body for the spices sector under the commerce and industry ministry, is separately ascertaining the cause of the ban.
- ❖ An industry consultation is scheduled to discuss the issue of mandatory testing of ethylene oxide in spice shipments to Singapore and Hong Kong.
- ❖ The Food Safety and Standards Authority of India (FSSAI) has started taking samples of spices in powder form of all brands, from across the country in view of quality concerns.

3. Implications

- ❖ India's reputation as a global spice superpower is under scrutiny.
- ❖ Exports have not decreased yet, but the effect of the investigations on exports remains to be seen.
- ❖ Small and medium-sized farmers may face income instability due to fluctuating demand and the costs associated with implementing new safety measures.
- ❖ The global reputation of Indian spices could be damaged, affecting consumer confidence and brand loyalty.

4. Segmentation

Product Segmentation:

- ❖ Pure spices (65% market share)
- ❖ Blended spices (30% market share)
- ❖ Spice extracts and essences (5% market share)

Application Segmentation:

- ❖ Food and beverages (80% market share)
- ❖ Cosmetics and personal care (10% market share)
- ❖ Pharmaceuticals (5% market share)
- ❖ Others (5% market share)

Plastics Treaty

Why in Broadcast

The fourth session of negotiations towards a Global Plastics Treaty, which took place from April 23-29, 2024, in Ottawa, Canada, closed with mixed results. The negotiations did not result in a final treaty text, and countries are leaving with a text that is not yet ready for final negotiations later in the year.

Consumption & Production).

- ❖ Raising Awareness & Education: The treaty's implementation will raise global awareness about plastic pollution's impacts and promote education on sustainable plastic use and waste management.
- ❖ Encouraging Innovation & Circular Economy: The treaty's focus on sustainable plastic use and recycling will drive innovation and the adoption of circular economy practices.
- ❖ Protecting Human Health & Environment: It will help mitigate the harmful effects of plastic on human health, marine life, and the environment.
- ❖ Supporting Global Governance & Policy Coordination: The treaty will facilitate international policy coordination, ensuring a more effective and cohesive response to the global plastic pollution crisis.
- ❖ Setting a Precedent For International Environmental Agreements: The Plastic Treaty's success can serve as a model for addressing other pressing environmental issues through international cooperation and collective action.

1. About Plastic Treaty

- ❖ **Global Plastics Treaty:** 175 nations agreed to develop a legally binding agreement on plastic pollution by 2024. This agreement aims to reduce greenhouse gas emissions from plastic production, use, and disposal.
- ❖ **Intergovernmental Negotiating Committee (INC):** INC began its work during the second half of 2022, with the ambition to complete the negotiations by the end of 2024. The fifth session (INC-5) is scheduled for November 25 to December 1, 2024, in Busan, Republic of Korea.
- ❖ **Historic Resolution:** In March 2022, at the resumed fifth session of the UN Environment Assembly (UNEA-5), a historic resolution was adopted to develop an international legally binding instrument on plastic pollution, including in the marine environment.
- ❖ **Plastic Pollution Crisis:** The rapidly increasing levels of plastic pollution represent a serious global environmental issue that negatively impacts the environmental, social, economic and health dimensions of sustainable development.
- ❖ **United Nations Environment Assembly (UNEA):** UNEA is a crucial platform for addressing the global plastic pollution crisis.

2. Importance of Plastic Treaty

- ❖ Unifying Global Efforts: It brings together countries, organizations, and stakeholders under a common framework to tackle plastic pollution.
- ❖ Setting Global Goals & Standards: The treaty establishes common goals, targets and guidelines for reducing plastic pollution, promoting sustainable plastic use and increasing recycling.
- ❖ Encouraging International Cooperation: It fosters collaboration, knowledge sharing, and technology transfer among countries to address plastic pollution.
- ❖ Supporting Developing Countries: The treaty provides financial and technical assistance to help developing countries implement effective plastic waste management and recycling systems.
- ❖ Promoting Sustainable Development: By addressing plastic pollution, the treaty contributes to achieving the United Nations' Sustainable Development Goals (SDGs), particularly SDG 14 (Life Below Water) & SDG 12 (Responsible

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3. Implications of the Treaty

- ❖ The treaty has the potential to significantly reduce plastic pollution worldwide.
- ❖ The treaty promotes sustainable plastic use and recycling, which can help reduce waste and mitigate environmental impacts.
- ❖ The treaty can create new economic opportunities in the recycling and sustainable plastic industries.
- ❖ The Plastic Treaty is a crucial step towards addressing the global plastic pollution crisis.

4. About Plastic Pollution

- ❖ Plastic pollution is the accumulation and distribution of plastic waste in the environment, including oceans, waterways, land, and living organisms.
- ❖ It occurs when plastic materials, such as bags, bottles, microbeads, and other synthetic materials, are not disposed of properly and end up in the environment.
- ❖ This pollution harms the environment, wildlife, and human health, and has significant economic and social impacts.

5. Types of Plastic Pollution

- ❖ **Marine Plastic Pollution:** Plastic waste in oceans and waterways, harming marine life and ecosystems.
- ❖ **Land-Based Plastic Pollution:** Plastic waste on land, including litter, microplastics, and plastic debris.
- ❖ **Microplastic Pollution:** Small plastic particles (less than 5 mm) that are ingested by tiny marine animals and work their way up the food chain.
- ❖ **Plastic Debris:** Large plastic items, such as bottles, bags and other disposable plastics, that accumulate in the environment.

6. Causes of Plastic Pollution

- ❖ Single-use plastics
- ❖ Lack of proper waste management
- ❖ Littering and poor disposal habits
- ❖ Industrial activities, such as plastic production and manufacturing
- ❖ Agricultural plastic use, such as mulch and irrigation pipes

7. Solution

- ❖ **Reduce:** Reduce plastic production and consumption, especially single-use plastics.
- ❖ **Reuse:** Encourage the use of reusable products like bags, containers, and water bottles.
- ❖ **Recycle:** Improve recycling infrastructure and technologies to increase plastic recycling rates.
- ❖ **Education and Awareness:** Educate individuals, businesses and governments about the impacts of plastic pollution and the need for sustainable practices.
- ❖ **Collaboration and Partnerships:** Foster collaboration among governments, businesses, and organizations to address plastic pollution globally.

8. Plastic pollution in India in 2023

- ❖ **157 days of plastic overshoot:** India, as a significant contributor to the global plastic pollution crisis, faced 157 days of plastic overshoot in 2023.
- ❖ **Mismanaged Waste Index (MWI):** India has an MWI of 98.55%, indicating a high level of plastic waste mismanagement.
- ❖ **Expected Mismanaged Waste:** The expected mismanaged waste in 2023 was approximately 7,300,752 tons of plastic.
- ❖ **Total Plastic Consumption:** India's total plastic consumption amounts to 7,408,124 tons of plastic waste.
- ❖ **Plastic Waste Export & Import:** India contributes 59,260 tons of plastic waste through export, representing 0.8% of its total waste, and imports 98,860 tons, accounting for 1.33% of its total.
- ❖ **Microplastics Released:** India releases 330,764 tons of microplastics into waterways.
- ❖ **Chemical Additives Pollution:** Waste mismanagement leads to 44,535 tons of pollution from chemical additives.
- ❖ **Global Ranking:** India is among the 12 countries responsible for 52% of the world's mismanaged plastic waste.

BRAIN BOOSTERS

SMART System

Why in Broadcast

On May 1, 2024, India successfully flight-tested **Supersonic Missile-Assisted Release of Torpedo (SMART)** from Dr. APJ Abdul Kalam Island off the coast of Odisha. SMART is a next-generation missile-based light-weight torpedo delivery system, designed and developed by the DRDO to enhance the anti-submarine warfare capability of the Indian Navy far beyond the conventional range of lightweight torpedo.

6. Implications and Significance

- ❖ **Enhanced anti-submarine warfare capabilities:** SMART strengthens India's naval capabilities, particularly in the Indian Ocean Region.
- ❖ **Deterrence:** The system's long-range capability and supersonic speed provide a strong deterrent against submarine-based threats.
- ❖ **Technological advancements:** SMART demonstrates India's growing expertise in advanced defence technologies.

5. Challenges and Limitations

- ❖ **Development Complexities:** Integrating a supersonic missile with a torpedo poses significant technical challenges.
- ❖ **Cost:** The system is likely to be expensive, given the complexity and advanced technology involved.

1. About SMART

SMART is a canister-based missile system that consists of several advanced sub-systems, including:

- ❖ Two-stage solid propulsion system
- ❖ Electromechanical actuator system
- ❖ Precision inertial navigation system

2. Key Features

- ❖ Long-range missile carrier that can travel at supersonic speed.
- ❖ Lightweight torpedo as payload.
- ❖ Inertial navigation system with mid-course update via datalink.
- ❖ Acoustic homing (active/passive).
- ❖ The missile has a range of 643 km (400 mi) carrying a light weight torpedo of range 20 km (12.5 mi) with 50 kg high explosive warhead.

3. Functioning

- ❖ SMART, when launched from a warship or a truck-based coastal battery, takes off like a regular supersonic missile.
- ❖ Covers most of its flight in the air at lower altitudes with two-way data link from the warship or an airborne submarine target detection system.
- ❖ Provides the exact location of the hostile submarine to correct its flight path midway.
- ❖ Just when it approaches close enough to the submerged submarine, the missile will eject the torpedo system into the water and the autonomous torpedo will start moving towards its target to take out the submarine.

4. Advantages

- ❖ **Long-range capability:** SMART extends India's anti-submarine warfare capabilities, allowing for engagement of submarines at distances beyond traditional torpedo range.
- ❖ **Supersonic speed:** The missile's speed reduces deployment time, making it difficult for submarines to evade.
- ❖ **Advanced guidance:** The system's guidance systems enable accurate targeting and deployment.
- ❖ **Heavyweight torpedo:** The Shyena torpedo is designed to engage and destroy submarines, providing a significant punch.

BRAIN BOOSTERS

Agricultural Subsidies in WTO

Why in Broadcast

USA and Australia have claimed that India's sugarcane subsidies exceeded the permissible level of 10% of the value of production, with estimates suggesting they crossed 90% of total value of production for four consecutive years (2018-2022).

5. Amber Box (Trade Distorting)

- ❖ Includes support measures that are considered trade-distorting, such as:
- ❖ Price support
- ❖ Output subsidies
- ❖ Input subsidies (e.g., fertilizers, seeds)
- ❖ Marketing subsidies
- ❖ Subject to reduction commitments and limits (e.g., de minimis limits)

4. Blue Box (Production Limiting Programs)

Includes support measures that are considered trade-distorting, but are subject to production limits, such as:

- ❖ Production quotas
- ❖ Supply management programs
- ❖ Crop rotation and diversification programs
- ❖ Limited to 5% of the value of agricultural production

1. Key Concerns

- ❖ **Domestic Support:** India's measures were deemed inconsistent with WTO's Agreement on Agriculture, specifically Article 7.2(b), which sets a de minimis limit for domestic support.
- ❖ **Market Price Support:** The Fair and Remunerative Price (FRP) and State-Advised Prices (SAP) paid by sugar mills to farmers were considered "market price support" by the WTO panel, contributing to the excessive subsidies.
- ❖ **Export Subsidies:** India's export subsidies were also found to be inconsistent with WTO rules, violating both the Agreement on Agriculture and the Agreement on Subsidies and Countervailing Measures.
- ❖ **Lack of Transparency:** USA and Australia have highlighted India's omission in reporting sugarcane or its derivatives in domestic support notifications since 1995-96, hindering the WTO's ability to assess India's compliance with global trade regulations.

2. About WTO's Agreement on Agriculture

- ❖ WTO's Agreement on Agriculture, specifically Article 7.2(b), sets a de minimis limit for domestic support, which is a threshold for the amount of support that can be provided to farmers without being considered trade-distorting.
- ❖ **De minimis limit:** The de minimis limit is set at 10% of the value of agricultural production for developing countries, including India .
- ❖ **WTO dispute settlement:** The WTO's dispute settlement mechanism allows countries to challenge each other's trade practices, including domestic support measures .
- ❖ **Impact on trade:** The de minimis limit is intended to prevent domestic support measures from distorting trade and affecting other countries' agricultural sectors.
- ❖ **Three boxes:** The Agreement on Agriculture of the World Trade Organization categorizes domestic support into three boxes green, blue, and amber, based on their potential to distort trade.

3. Green Box (Non-Trade Distorting)

Includes support measures that are considered non-trade distorting, such as:

- ❖ Research and development
- ❖ Pest and disease control
- ❖ Food security programs
- ❖ Environmental programs
- ❖ Decoupled income support (not related to production or prices)
- ❖ No limits on the amount of support provided

International Trade of India

Why in Broadcast

China has emerged as India's largest trading partner in the FY 2023-24 with \$118.4 billion two-way commerce, narrowly edging past the US, according to the data of economic think tank GTRI. The bilateral trade between India and the US stood at \$118.3 billion in 2023-24.

- ❖ **Interest Equalization Scheme:** This scheme provides pre- and post-shipment rupee export credit to exporters. It has been extended until June 30, 2024, with an additional allocation of Rs. 2500 crores.
- ❖ **Trade Infrastructure for Export Scheme:** This scheme provides assistance to promote exports by developing trade infrastructure.
- ❖ **Market Access Initiatives Scheme:** This scheme aims to promote India's exports on a sustained basis. It focuses on a specific market and product through market studies and surveys.
- ❖ **Rebate of State and Central Levies and Taxes Scheme:** This scheme aims to promote labor-oriented sector exports.
- ❖ **Remission of Duties and Taxes on Exported Products scheme:** This scheme aims to promote exports by remitting duties and taxes on exported products.

1. Key statistics

- ❖ India's merchandise exports: \$432 billion in 2023, 5% lower than the previous year.
- ❖ India's merchandise imports: \$673 billion in 2023, 7% lower than the previous year.
- ❖ India's share of global goods exports: 1.8% in 2023.
- ❖ India's share of global goods imports: 2.8% in 2023.
- ❖ India's share of global digital services: 6% in 2023, up from 4.4% in 2019.
- ❖ India's global commercial services exports: 4.4% in 2023, up 11% on-year at \$344 billion.
- ❖ India's global commercial services imports: flat at \$247 billion in 2023.

2. India Top Trading Partners

China:

- ❖ India's largest trading partner in FY24, with two-way commerce of \$118.4 billion.
- ❖ Imports from China increased by 3.24% to \$101.7 billion in FY24, while exports rose by 8.7% to \$16.67 billion.
- ❖ India's trade deficit with China widened to \$85.09 billion in FY24 from \$53.57 billion in FY19.

United States:

- ❖ India's second-largest trading partner in FY24, with two-way commerce of \$118.3 billion.
- ❖ Exports to the US dipped by 1.32% to \$77.5 billion in FY24, while imports decreased by 20% to \$40.8 billion.
- ❖ India's trade surplus with the US expanded to \$36.74 billion in FY24 from \$16.86 billion in FY19.

Other trading partners:

- ❖ **UAE:** India's third-largest trading partner in FY24, with two-way commerce of \$83.6 billion.
- ❖ **Russia:** India's fourth-largest trading partner in FY24, with two-way commerce of \$65.7 billion.
- ❖ **Saudi Arabia:** India's fifth-largest trading partner in FY24, with two-way commerce of \$43.4 billion.

3. Initiatives to promote Indian exports

- ❖ **New Foreign Trade Policy:** Launched in 2023, it aims to promote exports and ease the process of doing business for exporters. It focuses on incentive to remission, export promotion through collaboration, ease of doing business, and emerging areas.

BRAIN BOOSTERS

TB Vaccine MTBVAC

Why in Broadcast

The TB vaccine MTBVAC has received approval from the Central Drug Standard Control Organisation's Subject Expert Committee to conduct Phase II clinical trials. This vaccine is the first vaccine against TB derived from a human source to begin clinical trials in adults in India. Trial will be carried out by Biofabri in collaboration with the Hyderabad-based Bharat Biotech.

8. Initiatives by Indian Government

- ❖ National TB Elimination Program.
- ❖ Pradhan Mantri TB Mukht Bharat Abhiyaan.
- ❖ Ni-kshay Mitra Initiative.
- ❖ Revised National Tuberculosis Control Programme.

7. Treatment

TB disease is treated with antibiotics. Treatment is recommended for both TB infection and disease. The most common antibiotics used are:

- ❖ Isoniazid
- ❖ Rifampin
- ❖ Pyrazinamide
- ❖ Ethambutol
- ❖ Streptomycin

1. About MTBVAC

MTBVAC is a vaccine against tuberculosis in humans, currently at research trial stage. It is based on a genetically modified form of the Mycobacterium tuberculosis pathogen isolated from humans.

2. Development and manufacturing

- ❖ The vaccine was constructed at the University of Zaragoza in the laboratory of the Mycobacterial Genetics group, in collaboration with Dr. Brigitte Gicquel of the Pasteur Institute in Paris.
- ❖ Currently, the University of Zaragoza has an industrial partner: the Spanish biotechnology company BIOFABRI, belonging to ZENDAL group, responsible for the industrial and clinical development of MTBVAC.

3. Advantages

- ❖ More effective and long-lasting alternative to the BCG vaccine.
- ❖ The only vaccine against tuberculosis in clinical trials based on a genetically modified form of the pathogen isolated from humans.

4. Funding

- ❖ Global public-private partnership.
- ❖ Funded by the European Union, American institutions like the International AIDS Vaccine Initiative (IAVI), and the National Institutes of Health.

5. About Tuberculosis

- ❖ Tuberculosis (TB) is an infectious disease that most often affects the lungs and is caused by a type of bacteria.
- ❖ It spreads through the air when infected people cough, sneeze or spit.

6. Symptoms

- TB can cause a variety of symptoms, including:
- ❖ Prolonged cough (sometimes with blood)
 - ❖ Chest pain
 - ❖ Weakness
 - ❖ Fatigue
 - ❖ Weight loss
 - ❖ Fever
 - ❖ Night sweats

UN Membership for Palestine

Why in

India voted in favor of a draft UN General Assembly resolution that said Palestine is qualified and should be admitted as a full member of the United Nations and recommended that the Security Council should reconsider the matter favourably.

3. United Nations Security Council (UNSC) Resolutions

Procedural Resolutions: These resolutions deal with the conduct of the Council's business, such as agenda setting, meeting schedules, and procedural matters. Substantive Resolutions: These resolutions address specific issues, such as:

- ❖ **Chapter VI:** Pacific settlement of disputes (e.g., ceasefires, negotiations).
- ❖ **Chapter VII:** Action with respect to threats to the peace, breaches of the peace, and acts of aggression (e.g., sanctions, authorizations of force).
- ❖ **Chapter VIII:** Regional arrangements for peace and security.
- ❖ Resolutions passed under Chapter VII are considered binding on all UN member states, while those passed under Chapter VI are non-binding.

Decisions on procedural matters

- ❖ Decisions of the Security Council on procedural matters shall be made by an affirmative vote of nine members.

Decisions on other matters

- ❖ Decisions of the Security Council on all other matters shall be made by an affirmative vote of nine members including the concurring votes of the permanent members.

1. Key Points

- ❖ The resolution received overwhelming support, with 143 votes in favour, including India's, while 9 countries voted against it, and 25 abstained.
- ❖ The resolution acknowledges Palestine's qualification for UN membership and recommends that the Security Council "reconsider the matter favourably."
- ❖ India's historic support for Palestine dates back to 1974, when it became the first non-Arab state to recognize the Palestine Liberation Organization (PLO) as the sole legitimate representative of the Palestinian people.
- ❖ India was also among the first countries to recognize the State of Palestine in 1988 and established a Representative Office in Gaza in 1996, later relocating it to Ramallah in 2003.
- ❖ India has reiterated its support for Palestine's UN membership and expressed hope for its endorsement in due course.

2. How a Country become a Member of the UN

- ❖ **Membership:** The United Nations Charter states that membership is open to all peace-loving States that accept the obligations contained in the United Nations Charter and, in the judgment of the Organization, are able to carry out these obligations.
- ❖ **Application:** States are admitted to membership in the United Nations by a decision of the General Assembly upon the recommendation of the Security Council.
- ❖ **Security Council:** Any recommendation for admission must receive the affirmative votes of 9 of the 15 members of the Council, provided that none of its five permanent members have voted against the application.
- ❖ **General Assembly:** A two-thirds majority vote is necessary in the Assembly for admission of a new State.
- ❖ **Membership Effective:** Membership becomes effective the date the resolution for admission is adopted.

BRAIN BOOSTERS

International Day for Biological Diversity

Why in Broadcast

International Day for Biological Diversity (IDB), celebrated on 22nd May 2024, to raise awareness about the importance of biodiversity for sustaining life on Earth.

Theme: "Be Part of the Plan"

6. Key elements of the GBF include

Four Goals:

- ❖ **Goal A:** Maintain and restore ecosystems and biodiversity
- ❖ **Goal B:** Ensure sustainable use and equitable benefits
- ❖ **Goal C:** Address drivers of biodiversity loss
- ❖ **Goal D:** Enhance implementation and support

23 Targets, including:

- ❖ Protecting 30% of the world's lands, oceans, and waters by 2030. Reducing pollution and climate change impacts on biodiversity.
- ❖ Ensuring sustainable agriculture, forestry, and fisheries practices. Promoting sustainable consumption and production patterns.

7. What is biodiversity?

- ❖ Biodiversity, short for biological diversity, refers to the variety of different species of plants, animals, microorganisms, and ecosystems that exist within an environment or on Earth as a whole.
- ❖ It also includes the genetic diversity within each species, the variety of ecosystems, and the interactions between different species and their environments.

1. Objective

To raise awareness about the importance of biodiversity and to encourage all stakeholders to support the implementation of the Kunming-Montreal Global Biodiversity Framework.

2. History

- ❖ The International Day for Biological Diversity was established by the Second Committee of the UN General Assembly in 1993.
- ❖ Initially, it was celebrated on December 29 to mark the day the Convention on Biological Diversity came into effect.
- ❖ However, on December 20, 2000, the date was changed to May 22 to commemorate the adoption of the Convention at the Rio de Janeiro Earth Summit in 1992.

3. Importance

- ❖ Biodiversity is crucial for sustainable development and addresses a broad range of global issues.
- ❖ It significantly impacts oceans, seas, forests, food security, health, sustainable development, science, technology, innovation, knowledge-sharing, capacity-building, urban resilience, sustainable transportation, desertification, land degradation, drought, and water and sanitation.

4. Campaign

- ❖ The Biodiversity Plan campaign was launched on December 19, 2023, to communicate and promote the 4 Goals and the 23 Targets of the Kunming-Montreal Global Biodiversity Framework to the world.
- ❖ The campaign aims to enable a whole-of-government and whole-of-society approach to move from agreement to action.

5. About Kunming-Montreal GBF

- ❖ The Kunming-Montreal Global Biodiversity Framework (GBF) is a global agreement adopted in December 2022 at the 15th Conference of the Parties (COP15) to the United Nations Convention on Biological Diversity (CBD).
- ❖ The framework aims to address the global biodiversity crisis and promote sustainable development.

BRAIN BOOSTERS

Geographical Features of South America

South America is a vast and diverse continent, spanning over 17.8 million square kilometers. Its geographic features can be broadly categorized into the following.

1. Mountains

- ❖ **Andes Mountain Range:** Runs along the western edge, stretching from Venezuela to Chile.
- ❖ **Brazilian Highlands:** Covering most of Brazil.
- ❖ **Sierra Nevada de Santa Marta (Colombia)**
- ❖ **Cordillera Oriental (Colombia, Venezuela, and Ecuador)**

2. Plateaus

- ❖ **Altiplano:** A high plateau in the Andes, covering parts of Peru, Bolivia, Ecuador, and Chile.
- ❖ **Guiana Shield:** In northern South America, covering Guyana, Suriname, and French Guiana.

3. Lowlands

- ❖ **Amazon Basin:** The world's largest tropical rainforest, covering over 40% of South America.
- ❖ **Paraná-Paraguay Basin:** In southern Brazil, Paraguay, and Argentina.

4. Coastlines

- ❖ **Pacific Coast:** Along the Andes, featuring rugged shores and scenic beaches.
- ❖ **Atlantic Coast:** Along the eastern seaboard, with sandy beaches and coastal plains.

5. Rivers

- ❖ **Amazon River:** The world's largest river by discharge volume, flowing through Brazil, Peru, and other countries.
- ❖ **Paraná River:** Forms part of the border between Brazil and Paraguay.
- ❖ **São Francisco River:** In eastern Brazil.

6. Islands

- ❖ **Galapagos Islands:** Off the coast of Ecuador, known for unique wildlife.
- ❖ **Falkland Islands (Malvinas):** Disputed territory in the South Atlantic.

7. Climate Zones

- ❖ **Tropical:** Near the equator, covering the Amazon Basin and northern parts of South America.
- ❖ **Temperate:** In the southern regions, including Chile, Argentina, and southern Brazil.
- ❖ **Desert:** In western Peru and Chile (Atacama Desert).

8. Natural Resources

- ❖ **Minerals:** Iron ore, copper, gold, silver, and tin.
- ❖ **Energy:** Oil, natural gas, and hydroelectric power.

9. Waterfalls

- ❖ **Iguazu Falls (Argentina and Brazil)**
- ❖ **Angel Falls (Venezuela)**

10. Deserts

- ❖ **Atacama Desert (Chile)**
- ❖ **Patagonia Desert (Argentina and Chile)**

11. Plains

- ❖ **Pampas (Argentina, Uruguay, and Brazil)**
- ❖ **Llanos (Colombia and Venezuela)**

Some of the notable geographical features of South America include

- ❖ The Andes mountain range, is the longest continental mountain range in the world.
- ❖ The Amazon rainforest, is the largest tropical rainforest in the world.
- ❖ The Iguazu Falls, are among the largest waterfalls in the world.
- ❖ The Atacama Desert, is considered one of the driest places on Earth.
- ❖ The Galapagos Islands, are a unique and biodiverse archipelago.
- ❖ This diverse geography has shaped the continent's culture, economy, and ecosystems, with many countries relying on their natural resources for development.

Places in News

Eritrea

The second round of Foreign Office Consultations (FOC) between India and Eritrea took place in New Delhi.

- ❖ The capital of Eritrea is Asmara. The country is located in East Africa. Eritrea gained independence from Ethiopia in 1993 after a long armed conflict.
- ❖ Eritrea shares borders with the Red Sea (northeast and east), Sudan (west), Ethiopia (south) and Djibouti (southeast).

Physical Features:

- ❖ The highest point in Eritrea is Mount Soira, also known as Mount Soira.
- ❖ Eritrea has a few seasonal rivers and streams that flow during the rainy season, including the Anseba River and the Barka River.
- ❖ Eritrea is rich in mineral resources, with significant deposits of gold, copper, zinc, potash and other minerals.
- ❖ Some of the notable mineral projects in the country include the Bisha mine, which is located in the Gulf of Eritrea.

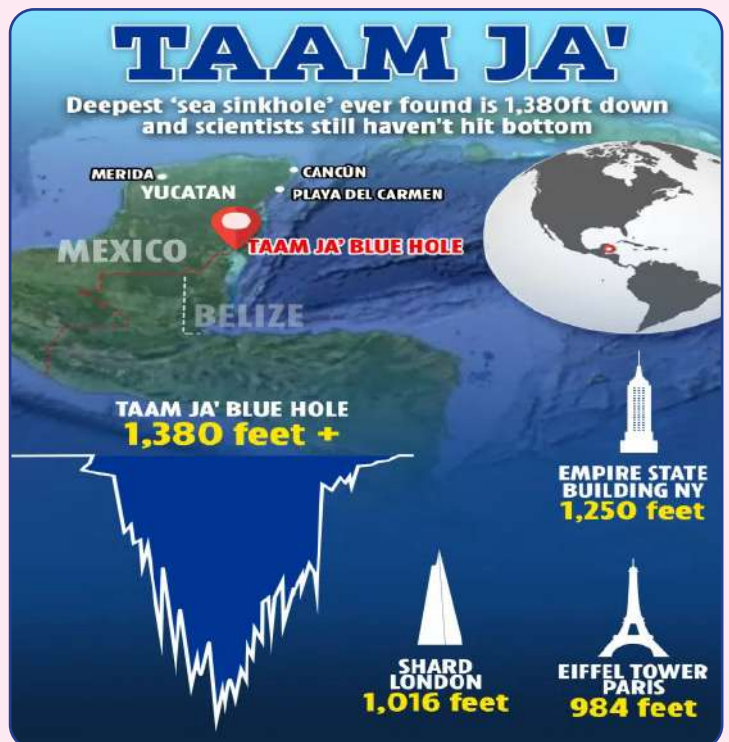


Taam Ja' Blue Hole (TJBH)

The Researchers have discovered the world's deepest Blue Hole located in Mexico's Chetumal Bay, named Taam Ja' Blue Hole (TJBH).

About Taam Ja' Blue Hole:

- ❖ The site named Taam Ja' Blue Hole is now recognized as the deepest known underwater sinkhole in the world.
- ❖ Measurements indicate that TJBH extends at least 1,380 feet (420 meters) below sea level, with its bottom yet to be reached.
- ❖ The newly found deepest blue hole is situated in Chetumal Bay off the southeast coast of the Yucatan Peninsula.
- ❖ About Blue holes: Blue Holes are water-filled vertical caverns found in coastal regions where the bedrock consists of soluble materials like limestone, marble, or gypsum.



Batagaika Crater

Scientists have recently found that the Batagaika crater is "actively growing" by a significant amount each year.

About Batagaika crater:

- ❖ The Batagaika crater is a thermokarst depression in the Chersky Range area located in Russia's Far East in the Sakha Republic, reaches depths of up to 100 meters.
- ❖ It is the world's largest permafrost crater, stretching one kilometer long.
- ❖ The structure is named after the nearby Batagayka, a right tributary of the Yana River.
- ❖ The land began to sink in the 1960s due to thawing permafrost after the surrounding forest was cleared.

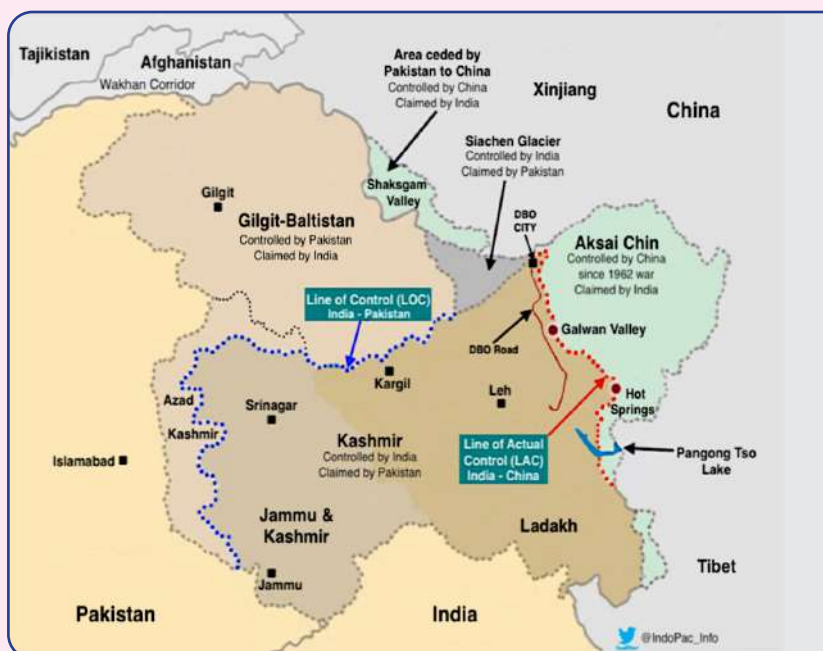


Shaksgam Valley

India has lodged a strong protest with China for conducting construction activities in the Shaksgam Valley, deeming it an "illegal" attempt to alter the situation on the ground.

About Shaksgam Valley:

- ❖ The Shaksgam Valley (dried-up heap of pebbles), also known as the Trans Karakoram Tract, is a strategically key region in the Hunza-Gilgit area of Pakistan-occupied Kashmir (PoK).
- ❖ It is a disputed territory claimed by India but controlled by Pakistan, which ceded it to China in a 1963 border agreement.
- ❖ The valley borders Xinjiang Province of China to the north, the Northern Areas of POK to the south and west, and the Siachen Glacier region to the east.
- ❖ China has built feeder roads through Shaksgam linking Gilgit with Hotan, an important military headquarters at the intersection of the Tibet-Xinjiang and Hotan-Golmud Highways.



Moldova

India and Moldova recently signed an agreement on visa waiver for diplomatic and official passports.

About Moldova:

- ❖ Moldova is a landlocked country in the northeastern corner of the Balkan region of Europe and east of the Carpathian Mountains.
- ❖ Its capital is Chisinau which is in the south-central part of the country.
- ❖ **Bordering Countries:** Ukraine (north, east, and south) and Romania (west).
- ❖ In the north, Moldova's landscape includes the flat Balti steppe and higher uplands ending at Vysokaya Hill.
- ❖ These uplands feature eroded limestone ridges called Medobory-Toltry, running along the Prut River, a tributary of the Danube River, which it joins at the country's extreme southern tip.
- ❖ **Major Rivers:** Moldova has a well-developed network of rivers and streams, all draining south to the Black Sea. The Ialpuș, Cogâlnic, and other small southern rivers drain largely into the Danubian estuary in nearby Ukraine.
- ❖ The Dniester River, Moldova's main water artery, flows through southwestern Ukraine and Moldova. Originating north of the Carpathian Mountains, it flows southeast to the Black Sea.



Kankesanthurai Port

The Sri Lankan Cabinet recently approved the refurbishment of the Kankesanthurai Port in the Northern Province, with India agreeing to fund the entire project at a cost of USD 61.5 million.

About Kankesanthurai Port:

- ❖ The Kankesanthurai Port is situated in the northern region of Sri Lanka.
- ❖ It covers an area of around 16 acres and is located 104 kilometers (56 nautical miles) from Karaikal Port in Pondicherry.
- ❖ The direct passenger ship service connecting Nagapattinam in Tamil Nadu to Kankesanthurai port near Jaffna covers a distance of 111 kilometres (60 nautical miles) in approximately three and a half hours.
- ❖ It is situated on the northern coast of the Jaffna Peninsula, close to Point Pedro, which is the northernmost point in Sri Lanka.
- ❖ The port faces north, overlooking the Bay of Bengal in the Indian Ocean.



State-Based Current Affairs

Current Affairs: Bihar

Kanwar Lake

Kanwar Lake, a Ramsar site and an Oxbow Lake is slowly drying and dying. This is a big threat for birds, both migratory and local.

Key points:

- ❖ Oxbow Lake is a curved lake that is formed on the banks of the river as a result of erosion and deposition of sediments over time.
- ❖ Kanwar Lake, once a popular tourist destination, has become a victim of encroachment and its existence is in danger.
- ❖ Uncontrolled expansion of construction on embankments along the adjacent Budhi Gandak river has blocked the main water entry point into the wetland.
- ❖ There is a shared belief that with government initiatives to recharge the lake, it could regain its former grandeur and transform into an important tourist destination, providing new employment opportunities for local residents.

Bihar Environment Secretary's Address at Jakarta Futures Forum

In an effort to raise global awareness about the initiatives taken in both India and Bihar for promoting renewable sources of energy, Bihar's secretary of the department of environment, forest and climate change Bandana Preyashi spoke at the prestigious Jakarta Futures Forum in Indonesia.

Key points:

- ❖ In the panel discussion titled 'International Cooperation to Facilitate an Equitable and Inclusive Energy Transition' Indra Mani Pandey, Secretary General of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and Minister of Renewable Energy under the Ministry of Energy and Mineral Resources of Indonesia and Director General of Energy Conservation, Professor Ania Listiani Davy took part.
- ❖ In her address, the Secretary highlighted important achievements like India achieving the target of reducing

its dependence on non-fossil fuels for electrical energy generation by 40% by November 2021 and Bihar State being a leader in developing 'Climate Resilient and Low Carbon Development Path'.

- ❖ India achieved the potential to reduce its dependence on non-fossil fuels for power generation by 40% several years ahead of schedule (originally targeted by 2023), and meeting the UN Conference of the Parties (COP) 21- commitment made at the Paris Summit and exceeding it further.
- ❖ The country ranks fourth globally in renewable energy installed capacity (including large hydropower generation plants), fourth in wind energy capacity and fifth in solar energy capacity (according to the REN21 Renewable Energy Global Status 2023 report).
- ❖ The forum praised India's proactive steps towards a clean energy transition, including achieving 50% cumulative electricity installed capacity from non-fossil sources by 2030 and net-zero emissions by 2070.
- ❖ Bihar has successfully implemented various programs and schemes to mitigate climate change and greenhouse gas emissions in line with national objectives.
- ❖ Bihar Renewable Energy Development Agency (BREDA) is developing an updated Renewable Energy Policy-2024.
- ❖ Bihar is the first state in the country which has developed a climate tolerant and low carbon development path for the state.
- ❖ The state is on the verge of finalizing the Bihar State Action Plan on Climate Change. These policies also support the energy transition in the state.
- ❖ The Secretary urged countries to strengthen international cooperation frameworks, increase support for developing countries, and ensure that the energy transition meets the needs of affected workers and communities.

Former Deputy Chief Minister of Bihar Passes Away

Senior politician and former Deputy Chief Minister of Bihar, Sushil Kumar Modi passed away in New Delhi at the age of 72. He was suffering from cancer.

Key points:

- ❖ He was the Deputy Chief Minister as well as the Finance Minister of Bihar from 2005 to 2013 and from 2017 to 2020.
- ❖ He was a lifelong member of the Rashtriya Swayamsevak

Sangh.

- ❖ In July 2011, he was appointed Chairman of the Empowered Committee of State Finance Ministers for the implementation of Goods and Services Tax.

Deputy Chief Minister:

- ❖ The post of Deputy Chief Minister in India is not a constitutional post, but a political arrangement to please allies or factions within a party.
- ❖ He is equivalent to a cabinet minister in terms of rank and allowances but has no specific financial or administrative powers.
- ❖ The Deputy Chief Minister has to report to the Chief Minister and has to seek his approval for any decision related to his portfolio.
- ❖ The Deputy Chief Minister does not have access to files or matters that are meant for the Chief Minister.
- ❖ Neither Article 163 nor Article 164(1) explicitly mentions the position of Deputy Chief Minister.
- ❖ Article 163(1) provides for the establishment of a Council of Ministers headed by the Chief Minister to aid and advise the Governor.
- ❖ Article 164(1) provides the framework for the appointment process, wherein the Chief Minister is appointed by the Governor and other Ministers are appointed by the Governor on the advice of the Chief Minister.

Current Affairs: Chhattisgarh

Establishment of Chhattisgarh's First Floating Solar Plant by SAIL-Bhilai

Bhilai Steel Plant (BSP), the Chhattisgarh-based arm of state-run Steel Authority of India Limited (SAIL), will set up the state's first 15-megawatt (MW) floating solar project at its Maroda-1 reservoir to improve its carbon footprint.

Key points:

- ❖ The project is being implemented through NTPC-SAIL Power Supply Company Limited (NSPCL), a 50:50 joint venture company of National Thermal Power Corporation (NTPC) and SAIL. Solar plant will be established in Durg district.
- ❖ Maroda Reservoir has an area of 2.1 square kilometers and has a water storage capacity of 19 cubic millionmeters (MM3).

- ❖ The water stored in Maroda-I reservoir supplies water not only to the plant but also to the township.
- ❖ The estimated total green electric power generation from this plant is likely to be about 34.26 million units annually.
- ❖ The project is expected to reduce BSP's CO2 emissions by 28,330 tonnes annually.

Carbon footprint:

- ❖ According to the World Health Organization (WHO), carbon footprint is a measure of the impact of people's activities on the amount of carbon dioxide (CO2) produced by the combustion of fossil fuels and is expressed as the weight of CO2 emissions produced in tons.
- ❖ This is usually measured in a number as several tonnes of CO2 emitted annually (which can be complemented by several tonnes of CO2-equivalent gases, including methane, nitrous oxide and other greenhouse gases).
- ❖ It can be a blanket measure or applied to the actions of an individual, family, event, organization or even an entire country.

Chhattisgarh Activist will get Green Nobel

Renowned environmental activist and convenor of Chhattisgarh Bachao Andolan Alok Shukla has been selected for the prestigious 2024 Goldman Environment Award. Also known as the "Green Nobel Prize", this annual award honors grassroots environmental champions around the world for their outstanding contributions to environmental protection.

Key points:

- ❖ He has been selected for his struggles and initiatives to protect the environment, including Hasdeo Aranya, one of the densest forests in Central India, spanning 170,000 hectares, which contains 23 coal blocks. He will be honored in the United States.
- ❖ He successfully campaigned and organized indigenous communities and people affected by coal mining to campaign against Adani mining to save 445,000 acres of biodiversity-rich forests from 21 planned coal mines in the tribal-dominated state of Chhattisgarh.
- ❖ In 2009, the Environment Ministry notified Hasdeo Aranya as a "no-go" area for mining due to its rich forest cover, but reopened it for mining. CBA continuously struggled to make Hasdev Aranya mining free.

Hasdev Aranya Van:

- ❖ The Hasdev Aranya forest area spread in the northern

part of Chhattisgarh is known for its biodiversity and coal reserves.

- ❖ This forest area falls under the districts of Korba, Sujanpur and Surguja with significant tribal population.
- ❖ Hasdev, a tributary of Mahanadi, flows from here.
- ❖ Hasdeo Aranya is the largest unbroken forest in central India consisting of ancient sal (*Shorea robusta*) and teak forests.
- ❖ It is a famous migration corridor, with a significant presence of elephants.

Green Nobel Prize:

- ❖ The Goldman Environmental Prize (also known as the Green Nobel Prize) recognizes individuals for sustained and significant efforts to protect and enhance the natural environment, often at great personal risk.
- ❖ It is awarded annually by the Goldman Environmental Foundation since 1990.
- ❖ It honors people from six continental regions of the world: Africa, Asia, Europe, Islands and Island Nations, North America, and South and Central America.
- ❖ The Goldman Prize looks at "grassroots" leaders as people involved in local efforts, where positive change is effected through community or citizen involvement in issues that affect them.
- ❖ Goldman Prize recipients are usually people from isolated villages or remote cities who choose to take great personal risks to protect the environment.
- ❖ The winners are announced on Earth Day which is celebrated on 22 April each year.

CCI Approves 100% Acquisition of Lanco Amarkantak Power Limited

Competition Commission of India (CCI) approved Adani Power Limited, a subsidiary of Adani Group, for the complete acquisition of Lanco Amarkantak Power Limited. The acquisition involves the transfer of 100% equity share of Lanco Amarkantak Power Limited to Adani Power Limited.

Key points:

- ❖ Adani Power Limited (Acquirer), a part of the Adani Group, a company incorporated under the laws of India.
- ❖ It is engaged in the business of thermal power generation in India.
- ❖ It operates thermal power plants in several states in India, including Gujarat, Maharashtra, Karnataka, Rajasthan, Chhattisgarh, Jharkhand and Madhya Pradesh.

- ❖ Adani Group is a global integrated infrastructure company, with businesses in key industry sectors like resources, logistics and energy.
- ❖ Lanco Amarkantak Power Limited (Lakshya), a part of the Lanco Group, is engaged in the business of thermal power generation in India.
- ❖ It is currently going through the corporate insolvency resolution process (CIRP) under the Insolvency and Bankruptcy Code, 2016 (IBC).
- ❖ The proposed combination involves the acquisition of 100% equity share capital of the target by the acquirer.

Competition Commission of India (CCI):

- ❖ The Competition Commission of India is a statutory body responsible for enforcing the objectives of the Competition Act, 2002. It was formally constituted in March 2009.
- ❖ Based on the recommendations of the Raghavan Committee, the Monopolies and Restrictive Trade Practices Act (MRTP Act), 1969 has been repealed and replaced by the Competition Act, 2002.

Insolvency and Bankruptcy Code, 2016:

- ❖ It is considered one of the largest insolvency reforms in the economic history of India.
- ❖ It was enacted for restructuring and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner to maximize the value of assets of such persons.

Corporate Insolvency Resolution Process (CIRP):

- ❖ CIRP in India is a time bound process governed by the IBC which aims to resolve the financial distress of a corporate debtor while maximizing the value of its assets.
- ❖ The primary objective of this process is to ensure the revival of a financially distressed company and in cases where revival of the company is not possible, it ensures orderly liquidation of the assets of the distressed company which has been declared a corporate debtor.

Current Affairs: Rajasthan

Sariska Tiger Reserve

Supreme Court has banned all mining activities being carried out in the areas near Sariska Tiger Reserve in Rajasthan. No mining activity will be allowed within one

kilometer radius of the Critical Tiger Habitat (CTH).

Key points:

- ❖ The court has ordered the Rajasthan government to plan for closure of activities or take necessary steps to comply with its orders.
- ❖ According to the Court, Section 38XA of the Wildlife Protection Act, 1972 shows that tiger reserves receive more attention than wildlife sanctuaries and national parks.

About Sariska Tiger Reserve:

- ❖ Sariska Tiger Reserve is located in the Aravalli mountain range which is a part of Alwar district of Rajasthan.
- ❖ Sariska was declared a wildlife sanctuary in the year 1955 and later declared a tiger sanctuary in the year 1978, making it a part of India's Project Tiger.
- ❖ The reserve contains ruined temples, forts, pavilions and a palace.

Flora and fauna:

- ❖ This reserve is extremely rich in flora and fauna and is famous for the Royal Bengal Tiger.
- ❖ Leopard, Nilgai, Sambhar, Chital etc. are mainly found in the park.

Rajasthan's Digital Healthcare Access System

The Rajasthan government is set to implement a new integrated health management system with digitalization to provide easy access to health services.

Key points:

- ❖ The new online system will strengthen health services and create features for electronic health records and single window processes.
- ❖ The project will be completed as soon as possible and the concerned departments and agencies will work in full coordination to ensure its success.
- ❖ As a part of the online system, the general public and patients accessing health centers will have access to electronic health records, Digi-Health Locker, no queue hassles, integrated digital surveys, Key Performance Indicator (KPI) based dashboards, tele-medicine intensive care units, geotagging based hospital maps, single window processes for health related licenses and no-objection certificates.
- ❖ The agencies involved in the implementation of the new system include the National Health Mission, Rajasthan Medical Services Corporation, State Health Insurance Agency and the Department of Information Technology.

Digital Water Distribution System

A unique digital water distribution system has been launched for agricultural fields in Sriganganagar district of Rajasthan to facilitate the supply of irrigation water.

Key points:

- ❖ The new system developed by National Informatics Center (NIC) Jaipur will enable farmers to know about the status of water reaching their fields and reduce the scope for human error often reported in manual systems.
- ❖ The digital platform will increase transparency in distributing water from Ganga Canal and Indira Gandhi Canal to resolve issues related to water availability to all farmers in the district.
- ❖ According to the Water Resources Department, the heads of water user associations will enter the information of farmers of their respective areas on the portal only once. After this, farmers will automatically get irrigation turn slips online.
- ❖ Online 'Barabandhi' (fixed turn) can be expanded and implemented in other districts of the state also as a uniform water distribution system for the benefit of farmers.

Child Marriage in Rajasthan

Rajasthan High Court directed the state government to ensure that no child marriages take place in the state and if such marriages take place then village heads and panchayat members will be held responsible.

Key points:

- ❖ The court order came ahead of the Akshaya Tritiya festival on May 10, 2024, as many child marriages take place on Akshaya Tritiya in Rajasthan.
- ❖ The court, while hearing public interest litigation (PIL) by Just Rights for Children Alliance seeking the court's intervention to stop child marriage, observed that despite the Child Marriage Prohibition Act, 2006, child marriages are still taking place in the state.
- ❖ If Sarpanch and Panch fail to prevent child marriage through negligence then they will be held responsible under Section 11 of the Child Marriage Prohibition Act, 2006.
- ❖ According to Rajasthan Panchayati Raj Rules, 1996, the duty of prohibiting child marriage has been cast on the Sarpanch.

Child Marriage Prohibition Act, 2006:

- ❖ This Act replaced the Child Marriage Prohibition Act,

- 1929 which was enacted during the British era.
- ❖ Child in child marriage refers to a male below 21 years of age and a female below 18 years of age.

Current Affairs: Uttar Pradesh

Pilibhit Tiger Reserve

Forest officials caught a leopard which had strayed from Pilibhit Tiger Reserve in Uttar Pradesh and came to Aliganj village.

Key points:

- ❖ Pilibhit Tiger Reserve is spread across three districts of Uttar Pradesh – Pilibhit, Lakhimpur Kheri and Bahraich.
- ❖ Its area is 700 square km. and is home to a variety of wild animals including leopards and tigers.
- ❖ It is part of the Terai Arc landscape in the upper Gangetic plain.
- ❖ The northern edge of the reserve lies on the India-Nepal border while the southern boundary is marked by the Sharda and Khakra rivers.

About Leopard:

- ❖ It is a nocturnal animal that eats small herbivores in its area, including wild boar, hog deer and chital.
- ❖ Melanism is a common phenomenon in leopards, in which the animal's entire skin is black, including its spots.
- ❖ The melanistic leopard is often called the black panther and is mistaken for a separate species.

Habitat:

- ❖ It is found in sub-Saharan Africa, small parts of Western and Central Asia and in a wide area from the Indian subcontinent to South-East and East Asia.
- ❖ The Indian leopard (*Panthera pardus fusca*) is a leopard found widely in the Indian subcontinent.

Hazards:

- ❖ Poaching for illegal trade in skins and body parts.
- ❖ Habitat loss and fragmentation.
- ❖ Human-leopard conflict.

Conservation status:

- ❖ IUCN Red List: Vulnerable
- ❖ CITES: Appendix I
- ❖ Indian Wildlife (Protection) Act, 1972: Schedule-I

Chief of Defense Staff

CDS General Anil Chauhan visited the Headquarters of the Central Air Command of the Indian Air Force located at Prayagraj. During this, he was given information about the operational aspects of the Central Air Command. Central Air Command is one of the five operational commands of the Indian Air Force. Its headquarters is in Prayagraj, Uttar Pradesh. It was formed on 19 March 1962 at Rani Kuthi, Calcutta.

About CDS:

- ❖ The Chief of Defense Staff is the head and highest ranking officer of the Indian Armed Forces.
- ❖ The Chief of Defense Staff is the chief executive of the military who has operational and strategic authority over the defense forces.
- ❖ The current Chief of Defense Staff is Lieutenant General Anil Chauhan (Retd) who was appointed on September 28, 2022.

Responsibilities of the Chief of Defense Staff:

- ❖ Joint operation of Army, Air Force and Navy.
- ❖ Standardization of arms procurement processes.
- ❖ To act as Commanding Officer and Chairman of the Joint Commanders and Staff Committee.
- ❖ To ensure optimum utilization of infrastructure across the three Services.

Ayodhya DM Nitish Kumar registered in Asia Book of Records

The name of Ayodhya District Magistrate Nitish Kumar has been registered in the Asia Book of Records. This honor was given to him for installing the largest floating sweep voter awareness logo in the Saryu River.

- ❖ The District Magistrate was honored by handing over a medal and certificate in a special felicitation ceremony organized at the Vivekananda Auditorium of Avadh University.

Painting exhibition in Banaras Hindu University

A four-day group painting exhibition 'Yogasutra' was organized by the Faculty of Visual Arts, Banaras Hindu University.

Key points:

- ❖ The exhibition showcases the artistic talents of four students of the painting department Jaidev Das, Noddy Judith Gomez, Faraz Imran and Niharika Ahona

Barsaat, with around 25 paintings on display.

About Banaras Hindu University:

- ❖ It was founded by Madan Mohan Malaviya in the year 1916 with the support of great personalities like Dr. Annie Besant, who had once envisioned it as the University of India.
- ❖ It is an internationally renowned temple of learning, located in the holy city of Varanasi.
- ❖ There are specialized research centers in India.
- ❖ The prestigious museum of the university – Bharat Kala Bhavan, is a treasure trove of rare collections.
- ❖ The university's 927-bed hospital is equipped with all modern facilities.

Building Construction Schemes in Areas Away from Yamuna E-way

Yamuna Expressway Industrial Development Authority (YEIDA) has launched a system called Building Plan Management System (BPMS), which enables more than 34,000 residential plot owners to submit their building plans online for approval.

Key points:

- ❖ According to the authority, the Building Permission Management System (BPMS) aims to streamline the approval process for building maps by providing fast, transparent and efficient solutions for processing applications.
- ❖ Yamuna Expressway Industrial Development Authority
- ❖ It has been created under the Uttar Pradesh Industrial Development Act, 1976 for the systematic development of their respective notified areas adjacent to Delhi, which, if not planned, would have been at risk of unauthorized urban development.

Second SSH lab will be built in Prayagraj

Second Sentinel Surveillance Hospital Lab (SSH Lab) is going to be established soon in Prayagraj, which will be an important facility for the diagnosis of dengue virus.

Key points:

- ❖ At present, Prayagraj district has only one SSH lab located in the Microbiology Department of Moti Lal Nehru (MLN) Medical College.
- ❖ In a workshop organized at MLN College on the occasion of National Dengue Day (16 May 2024), it was discussed that a specialized dengue testing laboratory would be established at Tej Bahadur Sapru Hospital, also known as Bailey Hospital, before the end

of the year 2024.

- ❖ The theme of Dengue Day- 2024 was 'Dengue Prevention: Our responsibility for a safer tomorrow'.

About dengue:

- ❖ Dengue is a mosquito-borne tropical disease caused by dengue virus (genus flavivirus), spread by several species of mosquitoes of the genus Aedes, primarily Aedes aegypti.
- ❖ This mosquito also spreads chikungunya, yellow fever and Zika infections.
- ❖ The four distinct but related serotypes that cause dengue are DEN-1, DEN-2, DEN-3, and DEN-4.

Symptoms:

- ❖ Sudden high fever, severe headache, eye pain, bone, joint and muscle pain etc.

Diagnosis and treatment:

- ❖ Dengue infection is diagnosed through a blood test.
- ❖ There is no specific medicine for the treatment of dengue infection.

Current Affairs: Jharkhand

NGT issues Notice to Thermal Power Plant in Jharkhand

The National Green Tribunal (NGT) has sought explanation from the concerned authorities regarding the massive fire that broke out at a unit of the National Thermal Power Corporation Limited in April 2024.

Key points:

- ❖ The plant, a 660X3 MW coal-based unit of the country's largest power generating company NTPC, was under investigation.
- ❖ The tribunal comprising the administrative head of the plant, member secretaries of the Central Pollution Control Board (CPCB) and the Jharkhand State Pollution Control Board (JSPCB) as well as various officials dealt with the issue.

National Green Tribunal (NGT):

- ❖ It is a special body established under the National Green Tribunal Act (2010) for effective and expeditious disposal of cases related to environmental protection and conservation of forests and other natural resources.
- ❖ With the establishment of the NGT, India became the third country in the world (and the first developing country) to establish a Specialized Environmental

Tribunal. Before this, only Australia and New Zealand had established such a body.

- ❖ NGT has to finalize the application or appeal within 6 months of filing it.
- ❖ The headquarters of NGT is in New Delhi, while the other four regional offices are located in Bhopal, Pune, Kolkata and Chennai.

National Thermal Power Corporation Limited (NTPC):

- ❖ NTPC is India's largest power company with an installed capacity of 68,961.68 MW and plans to achieve a capacity of 130 GW by the year 2032.
- ❖ The company is committed to produce reliable power at competitive prices in a sustainable manner by optimizing the use of multiple energy sources with innovative environment-friendly technologies, thus NTPC is contributing to the economic growth of the nation and upliftment of the society.

Paharia Tribe

People of Pahadia community in Jharkhand no longer need to buy seeds for farming. They are getting good yield from their traditional seeds and this is also saving their money. Jharkhand's Pahadia tribe aims to achieve seed independence by depositing native varieties in community-led banks.

Key points:

- ❖ In 2019, four community-based seed banks were established in the hill districts of Pakur and Godda. The bank serves more than 1,350 families in 90 villages.
- ❖ They operate under four panchayats: Bara Paktari, Bara Sindri, Kunjbona and Karma Taran and are managed by women-led committees.
- ❖ To register in seed banks, members will have to deposit 2.5 kg of indigenous seeds. Seeds are also made available through state government programs.
- ❖ During the sowing season, committees decide distribution on a case-by-case basis. So far they have distributed 3,679 kg of seeds.
- ❖ Members currently provide 0.5 kg of seed after each harvest to replenish the stock.

About Pahadia Tribe:

- ❖ They mainly live in the states of Jharkhand and West Bengal. They are natives of the Rajmahal Hills, now known as the Santal Pargana Division of Jharkhand.
- ❖ They are listed as a Scheduled Tribe by the governments of West Bengal, Bihar and Jharkhand.
- ❖ They speak Malto, which is a Dravidian language.
- ❖ They practice shifting cultivation which involves

clearing land by burning vegetation for cultivation for a few years.

Current Affairs: Uttarakhand

Kumaon Fan Palm under protection

In an effort to revive and conserve the Kumaon Palm, also known as Kumaon Fan Palm, Uttarakhand Forest Research Wing has taken an important step by cultivating 300 saplings of this endemic plant at Palthod Nursery, Pithoragarh.

Key points:

- ❖ It is the only palm species to survive in sub-zero temperatures and is said to be the hardest palm in the world.
- ❖ According to the Forest Research Wing, the plant species is classified as 'endangered' by both the International Union for Conservation of Nature (IUCN) and the Uttarakhand Biodiversity Board.

Kumaon Fan Palm:

- ❖ The palm tree is found in the Kumaon division of Uttarakhand province in north-western India and adjacent western Nepal.
- ❖ The palm grows at altitudes of 1,800–2,700 meters (5,900–8,900 ft) and receives snow and cold on a regular basis in its native places.

Shambhu River

A man-made lake of about 2 square kilometers area has once again been formed on the Shambhu river in Kunwari village of Bageshwar district of Uttarakhand, leaving the locals worried about the impending tragedy.

Key points:

- ❖ This revival of the lake is reminiscent of previous incidents in the years 2022 and 2023 when prompt administrative action was taken to prevent possible downstream flooding due to landslides on comparable structures obstructing the course of the river.
- ❖ Shambhu River originates from Bageshwar and joins Pindar River in Chamoli district.

Decrease in water level of Bhimtal Lake

According to a recent report, the water level of Bhimtal Lake

located in Nainital district of Uttarakhand has decreased from 22 meters to 17 meters.

About Bhimtal Lake:

- ❖ Bhimtal Lake is the largest lake in Nainital district. It is the largest lake in the Kumaon region, which is known as the "Lake District of India".
- ❖ It is a natural lake and its origin is attributed to several faults caused by the sliding of the earth's crust.
- ❖ This lake was formed in the year 1883 during the British period and a masonry dam has been built on it.
- ❖ There is rich vegetation and bio-ecosystem around the lake with dense forests of deodar and oak on the hill slopes.
- ❖ During the winter months it is home to many migratory birds.
- ❖ Famous species found in the area include Bulbul, Wall Creeper, Emerald Dove, Black Eagle and Tawny Fish Owl.

Current Affairs: Madhya Pradesh

First city museum in Bhopal

The Central Government has approved the establishment of the first City Museum in Bhopal. Madhya Pradesh Tourism Board is setting up Bhopal City Museum in the left wing of Moti Mahal. This project is unique and aims to create a Tourist Interpretation Centre/Citizen Engagement Center for heritage and culture enthusiasts.

Key points:

- ❖ The proposed museum with 11 galleries will focus on the rich history of Bhopal and Madhya Pradesh, covering the historical and geographical context of Madhya Pradesh and the formation of Bhopal in particular.
- ❖ A collection of prehistoric rock paintings, stone tools, archaeological discoveries, stamps, costumes of kings and queens of Bhopal and surrounding areas, ancient sculptures, temple remains and excellent art of the Bhopal Nawab period will be displayed.
- ❖ Modern technology will be used to create an engaging and informative experience for all age groups.
- ❖ The Ministry of Culture and Tourism of Madhya Pradesh Government is planning to set up a dedicated and comprehensive museum on Parmar Raja Bhoj, his life and works on the right side of Moti Mahal in

Bhopal.

- ❖ To closely understand and see the lifestyle of the tribal community, seven houses of seven major tribes of the state, Gond, Bhil, Baiga, Korku, Bharia, Sahariya and Kol, have been built in the Tribal Museum of Bhopal.
- ❖ The aim of this initiative is to eliminate the myths and beliefs related to the tribal society.

About Moti Mahal:

- ❖ Moti Mahal was built by the Gond king Hriday Shah of Garh Mandla between the years 1651 and 1667.
- ❖ The palace is full of labyrinths, secret tunnels and underground passages.

Illegal mining in Orchha Wildlife Sanctuary

A committee has been constituted to investigate allegations of illegal mining in the eco-sensitive zone of Orchha Wildlife Sanctuary. Orchha Wildlife Sanctuary is a very environmentally sensitive area. Where the operation of these units has posed a threat to the rich vegetation and biodiversity there.

Key points:

- ❖ According to the NGT, immediate action is required to monitor the disposal of 337 tonnes of chemical waste, groundwater pollution, shortage of piped water and iron, manganese and nitrate concentrations above permissible limits.
- ❖ It was established in the year 1994 and is situated within a large forest area.
- ❖ It is located near the Betwa River (a tributary of the Yamuna) in the border region between Madhya Pradesh and Uttar Pradesh, which contributes to the unique ecosystem and biodiversity of the sanctuary.

Eco-sensitive area:

- ❖ The National Wildlife Action Plan (2002–2016) of the Ministry of Environment, Forest and Climate Change (MoEFCC) stipulated that state governments should ensure conservation of wildlife within 10 km of the boundaries of national parks and wildlife sanctuaries under the Environment (Protection) Act, 1986. The land falling within should be declared as Eco-Sensitive Zones (ESZs) or Eco-Fragile Zones.

Power Packed News

Hasdeo Bachao Movement

Alok Shukla, the convener of Chhattisgarh Bachao Andolan and founding member of Hasdeo Aranya Bachao Sangharsh Samiti, has recently been awarded the 2024 Goldman Prize for Asia for the Hasdeo Aranya Movement.

About Hasdeo Bachao Movement:

- ❖ Hasdeo Bachao Movement is a grassroots environmental campaign led by activists and local communities around the Hasdeo Aranya region in Chhattisgarh.
- ❖ The movement aimed to save the biodiversity-rich forests of Hasdeo Aranya from the adverse effects of proposed coal mining projects.
- ❖ Through community campaigns and efforts, the movement successfully prevented the establishment of 21 planned coal mines in the region, leading to the conservation of about 445,000 acres of forests.
- ❖ The forests serve as the catchment area of Hasdeo, a tributary of the Mahanadi, which provides water for irrigation to 741,000 acres of agricultural land. The area is home to around 15,000 tribals who depend on the Hasdeo Aranya forests for their livelihood, cultural identity and sustenance.
- ❖ Hasdeo Aranya is also rich in coal reserves, which has led to attempts by governments to start mining operations.

Goldman Prize:

- ❖ The prize was established in 1989 by Richard and Rhonda Goldman.
- ❖ The prize aims to recognize and honour grassroots environmental activists around the world for their efforts to protect the environment and promote sustainability.
- ❖ It is awarded in six regions: Asia, Africa, Europe, North America, South and Central America, and Islands and Island Nations.
- ❖ Each winner of the Goldman Prize receives a \$200,000 award to support their ongoing environmental work and initiatives.

Hangor Class Submarine

On 26 April, the first Hangor Class submarine was launched at Wuhan Shipyard in China.

About Hangor Class Submarine:

- ❖ The Hangor Class Submarine is a diesel-electric attack submarine that represents the export version of the Chinese Type 039A Yuan Class.
- ❖ It is built for Pakistan which marks the beginning of the Pakistani Navy's plan to induct a total of eight submarines of this class by 2028.
- ❖ This submarine is named after PNS Hangor, which gained fame for sinking the Indian warship INS Khukri during the 1971 war.
- ❖ The submarine uses a diesel engine for surface or snorkelling operations, while it relies on a battery-powered system for submerged operations.
- ❖ Equipped with an AIP system, the submarine can increase its power and its stealth capabilities underwater.
- ❖ It is armed with six 21-inch torpedo tubes and can launch anti-ship missiles and Babur-3 subsonic cruise missiles with a range of 450 km.
- ❖ Compared to India's Kalvari class submarines, the Hangor class is larger and incorporates an AIP system, potentially giving it an advantage in terms of underwater power and stealth.

ISHAN Initiative

Recently, the Airports Authority of India has started work on the ISHAN (Indian Single Sky Harmonized Air Traffic Management) initiative.

About ISHAN Initiative:

- ❖ The ISHAN initiative is a project initiated by the Airports Authority of India (AAI) to consolidate India's fragmented

airspace management system.

- ❖ ISHAN aims to merge the country's four flight information regions (FIRs) Delhi, Mumbai, Kolkata and Chennai and sub-FIRs into a single entity based in Nagpur.
- ❖ It seeks to integrate these FIRs under a single authority in Nagpur.
- ❖ This consolidation aims to enhance efficiency, safety and seamlessness in air traffic operations by streamlining coordination, reducing congestion and increasing capacity in the Indian airspace.
- ❖ The initiative aims to streamline operations, increase capacity and reduce congestion in the Indian airspace, benefiting both airlines and passengers.

Shenzhou 17

The capsule of the Shenzhou-17 manned spacecraft carrying three astronauts landed safely at the Dongfeng landing site in northern China, after completing a six-month mission to the Chinese space station.

About Shenzhou 17:

- ❖ Shenzhou 17 is a China spacecraft launched to the Tiangong space station on October 26, 2023. It arrived at Tiangong about 6.5 hours after its launch on a Long March 2F rocket.
- ❖ The spacecraft carried three astronauts (Tang Hongbo, Tang Shengjie and Jiang Xinlin) of the People's Liberation Army Astronaut Corps (PLAAC).
- ❖ The primary tasks of the crew include conducting experiments in space medicine and technology and installing and maintaining equipment inside and outside the station.
- ❖ The average age of the crew is 38 years, making them the youngest team to go into space.

Red Colobus Monkey

Recently, a study has revealed the importance of the conservation of red colobus monkeys in Africa's tropical forests, suggesting that their conservation could significantly contribute to the protection of these ecosystems.

About Red Colobus Monkey:

- ❖ Red colobus monkeys (*Ptilocolobus* spp.) are a group of Old World monkeys endemic to equatorial Africa.
- ❖ They range in colour from reddish-orange to reddish-brown, black, or black and white.
- ❖ They have no thumbs or only vestigial thumbs and are closely related to the black and white colobus monkeys (genus *Colobus*).
- ❖ They are the most threatened group of African monkeys, with every species listed as vulnerable to extinction in 2020.
- ❖ They serve as a primary indicator of biodiversity decline in Africa's tropical forests.
- ❖ The large-bodied red colobus is particularly vulnerable to hunting due to the high demand for its meat, leading to rapid population declines in African forests.

Supreme Court ruling on the POCSO Act

Supreme Court has delivered an important ruling, stating that the objectives of the Protection of Children from Sexual Offences (POCSO) Act cannot be ignored even if there is a child marriage or the perpetrator tries to avoid prosecution by marrying the minor victim.

About the POCSO Act:

- ❖ The Protection of Children from Sexual Offences (POCSO) Act, 2012 was passed by Parliament to protect children below the age of 18 from sexual assault and child pornography.
- ❖ It is administered by the Ministry of Women and Child Development.
- ❖ The Act also establishes special courts to try these crimes.
- ❖ The POCSO Act defines a child below the age of 18 as a "person", establishing a gender-neutral legal framework for

child sexual abuse victims.

- ❖ It defines different types of sexual abuse, such as penetrative and non-penetrative assault, as well as sexual harassment and pornography.
- ❖ The Act also provides for punishment for those who traffic children for sexual purposes.
- ❖ In 2019, the Act was amended to increase the minimum sentence for aggravated penetrative sexual assault from seven years to ten years.

THOTA, 1994

Recently, the Directorate General of Health Services (DGHS) has issued a Standard Operating Procedure (SOP) under the Transplantation of Human Organs and Tissues Act (THOTA), 1994.

About THOTA, 1994:

- ❖ The Transplantation of Human Organs and Tissues Act (THOTA), 1994 regulates the removal, storage and transplantation of human organs and tissues for therapeutic purposes.
- ❖ The Act was introduced on 4 February 1994 by the Ministry of Health and Family Welfare and it aims to prevent commercial dealings in human organs and tissues.
- ❖ It lays down rules governing healthcare providers and hospitals and prescribes penalties for violations.
- ❖ In most situations, the Act authorises living donations from close relatives such as siblings, parents, children, spouses, grandparents and grandchildren.
- ❖ The Act also allows the donation of around 37 different organs and tissues after brain stem death, including vital organs such as kidneys, heart, liver and lungs.
- ❖ In 2022, a total of 16,041 organs were donated in India, with kidneys being the most donated organs.
- ❖ The highest number of donations was recorded in Delhi, where 3,818 organs were donated.

Sahitya Akademi Fellowship

Recently eminent writer Ruskin Bond has been awarded the Sahitya Akademi Fellowship at his residence in Mussoorie.

About Sahitya Akademi Fellowship:

- ❖ The Sahitya Akademi Fellowship is India's highest literary honour for living writers, given by the Sahitya Akademi, India's National Academy of Letters.
- ❖ The fellowship consists of a cash prize of Rs 3 lakh, a copper plaque and a shawl.
- ❖ Sahitya Akademi fellowship was established in 1968, with Dr Sarvepalli Radhakrishnan being the first elected fellow.
- ❖ The Sahitya Akademi also gives the Sahitya Akademi Award which is India's second highest literary honour after the Jnanpith Award.
- ❖ To be eligible for the award, a writer must be an Indian and their work must be an outstanding contribution to their language and literature.

Armored Sailfin Catfish

Recently, scientists at CSIR-Centre for Cellular and Molecular Biology (CCMB) have found that the invasive Armored Sailfin Catfish has expanded by 60% in the water bodies of Eastern Ghats.

About Armored Sailfin Catfish:

- ❖ The Armored Sailfin Catfish, also known as the Sailfin Plaque or Janitor fish, is a South American tropical fish, found exclusively in the Amazon River Basin.
- ❖ The fish is named for its sail-like dorsal fin and its scientific name, *Pterygoplichthys multiradiatus*, means "with many rays".
- ❖ It is used for its unique appearance and ability to clean algae in fish tanks and aquariums.
- ❖ It can grow up to more than 20 inches and weigh up to 3 pounds.

- ❖ Some species of armoured sailfin catfish include the Orinoco sailfin catfish (*Pterygoplichthys multiradiatus*), the Amazon sailfin catfish (*Pterygoplichthys pardalis*, also known as the common pleco or "leopard pleco"), and the vermiculated sailfin catfish.

Bhishma Cube

Recently, the Indian Air Force tested the Bhishma Cube for airdrop operations in Agra, Uttar Pradesh.

About Bhishma Cube:

- ❖ The Bhishma Cube is an indigenous mobile hospital developed by India.
- ❖ It is a component of Project Bhishma (India Health Initiative for Cooperation, Hita and Maitri).
- ❖ It aims to provide quick and comprehensive medical assistance during emergencies anywhere in the country. This demonstrates its capability to be deployed in remote or inaccessible areas during emergencies.
- ❖ It is designed to treat up to 200 casualties, making it suitable for handling mass casualties.
- ❖ It is robust, waterproof and lightweight, ensuring durability and ease of deployment.

Alice Munro

- ❖ On 13 May 2024, Alice Munro, a famous Canadian writer who was known for her proficiency in the short story genre, passed away. She was born in Wingham, Ontario, Canada.
- ❖ Alice Munro started writing at a young age and published her first story collection, "Dance of the Happy Shades," in 1968. Since then, she has written several acclaimed short story collections, including "The Moons of Jupiter," "The Progress of Love" and "The Runaway."
- ❖ Her stories often explore themes such as love, loss, memory and the passage of time, set against the backdrop of Canadian rural life.
- ❖ Alice Munro was awarded the Nobel Prize for Literature in 2013, making her the first Canadian woman to win this prestigious award.
- ❖ She was also awarded the Booker Prize for her overall writing in 2009.

Kanwar Lake

Recently, Kanwar Lake, the state's only Ramsar site in Bihar, has been struggling for survival due to encroachment and drying up.

About Kanwar Lake:

- ❖ Kanwar Lake, also known locally as Kanwar Jheel, is the largest oxbow lake in the Begusarai district of Bihar in India.
- ❖ It was declared a Ramsar site in 2020, making it the first wetland in Bihar to be included in the Ramsar Convention.
- ❖ Kanwar Lake is the only Ramsar site in Bihar.
- ❖ This is reflecting its international importance for wetland conservation.
- ❖ It is a freshwater lake, making it important for the local ecosystem.
- ❖ Kanwar Lake is a residual oxbow lake formed due to the geological twisting of the Budhi Gandak River, a tributary of the Ganges.
- ❖ In 1984, Kanwar Lake covered an area of 6,786 hectares, however, by 2004 it had decreased to 6,044 hectares.
- ❖ The state government notified it as a protected area in 1986. Later the central government declared it a sanctuary to prevent illegal hunting of birds.

Courtallam Falls

Recently, the water in the Old Courtallam waterfall suddenly rose amid heavy rains, causing flash floods in Tamil Nadu.

About Courtallam Falls:

- ❖ Courtallam is located on the Western Ghats in the Tenkasi district of Tamil Nadu.
- ❖ These falls are also called the "Spa of South India" because of the health benefits of bathing in the waters of these falls. The waterfalls of Courtallam have medicinal importance as they pass through forests and herbs before finally coming into existence.
- ❖ The height of this waterfall is about 60 meters (about 200 feet).
- ❖ The falls get water from the Chittar River, which is a tributary of the Tamiraparani River.

Deda Method

Recently, a Muria tribe, originally from Chhattisgarh and now living in the dense forests of the Godavari Valley, has been observed practising the 'Deda' method of farming.

About the Deda Method:

- ❖ The Deda method is a traditional, eco-friendly method of preserving seeds used by the Muria tribes of Chhattisgarh, also known as Gutti Koya.
- ❖ This method involves preserving the seeds in leaves and packing them almost airtight so that they look like boulders from a distance.
- ❖ The packed seeds are then woven with Siali leaves, also known as "Addakulu", to form a Deda, which consists of three layers.
- ❖ Wood ash is spread inside the Siali leaves in the first layer.
- ❖ Later, the ash is covered with lemon leaves to form a cover, and finally, the seeds are protected and sealed inside the cover.
- ❖ The Deda method guarantees the protection of the seeds from pests and insects.
- ❖ In this method, the seeds stored can be used for cultivation for five years.

Marijuana

Recently, in a historic move, the United States Department of Justice announced plans to reclassify marijuana from a Schedule I to a Schedule III drug.

About Marijuana:

- ❖ Marijuana, popularly known as cannabis or weed, is a psychoactive drug that comes from the Cannabis plant, a native of Central or South Asia.
- ❖ It has been used for centuries in traditional medicines and for recreational and entheogenic purposes.
- ❖ It contains 483 known compounds, including at least 65 cannabinoids and tetrahydrocannabinol (THC), the main psychoactive component.
- ❖ It can be used by smoking, vaporizing, in food or as an extract.
- ❖ Its cultivation has been legalised in Uttarakhand and controlled cultivation of bhang is also being carried out in some districts of Madhya Pradesh, Gujarat and Uttar Pradesh.
- ❖ The central law relating to cannabis (weed or marijuana) in India is the Narcotic Drugs and Psychotropic Substances Act of 1985.

Artara'24

Recently, Artara'24 has made its mark in Dubai as a platform to discover and nurture the country's emerging artistic talents.

About Artara'24:

- ❖ Artara'24 is a fine art exhibition and competition held at Al Jalila Cultural Centre in Dubai, organised by Juzzrockers.
- ❖ The primary focus of Artara'24 was on discovering and nurturing emerging artistic Indian talents residing in Dubai.

- ❖ It also aimed to provide a prestigious platform for lesser-known artists, students and art lovers to showcase their exceptional abilities.
- ❖ It featured an impressive collection of over 250 art pieces, each of which tells its own unique story and reflects the diverse backgrounds and perspectives of the participants.
- ❖ Apart from the main exhibition, Artara'24 also included 'Expressions'24', a fine art competition for children.

Pig Butchering Scam

The US Department of Justice charged two Chinese nationals with running a pig butchering scam in which more than \$73 million in money was laundered through shell companies.

About Pig Butchering Scam:

- ❖ The pig butchering scam, also known as the Sha Zhu Pan scam, is a type of online investment fraud in which scammers gain the trust of victims over time and then steal their money.
- ❖ The term comes from the practice of “fattening” a pig before slaughter and scammers use this idea to convince victims to invest more money in a fraudulent scheme.
- ❖ In a pig butchering scam, the scammer creates a fake online persona and builds trust with the victim through online communication.
- ❖ The scammer then convinces the victim to invest in a fraudulent cryptocurrency scheme.

Rangelands

Recently, a UN report revealed that up to 50% of the world's rangelands have been damaged, almost double the previous estimate of 20-35%.

About Rangelands:

- ❖ Rangelands refer to vast land areas that are primarily used for cattle grazing, where natural vegetation such as grasses, shrubs and herbs serve as the main fodder source.
- ❖ These landscapes are usually characterized by open spaces, and minimal tree cover and are unsuitable for intensive agriculture.
- ❖ They are spread over 80 million square kilometres, making up more than 54% of the terrestrial surface.
- ❖ They support extensive cattle production systems, covering 45% of the global land surface.
- ❖ About 40% of India's total land surface is used for grazing, consisting of grasslands (17%) and forests (23%).
- ❖ Animal husbandry is one of the oldest and most sustainable food systems, supporting 500 million people worldwide.
- ❖ The United Nations has declared 2026 as the International Year of Rangelands and Pastoralists to advocate for healthy rangelands and sustainable animal husbandry.
- ❖ Currently, around 20 million livestock herders graze in India's forests and grasslands.

Jose Raul Mulino

- ❖ Recently, 64-year-old former security minister Jose Raul Mulino has won the election of the President of Panama. Outgoing President Laurentino Cortizo congratulated Jose Raul Mulino on his victory. He will take office on 1 July 2024.
- ❖ Jose Raul Mulino was initially chosen as the vice-presidential candidate by former President Ricardo Martinelli and was himself a presidential candidate.
- ❖ Ricardo Martinelli had to leave the presidential race after being convicted of money laundering and sentenced to 10 years in prison. Ricardo Martinelli fled and took political asylum in the Nicaraguan Embassy in Panama.
- ❖ In Panama, a person can become president for only one term.

New UNICEF India Ambassador

- ❖ Bollywood actress Kareena Kapoor Khan has been appointed as the new ambassador of UNICEF India. She has been associated with UNICEF India since 2014. As a national ambassador, she will support the organization to advance children's rights to early childhood development, health education and gender equality. She worked as a celebrity advocate for UNICEF India.
- ❖ UNICEF is an agency of the United Nations, which is responsible for providing humanitarian and developmental assistance to children around the world. It was founded in the year 1946. Its headquarters is located in New York, USA. Its current executive director is Katherine M. Russell. The organization works in more than 190 countries and territories to protect the rights of every child.

Sheikh Ahmed Abdullah Al-Ahmad Al-Sabah

- ❖ Sheikh Ahmed Abdullah Al-Ahmad Al-Sabah has been appointed as the new Prime Minister of Kuwait. He replaced Sheikh Mohammed Sabah Al Salem Al-Sabah.
- ❖ Ahmed Al-Abdullah Al-Ahmad Al-Sabah (born 5 September 1952) is a Kuwaiti economist, politician and senior member of the ruling family Al Sabah.
- ❖ He served as Oil Minister between 2009 and 2011. On 15 April 2024, he was appointed to the post of Prime Minister and his premiership began on 15 May 2024.
- ❖ Kuwait is a sovereign country located in West Asia. Its capital is Kuwait City. Its currency is Kuwaiti Dinar. The current Emir of Kuwait is Sheikh Meshaal Al-Ahmad Al-Jaber Al-Sabah.

New CMD of National Small Industries Corporation

- ❖ Dr. Subhramshu Shekhar Acharya took over as the new Chairman and Managing Director (CMD) of National Small Industries Corporation (NSIC) on May 2, 2024.
- ❖ NSIC is an ISO 9001-2015 certified Government of India enterprise under the Ministry of Micro, Small and Medium Enterprises (MSME).
- ❖ It was established in the year 1955 and is headquartered in New Delhi. It is working to promote and assist the growth of micro, small and medium enterprises in the country.

New Chairman of GST Appellate Tribunal

- ❖ Former Chief Justice of Jharkhand High Court Sanjay Kumar Mishra has been appointed as the new Chairman of GST Appellate Tribunal by the Central Government. His tenure will be 4 years or till the age of 70 years, whichever is earlier.
- ❖ GST Appellate Tribunal has been established as a special body to handle disputes related to GST. In September, 2023, the Central Government had issued a notification to set up 31 GST Appellate Tribunal benches with the principal bench in Delhi.

New Chinese Ambassador to India

- ❖ Recently, Xu Feihong has been appointed as the new Chinese Ambassador to India.
- ❖ The post of Chinese Ambassador to India was vacant for 18 months, which is the longest gap in four decades. He has replaced Sun Weidong.

Mahamat Idriss Deby

- ❖ Mahamat Idriss Deby was elected the new President of Chad in May 2024. Earlier, he was the interim President of this country. Chad is a Central African landlocked country. Its capital is N'Djamena and currency is CFA franc.

First Appointment in India by Open AI

- ❖ Pragya Mishra was appointed as the first employee in India by 'Open AI', the company that makes ChatGPT, in April 2024. She will take over the responsibility of Public Policy Affairs Head in India for Open AI. She is currently handling the responsibility of Director of Public Affairs at Truecaller.
- ❖ OpenAI is an artificial intelligence research organization founded in 2015 with headquarters in San Francisco, California, USA. Sam Altman is the current CEO of OpenAI.

Managing Director of National Housing Bank

- ❖ Recently Sanjay Shukla was appointed as the new Managing Director (MD) of the National Housing Bank (NHB) by the Financial Services Institutions Bureau (FSIB).
- ❖ NHB was established on 9 July 1988 under the National Housing Bank Act, 1987. It is fully owned by the RBI. Its headquarters is in New Delhi.

New Chief of Personnel (COP) of Indian Navy

- ❖ Vice Admiral Sanjay Bhalla assumed charge as the Chief of Personnel (COP) of the Indian Navy on May 10, 2024. Prior to this, he was serving as the Chief of Staff of the Western Naval Command.

Jeremiah Manele

- ❖ Recently, Jeremiah Manele took office as the Prime Minister of the Solomon Islands on May 2, 2024.
- ❖ He defeated opposition leader Matthew Wale who received 18 votes against 31 votes in favour of newly elected PM in 49-seat parliament.
- ❖ Solomon Islands is a country consisting of 6 major islands and more than 900 small islands in the subregion Melanesia of Oceania, located northeast of Australia. The capital of Solomon Islands is Honiara.

9th Oxford Book Cover Prize, 2024

- ❖ The 9th Oxford Book Cover Prize has been announced to be awarded to Bhavya Mehta by Oxford Bookstores in May, 2024. This award was given to him for 'The Book Beautiful' published by Chet India and written by Pradeep Sebastian. Under this award, Rs 1 lakh is given as money.

Pulitzer Prize 2024

- ❖ The Pulitzer Prize was awarded to ProPublica, Joshua Kaplan, Justin Elliott, Brett Murphy, Alex Mierjeski and Kirsten Berg for Public Service in the field of journalism. The Pulitzer Prize is the highest award in the field of journalism. It was announced in May, 2024. The Pulitzer Prize was started in the year 1917.

Sheel Nagu appointed as Acting Chief Justice of Madhya Pradesh High Court

- ❖ Recently Justice Sheel Nagu took charge as Acting Chief Justice of Madhya Pradesh High Court. He replaced Chief Justice Ravi Vijaykumar Malimath, who retired on 24 May.

International Solar Alliance

Spain has joined the International Solar Alliance as its 99th member.

About International Solar Alliance:

- ❖ The International Solar Alliance is an intergovernmental organization and collaborative platform that aims to increase the use of solar energy technologies.
- ❖ ISA was conceptualized in 2015 during the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris.
- ❖ It was founded by the Prime Minister of India (Narendra Modi) and the President of France (François Hollande) at the United Nations Climate Change Conference in Paris.
- ❖ ISA aims to install 1000 GW of solar power capacity and mitigate 1000 million tons of CO₂ annually.
- ❖ Its goals include increasing access to energy, ensuring energy security and accelerating the energy transition in member countries.
- ❖ Headquarter: Gurugram, Haryana.

Drip Pricing

Department of Consumer Affairs has issued a warning regarding "drip pricing", warning the customers regarding the practice.

What is Drip Pricing?

- ❖ Federal Trade Commission of the US defines drip pricing as a pricing technique in which firms advertise only part of a product's price and reveal other charges later as the customer goes through the buying process.
- ❖ The price advertised, whether in print, email, or on a website (referred to as the "headline price", may not accurately reflect the final cost to the consumer.
- ❖ The additional charges can be mandatory charges, such as platform fees, hotel resort fees, or fees for optional upgrades and add-ons.
- ❖ Drip pricing complicates comparison shopping and is a disadvantage to the sellers who provide more transparent pricing structures.
- ❖ The Central Consumer Protection Authority (CCPA) released 'Guidelines for Prevention and Regulation of Dark Patterns, 2023 in December' to tackle practices like drip pricing, bait and switch, disguised advertising, and false urgency.

Deepti Jeevanji set a new world record in the World Para Athletics Championship

- ❖ On May 20, India's Deepti Jeevanji set a new world record in the T20 400m race at the World Para Athletics Championship.
- ❖ Deepti completed this race in 55.07 seconds. She broke the record of American athlete Breanna Clark of 55.12 seconds.
- ❖ Turkey's Aysel Onder finished second and Ecuador's Lizanshela finished third.
- ❖ Deepti Jeevanji also won a gold medal for India in the Asian Para Games in 2023.

Jyoti Ratre became the oldest Indian woman to climb Mount Everest

- ❖ On May 19, Jyoti Ratre of Bhopal created a new record for the oldest Indian woman climbing Mount Everest. She is 55 years old.
- ❖ She has broken the 6-year-old record of 53-year-old Sangeeta Bahl.
- ❖ Jyoti achieved this feat by reaching an altitude of 8848.86 meters.
- ❖ This was her second attempt. In 2023, she had to return from an altitude of 8160 meters due to bad weather.
- ❖ She was part of a 15-member team led by Bolivian mountaineer David Hugo Ayaviri Quispe.
- ❖ Jyoti has previously climbed many peaks like Elbrus, Kilimanjaro, Island Peak and Kosciusko.

Export of 'R21/Matrix-M' malaria vaccine to African countries

- ❖ The Serum Institute of India (SII) started exporting 'R21/Matrix-M' malaria vaccine to help fight malaria in African countries.
- ❖ This vaccine has been developed in collaboration with Matrix-M adjuvant developed by Oxford University and Novavax.
- ❖ In the first consignment, 43,200 vaccine doses have been sent to the Central African Republic. This country will get a total of 1,63,000 vaccine doses.
- ❖ The vaccine will then be sent to South Sudan, Congo and other malaria-affected countries.
- ❖ According to the World Health Organization (WHO) report in 2022, 233 million cases of malaria were reported in Africa.
- ❖ This vaccine can play an important role in reducing disease and deaths caused by malaria.
- ❖ This initiative reflects the commitment of the Government of India and SII to eliminate malaria.

New President and Prime Minister of Taiwan

- ❖ On May 20, Lai Ching-te sworn in as the new President in Taipei, the capital of Taiwan.
- ❖ He replaced former President Sai Ing-wen, who led Taiwan for 8 years.
- ❖ Lai Ching-te became the Vice President of Taiwan in 2020.
- ❖ Cho Jung-tai was appointed as the new Prime Minister of Taiwan. He was appointed by the newly elected President of Taiwan Lai Ching-te.
- ❖ Taiwan is an East Asian country under the Republic of China. Its capital is Taipei and currency is New Taiwan Dollar.

Brazil to host 2027 FIFA Women's World Cup

- ❖ On May 17, at FIFA's 74th Congress meeting in Thailand, it was announced that Brazil will host the 2027 FIFA Women's World Cup.
- ❖ This will be the first Women's Football World Cup to be held in South America.
- ❖ Brazil emerged victorious against the Netherlands, Belgium, and Germany in the bid to host. Earlier in April 2024, the United States and Mexico withdrew from the race to host.
- ❖ Brazil previously hosted the Men's Football World Cup in 1950 and 2014.
- ❖ So far 9 editions of the FIFA Women's World Cup have been played, which started in 1991.
- ❖ In 2023, Australia and New Zealand jointly hosted the FIFA Women's World Cup.

India-France 'Shakti' Exercise

- ❖ The 7th 'Shakti' military exercise was conducted between India and France from 13 May to 26 May 2024 in Umroi, Meghalaya.
- ❖ It was attended by a contingent of 90 soldiers (including a battalion of the Rajput Regiment), Navy and Indian Air Force personnel from India and 90 soldiers (13th Foreign Half-Brigade) from France.
- ❖ This time the exercise focused on military operations in semi-urban and mountainous terrain.
- ❖ The 'Shakti' exercise started in 2019.
- ❖ The last exercise was held in 2021 at Mahajan Field Firing Range in Rajasthan.
- ❖ This exercise is held alternately in India and France every two years.
- ❖ This exercise strengthens the India-France strategic partnership, which is important in countering the growing Chinese influence in the Indo-Pacific region.
- ❖ It provides an opportunity for both the armies to work together in different types of terrain and improve their capabilities.

Dr. Purnima Devi Burman of Assam was awarded 'Green Oscar'

- ❖ Dr. Purnima Devi Burman of Assam was awarded the British Wildlife Charity Award, also known as the Whitley Award or 'Green Oscar,' in London. She received the Whitley Gold Award of 100,000 British pounds from the Whitley Fund for Nature (WFN).
- ❖ This award was given to her for the conservation of the endangered Greater Adjutant Stork (Hargila bird) and its wetland habitat. The Greater Adjutant is called Hargila in the Assamese language, which means 'bone swallower'.
- ❖ It is a member of the stork family that can grow up to 1.5 metres (5ft) tall.
- ❖ Its distinctive features include a featherless head, dangling gular (throat) pouch, striking pale eyes and long skinny legs and its foul-smelling droppings and dietary preference for carrion.
- ❖ The birds were seen as a bad omen and carriers of disease. Villagers attacked them with stones, cut down trees where they roosted communally and burned their nests.
- ❖ Dr. Purnima was also awarded the Whitley Award in 2017.
- ❖ The Whitley Award is organized every year by WFN, which works for the conservation of wildlife around the world.

Center for World University Rankings

- ❖ On May 13, the Center for World University Rankings released the list of the 2000 best educational institutions in the world for 2024.
- ❖ Highlights:
- ❖ Harvard University has been ranked the best institute in the world in this list and a total of 64 institutes from India are included in this list.
- ❖ The ranking of 32 Indian institutes has improved, while the ranking of 33 has fallen compared to last year.
- ❖ IIM Ahmedabad has been considered the best institute in India and ranks 410th in the world.
- ❖ Indian Institute of Science (IISc) has fallen 7 ranks to 501st.
- ❖ IIT Bombay is ranked 568th, IIT Madras is ranked 582nd and Tata Institute of Fundamental Research is ranked 606th.

Xenotransplantation

Richard "Rick" Slayman, the first recipient of a modified pig kidney transplant, passed away recently, about two months after the surgery at Massachusetts General Hospital. However, neither his family nor the hospital has linked his death to the transplant operation.

About Xenotransplantation:

- ❖ According to the US Food and Drug Administration (FDA), Xenotransplantation is any procedure that involves the transplantation, implantation or infusion into a human recipient of either:
- ❖ Live cells, tissues, or organs from a nonhuman animal source, or
- ❖ Human body fluids, cells, tissues or organs that have had ex vivo contact with live nonhuman animal cells, tissues or organs.
- ❖ Xenotransplantation, which essentially uses animal cells and organs to treat humans, was first attempted with hearts in the 1980s.
- ❖ This procedure was deemed necessary due to the substantial mismatch between the demand for organ transplants and the limited availability of donor organs.

One Liners

1. REC Limited obtained a 'No Objection Certificate' from RBI on May 3, 2024, to establish a wholly-owned subsidiary in GIFT City, Gujarat. REC Limited is a leading infrastructure finance company in India.
2. India became the top recipient of remittances globally, receiving over \$111 billion in 2022. Remittances play a vital role in India's foreign exchange reserves and have a positive impact on the country's balance of payments.
3. India became the world's third-largest solar power generator in 2023, surpassing Japan. This development reflects India's commitment to clean energy and its efforts to reduce carbon emissions.
4. The country contributed \$500,000 to the UN Counter-Terrorism Trust Fund.
5. A "School on Wheels" was introduced in Manipur to provide education to students in relief camps. This mobile school program addresses the educational needs of displaced children, promoting accessibility and inclusivity in challenging circumstances.
6. Cases of West Nile fever have been reported in Kerala. West Nile fever is a mosquito-borne disease, and its occurrence in Kerala underscores the need for sustained vector control efforts and awareness campaigns to prevent the spread of the disease.
7. Cyclone Remal made landfall in West Bengal and approached the Bangladesh coast, prompting evacuations. Cyclone Remal was named by Oman. This cyclone Made landfall on May 26, 2024, in West Bengal and Bangladesh.
8. The Indian Air Force (IAF) assisted in combating forest fires in the Pauri Garhwal sector.
9. The Uttarakhand government launched the 'Pirul Lao Paise Pao' campaign to control forest fires. The campaign's name, translating to "Bring Pine Needles, Get Money," offers a reward to individuals who collect and report pine needles, a common forest fire trigger.
10. India and Ghana are integrating their payment systems, UPI and GHIPSS. This integration aims to facilitate seamless transactions and enhance digital connectivity and trade between India and Ghana.
11. India and Nigeria plan to finalize a Local Currency Settlement System Agreement. It will facilitate cross-border transactions in their local currencies, reducing reliance on third-party currencies like the US dollar.
12. Ukraine introduced Victoria Shi, an AI-generated spokesperson, to deliver official statements from its foreign ministry. This innovative approach utilizes artificial intelligence to present information in a more engaging and modern way, potentially enhancing the ministry's communication efforts.
13. Dubai launched a long-term gaming visa to establish itself as a gaming hub.
14. Russia announced the discovery of massive oil and gas reserves in the British Antarctic Territory.
15. Sri Lanka approved an agreement with Adani Green Energy to build wind power stations in Mannar and Poonerin. This collaboration aims to enhance Sri Lanka's renewable energy capacity and reduce its reliance on fossil fuels.
16. Pawan Sindhi received the Global Pride of Sindhi Award 2024.
17. Bhavi Mehta won the Oxford Bookstore Book Cover Prize for "The Book Beautiful".
18. Indian-origin astronaut Sunita Williams embarked on her third space mission to the International Space Station (ISS) on May 6, 2024 . As part of NASA's Commercial Crew Program, Williams is piloting the Boeing Starliner spacecraft, marking a significant milestone in the program. Her mission aims to test the end-to-end capabilities of the Starliner spacecraft.
19. Dr. Soumya Swaminathan was honored with an Honorary Doctorate by McGill University.
20. Lando Norris of McLaren secured his first-ever Grand Prix victory at the Miami Grand Prix.
21. Tejaswin Shankar emerged victorious in the men's High Jump event at the USATF Festival in Tucson, Arizona.
22. China dominated the 2024 BWF Thomas & Uber Cup Finals in Chengdu, winning both men's and women's titles .

23. Japan clinched the inaugural Sultan Azlan Shah Hockey Trophy title.
24. GAIL launched its inaugural 10 MW green hydrogen plant at Vijaiapur in Madhya Pradesh on May 24, 2024. This project marks a significant milestone in India's pursuit of green hydrogen production and could contribute to the country's goal of 5 million tons of annual green hydrogen production capacity by 2030.
25. Reliance Industries Ltd (RIL) partnered with Norway's Nel ASA to boost new energy investments, particularly in green hydrogen production.
26. TCS and IIT-Bombay announced a partnership to develop India's first Quantum Diamond Microchip Imager.
27. The National Archives of India (NAI) completed its first overseas digitization of diaspora records in Oman.
28. Four European banks, including Credit Agricole and Societe Generale, sought approval from the Reserve Bank of India (RBI) for a third-party transaction model. The model would enable the banks to continue trading in Indian government bonds and derivatives despite the European Securities and Markets Authority (ESMA) derecognizing the Clearing Corp of India (CCIL) in October 2022.
29. The RBI imposed a penalty of Rs 1 crore on ICICI Bank for sanctioning term loans without proper due diligence. This penalty highlights the RBI's emphasis on prudent lending practices and its commitment to maintaining the stability of the Indian banking system.
30. The Life Insurance Corporation of India announced that it will pay dividends amounting to Rs 3,662 crore to the Government of India.
31. At the Archery World Cup 2024, Stage 2 event in Yecheon, South Korea, the Indian Women's Compound Team won the gold medal.
32. The International Day of Action for Women's Health is observed on May 28. This day was established in 1987 by the Women's Global Network for Reproductive Rights (WGNRR) in South Africa to promote women's health and well-being, and to advocate for their sexual and reproductive rights.
33. World Menstrual Hygiene Day 2024 was observed on May 28 with the theme "Together for a #PeriodFriendlyWorld". The theme "Together for a #PeriodFriendlyWorld" emphasizes the need for collective action to create a society that supports and empowers menstruators, ensuring they can manage their periods safely, dignity, and without fear of stigma or discrimination.
34. Mumbai City FC beat Mohun Bagan 3-1 to win the Indian Super League final in Kolkata.
35. Rakesh Singh was appointed as the new CEO of Paytm Money Ltd.
36. Sanjeev Nautiyal was named MD & CEO of Ujjivan Small Finance Bank.
37. Sujai Raina was named India's new Country Manager by Visa.
38. Nagesh Kapoor took charge as the Air Officer Commanding-in-Chief (AOC-in-C) of the Training Command (TC) in the Indian Air Force.
39. Dileep Sanghani was elected as Chairman of Indian Farmers Fertiliser Cooperative (IFFCO).
40. The Indian Army has signed an agreement with IOCL for hydrogen fuel cell buses. Hydrogen fuel cell technology uses hydrogen gas as fuel, converted into electricity through an electrochemical process, with water vapor as the only by-product.
41. Dr. Sameer V Kamat's tenure as Chairman of DRDO has been extended for one year. Dr. Kamat was appointed as DRDO chief in August 2022, and his tenure was extended till May 31, 2025.
42. World Hunger Day is celebrated every year on May 28, and the theme of World Hunger Day 2024 is "Thriving mothers, thriving world."
43. The Kolkata Knight Riders emerged victorious and won the title of IPL 2024.

44. The Telangana state government has imposed a one-year ban on gutkha and pan masala.
45. The International Conference on Nuclear Security was held recently in Vienna from May 20th to 24th, 2024 .
46. Sanjeev Puri has taken charge as the President of the Confederation of Indian Industry (CII).
47. Iga Switek won the Italian Open title in tennis. This is her third Italian Open title in four years.
48. Vice Admiral Sanjay Bhalla took over as the Chief of Personnel of the Indian Navy.
49. India announced the establishment of a new research station in Antarctica, named Maitri-II. The new station, which is expected to be operational by 2029, will be located near the existing Maitri station and will be able to accommodate up to 90 researchers.
50. India withdrew its military personnel from Maldives, ending a two-year deployment.
51. Keki Mistry has been appointed as the Chairman of HDFC Life. The appointment comes after Deepak Parekh stepped down as Chairman and Non-Executive Director of HDFC Life on April 18, 2024
52. Bajrang Punia, an Indian wrestler, has been banned by the global governing body of wrestling, United World Wrestling (UWW), for alleged doping violation.
53. Sri Lanka has extended the time limit for visa-free entry of Indians for another year.
54. TCS and IIT-Bombay collaborated to develop India's first Quantum Diamond Microchip Imager on May 28, 2024. This advanced sensing tool aims to enhance the examination of semiconductor chips, reduce chip failures, and improve electronic devices' energy efficiency. The collaboration aligns with the government's National Quantum Mission, positioning India as a global leader in quantum technology.
55. The Indian Women's Compound Team won the gold medal at the Archery World Cup 2024 in South Korea on May 27, 2024.
56. Charles Leclerc of Ferrari won the Monaco Grand Prix 2024 on May 26, 2024. This was his first victory in the Monaco Grand Prix and the first win of the season.
57. India's GDP for the January-March quarter of fiscal 2023-24 came in at 7.8% driven by strong growth in the manufacturing sector. The real gross value added (GVA) grew at a rate of 7.2% in 2023-24, compared to the 6.7% growth observed in 2022-23.
58. Total foodgrain production is estimated at 3288.52 LMT, higher by 211.00 LMT from average foodgrain production of last 5 years.
59. The Food Safety and Standards Authority of India (FSSAI) has issued a directive mandating all Food Business Operators (FBOs) to remove any claim of '100% fruit juices' from the labels and advertisements of reconstituted fruit juices with an immediate effect.
60. 77th World Health Assembly adopts amendments to International Health Regulations 2005 based on 300 proposals by member states.
61. Allamaye Halina has become the new Prime Minister of Chad . He was named prime minister after Succes Masra resigned from the position.
62. India has successfully test-fired the anti-radiation missile Rudram-II, validating its propulsion system and control and guidance algorithm.
63. India has assumed the Chair of the Colombo Process for 2024-26, which is the first time since its inception. The Colombo Process is a Regional Consultative Process of migrant worker origin countries from South and Southeast Asia.
64. Emmanuel Soubeyran was elected as the new Director General of WOAHA on May 28, 2024, succeeding Dr. Monique Eloit.

Pre Special

Recent Initiatives by the Reserve Bank of India (RBI)

- **Frictionless Credit:** RBI launched a digital lending pilot project for 'frictionless credit'. The RBI stated that the Public Tech Platform is designed to facilitate the smooth provision of credit by ensuring the effortless transmission of essential digital data to lenders.
- **RBI Retail Direct Scheme:** The RBI Retail Direct Scheme allows retail investors to invest easily in government securities. Investors are now able to directly invest in government securities.
- **RBI Integrated Ombudsman Scheme:** The RBI Integrated Ombudsman Scheme aims to further improve the grievance redress mechanism for resolving customer complaints against entities regulated by the central bank.

Central Bank Digital Currency (CBDC):

- India launched a Central Bank Digital Currency (CBDC) called Digital Rupee (₹).
- The Digital Rupee is available in two versions:
 - » **Digital Rupee for Wholesale (₹-W):** Launched on November 1, 2022, this version is designed for financial institutions and is limited to the settlement of secondary market transactions in government securities.
 - » **Digital Rupee for Retail (₹-R):** Launched on December 1, 2022, this version is designed for consumers and businesses and can be used for Person to Person (P2P) and Person to Merchant (P2M) transactions.
- **Purpose: Provide businesses and consumers with privacy, transferability, convenience, accessibility, and financial security.**
- **Types:** Wholesale CBDCs for financial institutions and retail CBDCs for consumers and businesses.
- **Benefits:** Financial inclusion, reduced transaction costs, and monetary policy control.
- **Characteristics:** Digital counterpart to fiat money, issued and controlled by central banks.

Recent initiatives of the Defence Research and Development Organisation

- **Trials of Light Tank Zorawar:** The Defense Research and Development Organisation (DRDO) has commenced development trials of the light tank Zorawar. The Army has ordered 59 Zorawar light tanks, produced in collaboration with Larsen and Toubro, to enhance mobility and manoeuvring abilities in the Ladakh sector.
- **Sagar Maitri Mission-4:** DRDO's oceanographic research vessel, INS Sagardhwani, embarked on a two-month long Sagar Maitri Mission-4 to establish long-term scientific partnerships with Indian Ocean Rim countries in 'Ocean Research & Development'.

Recent Missions Launched by ISRO

- **XPoSat:** Launched on January 1, 2024, XPoSat is a space observatory to study the polarization of cosmic X-rays. It was launched on a PSLV rocket, and it has an expected operational lifespan of at least five years.

Mission Details:

- Launched on January 1, 2024.
- First dedicated polarimetry mission in India.
- Second polarimetry mission in the world.
- Developed by ISRO and RRI.

Payloads:

- Polarimeter Instrument in X-rays (POLIX).
- X-ray Spectroscopy and Timing (XSPECT).

Objectives:

- Study the polarisation of cosmic X-rays.
- Understand the emission processes from various astronomical sources.
- Provide valuable timing and spectroscopic information.
- Overcome the limitations of the present understanding of astronomical emission processes.
- **Aditya-L1:** Launched on January 6, 2024, Aditya-L1 is India's first solar mission and has successfully entered its final orbit around the first Sun-Earth Lagrangian point.

Objectives of Aditya-L1:

- To observe the dynamics of the Sun's chromosphere and corona: To study chromospheric and coronal heating, the physics of partially ionised plasma, of coronal mass ejections (CMEs) and their origins, of the

coronal magnetic field and heat transfer mechanisms, and flare exchanges.

Chandrayaan-3:

- Launched on July 14, 2023, Chandrayaan-3 is a mission to study the lunar south pole and consists of a lunar orbiter, lander, and rover.

Spacecraft Components:

- Lander Module (Vikram): 1726 kg (3806 lb)
- Rover (Pragyan): 26 kg (57 lb)
- Propulsion Module: ≤ 3 to 6 months (planned), about 10 moth (elapsd) (since orbit insertion).

Lander Payloads:

- Chandra's Surface Thermophysical Experiment (ChaSTE) to measure thermal conductivity and temperature.
- Instrument for Lunar Seismic Activity (ILSA) for measuring the seismicity around the landing site.
- Langmuir Probe (LP) to estimate the plasma density and its variations.
- Laser Retroreflector Array from NASA for lunar laser ranging studies.

Rover Payloads:

- Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscope (LIBS) for deriving the elemental composition in the vicinity of landing site.

INSAT-3DS:

- Launched on January 26, 2024, INSAT-3DS is a communications satellite that provides meteorological imaging and data relay services for weather forecasting, disaster management, and related activities.
- The satellite's payloads include:
 - » **DRT:** Data Relay Transponder
 - » **SAS&R:** Advanced Aided Search & Rescue
 - » **IMAGER:** 6 channel imager
 - » **SOUNDER:** 19 channel sounder
- INSAT-3DS satellite is a follow-on mission of the Third Generation Meteorological Satellite from Geostationary Orbit . The mission is fully funded by the Ministry of Earth Sciences (MoES).
- It is designed for enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning.

- The satellite will augment the Meteorological services along with the presently operational INSAT-3D and INSAT-3DR satellites .

NISAR:

- The NASA-ISRO Synthetic Aperture Radar (NISAR) mission is a joint project between NASA and ISRO to co-develop and launch a dual-frequency synthetic aperture radar on an Earth observation satellite.

Key Features:

- Map the elevation of Earth's land and ice masses four to six times a month at resolutions of 5 to 10 meters.
- Use advanced radar imaging to map the entire globe in 12 days.
- Provide spatially and temporally consistent data for understanding changes in Earth's ecosystems, ice mass, vegetation biomass, sea level rise, ground water and natural hazards including earthquakes, tsunamis, volcanoes and landslides.

Payload:

- L-band (1.25 GHz; 24 cm wavelength) polarimetric SAR, to be produced by NASA.
- S-band (3.20 GHz; 9.3 cm wavelength) polarimetric SAR, to be produced by ISRO.

Some Tribes that have been in the news recently

- **Hatti tribe:** The Hatti tribe in the Trans-Giri area of Sirmour district in Himachal Pradesh was added to the list of Scheduled Tribes. The demand for inclusion of the Hatti tribe had been pending for around 50 years.
- **Narikoravan and Kurivikkaran hill tribes:** The Narikoravan and Kurivikkaran hill tribes of Tamil Nadu were added to the list of Scheduled Tribes.
- **Binjhia:** The Binjhia tribe in Chhattisgarh was added to the list of Scheduled Tribes. The demand for inclusion of the Binjhia tribe had been pending for around 15 years.
- **PVTG communities:** The PVTG communities added to the list of Scheduled Tribes include Pauri Bhuyan and Paudi Bhuyan as synonyms of the Bhuyan tribe, Chuktia Bhunjia as synonym of Bhunjia tribe, Bondo as a sub-tribe of the Bondo Poraja tribe, and Mankidia as a synonym for the Mankirdia tribe in Odisha. In

Andhra Pradesh, the PVTG communities included were Bondo Porja and Khond Porja as synonyms of Porja tribe and the Konda Savaras as a synonym for Savaras tribe.

- **Gond community:** The Gond community residing in 13 districts of Uttar Pradesh, was added to the list of Scheduled Tribes from the Scheduled Caste list. This includes the five subcategories of the Gond community (Dhuria, Nayak, Ojha, Pathari, and Rajgond).

Recent initiatives by the Ministry of Shipping

- **Maritime Amrit Kaal Vision 2047:** This is a comprehensive roadmap involving an investment of Rs. 80,000 lakh crores, shaped through extensive consultations and benchmark analyses. This vision outlines over 300 initiatives to enhance ports, shipping, and waterways by 2047.
- **National Logistics Portal (Marine):** This is a one-stop platform that connects all logistics stakeholders through IT, aiming to enhance efficiency, transparency, and reduce costs and time delays.
- **Sagar Manthan:** This is a digital platform containing comprehensive data related to the Ministry. This real-time performance monitoring dashboard aids in monitoring projects, KPIs, and financial parameters.
- **SAGAR-SETU:** This mobile app enhances the Ease of Doing Business by providing real-time port operations and monitoring services.
- **Harit Sagar:** This is a Green Port Guidelines launched by the Ministry to meet the larger vision of achieving Zero Carbon Emission Goal.

Recent initiatives by the Ministry of Environment, Forest and Climate Change

- **Green Credit Program:** This program incentivizes entities to take up tree plantation and restoration of degraded forest lands, which aims to further strengthen climate action initiatives.
- **National Clean Air Programme (NCAP):** Launched in January 2019, this program aims to tackle the problem of air pollution in a comprehensive manner

with targets to achieve 20 to 30 per cent reduction in PM10 and PM2.5 concentrations by 2024.

- **Amrit Dharohar:** This scheme encourages optimal use of wetlands, and enhances biodiversity, carbon stock, eco-tourism opportunities, and income generation for local communities.

Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI):

- MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes) is a scheme launched by the Ministry of Environment, Forest and Climate Change (MoEFCC) in 2022.

The main objectives of MISHTI:

- Conservation and restoration of mangrove ecosystems.
- Enhancement of carbon sequestration.
- Protection of shoreline and prevention of erosion.
- Promotion of eco-tourism and income generation for local communities.
- Improvement of livelihoods of coastal communities through sustainable livelihood options.

Key facts regarding Census of India in 2011

Population:

- India's population stands at 1.21 billion, which is 17.7% more than the last decade.
- The growth rate of females was 18.3% which is higher than males — 17.1%.
- India's population grew by 17.7% during 2001-11, against 21.5% in the previous decade.

Rural and Urban Population:

- Altogether, 833.5 million persons live in rural area as per Census 2011, which was more than two-third of the total population, while 377.1 million persons live in urban areas.
- Urban proportion has gone up from 17.3% in 1951 to 31.2% in 2011.

Literacy:

- There has been an increase in literacy in the country. The literacy rate in the country is 74.04 per cent, 82.14 for males and 65.46 for females.

Density:

- The density of population in the country has also increased from 325 in 2001 to 382 in 2011 in per sq km.
- Among the major states, Bihar occupies the first position with a density of 1106, surpassing West Bengal which occupied the first position during 2001.

Sex Ratio:

- The sex ratio of population in the country in 2011 stands at 940 female against 1000 males, which is 10% more than the last census when the number female per thousand male stood at 933.
- Haryana has the dubious distinction of having the worst male-female ratio among all states while Kerala fares the best.

Child Population:

- Child population in the age of 0 to 6 years has seen an increase of 0.4% to 164.5 million in 2011 from 163.8 million in 2001.
- The child population (0-6) is almost stationary. In 17 states and UTs, the child population has declined in 2011 compared to 2001.

Agriculture census:

- The Agriculture Census 2021-22 was launched on July 28, 2022, and Phase-I is in progress, targeted to be completed by December 2023. It was 11th agriculture census in India.

Objective:

- The Agriculture Census aims to collect data and derive quantitative information about the structural characteristics of agriculture in the country.
- **Frequency:** Agriculture Census in India is conducted every five years.

Phases:

- The field work of Agriculture Census is carried out in three phases, each phase of one-year duration.

Reference Year:

- The present census with reference year 2021-22 was 11th in the series.

10th Agriculture Census

Key Findings:

- Increase in female operational land holders from

12.79% in 2010-11 to 13.87% in 2015-16.

- Decline of 1.53% in total operated area to 157.14 million hectares compared to 159.59 million ha in 2010-11.
- Increase in the number of operational holdings by 5.33% from 138 million in 2010-11 to over 146 million hectares.
- Madhya Pradesh topped the increase in number of operational holdings, followed by Andhra Pradesh, Rajasthan, Kerala, Meghalaya, Karnataka, and Nagaland. Goa witnessed the sharpest fall, and Manipur had the lowest number of operational holdings.
- 14 states account for 91.03% of operational holdings which includes West Bengal, Madhya Pradesh, Andhra Pradesh, Maharashtra, Uttar Pradesh, Odisha, Rajasthan, Tamil Nadu, Telangana, Karnataka, Bihar, Chhattisgarh, Gujarat, and Kerala.
- Around 86.21% of India's cultivated and uncultivated land is under small and marginal farmers holding less than 2 hectares of land.
- Average size of agriculture landholding declined to 1.08 hectares in 2015-16 from 1.15 hectares in 2010-11.
- Semi-medium and medium operational holdings (2-10 ha) in 2015-16 were 13.22%, with 43.61% of operated area.
- The average size of farm holding was highest in Nagaland at 5.06 hectares and lowest in Kerala at 0.18 hectares.
- Uttar Pradesh topped the chart in terms of the number of people tilling the land, followed by Bihar and Maharashtra.
- Rajasthan had the largest total operated area, followed by Maharashtra, Uttar Pradesh, Madhya Pradesh, and Karnataka.

Asiatic Lion census- 2020

Key Points:

- 674 lions were recorded in the 2020 census.
- The lion population has grown by almost 29% from the last count in 2015.
- The lion population in the state of Gujarat has doubled since 2001.
- The lion population in the state of Gujarat has expanded from 22,000 sq. km in 2015 to 30,000 sq.

km in 2020.

- The geographical distribution area for Gir forests' lions has been increased by 36%.

Population Distribution:

- The Asiatic lion population is limited to Gir National Park and the surrounding areas in the Indian state of Gujarat.
- Five protected areas currently exist to protect the Asiatic lion: Gir Sanctuary, Gir National Park, Pania Sanctuary, Mitiyala Sanctuary, and Girnar Sanctuary.

Tiger census in 2022

Population:

- The current tiger population in India is 3,167, up from 2,967 in 2018, which is a 200 increase.
- The largest tiger population of 785 is in Madhya Pradesh, followed by Karnataka (563) & Uttarakhand (560), and Maharashtra (444).

Growth Rate:

- The growth rate slowed to 6.7% in the four years from 2018 to 2022, from around 33% during 2014-2018.
- The tiger population has grown by 200 from 2018 to 2022.

Increase:

- There has been a significant increase in the tiger population in the Shivalik Hills and Gangetic Plains, while tiger occupancy in Jharkhand, Odisha, Chhattisgarh, and Telangana showed a decline.
- The North East Hills and Plains had 194 tigers captured by camera traps, and the region's Brahmaputra Nilgiri cluster is the largest tiger population in the world, contributing significantly to colonization of tigers in neighboring areas.

Decline:

- Tiger occupancy in the Western Ghats declined, the latest analysis showed. Significant declines were observed in the Wayanad landscape and in the Biligiriranga Hills.

High conservation priority:

- The genetically unique and small population of tigers in Simlipal is also highlighted as being of high conservation priority.

Sustainable Development Goal

- Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet, and ensure peace and prosperity for all.
- **No Poverty (SDG 1):** Reduce poverty and ensure that all people have access to basic needs like food and shelter.
- **Zero Hunger (SDG 2):** End hunger, achieve food security, and promote sustainable agriculture.
- **Good Health and Well-being (SDG 3):** Ensure healthy lives and promote well-being for all people, including access to healthcare and sexual and reproductive health.
- **Quality Education (SDG 4):** Ensure inclusive and equitable quality education and promote lifelong learning opportunities.
- **Gender Equality (SDG 5):** Achieve gender equality and empower all women and girls to have equal rights and opportunities.
- **Clean Water and Sanitation (SDG 6):** Ensure universal access to safe and affordable water and sanitation.
- **Affordable and Clean Energy (SDG 7):** Ensure access to affordable, reliable, and sustainable energy for all.
- **Decent Work and Economic Growth (SDG 8):** Promote sustained, inclusive, and sustainable economic growth and decent work for all.
- **Industry, Innovation, and Infrastructure (SDG 9):** Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
- **Reduced Inequalities (SDG 10):** Reduce income and social inequalities within and among countries.
- **Sustainable Cities and Communities (SDG 11):** Make cities and communities inclusive, safe, resilient, and sustainable.
- **Responsible Consumption and Production (SDG 12):** Ensure sustainable consumption and production patterns and achieve the efficient use of natural resources.
- **Climate Action (SDG 13):** Take urgent action to combat climate change and its impacts.
- **Life Below Water (SDG 14):** Conserve and sustainably use oceans, seas, and marine resources.
- **Life On Land (SDG 15):** Protect, restore, and promote the sustainable use of terrestrial and forest ecosystems.
- **Peace, Justice, and Strong Institutions (SDG 16):** Promote peaceful and inclusive societies, access to

justice, and effective and accountable institutions.

- **Partnerships for the Goals (SDG 17):** Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.
- These SDGs are interconnected and aim to create a more sustainable and equitable world for all by 2030.

Key facts regarding Sustainable Development Goals (SDGs):

- **17 Goals:** There are 17 SDGs, which are integrated and interconnected.
- **169 Targets:** There are 169 targets within the 17 goals.
- **232 Indicators:** There are 232 indicators to measure progress toward the targets.
- **Global Agenda:** SDGs are a global agenda, applicable to all countries, rich and poor.
- **Universal:** SDGs are universal, meaning they apply to all people, everywhere.
- **Integrative:** SDGs are integrative, balancing social, economic, and environmental dimensions.

Natural Resources in India

Energy Resources:

- **Coal:** India has the 4th largest coal reserves in the world, and coal mining started in 1774 in the Raniganj Coalfield in West Bengal. The country is the 2nd largest producer of coal globally, with major coal-producing states including Odisha, Chhattisgarh and Jharkhand.
- **Oil:** India has the 2nd largest proven oil reserves in the Asia-Pacific region, with most reserves located on the western coast (Mumbai High) and in the southeastern parts of the country. The state-owned Oil and Natural Gas Corporation (ONGC) is the largest oil company in India.
- **Natural Gas:** India has 1,437 billion cubic meters of confirmed natural gas reserves, with the western offshore regions and onshore fields in Assam, Tripura, Andhra Pradesh, Telangana, and Gujarat being major producers.

Mineral Resources

Major minerals:

India is a mineral-rich country and is home to several major minerals, including :

- **Iron ore:** Odisha, Jharkhand, Chhattisgarh, Karnataka, Goa
- **Bauxite:** Odisha, Gujarat, Jharkhand, Chhattisgarh, Maharashtra
- **Coal:** Jharkhand, Odisha, Chhattisgarh, West Bengal, Madhya Pradesh, Telangana
- **Lead:** Rajasthan, Andhra Pradesh, Madhya Pradesh, Jharkhand, Bihar
- **Zinc:** Rajasthan, Andhra Pradesh, Madhya Pradesh, Gujarat
- **Copper:** Madhya Pradesh, Rajasthan, Jharkhand, Maharashtra, Singhbhum district of Jharkhand
- **Gypsum:** Rajasthan, Tamil Nadu, Jammu and Kashmir, Gujarat
- **Chromite:** Odisha, Karnataka, Maharashtra, Andhra Pradesh, Tamil Nadu
- **Limestone:** Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Odisha, Rajasthan, Tamil Nadu
- **Manganese:** Odisha, Madhya Pradesh, Maharashtra, Karnataka, Andhra Pradesh
- **Silver:** Rajasthan, Madhya Pradesh, Karnataka, Andhra Pradesh, Gujarat
- **Nickel:** Odisha, Jharkhand, Karnataka, Maharashtra, Andhra Pradesh
- **Diamond:** Madhya Pradesh, Andhra Pradesh, Chhattisgarh, Maharashtra, Odisha
- **Gold:** Karnataka, Jharkhand, Rajasthan, Andhra Pradesh, Chhattisgarh, Kerala, Tamil Nadu

Minor Minerals in India

What are minor minerals?

- Minor minerals are minerals that are not specified in the Mines and Minerals (Development and Regulation) Act 1957. They are minerals that are used for building purposes, such as gravel, ordinary clay, ordinary sand, and other minerals that the Central Government may declare as minor minerals.

Examples of minor minerals:

- Agate
- Ball clay
- Barytes
- Calcareous sand
- Calcite

- Chalk
- China clay
- Clay (others)
- Corundum
- Diaspore
- Dolomite
- Dunite/pyroxenite
- Felsite
- Felspar
- Fireclay
- Fuschite quartzite
- Gypsum
- Jasper
- Kaolin
- Laterite
- Limekankar
- Mica
- Ochre
- Pyrophyllite
- Quartz
- Quartzite
- Sand (others)
- Shale
- Silica sand
- Slate
- Steatite/talc/soapstone

Regulation of minor minerals:

- The power to frame policy and legislation relating to minor minerals is entirely delegated to the State Governments, while policy and legislation relating to the major minerals are dealt by the Ministry of Mines under Union/Central Government. Various State Governments have indeed prescribed rules for the grant of mineral concessions in respect of minerals classified as minor minerals under the MMDR Act, 1957.

Agriculture in India

- India is one of the major players in the agriculture sector worldwide and it is the primary source of livelihood for ~55% of India's population.
- India has the world's largest cattle herd (buffaloes), the largest area planted for wheat, rice, and cotton, and is the largest producer of milk, pulses, and spices in the world.

- It is the second-largest producer of fruit, vegetables, tea, farmed fish, cotton, sugarcane, wheat, rice, cotton, and sugar.
- The agriculture sector in India holds the record for second-largest agricultural land in the world generating employment for about half of the country's population.
- The exports for principal commodities in 2023-24 (April-December) were the following:
 - » **Marine Product:** US\$ 5.85 billion
 - » **Basmati and non-Basmati Rice:** US\$ 7.32 billion
 - » **Spices:** US\$ 2.91 billion
 - » **Buffalo Meat:** US\$ 2.76 billion
 - » **Sugar:** US\$ 1.99 billion
 - » **Miscellaneous processed items:** US\$ 1.22 billion
 - » **Oil Meal:** US\$ 1.23 billion

Schemes

- **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Yojana:** This farmer welfare scheme provides a direct benefit of Rs 6,000 per year to all small and marginal farmers in the country.
- **Pradhan Mantri Fasal Bima Yojana (PMFBY):** This crop insurance scheme aims to provide financial protection to farmers against crop losses due to natural calamities, pests, and diseases.
- **Pradhan Mantri Krishi Sinchai Yojana (PMKSY):** This scheme aims to provide financial assistance to farmers for the installation of micro-irrigation systems.
- **Ayushman Sahakar Scheme:** This scheme provides financial assistance to cooperative societies in India to help them improve their health infrastructure.
- **National Agriculture Market (eNAM):** This electronic trading portal networks the existing APMC (Agriculture Produce Marketing Committee) mandis to create a unified national market for agricultural commodities.
- **Pradhan Mantri Kisan Maandhan Yojana (PM-KMY):** This is a voluntary and contributory pension scheme for small and marginal farmers in India.
- **Krishi Kalyan Abhiyan (KKA):** This centrally sponsored scheme aims to improve the income and livelihood of farmers in aspirational districts of India.
- **Soil Health Card Scheme:** This government initiative aims to improve the soil health of agricultural land in India by providing farmers with a detailed analysis of

the nutrient content of their soil.

- **National Bamboo Mission:** This scheme aims to promote the cultivation and use of bamboo in India.
- **Krishonnati Yojana:** This flagship initiative comprises 11 distinct schemes under one umbrella to holistically uplift the agricultural sector.
- **Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme (Yuva Sahakar):** This scheme aims to promote youth entrepreneurship in the cooperative sector.
- **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA):** This centrally sponsored scheme aims to provide price support to farmers for their produce.
- **Paramparagat Krishi Vikas Yojana (PKVY):** This scheme aims to promote organic farming.
- **National Food Security Mission (NFSM):** This scheme aims to increase the production of rice, wheat, and pulses in India.
- **Pandit Deen Dayal Upadhyay Unnat Krishi Shiksha Yojana:** This scheme aims to promote organic farming, natural farming, and a cow-based economy for environmental sustenance and soil health.
- **Rashtriya Gokul Mission:** This scheme aims to conserve and develop indigenous cattle breeds in India.

Major Agricultural Crops in India

Rice:

- **Temperature:** 22-32°C
- **Rainfall:** 150-300 cm
- **Soil:** Deep clayey and loamy soil

Wheat:

- **Temperature:** 10-15°C (sowing), 21-26°C (ripening and harvesting)
- **Rainfall:** 75-100 cm
- **Soil:** Well-drained fertile loamy and clayey loamy soil

Millets (Nutri-Cereals):

- **Temperature:** 27-32°C
- **Rainfall:** 50-100 cm
- **Soil:** Inferior alluvial or loamy soil

Maize:

- **Temperature:** 21-27°C
- **Rainfall:** High
- **Soil:** Old alluvial soil

Pulses:

- **Temperature:** 20-27°C
- **Rainfall:** 25-60 cm
- **Soil:** Sandy-loamy soil

Cotton:

- **Temperature:** 21-27°C
- **Rainfall:** 60-100 cm
- **Soil:** Well-drained fertile soil

Sugarcane:

- **Temperature:** 21-27°C
- **Rainfall:** 150-200 cm
- **Soil:** Well-drained fertile soil

Tea:

- **Temperature:** 15-25°C
- **Rainfall:** 150-200 cm
- **Soil:** Acidic soil

Coffee:

- **Temperature:** 15-25°C
- **Rainfall:** 150-200 cm
- **Soil:** Acidic soil

Spices:

- **Temperature:** Varies depending on the spice (e.g., chili 20-25°C, turmeric 20-25°C).
- **Rainfall:** Varies depending on the spice (e.g., chili 50-100 cm, turmeric 100-150 cm).
- **Soil:** Varies depending on the spice (e.g., chili: well-drained fertile soil, turmeric: slightly acidic soil).

Major Science Breakthrough in year 2023

Generative AI:

Generated AI refers to artificial intelligence that is created or generated through various techniques, such as:

- **Machine Learning:** Algorithms that enable machines to learn from data and improve their performance over time.
- **Deep Learning:** A subset of machine learning that uses neural networks to analyze data.
- **Natural Language Processing (NLP):** Enables computers to understand, generate, and process human language.
- **Generative Adversarial Networks (GANs):**

Algorithms that generate new data similar to a given dataset.

- **Evolutionary Algorithms:** Inspired by natural evolution, these algorithms generate AI through iterative selection and mutation.
- Generated AI has numerous applications, including:
 - » Image and video generation
 - » Natural language generation (text, chatbots)
 - » Music and audio generation
 - » Robotics and control systems
 - » Predictive modeling and forecasting
- Examples of generated AI include:
 - » AI-generated artwork
 - » Chatbots and virtual assistants
 - » AI-generated music and music composition
 - » Self-driving cars and autonomous systems
 - » Predictive models for finance, healthcare, and climate forecasting

The hottest year in the record:

- The year 2023 was the warmest year since global records began in 1850 at 1.18°C (2.12°F) above the 20th century average of 13.9°C (57.0°F). This value is 0.15°C (0.27°F) more than the previous record set in 2016. The 10 warmest years in the 174-year record have all occurred during the last decade (2014–2023).

New crisper therapies Casgevy for sickle cell disease and beta thalassaemia:

- Casgevy is a gene therapy that is given as a one-time intravenous infusion to treat adults and children aged 12 years and older with sickle cell disease with recurrent vaso-occlusive crises (VOCs) and transfusion-dependent β -thalassaemia (TDT).
- It is made from a person's own blood stem and progenitor cells which are collected and sent for editing using non-viral, CRISPR/Cas9 technology.

How does Casgevy work?

- The technology finds and edits the parts of the DNA containing the BCL11A gene to reduce its activity.
- The edited cells are then infused back into the patient as part of an autologous hematopoietic stem cell transplant (HSCT) after myeloablative busulfan conditioning.
- This means the patient continues to make more HbF and less HbA which has been shown to reduce or

eliminate VOCs for patients with SCD and transfusion requirements for patients with TDT.

Drug Wegovy:

- Wegovy is a prescription drug that's used to help with weight loss in certain people. It is given as an injection under the skin.

What is Wegovy used for?

Wegovy is recommended with exercise and a low calorie diet for long-term weight loss in:

- Adults with a body mass index (BMI) of 30 or higher (obesity).
- Adults with a BMI of 27 or higher (which is considered overweight) and a health condition that's related to weight.
- Children 12 years and older whose BMI is in the 95th percentile or higher (which is considered obesity)

LK-99:

- A group of South Korean scientists have recently claimed the discovery of a material they named LK-99. According to the reports, LK-99 is a superconductor at room temperature and pressure.
- Superconductors are materials that exhibit zero electrical resistance when cooled to extremely low temperatures. This property allows them to conduct electricity with no loss of energy. Example: Lanthanum-Barium-Copper Oxide, Yttrium-Barium-Copper Oxide, Niobium-Tin etc.

Climate tipping point in 2023:

- Climate tipping points refer to the critical thresholds beyond which a system or process undergoes a significant and often irreversible change. In 2023, several climate tipping points are being closely monitored due to their potential impacts on the environment and human societies. Some of the key climate tipping points to watch include:
 - **Arctic Ice Melting:** The Arctic ice cap has been melting at an alarming rate, with some projections suggesting it could disappear entirely during summer months by 2040.
 - **West Antarctic Ice Sheet Collapse:** The West Antarctic Ice Sheet is considered unstable and at risk of collapse, which could raise global sea levels by several meters.

- **Coral Reef Die-Off:** Rising ocean temperatures and acidification threaten the world's coral reefs, with potentially devastating consequences for marine ecosystems and coastal communities.
- **Amazon Rainforest Die-Back:** Deforestation and climate change put the Amazon rainforest at risk of reaching a tipping point, beyond which it could transition from a lush forest to a dry savanna.
- **Methane Release from Permafrost:** Thawing permafrost could release massive amounts of methane, a potent greenhouse gas, accelerating global warming.
- **Ice Sheet Collapse in Greenland:** Greenland's ice sheet is losing mass at an increasing rate, with potential consequences for sea level rise and global ocean currents.
- **Monsoon Pattern Disruption:** Changes in monsoon patterns could have significant impacts on agriculture, water resources, and societies in regions like India, Africa, and Southeast Asia.
- **Ocean Current Disruption:** Changes in ocean circulation patterns, like the Gulf Stream, could have significant effects on regional climate and marine ecosystems.

Green chemistry:

- Green chemistry, similar to sustainable chemistry or circular chemistry, is an area of chemistry and chemical engineering focused on the design of products and processes that minimize or eliminate the use and generation of hazardous substances.

Space exploration:

- NASA's Artemis program aims to land the first woman and the first person of color on the Moon by 2026. The Europa Clipper mission will orbit around Jupiter and fly by Europa, one of Jupiter's moons, to study the presence of water and its habitability.

NTLA-2001

- Intellia Therapeutics received FDA clearance for a phase 3 trial of a drug called NTLA-2001 to treat transthyretin (ATTR) amyloidosis with cardiomyopathy.
- NTLA-2001 is a CRISPR-based gene editing therapy that can potentially be the first single-dose treatment for ATTR amyloidosis.
- **Treatment:** NTLA-2001 is the first investigational CRISPR therapy candidate to be administered

systemically to edit genes inside the human body.

- **Gene editing:** NTLA-2001 uses CRISPR/Cas9 technology to edit the TTR gene, which causes ATTR amyloidosis.
- **Delivery:** NTLA-2001 uses lipid nanoparticles to deliver the CRISPR/Cas9 system to the liver.
- **Efficacy:** Robust preclinical and clinical data show deep and long-lasting transthyretin (TTR) reduction following in vivo inactivation of the target gene.
- **Potential:** NTLA-2001 has the potential to be a single-administration therapeutic for ATTR amyloidosis.

Neutrino

- **Neutrino mass:** The most recent and precise measurement of the neutrino mass was conducted by the Karlsruhe Tritium Neutrino Experiment (KATRIN) in Germany, has established a new upper limit on the neutrino's mass at less than 0.8 electron volts (eV).
- **Neutrino physics:** In 2024, the XXXI International Conference on Neutrino Physics and Astrophysics will be held in Milan, Italy, from June 16 to 22. The conference will be a platform for scientists to discuss the latest results, ideas, and future perspectives in neutrino physics, astrophysics, and cosmology.

Semiconductor made from graphene:

- The first functional semiconductor made from graphene was created by a team of researchers at the Georgia Institute of Technology.
- The semiconductor has 10 times the mobility of silicon, which means that electrons can move through it with much less resistance. This could lead to significant increases in computing speed.
- The semiconductor is made from a single layer of carbon atoms, which makes it much thinner than traditional silicon semiconductors. This could lead to the development of smaller, more powerful devices.

Light-matter hybrid:

- Researchers have discovered a new phase of matter, named a "light-matter hybrid", which may reshape understanding of how light interacts with matter.
- The "light-matter hybrid" is a phase that occurs when electrons interact with powerful radiation.
- The researchers used attosecond X-ray absorption spectrometry to study light-particle interactions on

attosecond timescales.

- The study revealed that varying the intensity of infrared light altered the electron's properties in correlation with the power of the radiation.
- The "light-matter hybrid" phase has a lower resistance than the original state, similar to superconductivity.
- The study's findings could prove valuable in the development of solar cells and optical computing.

Gigantopithecus blacki:

- Scientists found that the largest known primate, *Gigantopithecus blacki* likely died out between 295,000 and 215,000 years ago after it failed to adapt its diet or behaviors to environmental changes that began around 700,000 years ago.
- A study presents results of a Riyadh-based trial of eight urban heat mitigation scenarios, finding large cooling effects with combinations that include reflective rooftop materials, irrigated greenery, and retrofitting.

SLIM spacecraft:

- SLIM is short for Smart Lander for Investigating Moon, a Japanese Aerospace Exploration Agency (JAXA) mission.
- SLIM launched on September 6, 2023, and landed on the Moon on January 19, 2024.

What is SLIM's purpose?

- SLIM is designed to demonstrate accurate lunar landing techniques by a small explorer, with the objective of accelerating the study of the Moon and planets using lighter exploration systems.
- The techniques demonstrated by this mission will pave the way for future lunar sample return missions.

LISA Mission:

- The LISA mission, or Laser Interferometer Space Antenna, will be the first space-based gravitational wave observatory.
- LISA will consist of three spacecraft separated by 2.5 million km in a triangular formation, following Earth in its orbit around the Sun.

Mission Objectives:

- The mission aims to detect, across the entire Universe, the ripples in spacetime caused when huge black holes at the centers of galaxies collide.
- This will enable scientists to trace the origin of these monstrous objects, chart how they grow to be millions

of times more massive than the Sun, and establish the role they play in the evolution of galaxies.

- The mission is poised to capture the predicted gravitational "ringing" from the initial moments of our Universe and offer a direct glimpse into the very first seconds after the Big Bang.

Launch and Timeline:

- Launch is expected in 2035.
- The mission is currently in the development stage.

Collaboration:

- The LISA mission is a collaborative effort between the European Space Agency (ESA), NASA and an international consortium of scientists.
- Neuralink implants their first microchip into a human brain
- Elon Musk's Neuralink has implanted its first brain-computer interface (BCI) into a human for the first time.
- The recipient has recovered well and initial results showed promising neuron spike detection.
- The chip is a transmitter attached to ultra-fine "threads" that record neural activity and transmits the electrical signals picked up by the threads wirelessly to the Neuralink Application.
- The first product from Neuralink would be called Telepathy and would enable users to control their phone or computer with thoughts alone.

Super Earth - TOI-715 b:

- TOI-715 b is a super-Earth exoplanet that orbits an M-type star.
- **Location:** The planet is located 137 light-years away from Earth and orbits a small, reddish star.
- **Size:** The planet is about one and a half times as wide as Earth.
- **Orbit:** The planet orbits within the conservative habitable zone around its parent star.
- **Year:** A year on this planet is 19.3 days long.
- **Temperature:** The equilibrium temperature of the planet is 234 K (-39°C).
- **Atmosphere:** The planet's atmosphere could offer clues to the possible presence of life.
- **Discovery:** The planet was discovered by the Transiting Exoplanet Survey Satellite (TESS) in 2023.

Zoozve:

- The name Zoozve for Venus' quasi-moon 2002 VE was officially approved and announced by the International Astronomical Union's Working Group Small Bodies Nomenclature (WGSBN) on February 5, 2024.
- Zoozve is a quasi-moon of Venus, meaning it appears to orbit the planet but is not gravitationally bound. It actually circles both Venus and the Sun in a complex orbit.

Calcium Ion battery:

- Researchers have made progress in developing calcium-ion batteries with high performance, including the use of oxide structures and new electrolytes.
- Calcium-ion batteries could potentially replace lithium-ion batteries in various applications, including electric vehicles, grid storage, and consumer electronics.
- Calcium is abundant, environmentally benign, non-toxic, and inexpensive, making it a promising alternative to lithium for batteries.

Calcium-ion battery vs. lithium-ion battery performance:

- Calcium-ion batteries have a higher energy density than lithium-ion batteries.
- Calcium-ion batteries have a higher cell voltage than lithium-ion batteries.
- Calcium-ion batteries have a higher capacity than lithium-ion batteries.
- Calcium-ion batteries are less efficient than lithium-ion batteries.

Water molecules on the surface of asteroids:

- **Water detection:** Water molecules were detected on the surface of two asteroids, Iris and Massalia, using data from the Stratospheric Observatory for Infrared Astronomy (SOFIA).
- **Spectral analysis:** The detection was made by analyzing the spectral signatures of the asteroids, which revealed the presence of water molecules .
- **Asteroid composition:** The asteroids are primarily composed of silicates, which are common in the inner solar system.
- **Water distribution:** The detection of water on these asteroids suggests that water may be more widely distributed in the solar system than previously thought.
- **Implications for life:** The presence of water on asteroids has implications for the search for life beyond

Earth, as water is a necessary ingredient for life as we know it.

QSO J0529-4351 :

- **Brightness:** QSO J0529-4351 is the most luminous object known to date, shining more than 500 trillion times brighter than the Sun.
- **Location:** The quasar is located 12 billion light years away in the constellation Pictor.
- **Black Hole:** The quasar is powered by a supermassive black hole at its center, which has a mass of 17 billion suns and consumes over a solar mass per day.
- **Accretion Disk:** The quasar's accretion disk is the largest known, measuring seven light-years in diameter, and is 15,000 times the distance between the Sun and Neptune.
- **Growth Rate:** The black hole in the quasar is growing in mass by the equivalent of one Sun per day, making it the fastest-growing black hole known to date.

mRNA-4157/V940 vaccine:

- mRNA-4157/V940 is a novel investigational messenger ribonucleic acid (mRNA)-based personalized cancer vaccine that is currently in the final-stage Phase III trial.
- **Personalized cancer vaccine:** mRNA-4157/V940 is designed to prime the immune system to generate a tailored antitumor response specific to each patient's tumor mutation signature.
- **mRNA-based:** The vaccine consists of a single synthetic mRNA coding for up to 34 neoantigens, which are designed and produced based on the unique mutational signature of the patient's tumor.
- **Combination therapy:** mRNA-4157/V940 is being developed in combination with KEYTRUDA (pembrolizumab), an immunotherapy that works by increasing the ability of the body's immune system to help detect and fight tumor cells.

Vitamins

- Vitamins are essential nutrients that play a crucial role in maintaining optimal health.

Fat-Soluble Vitamins:

- **Vitamin A (Retinol):** important for vision, immune function, and skin health.
- **Vitamin D (Cholecalciferol):** crucial for bone health,

immune function, and mood regulation.

- **Vitamin E (Tocopherol):** acts as an antioxidant, protecting cells from damage.
- **Vitamin K (Phylloquinone):** necessary for blood clotting and bone health.

Water-Soluble Vitamins:

- **Vitamin C (Ascorbic Acid):** Essential for immune function, collagen production, and iron absorption.
- **Thiamin (Vitamin B1):** Necessary for energy production and nerve function.
- **Riboflavin (Vitamin B2):** Important for energy production and vision health.
- **Niacin (Vitamin B3):** Crucial for energy production and skin health.
- **Pantothenic Acid (Vitamin B5):** Necessary for energy production and hormone production.
- **Vitamin B6 (Pyridoxine):** Involved in many bodily processes, including energy production and nerve function.
- **Biotin B6:** Important for energy production, nerve function, and healthy skin, hair, and nails.
- **Folate (Vitamin B9):** Necessary for fetal development during pregnancy and energy production.
- **Vitamin B12 (Cobalamin):** Crucial for energy production, nerve function, and the formation of red blood cells.

Key Functions:

- Energy production and metabolism
- Immune system support
- Growth and development
- Maintenance of healthy skin, hair, and nails
- Bone health and density
- Vision health
- Nerve function and transmission
- Blood clotting and circulation

Food sources for vitamins:

- **Vitamin A:** Sweet potatoes, carrots, spinach, fortified cereals
- **Vitamin B1 (thiamine):** Whole-grain, enriched, fortified products like bread and cereals
- **Vitamin B2 (riboflavin):** Milk, bread products, fortified cereals
- **Vitamin B3 (niacin):** Meat, fish, poultry, enriched and whole-grain breads, fortified cereals

- **Vitamin B5 (pantothenic acid):** Chicken, beef, potatoes, oats, cereals, tomatoes
- **Vitamin B6:** Fortified cereals, fortified soy products, chickpeas, potatoes, organ meats
- **Vitamin B7 (biotin):** Liver, fruits, meats
- **Vitamin B12:** Fish, poultry, meat, dairy products, fortified cereals
- **Vitamin C:** Red and green peppers, kiwis, oranges and other citrus fruits, strawberries, broccoli, tomatoes
- **Vitamin D:** Fish liver oils, fatty fish, fortified milk products, fortified cereals
- **Vitamin E:** Fortified cereals, sunflower seeds, almonds, peanut butter, vegetable oils
- **Vitamin K:** Green vegetables like spinach, collards, and broccoli; Brussels sprouts; cabbage

Blood

Components of Blood:

- **Plasma:** Liquid portion of blood, mostly water, proteins, nutrients, hormones, gases, and waste products.
- **Red Blood Cells (RBCs):** Carry oxygen from lungs to body tissues.
- **White Blood Cells (WBCs):** Part of immune system, fight infection and disease.
- **Platelets:** Help blood clotting and stop bleeding.

Blood Types:

ABO Group:

- A
- B
- AB
- O

Rh Type:

- Rh positive
- Rh negative

Blood Functions:

- **Oxygen Transport:** RBCs carry oxygen from lungs to body tissues.
- **Carbon Dioxide Transport:** RBCs carry carbon dioxide from body tissues to lungs.
- **Nutrient Transport:** Plasma carries nutrients from digestive system to body tissues.
- **Waste Removal:** Plasma carries waste products from

- body tissues to excretory organs.
- **Regulation of pH:** Blood helps maintain body's acid-base balance.
- **Regulation of Body Temperature:** Blood helps regulate body temperature.
- **Immune System Function:** WBCs fight infection and disease.
- **Blood Clotting:** Platelets help stop bleeding.

Regulatory Bodies in India

Securities and Exchange Board of India (SEBI):

Establishment of SEBI:

- The Securities and Exchange Board of India was constituted as a non-statutory body on April 12, 1988.
- SEBI was established as a statutory body in 1992 and the provisions of the Securities and Exchange Board of India Act, 1992 came into force on January 30, 1992.

Powers and Functions of the Board:

SEBI has been vested with the following powers:

- Approve by-laws of Securities exchanges.
- Require the Securities exchange to amend their by-laws.
- Inspect the books of accounts and call for periodical returns from recognised Securities exchanges.
- Inspect the books of accounts of financial intermediaries.
- Compel certain companies to list their shares in one or more Securities exchanges.
- Registration of Brokers and sub-brokers.
- Eliminate malpractices in security market.

Objective:

- The Preamble of the Securities and Exchange Board of India describes the basic functions of the Securities and Exchange Board of India as "...to protect the interests of investors in securities and to promote the development of, and to regulate the securities market and for matters connected therewith or incidental thereto".

Reserve Bank of India (RBI):

- **Role:** RBI is India's central bank and regulatory body responsible for regulation of the Indian banking system.
- **Functions:** RBI regulates the issue of bank notes and keeps reserves to secure monetary stability in India. It also operates the currency and credit system of the country to its advantage.

- **History:** RBI was established in 1934 under the Reserve Bank of India Act and was nationalized in 1949.
- **Ownership:** RBI is owned by the Ministry of Finance, Government of India.
- **Governance:** The overall direction of RBI lies with the 21-member central board of directors, composed of the governor, four deputy governors, two finance ministry representatives, ten government-nominated directors, and four directors representing local boards.

Objectives:

- RBI aims to maintain price stability while keeping in mind the objective of growth and to have a modern monetary policy framework to meet the challenge of an increasingly complex economy.

Insurance Regulatory and Development Authority of India (IRDAI):

- The Insurance Regulatory and Development Authority of India (IRDAI) is an autonomous and statutory body under the Ministry of Finance, Government of India.
- **Formation:** IRDAI was formed in 1999.
- **Functions:** IRDAI is tasked with regulating and licensing the insurance and re-insurance industries in India.
- **Objectives:** IRDAI's objectives include promoting competition to enhance customer satisfaction with increased consumer choice and lower premiums while ensuring the financial security of the insurance market.
- **Structure:** IRDAI is a 10-member body including the chairman, five full-time and four part-time members appointed by the government of India.
- **Functions:** IRDAI's functions include issuing, renewing, modifying, withdrawing, suspending or cancelling registrations, protecting policyholder interests, specifying qualifications, the code of conduct and training for intermediaries and agents, and more.

Competition Commission of India (CCI):

- The Competition Commission of India (CCI) was formed on October 14, 2003, under the Competition Act, 2002. The CCI was created to promote and sustain competition and to prevent anti-competitive practices in India. The CCI became fully functional in May 2009 with Dhanendra Kumar as its first chairman.
- **Composition:** The CCI consists of a chairperson and

six members appointed by the Central Government.

- **Functions:** The CCI is responsible for enforcing the Competition Act, 2002, and promoting competition and preventing anti-competitive practices in India.
- **Objectives:** The main objectives of CCI are to promote economic efficiency, protect the interests of consumers, and ensure freedom of trade in the markets of India.
- **Powers:** The CCI has the power to investigate, impose penalties, and issue orders to prevent anti-competitive practices.
- **Jurisdiction:** The CCI has jurisdiction over the whole of India and can investigate cases related to anti-competitive practices in any sector.

Central Electricity Regulatory Commission:

- The Central Electricity Regulatory Commission (CERC) was formed on July 24, 1998, under the Electricity Regulatory Commissions Act of 1998.

Powers:

- Conduct investigations and inquiries
- Impose penalties and fines
- Grant or revoke licenses
- Determine tariffs and charges
- Resolve disputes and appeals

Composition:

- CERC consists of a chairperson and members appointed by the Central Government.

Telecom Regulatory Authority of India (TRAI):

- The Telecom Regulatory Authority of India (TRAI) is a regulatory body set up by the Government of India under section 3 of the Telecom Regulatory Authority of India Act, 1997. It is the regulator of the telecommunications sector in India.

Objectives of TRAI:

- To create and nurture conditions for the growth of telecommunications in India to enable the country to have a leading role in the emerging global information society.
- To ensure that the interests of consumers are protected and at the same time to nurture conditions for growth of telecommunications in the country in a manner and at a pace which will enable India to play a leading role in emerging global information society.
- To provide a fair and transparent policy environment which promotes a level playing field and facilitates fair

competition.

History of TRAI:

- TRAI was established on 20 February 1997 by an Act of Parliament to regulate telecom services and tariffs in India.

Composition of TRAI:

- TRAI consists of a chairperson and not more than two full-time members and not more than two part-time members. The TRAI Act was amended by an ordinance, effective from 24 January 2000, establishing a Telecom Disputes Settlement and Appellate Tribunal to take over the adjudicatory and disputes functions from TRAI.

Functions of TRAI:

- TRAI regularly issues orders and directions on various subjects such as tariffs, interconnections, quality of service, direct to home services and mobile number portability.

Food Safety and Standards Authority of India (FSSAI):

- The Food Safety and Standards Authority of India (FSSAI) is a statutory body under the administration of the Ministry of Health and Family Welfare, Government of India .
- **Objective:** FSSAI regulates the manufacture, storage, distribution, sale, and import of food articles, while also establishing standards to ensure food safety.
- **History:** FSSAI was established on 5 September 2008 under Food Safety and Standards Act, 2006.
- **Functions:** FSSAI has various functions, including framing of regulations to lay down food safety standards, laying down guidelines for accreditation of laboratories for food testing, providing scientific advice and technical support to the Central Government, contributing to the development of international technical standards in food, collecting and collating data regarding food consumption, contamination, emerging risks, etc., and disseminating information and promoting awareness about food safety and nutrition in India .
- **Location:** FSSAI has its headquarters at New Delhi, and has four regional offices located in Delhi, Mumbai, Kolkata, and Chennai.

Drugs Controller General of India (DCGI):

- The Drugs Controller General of India (DCGI) is the head of the Central Drugs Standard Control Organization (CDSCO) in India, and the CDSCO was established in 1940. The CDSCO is a national level regulatory body under the Ministry of Health and Family Welfare, and the body is responsible for approving licenses for certain categories of drugs.
- The CDSCO is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act.
- CDSCO has nine zonal offices, seven sub-zonal offices, 18 port offices, seven central laboratories, and six mini labs under its control.
- The CDSCO is the National Regulatory Authority (NRA) of India.
- Headquarter: New Delhi.

National Pharmaceutical Pricing Authority:

- The National Pharmaceutical Pricing Authority (NPPA) was established on August 29, 1997, as an attached office of the Department of Chemicals and Petrochemicals (now the Department of Pharmaceuticals).

Functions:

- NPPA is an independent Regulator for pricing of drugs.
- NPPA ensures the availability and accessibility of medicines.
- NPPA fixes/revises the prices of controlled bulk drugs and formulations.
- NPPA enforces prices and availability of medicines in the country, under the Drugs (Prices Control) Order, 1995.

Central Pollution Control Board (CPCB):

Functions:

- Monitoring of water and air quality
- Maintaining national standards under various environmental laws
- Conducting environmental assessments and research
- Providing technical assistance and guidance to State Pollution Control Boards
- Resolving disputes among State Pollution Control Boards
- Enforcement of environmental regulations
- Issuing directions and orders to industries and

individuals

- Conducting inspections and investigations
- Providing training and capacity building programs
- Creating public awareness and education programs

Organization Structure:

- Headquarter: New Delhi
- Six zonal offices and 14 sub-zonal offices.

Laws and Regulations:

- Water (Prevention and Control of Pollution) Act, 1974
- Air (Prevention and Control of Pollution) Act, 1981
- Environment (Protection) Act, 1986
- Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016
- Solid Waste Management Rules, 2016
- Plastic Waste Management Rules, 2016

Airport Economic Regulatory Authority (AERA):

- **Objective:** To regulate the charges for aeronautical services provided at airports

Functions:

- Fix the charges for aeronautical services.
- Encourage investment in airport facilities.
- Promote healthy competition among major airports.
- Established: As per the AERA Act, 2008.

Pension Fund Regulatory and Development Authority (PFRDA):

- Pension Fund Regulatory and Development Authority (PFRDA) is the regulatory body for overall supervision and regulation of pensions in India.

Establishment:

- The interim Pension Fund Regulatory and Development Authority (PFRDA) was established on 23 August 2003 through a resolution by the Government of India to promote, develop and regulate the pension sector in India.

Functions:

- PFRDA regulates the NPS subscribed by the employees of the Government.
- PFRDA ensures orderly growth and development of the pension market.

MCQs Based on Current Affairs

- 1. What is sachetization in the context of financial products and services?**
 - A. Making financial products and services available in smaller, more manageable packets.
 - B. Making financial products and services available in larger, more complex packets.
 - C. Making financial products and services available only to select customers.
 - D. Making financial products and services unavailable to customers.
- 2. The Global Competitiveness Report is published by the**
 - A. International Monetary Fund
 - B. United Nations Conference on Trade and Development
 - C. World Economic Forum
 - D. World Bank
- 3. Consider the following statements:**
 1. TAK-003 is a dengue vaccine candidate developed by Takeda Pharmaceuticals.
 2. It is a tetravalent vaccine, meaning it targets all four serotypes of the dengue virus (DEN-1, DEN-2, DEN-3, and DEN-4).
 3. It has undergone phase III clinical trials and has shown efficacy in preventing dengue fever and hospitalization due to dengue.

How many of the above statements is/are correct?

 - A. Only one
 - B. Only two
 - C. All three
 - D. None
- 4. Consider the following statements:**
 1. The International Organisation for Migration (IOM) revealed in its World Migration Report 2024 that India's remittances surged to \$111 billion in 2022.
 2. India also leads the list followed by Mexico, China, Philippines, and France.
 3. India also has the largest number of international migrants.

How many of the above statements is/are correct?

 - A. Only one
 - B. Only two
 - C. All three
 - D. None
- 5. Consider the following statements:**
 1. Shamlat Deh land is a type of common land or community-owned land in Haryana, India.
 2. It is created by multiple landowners contributing an equal portion of their individual land holdings to serve the common purposes of the village's people.
 3. There has been a long-standing dispute over Shamlat Deh land in Haryana, with landowners challenging the 1992 amendment to the Punjab Village Common Lands (Regulation) Act, 1961.

How many of the above statements is/are correct?

 - A. Only one
 - B. Only two
 - C. All three
 - D. None
- 6. With reference to the country Venezuela, which of the following statements are correct?**
 1. It has the world's largest oil reserves.
 2. It is the largest country in South America.
 3. Lake Maracaibo is located in the country.

Select the correct answer using the codes given below:

 - A. 1 only
 - B. 1 and 2 only
 - C. 1 and 2 only
 - D. 1 and 3 only
- 7. With reference to the Personality Rights, consider the following statements:**
 1. Personality rights refer to the right of a person to protect his/her personality under the right to privacy or property.
 2. Personality rights are same as publicity rights.

Which of the statements given above is/are correct?

 - A. 1 only
 - B. 2 only
 - C. Both 1 and 2
 - D. Neither 1 nor 2
- 8. Consider the following statements:**
 1. The melting of polar ice due to human-induced global warming and subsequent movement of water towards the equator has led to the slowing down of the Earth's rotation.
 2. Due to the movement of water from the pole to the equator, Earth has become slightly less spherical and more flattened, causing the rotation

to slow down.

Which of the statements given above is/are correct?

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

9. Consider the following statements:

1. Scientists at the ICAR-National Bureau of Fish Genetic Resources (NBFGR) working on sea anemones of the Lakshadweep group of islands have found mass anemone bleaching off the Agatti island.
2. Coral bleaching is not a new phenomenon in the Lakshadweep, but sea anemone bleaching has been observed for the first time in the group of islands.

Which of the statements given above is/are correct?

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

10. Consider the following statements with reference to Nairobi Declaration on fertilizer:

1. The Nairobi Declaration aims to triple domestic fertilizer production by 2034, with an emphasis on local production and reduced reliance on imports.
2. The declaration is part of a 10-year action plan that includes the Soil Initiative for Africa (SIA) and a mechanism to finance the action plan.
3. The declaration was endorsed by African presidents at the second Africa Fertilizer and Soil Health Summit held in Kenya in May 2024.

How many of the above statements is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

11. Which organization reported that rhinos, elephants, pangolins, cedars, rosewoods, and agarwood are most affected by illegal wildlife trade?

- A. UNODC
- B. IUCN
- C. WWF
- D. CITES

12. What is the current threat level of the Iberian lynx?

- A. Critically endangered
- B. Endangered
- C. Vulnerable
- D. Extinct

13. With reference to the Personality Rights, consider the following statements:

1. Recently, The Supreme Court ruled that the Enforcement Directorate (ED) cannot arrest someone under Section 19 of the Prevention of Money Laundering Act (PMLA).
2. Section 19 of the Prevention of Money Laundering Act (PMLA), 2002, empowers the Enforcement Directorate (ED) to arrest a person suspected of committing the offence of money laundering.

Which of the statements given above is/are correct?

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

14. With reference to the losses of farmland tree, consider the following statements:

1. Maharashtra and Telangana faced significant losses of farmland trees, with up to 50% of trees per square kilometer disappearing in some areas.
2. India experienced a 11% decline in farmland trees between 2010 and 2018, with an estimated 5.3 million trees lost.

Which of the statements given above is/are correct?

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

15. Consider the following statements:

1. Recently, World Wildlife Crime Report was released by the United Nations Office on Drugs and Crime.
2. The report provides insights into the illegal wildlife trade that occurred between 2015 and 2021.
3. Report find that Rhino and pangolin were the animal species most affected

How many of the above statements is/are correct?

- A. Only one
- B. Only two
- C. All three

D. None

16. Consider the following statements:

1. According to Goldman Sachs report India's services exports have more than doubled in the past 18 years, reaching \$340 billion in 2023 and are expected to touch \$800 billion by 2030.
2. Services exports have grown from 2% to 4.6% of global services exports between 2005 and 2023, while goods exports in the same period only grew to 1.8% from 1%.
3. India's services exports will comprise 11% of the GDP by 2030, which would amount to \$800 billion.

How many of the above statements is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

17. Consider the following statements:

1. The IMF recently revised India's growth forecast upward to 6.8% from 6.5% projected in its January forecast for FY25.
2. The fund also revised India's FY24 growth outlook upward to 7.8%, higher than the government's projection of 7.6%.
3. India's inflation declined to a 10-month low of 4.9% in March.

How many of the above statements is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

18. What was the main purpose of the 4th Session of India-Ghana Joint Trade Committee held in Accra?

- A. To discuss the possibilities of a Memorandum of Understanding (MoU) on Digital transformation Solutions.
- B. To review the recent developments in bilateral trade and investment ties between India and Ghana
- C. To identify areas of focus for enhancing bilateral trade and mutually beneficial investments
- D. All of the above

19. Consider the following statements about Kanwar Lake, recently seen in news:

1. It is the second largest oxbow lake at the Begusarai

district of Bihar.

2. It was declared a Ramsar site in 2020.
3. It is a freshwater lake.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

20. Consider the following statements about Economic Cooperation and Trade Agreement (ECTA), recently seen in news:

1. Australia and India signed the Economic Cooperation and Trade Agreement (ECTA), which went into effect on December 29, 2022.
2. The deal removes tariffs on 96% of Indian exports to Australia and 85% of Australian exports to India.
3. The two countries are currently negotiating a Comprehensive Economic Cooperation Agreement (CECA), which will build upon the ECTA outcomes

21. Consider the following statements about PS4 Engine:

1. It is a crucial component of India's Polar Satellite Launch Vehicle.
2. It operates on a bipropellant combination comprising nitrogen tetroxide (N₂O₄).
3. It is manufactured using Additive Manufacturing technology.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

22. Which of the following is NOT a neighboring country of Nigeria?

- A. Benin
- B. Cameroon
- C. Chad
- D. South Africa

23. Consider the following statements about India and Mongolia relationship.

1. India established diplomatic relations with Mongolia in 1955 and was the first country outside the Soviet bloc to do so.
2. The Indian Resident Mission in Ulaanbaatar was opened in 1971.

3. The relationship was upgraded to a “strategic partnership” in 2015.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

24. Which region is disputed between Armenia and Azerbaijan?

- A. South Caucasus
- B. Nagorno-Karabakh
- C. Artsakh
- D. All of the above

25. With reference to the Igla-S Air Defence Systems, consider the following statements:

1. It is a Very Short Range Air Defence System which serves as a portable, shoulder-fired surface-to-air missile system.
2. It has been contracted by the Russian Army under Emergency Procurements.

Which of the statements given above is/are incorrect?

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

26. Consider the following statements

1. Kerala's health department recently reported West Nile fever cases in three districts.
2. It is a disease caused by the West Nile Virus (WNV).
3. WNV is a member of the flavivirus genus and belongs to the Japanese encephalitis antigenic complex of the family Flaviviridae.
4. Birds are the natural hosts of WNV.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. Only three
- D. All four

27. Consider the following statements

1. Recently, Indian Space Situational Assessment Report (ISSAR) for 2023 has been released by ISRO.
2. The report assesses the vulnerability of space assets in outer space to various environmental hazards.
3. About 1,37,565 close approach alerts were

received from USSPACECOM.

4. Collision avoidance maneuvers (CAMs): A total of 23 CAMs were carried out during 2023 to protect Indian space assets.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. Only three
- D. All four

28. Consider the following statements

1. The World Health Organization (WHO) recently released the Global report on neglected tropical diseases 2024.
2. The report provides an account of the progress made in 2023 toward the implementation of the Road map for neglected tropical diseases 2021–2030.
3. The report is divided into four sections and provides a comprehensive overview of the progress made towards the control, elimination, and eradication of 20 diseases and disease groups globally, regionally, and nationally.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

29. With reference to the Artificial General Intelligence (AGI), consider the following statements:

1. Artificial General Intelligence (AGI) is a hypothetical AI system that possesses the ability to understand, learn, and apply knowledge across a wide range of tasks and domains.
2. AGI is an advanced form of AI that can perform any intellectual task that human beings can, and perform it better

Which of the statements given above is/are incorrect?

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

30. What is the Delhi High Court's stance on Oxytocin usage in animals?

- A. It is acceptable as long as it is used in moderation
- B. It is a cognizable offense under the Prevention of Cruelty to Animals Act, 1960

- C. It is only acceptable for certain breeds of cattle
- D. It is only acceptable for certain dairy farms

31. Consider the following statements about the International Solar Alliance:

1. It is an intergovernmental organization.
2. It was founded by India France at the United Nations Climate Change Conference in Paris.
3. Its headquarter is at Barmer in Rajasthan.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

32. Consider the following statements:

1. Recently, A seven-member delegation from India led by Additional Secretary, Department of Commerce, Amardeep Singh Bhatia, visited Nigeria and held a Joint Trade Committee (JTC) meeting with their Nigerian counterparts in Abuja.
2. During the meeting India and Nigeria have identified areas to increase cooperation for boosting economic ties.
3. India and Nigeria have agreed in 2017 to establish a Joint Trade Committee (JTC) at the level of Commerce Secretary from the Indian side and Permanent Secretary (Trade) from the Nigerian side to review the ongoing bilateral trade and commercial relations.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

33. Consider the following statements:

1. Recently, Supreme Court of India has taken a significant step in strengthening the Juvenile Justice Act by introducing two key amendments:
2. The SC has set a strict 30-day deadline for filing appeals against orders passed by Juvenile Justice Boards or Children's Courts.
3. This aims to expedite the judicial process and prevent delays in delivering justice.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three

- D. None

34. Consider the following statements about the Office of the Governor:

1. Unlike the President, the governor does not enjoy personal immunity from legal liability for his official acts.
2. The oath of office to the governor is administered by the President of India.
3. The Constitution clearly lays down the grounds upon which a governor may be removed by the President.

Which of the statements given above is/are not correct?

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

35. Which of the following statements is/are correct?

1. Sohrai paintings mainly depict deities and mythology
2. Sohrai painting has strong matriarchal roots and is passed down from mothers to daughters.
3. Paintings are traditionally made on mud walls and are associated with harvest festivals and marriage rituals.

Choose the correct statement

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

36. Consider the following regarding India-Bangladesh relations:

1. India was the first country to recognize Bangladesh as a separate and independent state and established diplomatic relations with the country soon after its independence in December 1971.
2. Bangladesh is India's largest trading partner in the subcontinent.
3. India has provided duty free quota free access to Bangladesh on all tariff lines except tobacco and alcohol under the South Asian Free Trade Area (SAFTA) since 2011.

Choose the correct statement

- A. Only 1 and 3
- B. Only 2 and 3
- C. Only 2

D. All

37. Consider the following regarding the Houthis rebel:

1. The Houthis are a Shia political and military organization that emerged in Yemen during the 1990s as the opposition to the Yemeni government.
2. The group was increasingly inspired by the anti-American and anti-Israel sentiments spreading in the Middle East.
3. In 2011, the Houthis played a major role in instigating the Yemeni revolution, known as the Arab Spring.

Choose the correct statement

- A. Only 1 and 3
- B. Only 2 and 3
- C. Only 2
- D. All

38. Consider the following statements regarding Distributed Ledger Technology (DLT).

1. Distributed Ledger Technology (DLT) is a digital system for recording asset transactions in which details are recorded in multiple places at the same time.
2. Block chain technology is a specific type of distributed ledger technology.
3. Unlike traditional databases, distributed ledgers have central data store or administration functionality

How many of the above statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

39. Consider the following statements

1. Recently, The Supreme Court reserved one-third of the seats in the executive committee of the Supreme Court Bar Association (SCBA) for women .
2. The SCBA has to establish reservations and guidelines for its Executive Committee elections.
3. One-third of seats in various committee positions, including the Treasurer, are to be reserved for women members.

How many of the above statements are correct?

- A. Only one
- B. Only two

C. All three

D. None

40. Consider the following statements about Eggshell Skull Rule

1. Statement-I: It is a legal principle stating that an offender is liable for all injuries caused, even if the victim has a pre-existing condition that makes the injury worse.
2. Statement-II: The rule is applied for claiming an enhanced compensation for damage that is more than what could have been ordinarily anticipated to be caused by the defendant.

Select the correct code.

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- C. Statement-I is incorrect but Statement-II is correct
- D. Statement-I is correct but Statement-II is incorrect

41. Consider the following statements

1. Recently, The International Organization for Migration (IOM) launched the World Migration Report 2024.
2. The report reveals significant shifts in global migration patterns, including a record number of displaced people and a major increase in international remittances.
3. The report highlights that international migration remains a driver of human development and economic growth, highlighted by a more than 650 per cent increase in international remittances from 2000 to 2022, rising from USD 128 billion to USD 831 billion.

How many of the above statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

42. Consider the following statements

1. Recently, TAK-003 is becomes the second dengue vaccine to be prequalified by WHO.
2. It is a live-attenuated vaccine containing weakened versions of the four serotypes of the virus that

cause dengue .

3. WHO recommends the use of TAK-003 in children aged 6–16 years in settings with high dengue burden and transmission intensity.

How many of the above statements are correct?

- A. Only one
 B. Only two
 C. All three
 D. None

43. Consider the following statements about the World Bee Day:

- This day was chosen to honour the birthday of Anton Jansa, an 18th-century Slovenian pioneer of modern beekeeping techniques.
- This day was declared the United Nations General Assembly in 2017.
- National Beekeeping and Honey Mission (NBHM) was launched in 2020.
- West Bengal is the largest producer of honey.

How many of the above statements are correct?

- A. Only one
 B. Only two
 C. Only three
 D. All four

44. Consider the following statements:

- Artara'24 is a fine arts exhibition and competition, organized by Jazzrockers in Dubai.
- The primary objective of Artara'24 was to uncover and nurture emerging artistic talents, especially focusing on the Indian talent residing in Dubai.

Which of the statements given above is/are correct?

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

45. Consider the following statements about AK-203 Assault Rifle:

- It is a variant of the AK-100 series rifles.
- It is intended to replace the indigenous INSAS rifle.

Which of the statements given above is/are correct?

- A. 1 only
 B. 2 only
 C. Both 1 and 2

D. Neither 1 nor 2

46. Consider the following statements:

- Statement-I: Calcium Carbide is a chemical compound consists of a calcium cation and a carbide anion.
- Statement-II It is used to manufacture calcium cyanamide and to artificially ripen fruits.

Which of the following is correct in respect of the above statements?

- A. Both Statement-I and Statement-II are correct and Statement –II is the correct explanation of Statement-I
 B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
 C. Statement-I is correct but Statement-II is incorrect
 D. Statement-I is incorrect but Statement-II is correct

47. Consider the following statements recently seen in news:

- Recently, India's position in the World Press Freedom Index declined from 36.62 to 31.28.
- The World Press Freedom Index is compiled by Reporters Without Borders annually assessing the ability of journalists to work and report freely and independently.
- India's rank improved from 161 in 2023 to 159 in 2024.

How many of the statements given above are correct?

- A. Only one
 B. Only two
 C. All three
 D. None

48. Consider the following statements about Manipuri Pony, recently seen in news:

- Manipuri Pony is one of the seven national horse and pony breeds of India.
- It is regarded as the original polo pony and traditional Sagol Kangjei sport of Manipur has risen to modern polo.
- The Manipuri Pony Conservation and Development Policy (MPCDP) was framed in 2016 to conserve the breed.

How many of the statements given above are correct?

- A. Only one
 B. Only two
 C. All three

1.	(C)	12
2.	(C)	13
3.	(C)	14
4.	(C)	15
5.	(C)	16
6.	(C)	17
7.	(B)	18
8.	(D)	19
9.	(C)	20
10.	(A)	21
11.	(C)	22

D. None

49. Consider the following statements about ICMR

1. The Indian Council of Medical Research (ICMR) is the apex body in India for the formulation, coordination, and promotion of biomedical research.
2. It was established in 1911 as the Indian Research Fund Association (IRFA).
3. It was renamed ICMR in 1950.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

50. Consider the following statements

1. Recently, India contributed \$5,00,000 to UN Counter-Terrorism Trust Fund, reaffirming unwavering commitment to the global fight against terrorism.
2. The U.N. Counter-Terrorism Trust Fund was established in 2009 and transferred to the UN Office of Counter-Terrorism (UNOCT) in 2015.
3. The fund accepts contributions from various entities, including governments, inter-governmental and non-governmental organizations, private institutions, and individuals.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

51. Consider the following statements with reference to carbon credit trading scheme, which recently seen in news

1. The Indian government has announced plans to roll out a carbon credit trading scheme by 2026.
2. The scheme aims to incentivize actions for emission reduction.
3. Under the scheme, entities can register themselves as "Registered Entities" for carbon credit trading.
4. Carbon credit certificates will be issued by the central government or an authorized agency.
5. The scheme is part of India's efforts to decarbonize the economy and meet its climate change mitigation goals.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. Only four
- D. All five

52. Consider the following statements:

1. Recently, World Health Organization (WHO) has updated its Bacterial Priority Pathogens List (BPPL) to guide research and development (R&D) efforts and combat antimicrobial resistance (AMR)
2. The list aims to address the evolving challenges of antibiotic resistance and emphasizes the need for a comprehensive public health approach

Which of the statements given above is/are correct?

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

ANSWER

- | | | |
|---------|---------|---------|
| 1. (A) | 19. (C) | 37. (D) |
| 2. (C) | 20. (C) | 38. (B) |
| 3. (C) | 21. (C) | 39. (C) |
| 4. (C) | 22. (D) | 40. (A) |
| 5. (C) | 23. (C) | 41. (C) |
| 6. (D) | 24. (D) | 42. (C) |
| 7. (C) | 25. (D) | 43. (C) |
| 8. (C) | 26. (D) | 44. (C) |
| 9. (C) | 27. (D) | 45. (C) |
| 10. (C) | 28. (C) | 46. (A) |
| 11. (A) | 29. (C) | 47. (C) |
| 12. (B) | 30. (B) | 48. (C) |
| 13. (C) | 31. (B) | 48. (C) |
| 14. (C) | 32. (C) | 49. (B) |
| 15. (C) | 33. (C) | 50. (B) |
| 16. (C) | 34. (B) | 51. (D) |
| 17. (C) | 35. (B) | 52. (C) |
| 18. (D) | 36. (D) | |

UPSC Prelims Mock Paper

1. Consider the following statements with respect to Atmospheric Ammonia:
1. Atmospheric ammonia (NH_3) is a major component of the nitrogen cycle and the most abundant alkaline gas in the atmosphere.
 2. It originates from both natural and anthropogenic sources.
 3. The industrial pollution is the largest source of anthropogenic ammonia emissions.
- How many of the statements given above are **incorrect**?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None
2. Consider the following statements with respect to SWATI Portal :
1. It is a single online portal representing Indian Women and Girls in STEMM.
 2. It is developed and maintained by the National Institute of Plant Genome Research (NIPGR).
 3. It is India's first portal to address the challenges of Gender-gap.
- How many of the statements given above are correct?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None
3. HAPS technology holds significant potential for India's national security due to its ability to:
- (a) Provide real-time imagery and data acquisition across vast border regions.
 - (b) Offer improved communication infrastructure in remote areas that are prone to insurgency.
 - (c) Conduct high-altitude reconnaissance missions beyond enemy detection range.
 - (d) All of the above
4. Consider the following statements with respect to Greening India's Wastelands with Agroforestry (GROW) Report:
1. The report provides state-wise and district-wise analysis to support government departments and industries for greening and restoration projects.
 2. It is an initiative of Ministry of Environment, Forest and Climate Change.
- Which of the above statements is/are correct?
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
5. Consider the following statements:
1. Floor test is an Indian innovation in the parliamentary procedure introduced in 1954.
 2. Under Article 163, Governor of a State can call for a floor test when the house is not in the session.
 3. A trust vote can be called upon by the speaker of the legislative assembly when the house is in session.
- How many of the statements given above are correct?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None
6. Consider the following pairs:
- | Protected areas | States |
|--------------------------------|--------------|
| 1. Gupteswar Forest | - Jharkhand |
| 2. Thanthai Periyar Sanctuary | - Kerala |
| 3. Vedanthangal Bird Sanctuary | - Tamil Nadu |
- How many of the statements given above are correct?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None
7. Consider the following statements with respect to e-Jagruti:
1. It is a unified portal that provides simple, fast and cost-effective consumer disputes redressal software solution at all levels.
 2. It uses artificial intelligence (AI) and machine learning (ML) to foster efficiency and innovation in the dispute resolution landscape.
 3. It is developed, designed and maintained by National Informatics Centre (NIC).
- How many of the statements given above are correct?
- (a) Only one

- (b) Only two
 (c) All three
 (d) None

8. Consider the following:
 1. Belt and Road Initiative
 2. The Living Indus initiative
 3. Great Green Wall Initiative
 4. The Accion Andina social movement
 Which of the above projects are part of the World Restoration Flagships?

- (a) 2 and 3 only
 (b) 2 and 4 only
 (c) 2, 3 and 4 only
 (d) 1, 2, 3 and 4

9. Consider the following:
 1. Wanderoo
 2. Indian Elephants
 3. Nilgiri Tahr
 4. Greater One-Horned Rhinoceros
 5. Asiatic Lions

Which of the above animals are found only in India?

- (a) 3, 4 and 5 only
 (b) 1, 3 and 5 only
 (c) 2, 3, 4 and 5 only
 (d) 1, 3, 4 and 5 only

10. Consider the following pairs

Organisms	Relationship
1. Barnacles & Swimming Crabs	- Parasitism
2. Clownfish & Sea Anemones	- Commensalism
3. Barnacles & Humpback Whales	- Mutualism
4. Corals & Sponges	- Competition

- How many of the pairs given above is/are correctly matched?

- (a) Only one
 (b) Only two
 (c) Only three
 (d) All four

11. Consider the following statements with reference to Gulf Stream:

1. It is a warm ocean current that originates from the Gulf of Mexico.
 2. It acts as a vital conveyor belt and regulates the climate of the South Atlantic

region.

3. It is part of the Atlantic Meridional Overturning Circulation (AMOC).

How many of the statements given above are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

12. Consider the following pairs:

Martial Arts	Originating State
1. Krav Maga	- Assam
2. Kalaripayattu	- Kerala
3. Gatka	- Punjab
4. Khukuri Dance	- Nagaland

How many of the pairs given above is/are correctly matched?

- (a) Only one
 (b) Only two
 (c) Only three
 (d) All four

13. Consider the following statements regarding Convention on the Conservation of Migratory Species:

1. It is also known as the Bonn Convention, is an environmental treaty under the aegis of the United Nations Environment Programme.
 2. It is the only global and UN-based intergovernmental organisation established exclusively for the conservation and management of terrestrial, aquatic and avian migratory species throughout their range.
 3. The Fourteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (COP14) will be hosted by the Government of Brazil.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

14. With reference to Electoral Bonds, consider the following statements:

1. Electoral bonds are interest-free bearer bonds or money instruments that can be purchased by companies and individuals in India from authorised branches of the

- State Bank of India (SBI).
- These bonds are sold in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore.
 - Electoral Bonds have a life of only 15 days during which it can be used for making donations to political parties.
- How many of the above statements is/are correct?
- Only one
 - Only two
 - All three
 - None
- 15.** Consider the following statements regarding Micellar water:
- Micellar water products contain something called micelles – clusters of molecules that are very effective at removing oily substances.
 - It is a commonly used skin care product that helps remove impurities and makeup from your skin.
- Which of the above statements is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- 16.** Consider the following statements regarding Cassini Spacecraft:
- Cassini-Huygens was a joint NASA, European Space Agency (ESA), ISRO space mission to Saturn.
 - It was one of the largest interplanetary spacecraft launched in 2015.
- Which of the above statements is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- 17.** Consider the following statements regarding European Free Trade Association:
- It is an intergovernmental organisation established in 1960 by the Stockholm Convention.
 - It's objective is to promote free trade and economic integration between its members within Europe and globally.
- Which of the statements given above is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
- 18.** Consider the following passage:
It is the largest national park of Madhya Pradesh. It is located in the Mandla and Balaghat districts of Madhya Pradesh. It is nestled in the Maikal range of Satpuras, the heart of India that forms the central Indian highlands. The forest depicted in the famous novel by Rudyard Kipling, *The Jungle Book*, is thought by some to be based on jungles, including this reserve. It is also the first tiger reserve in India to officially introduce a mascot, "Bhoorsingh the Barasingha". The park has a significant population of Royal Bengal Tiger, leopard, sloth bear, and Indian wild dog.
- The above passage is related to which of the following tiger reserve?
- Panna Tiger Reserve
 - Pench Tiger Reserve
 - Bandhavgarh Tiger Reserve
 - Kanha Tiger Reserve
- 19.** Consider the following statements regarding Young Scientist Programme (YUVIKA):
- YUVIKA, is a learning and awareness creating programme of the ISRO to impart basic knowledge on Space Technology, Space Science, and Space Applications to younger students with a preference to urban areas.
 - Students those who have finished class 10 and are currently studying in class 11 can apply for the programme.
 - Two students from each state/Union Territory will participate in this programme every year, covering CBSE, ICSE, and state-board syllabus.
- How many of the above statements is/are correct?
- Only one
 - Only two
 - All three
 - None
- 20.** With reference to Anti-Satellite Weapon, consider the following statements:
- It is designed to debilitate or destroy satellites that are already in orbit and operational.
 - All of these attacks can be launched from the air, low orbit, or even ground

installations.

3. 'Mission Shakti' is the India's first ever Anti-Satellite Missile test.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

- 21.** Consider the following statements regarding India Stack:

1. It is a set of Application Programming Interface (APIs) that allows governments, businesses, startups and developers to utilise a unique digital Infrastructure.
2. As the name of this project bears the word India, the vision of India Stack is limited to India only.

Which of the above statements is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

- 22.** With reference to Munich Security Conference, consider the following statements:

1. It is the world's leading forum for debating international security policy.
2. It is organised by the European Union.
3. It's objective is to build trust and contribute to the peaceful resolution of conflicts by sustaining a continuous, curated, and informal dialogue within the international security community.

Which of the above statements are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

- 23.** Consider the following statements regarding Central Asian Flyway:

1. It covers a large continental area of Eurasia between the Arctic and Indian Oceans and the associated island chains.
2. A flyway is a geographical region within which a single or group of migratory species completes its annual cycle — breeding, moulting, staging and non-breeding.
3. There are five flyways in the world.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

- 24.** With reference to Rubber Board, consider the following statements:

1. It is a statutory organization constituted under the Rubber Act, 1947 which functions under the administrative control of the Ministry of Commerce and Industry.
2. It is headed by the Prime Minister.

Which of the above statements is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

- 25.** Consider the following statements regarding Quasar:

1. A quasar is an extremely active and luminous type of active galactic nucleus.
2. Quasars are thought to form in regions of the universe where the large-scale density of matter is much higher than average.
3. They are among the most luminous, powerful, and vibrant objects known in the universe.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

- 26.** With reference to Rhodamine-B, consider the following statements:

1. It is a water-soluble chemical compound.
2. It is a chemical commonly used for dyeing in the textile, paper, leather, and paints industry as a coloring agent that helps in attaining the red and pink spectrum.
3. It becomes particularly hazardous when it is mixed with food products, leading to cancer and tumour over time.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

- 27.** Consider the following statements, with

reference to Raisina Dialogue:

1. It is an annual conference on geopolitics and geoeconomics, which aims to address the most challenging issues faced by the world.
2. It is held annually since 2015 in New Delhi.
3. The theme of the 2024 edition is “Chaturanga: Conflict, Contest, Cooperate, Create”.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

- 28.** Consider the following statements regarding Neanderthals:

Statement I:

Neanderthals are an extinct species of archaic humans that lived in North America until about 40,000 years ago.

Statement II:

Neanderthals co-existed with modern humans for long periods of time before eventually becoming extinct.

Which one of the following is correct in respect of above statements?

- (a) Both statement I and statement II are correct and statement II is the correct explanation of statement I.
- (b) Both statement I and statement II are correct and statement II is not the correct explanation of statement I.
- (c) Statement I is correct but statement II is not correct.
- (d) Statement I is incorrect but statement II is correct.

- 29.** Consider the following statements regarding Green Anaconda:

1. It is the largest snake in the world, when both weight and length are considered.
2. They are native to North America and generally live in deciduous forests.
3. The green anaconda is a member of a family of snakes called constrictors, which are very venomous snakes.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three

- (d) None

- 30.** Consider the following statements, with reference to Pigeonpea:

1. It is an important legume crop and protein-rich food which is primarily consumed as Pulse in India.
2. It is predominantly a crop of tropical areas mainly cultivated in semi arid regions of India.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

- 31.** Consider the following statements regarding Fair and Remunerative Price:

1. It is the price declared by the government, which mills are legally bound to pay to farmers for the cane procured from them.
2. The FRP is fixed by the Commission for Agricultural Costs and Prices (CACAP).

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

- 32.** Consider the following statements, with reference to Cabinet Committee on Security (CCS):

1. Cabinet Committees are extra-constitutional.
2. CCS is headed by the Speaker.
3. The CCS deals with all the issues related to the defence and security of India.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

- 33.** With reference to Positronium, consider the following statements:

1. Positronium is a short-lived hydrogen-like atom, which consists of an electron and its antimatter equivalent, a positron.
2. Due to its very short life, it annihilates with a half-life of 142 nano-seconds.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only

- (c) Both 1 and 2
 (d) Neither 1 nor 2

34. With reference to Spotted Deer, consider the following statements:

1. The spotted deer or chital is a deer species native to the Indian subcontinent.
2. It is widely distributed in Asia, especially in India, Sri Lanka, Bangladesh, Bhutan, and a small group in Pakistan.
3. It is listed as endangered in IUCN Red List.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

35. Consider the following statements regarding Planets:

1. Planets are similar to other planets, but they orbit a black hole instead of a star or brown dwarf.
2. They have enough mass to be rounded by their own gravity, but not enough to start thermonuclear fusion and become stars.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

36. Consider the following statements regarding Edwards syndrome:

1. It is an autosomal chromosomal disorder due to an extra copy of chromosome 18.
2. It is a very severe genetic condition that affects child's body development and growth.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

37. With reference to G-33, consider the following statements:

1. The G33 (the Friends of Special Products in agriculture) is a coalition of developed and developing countries.
2. India is not a member of this group.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

38. Consider the following statements regarding Garbhini-GA2:

1. It is the first India-specific artificial intelligence (AI) model to precisely determine the age of a foetus in a pregnant woman in the second and third trimesters.
2. It has been designed by researchers at the Indian Institute of Technology Madras and the Translational Health Science and Technology Institute (THSTI), Faridabad.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

39. With reference to Aerosols, consider the following statements:

1. They are tiny solid or liquid particles suspended in air or a gas.
2. Aerosols can be natural, such as fog or gas from volcanic eruptions, or artificial, such as smoke from burning fossil fuels.
3. Aerosol particles are either emitted directly into the atmosphere (primary aerosols) or produced in the atmosphere from precursor gases (secondary aerosols).

How many of the statements given above are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

40. Consider the following statements regarding Additional Tier-1 (AT-1) Bonds:

1. AT-1 bonds are perpetual bonds with no maturity date.
2. Investors in these bonds get their principal back.
3. AT-1 bonds have a lower interest rate than other bonds.

How many of the statements given above is/are correct?

- (a) Only one
 (b) Only two

- (c) All three
(d) None
- 41.** Consider the following statements regarding General Diary (GD) and First Information Report (FIR):
1. A copy of each FIR is sent to the superior officers and to the concerned Judicial Magistrate whereas copy of GD is not sent to the Judicial Magistrate, though its copy is sent to a superior police officer.
 2. The general diary is an internal police record, while in the case of FIR, a copy of these will be provided to the complainant.
- Which of the above statements is/are correct?
- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
- 42.** Arrange the following countries in descending order in terms of Nominal GDP (Gross domestic product):
1. India
 2. China
 3. USA
 4. Germany
 5. Japan
- Choose the correct answer:
- (a) 3-2-4-1-5
(b) 3-2-5-1-4
(c) 3-2-4-5-1
(d) 3-2-5-4-1
- 43.** Consider the following statements with respect to National Coal Index:
1. It is price index that incorporates prices from all sales channels and plays a vital role in the auction process in the Commercial Mining of Coal Blocks.
 2. The base year for the index is 2011-12.
 3. The concept and design of the Index is developed by the Central Mine Planning and Design Institute (CMPDI).
- How many of the statements given above are correct?
- (a) Only one
(b) Only two
(c) All three
(d) None
- 44.** Consider the following statements with respect to the State of India's Digital Economy (SIDE) Report, 2024:
1. It is released biannually by the NITI Aayog.
 2. India is the third largest digitized country in the world after the US and China.
 3. The ranking is based on the 5 pillars of Connect, Harness, Innovate, Protect and Sustain (CHIPS) framework.
- How many of the above statements is/are correct?
- (a) Only one
(b) Only two
(c) All three
(d) None
- 45.** Consider the following statements with respect to VAIBHAV Scheme:
1. It aims to connect the Indian STEMM diaspora with Indian academic and R-D institutions.
 2. The Scheme is being implemented by the Department of Science and Technology.
 3. The fellowship is open to all scientists working in Indian Institutes of Technology (IIT).
- How many of the statements given above are correct?
- (a) Only one
(b) Only two
(c) All Three
(d) None
- 46.** Consider the following statements with respect to International Energy Agency (IEA):
1. It was created in 1974 to help co-ordinate a collective response to major disruptions in the supply of oil.
 2. The membership in Organisation for Economic Co-operation and Development (OECD) is a prerequisite to become a full-time member in IEA.
 3. The Emissions Gap Report is an initiative of IEA.
- How many of the statements given above are incorrect?
- (a) Only one
(b) Only two
(c) All three
(d) None
- 47.** Consider the following statements with respect to Indian Skimmer:
1. It is a migratory species that breeds in Russia and East Asia.
 2. They spend most of their life cycle above the treeline.

3. It is listed under the Convention of Migratory Species (CMS).
How many of the statements given is/are above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None
- 48.** Consider the following statements with respect to Article 142:
1. It bestows the Supreme Court with extraordinary authority to ensure complete justice in situations where existing laws or statutes may lack adequate remedies.
2. Orders or decrees issued under Article 142 must adhere to existing laws established by the Parliament.
3. Article 142 is not universally applicable and may not be invoked in every case.
How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None
- 49.** Consider the following statements:
1. Collaborate with any international agency for development of cooperative marketing for mutual advantage in India or abroad.
2. Act as warehouse under the Warehousing Act.
3. Facilitate, coordinate and promote the marketing and trading activities of the cooperative institutions.
4. Under takes grading, packing, standardization, scientific treatment and process of agricultural produce and other articles.
Which of the above are the objectives of the National Agricultural Cooperative Marketing Federation of India (NAFED)?
(a) 1, 3 and 4 only
(b) 2, 3 and 4 only
(c) 1 and 3 only
(d) 1, 2, 3 and 4
- 50.** Consider the following statements with respect to Outcome Budgeting:
1. It links the outlay of funds by various government ministries and departments to their expected outcomes.
2. The concept of outcome budgeting was introduced in India in 2005.
3. It is mandatory for all State Legislative Assemblies to follow Outcome budgeting.
How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None
- 51.** U-Report, a digital community for young people, is an initiative of :
(a) Climate Action Network (CAN)
(b) International Telecommunication Union (ITU)
(c) United Nations Children's Fund (UNICEF)
(d) United Nations Educational, Scientific and Cultural Organization (UNESCO)
- 52.** Consider the following statements with respect to Indira Gandhi National Centre for the Arts:
1. It is an autonomous organisation established in 1987 by the Prime Minister Smt. Indira Gandhi.
2. It works under the aegis of the Ministry of Culture.
3. It is a cultural repository and the custodian of ancient texts.
How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None
- 53.** Consider the following statements with respect to INSAT-3DS Mission:
1. It was launched using a Geosynchronous Satellite Launch Vehicle (GSLV).
2. The mission is fully funded by the Ministry of Earth Sciences (MoES).
3. The mission will help in environment monitoring, weather forecasting and disaster relief operations.
How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None
- 54.** Consider the following statements with respect to National Board for Wildlife (NBWL):

1. It is chaired by the Prime Minister with others members including chief of army staff and defence secretary.
2. It was constituted under the Wild Life (Protection) Amendment Act of 2002 replacing the Indian Board for Wildlife.
3. The board has to meet at least twice a year.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All Three
- (d) None

- 55.** How Baleen Whales differ from the toothed whales?

1. Toothed whales sieve prey from seawater whereas Baleen whales actively hunt fish, squid and other sea creatures.
2. Blue whale is a baleen whale whereas dolphins and porpoises belonged to toothed whales.

Which of the statements given above is/are correct?

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

- 56.** Morodharo, recently seen in the news is related to which of the following?

- (a) A recently discovered Harappan site near Dholavira
- (b) A carcinogenic substance found in the cotton candies
- (c) A town captured in Ukraine recently by the Russian Army
- (d) A largest Buddhist Monastery located in Tawang Valley of Arunachal Pradesh

- 57.** Consider the following statements with respect to the Animal Welfare Board of India :

1. AWBI is a statutory advisory body set up under the Prevention of Cruelty to Animals Act, 1960.
2. AWBI works under the aegis of the Ministry of Environment Forest and Climate Change (MoEFCC).
3. Rajkumari Amrit Kaur pioneered the setting up of the Board, with its Headquarters at Chennai.

How many of the above statements is/are **incorrect**?

- (a) Only one
- (b) Only two
- (c) All Three
- (d) None

- 58.** Consider the following cities in news and the country in which they belong to:

Cities	-	Country
1. Rafah	-	Syria
2. Sinai	-	Saudi Arabia
3. Belgorod	-	Belgium
4. Angostura	-	Turkey

How many of the above pairs are matched correctly?

- (a) Only one
- (b) Only two
- (c) All Three
- (d) None

- 59.** Consider the following:

1. Methane
2. Black Carbon
3. Hydrofluorocarbons
4. Ground-level ozone

Which among the above are known as super pollutants?

- (a) 1, 3 and 4 only
- (b) 1 and 2 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

- 60.** With reference to the Gharials, consider the following statements:

1. It is a schedule I species and listed as a critically endangered species by the International Union for Conservation of Nature (IUCN).
2. Gandak Gharial Recovery Project is an initiative of National Biodiversity Authority (NBA).
3. They live in saline waters and feed exclusively on fishes.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

- 61.** With reference to Ellora Caves, consider the following statements:

1. The Ellora caves are located in the district of Aurangabad in Maharashtra.
2. The caves were declared as a UNESCO

world heritage site in 1983.

3. The topography of the area consists of a rocky plateau in the shape of a semicircle.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 and 3 only
 (c) 1 and 3 only
 (d) 1, 2 and 3

- 62.** Consider the following statements with respect to Rajya Sabha:

1. The Members of the Rajya Sabha are elected through proportional representation by single transferable vote.
2. The Constitution has fixed the term of office of members of the Rajya Sabha.
3. The President nominates 12 members who have experience in art, science, sports and social service to Rajya Sabha.

How many of the statements given above is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 63.** Consider the following statements with respect to Whips:

1. The office of whip is neither mentioned in the Constitution of India nor in the Rules of the House nor in a Parliamentary Statute.
2. In India, all parties can issue whips to their members.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

- 64.** Consider the following statements with respect to Interception Order:

1. The Home secretary, both at the central and the state level is the nodal agency to execute orders to intercept, monitor and decrypt information.
2. The surveillance data is to be deleted within six months.
3. The IT Rules, 2009, specify the procedure and safeguards the government must follow for interception, monitoring, and decryption of information.

How many of the statements given above is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 65.** Rising sea level and severe storms are gradually submerging the Tuvalu Island. Tuvalu is located in?

- (a) Arctic Ocean
 (b) Pacific Ocean
 (c) Indian Ocean
 (d) Southern Ocean

- 66.** Consider the following statements regarding the differences between Buddhist and Jain literature:

1. Buddhist tales and literature are didactic in character While Jain tales are not.
2. Ancient/medieval Buddhist literature is available in Sanskrit While ancient/medieval Jain literature was not composed in Sanskrit.

Which of the above statements are correct?

- (a) Only 1
 (b) Only 2
 (c) Both 1 and 2
 (d) Neither 1 nor 2

- 67.** Consider the following statements regarding Bhakti literature:

1. Gyaneswar was a Marathi bhakti poet.
2. Tukaram was a contemporary of Gyaneswar who wrote bhakti prose in Gujarati.
3. Eknath wrote poetic narratives and devotional abhangas.

How many of the above statements are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 68.** Consider the following statements:

1. Gandharva Veda, related with music, is an upaveda of the Atharva Veda.
2. The Jaimini Brahmana speaks collectively of dance and music.
3. Aitareya Aranyaka discusses musical instruments.
4. The first reference to musical theory was discussed in Bharata's Natyashastra.

How many of the above statements are

correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

69. Consider the following statements:

1. The Natya Shastra speaks of masks and their use in theatre.
2. There is no evidence of the use of masks in the Indus Valley civilisation.
3. Terracotta masks dating back to the fourth century have been excavated in eastern India.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

70. The triple headed rockcut Shiva, Maheshmurti, can be found in the cave of ?

- (a) Ajanta
- (b) Ellora
- (c) Elephanta
- (d) Malova

71. Consider the following statements regarding Pietra dura:

1. It consists of a series of long pillars used to support dome like structures.
2. It was used on a large scale in the Taj Mahal by Shah Jahan.

Which of the above statements is/are **incorrect**?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

72. Tirumalaipuram paintings were patronized under:

- (a) Vijayanagar Kingdom
- (b) Pandyas
- (c) Cholas
- (d) Pallavas

73. "Maseetkhani" style is associated with the:

- (a) Dara Sikoh
- (b) Jahangir
- (c) Ibrahim Lodi
- (d) Tansen

74. Consider the following statements regarding the political organizations during 19th century in India:

1. The Bangabhasha Prakasika Sabha was formed by associates of Raja Ram Mohan Roy.
2. Bengal British India Society was set up by Sisir Kumar Ghosh in London.
3. Indian league was started in Calcutta by Ishwar Chandra Vidyasagar.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

75. Consider the following statements:

1. During the end of the eighteenth century and the early nineteenth century, a class of rich peasants known as jotedars consolidated their position in the villages and acquired vast areas of land.
2. Jotedars were loyal to the zamindars and helped them collect revenue from the ryots.

Which of the above statements is/are **incorrect**?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

76. Consider the following statements regarding Mauryan Empire:

1. Slavery was absent in Mauryan Empire.
2. Mauryan government had equal control over all the regions of its empire.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

77. Consider the following statements regarding the President's address to the Parliament of India as contained in Article 87 of the Constitution:

1. The address of the President highlights the government's accomplishments from the previous year and sets the broad governance agenda for the coming year.
2. After the President's address, the two Houses move a motion to thank the

President for her speech.

3. Till now there are no instances of amendments passed to the motion of thanks in both the houses of the parliament.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 78.** Consider the following statements regarding Nominated members of Rajya Sabha.

1. The Constitution of India does not specify any qualifications for the appointment of nominated members of the Rajya Sabha.
2. Nominated members of Rajya Sabha enjoy all the powers and privileges to which the elected MPs are entitled.
3. They do have the right to vote in the election of the President and Vice-President of India.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 79.** Consider the following statements regarding the Office of the Vice President of India.

1. The Constitution states that the Vice-President shall be the ex-officio Chairman of the House of the People.
2. The office of the Vice-President of India ranks next to the Chief Justice of India in the order of precedence.
3. The Vice-President shall be elected by the members of an electoral college consisting of the members of both Houses of Parliament in accordance with the system of proportional representation by means of the single transferable vote.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 80.** Consider the following statements:

1. Exempted land reforms from scrutiny
2. Provided protection for backward classes

in the Constitution.

3. Expanded the scope of restrictions on the right to free speech.

The first amendment to the Constitution of India contained which of the above provisions?

- (a) Only 1
 (b) 1 and 2
 (c) 1, 2 and 3
 (d) None

- 81.** Consider the following statements.

1. The Constitution permits the Central government to make laws when Parliament is not in session.
2. Governor of a state can issue ordinances only with the approval of the President.
3. An ordinance can be re-promulgated only once.

Which of the above statements is/are **incorrect**?

- (a) 3 only
 (b) 2 only
 (c) 2 and 3
 (d) 1, 2 and 3

- 82.** Consider the following statements regarding the Panel of Vice-Chairpersons of Rajya Sabha.:

1. The Chairman of the Rajya Sabha nominates a panel of vice-chairpersons from among the members.
2. In the absence of the Chairman or the Deputy Chairman of Rajya Sabha, any of the panel members can preside over the House.
3. According to the Rajya Sabha Rules, nominated members of the Rajya Sabha are not eligible to become the member of the panel.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

- 83.** Consider the following statements:

1. The Governor is the head of the state's executive power, and acts only on the advice of the council of ministers in all matters.
2. While the Governor does not have to seek anyone's advice while appointing the Chief Minister, he can appoint a minister

only on the recommendation of the Chief Minister.

3. The Governor can determine the time needed for a party to prove its majority or which party must be called first to do so, in a hung Assembly.

How many of the above statements is/are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

84. Consider the following statements regarding Prompt Corrective Action (PCA) of Reserve Bank of India.

1. It aims to monitor the operation of weaker banks more closely to encourage them to conserve capital and avoid risks.
2. It imposes certain restrictions on dividend distribution and expansion of branches by banks that are financially weak.

Which of the above statements is/are **incorrect**?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

85. The “doctrine of essentiality” is often used by the courts in relation to which of the following Articles of Indian Constitution?

- (a) Article 14
 (b) Article 19
 (c) Article 21
 (d) Article 25

86. Gross Domestic Capital Formation (GDCF), often seen in the Budget and Economic Surveys, essentially refers to:

- (a) Money circulation in public hands
 (b) Capitalization of the Banking sector
 (c) Direct Retail Investment in consumer goods sector
 (d) Creation of Infrastructure or durable economic assets

87. The Supreme Court’s ruling in Lily Thomas Vs Union of India case is related to :

- (a) Right to life under Article 21
 (b) National Judicial Appointments Commission
 (c) Disqualification of Member of Parliament
 (d) Right to Fair Compensation and

Transparency in Land Acquisition.

88. Consider the following statements:

1. Different tiers of government govern the same citizens, but each tier has its own jurisdiction.
2. The existence and authority of each tier of government generally is constitutionally guaranteed.
3. Each tier of government must draw all its financial resources independent of the other tier.

Which of the above is/are the features of Federalism?

- (a) 1 only
 (b) 1 and 2
 (c) 1 and 3
 (d) 1, 2 and 3

89. A federal government means a government in which:

- (a) There is division of powers between the Central and state governments; and also between the federal and state judiciaries.
 (b) All the powers are vested in the national government and the regional governments derive their authority from the national government.
 (c) A large number of powers are vested in the national government and the regional governments, with some independent powers, derive their authority from the national government.
 (d) Powers are divided between the national government and the regional governments by the Constitution and both operate in their respective jurisdictions independently.

90. Part IX of the Constitution of India contains provisions regarding:

1. Panchayats
2. Municipalities
3. Cooperative societies

Select the correct answer :

- (a) 1 only
 (b) 1 and 2
 (c) 1 and 3
 (d) 1, 2 and 3

91. Consider the following statements:

1. The guidelines for registration of political parties are issued under Representation of the People Act, 1951.

2. The Election Commission of India (ECI) has statutory power to enforce internal democracy in political parties and to ensure that their leadership is renewed, changed or re-elected every five years.

Which of the above statements is/are **incorrect**?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

92. Consider the following statements:

1. The Representation of the People Act, 1951 bars associations with religious connotations to register as political parties.
2. The Constitution of India provides Election Commission of India (ECI) the power to deregister political parties.
3. Election Symbols (Reservation and Allotment) Order, 1968 bars political parties from having symbols with religious or communal connotations.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

93. Consider the following statements regarding Comptroller and Auditor General of India (CAG):

1. CAG is a constitutional body, who is the head of the Indian Audit and Accounts Department.
2. The duty of CAG is to uphold the Constitution of India and the laws of Parliament in the field of financial administration.
3. CAG is the guardian of the public purse and controls the financial system of the country at both the levels- the centre and state.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

94. Consider the following statements:

1. All members should be elected by the house.

2. It presents its report to the Speaker or the Chairman of the house.
3. It must have the status of a consultative committee with any Ministry at the Centre.

Which of the above is/are some of the general characteristics of Parliamentary committees?

- (a) Only 2
(b) 1 and 2
(c) 1 and 3
(d) 1, 2 and 3

95. Consider the following statements regarding Temperate Rainforests.

1. Temperate rainforests are found mostly in coastal, mountainous areas.
2. Cooler temperatures and a more stable climate slow down decomposition, allowing more material to accumulate.
3. Temperate rainforests are the most biologically diverse terrestrial ecosystems in the world.

How many of the above statements is/are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

96. Which of the following lake is not part of Great Lakes region of North America?

- (a) Lake Ontario
(b) Great Slave Lake
(c) Michigan Lake
(d) Lake Erie

97. Which of the following statement best describes 'Doldrums'?

- (a) Frigid zone of the earth where there is little atmospheric circulation.
(b) Belt of calm region in equatorial region where prevailing trade winds meet.
(c) Tropical region in Indian ocean where cyclone often originate.
(d) High pressure area in subtropical region where westerlies originate.

98. Consider the following statements regarding Fold Mountains:

1. Fold Mountains are created when large areas are broken and displaced vertically.
2. They are least likely to have conical peaks.

Which of the above statements is/are **incorrect**?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

- (c) All three
- (d) None

99. Consider the following statements regarding Thermosphere.

1. In thermosphere temperature decreases very rapidly with increasing height.
2. Radio waves transmitted from the earth are reflected back to the earth by this layer.
3. The space shuttle and the International Space Station both orbit Earth within the thermosphere.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two

100. Which of the following are the conditions for the emergence of a tropical cyclone?

1. Unstable condition through the Troposphere
2. Strong Coriolis force
3. Strong vertical wind
4. Large and continuous supply of warm and moist air.

Select the correct answer:

- (a) 1, 2 and 3
- (b) 1, 2 and 4
- (c) 2, 3 and 4
- (d) 1, 2, 3 and 4

ANSWER

1	a	21	a	41	c	61	d	81	c
2	c	22	c	42	c	62	b	82	b
3	d	23	b	43	a	63	c	83	b
4	a	24	a	44	b	64	c	84	d
5	b	25	c	45	b	65	b	85	d
6	a	26	c	46	a	66	d	86	d
7	c	27	b	47	d	67	b	87	c
8	b	28	d	48	c	68	c	88	b
9	b	29	a	49	d	69	b	89	d
10	b	30	c	50	b	70	c	90	d
11	b	31	a	51	c	71	a	91	b
12	b	32	b	52	b	72	b	92	b
13	b	33	c	53	c	73	d	93	b
14	c	34	c	54	c	74	a	94	a
15	c	35	c	55	b	75	b	95	b
16	d	36	c	56	a	76	d	96	b
17	c	37	d	57	b	77	b	97	b
18	d	38	c	58	d	78	a	98	c
19	d	39	c	59	d	79	a	99	b
20	c	40	a	60	a	80	c	100	b

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